**REVISED FINAL**

# REMEDIAL INVESTIGATION REPORT
# FOR
# DEPOT-WIDE REMEDIAL INVESTIGATION/FEASIBILITY STUDY FOR ARSENIC AND MANGANESE IN SOIL AT THE FORMER CURTIS BAY ORDNANCE DEPOT

## ANNE ARUNDEL COUNTY, MARYLAND

**Contract No.:** [redacted] **Delivery Order** [redacted]

**Prepared for:**

US Army Corps of Engineers®
BUILDING STRONG®

**September 2021**

**This Page Intentionally Left Blank**

REVISED FINAL

# REMEDIAL INVESTIGATION REPORT

Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Prepared for:

U.S. Army Corps of Engineers

Contract: [redacted]
Delivery Order [redacted]

Prepared by:

ERT, Inc.
Laurel, Maryland 20701
[redacted]

[redacted]

9/7/2021

[redacted], P.G. Date
Project Manager

**This Page Intentionally Left Blank**

## COMPLETION OF SENIOR TECHNICAL REVIEW

This document has been produced within the framework of the ERT, Inc. (ERT) quality management system. As such, a senior technical review has been conducted. This included review of all elements addressed within the document, proposed or utilized technologies and alternatives and their applications with respect to project objectives and framework of U.S. Army Corps of Engineers regulatory constraints under the current project, within which this work has been completed.

[redacted]
ELECTRONIC SIGNATURE

10/14/2020

[redacted] PG — Date
Senior Technical Reviewer

## COMPLETION OF INDEPENDENT TECHNICAL REVIEW

This document has been produced within the framework of ERT's quality management system. As such, an independent technical review, appropriate to the level of risk and complexity inherent in the project, has been conducted. This included a review of assumptions; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the project objectives. Comments and concerns resulting from review of the document have been addressed and corrected, as necessary.

[redacted]

10/14/2020

[redacted] PMP, CHMM — Date
Independent Technical Reviewer

**This Page Intentionally Left Blank**

## TABLE OF CONTENTS

**TABLE OF CONTENTS** ..... **v**
**EXECUTIVE SUMMARY** ..... **1**
**1.0 INTRODUCTION** ..... **1**
1.1 Purpose and Scope ..... 1
1.2 Property Description ..... 2
1.3 Former Curtis Bay Ordnance Depot Historical Information ..... 2
1.4 Previous Former Curtis Bay Ordnance Depot Investigations ..... 3
*1.4.1 Focused Site Investigation (FSI) and Final Expanded SI (ESI), Parsons* ..... *4*
*1.4.2 Final Revised DSNC Focused RI (FRI), Parsons* ..... *4*
*1.4.3 Environmental Survey and Analysis Report (ESAR), EA* ..... *5*
*1.4.4 Remedial Investigation/Feasibility Study for MMRP and IRP ECs, ERT* ..... *5*
1.5 Areas of Investigation for the RI ..... 5
1.6 Report Organization ..... 6
**2.0 SITE DESCRIPTION AND ENVIRONMENTAL SETTING** ..... **7**
2.1 Surface Features ..... 7
2.2 Hydrogeology ..... 7
2.3 Climate ..... 7
2.4 Geology ..... 8
2.5 Demography and Land Use ..... 8
2.6 Ecology ..... 8
*2.6.1 Sensitive Habitats* ..... *9*
*2.6.2 Endangered, Threatened, or Special Concern Species* ..... *9*
**3.0 INVESTIGATION APPROACH** ..... **11**
3.1 Data Needs ..... 11
*3.1.1 Preliminary Conceptual Site Model* ..... *11*
*3.1.2 Data Quality Objectives* ..... *14*
3.2 Characterization of Arsenic and Manganese in Soil ..... 15
*3.2.1 General Approach* ..... *15*
*3.2.2 Comparison Criteria* ..... *16*
*3.2.3 Soil Sampling* ..... *17*
3.3 UFP-QAPP Variances ..... 18
*3.3.1 Puck mill vs Ball Mill* ..... *18*
*3.3.2 Background Area Sample Naming* ..... *19*

*3.3.3 SU Increment or Location Offsets* ... *19*
*3.3.4 Analytical Method* ... *20*
*3.3.5 Subsampling of Large Mass Samples* ... *21*
**4.0 DATA QUALITY ASSESSMENT** ... **22**
4.1 Data Quality ... 22
4.2 Data Uncertainty ... 23
**5.0 INVESTIGATION RESULTS** ... **25**
5.1 DU 1 Remaining Area (DU1 A and DU 1B) ... 25
*5.1.1 DU 1A (Remaining Area Surface Soil)* ... *25*
*5.1.2 DU 1B (Remaining Area Subsurface Soil)* ... *26*
5.2 DU2 Former IRP Shop Area (DU 2A and DU 2B) ... 27
*5.2.1 DU 2 A (Former IRP Shop Area Surface Soil)* ... *27*
*5.2.2 DU2B (Former IRP Shop Area Subsurface Soil)* ... *28*
5.3 DU 3 Former EC-57D Area (DU 3A and DU 3B) ... 29
*5.3.1 DU 3A (Former EC-57D Area Surface Soil)* ... *29*
*5.3.2 DU 3B (Former EC-57D Area Subsurface Soil)* ... *30*
5.4 Background (DU 4A and DU 4B) ... 31
*5.4.1 Background Surface Soil (DU 4A)* ... *31*
*5.4.2 Background Subsurface Soil (DU 4B)* ... *32*
**6.0 CONTAMINANT FATE AND TRANSPORT** ... **35**
6.1 Potential Contaminant Sources and Release Mechanisms ... 35
6.2 Potential Contaminant Migration Pathways ... 35
*6.2.1 Airborne Transport* ... *36*
*6.2.2 Soil and Sediment Transport* ... *36*
*6.2.3 Surface Water Transport* ... *36*
6.3 Contaminant Persistence ... 37
*6.3.1 Arsenic* ... *37*
*6.3.2 Manganese* ... *39*
**7.0 BASELINE RISK ASSESSMENT FOR ARSENIC AND MANGANESE** ... **43**
7.1 Human Health Risk Assessment ... 43
*7.1.1 Screening to Identify COPCs* ... *43*
*7.1.2 Exposure Assessment* ... *44*
*7.1.3 Toxicity Assessment* ... *47*
*7.1.4 Risk Characterization* ... *50*

*7.1.5 Uncertainty Discussion ..... 54*
*7.1.6 HHRA Conclusions ..... 55*
7.2 Screening-Level Ecological Risk Assessment ..... 56
*7.2.1 Screening Level Problem Formulation and Effects Evaluation (Step 1) ..... 58*
*7.2.2 Exposure Estimates and Risk Calculation (Step 2) ..... 68*
*7.2.3 Identification of COCs ..... 76*
*7.2.4 Uptake Modeling (Step 3A) ..... 79*
*7.2.5 Weight of Evidence ..... 82*
*7.2.6 SLERA Summary ..... 83*
**8.0 REVISED CONCEPTUAL SITE MODEL ..... 86**
8.1 DU 1 ..... 86
8.2 DU 2 ..... 86
8.3 DU 3 ..... 87
**9.0 RI CONCLUSIONS AND RECOMMENDATIONS ..... 88**
9.1 Conclusions ..... 88
9.2 Recommendations ..... 90
*9.2.1 DU 1 A/B ..... 90*
*9.2.2 DU 2 A/B ..... 90*
*9.2.3 DU 3 A/B ..... 90*
**10.0 REFERENCES ..... 92**

## LIST OF APPENDICES

Appendix A: Figures
Appendix B: HHRA Tables and SLERA Site Visit Memorandum
Appendix C: TPP Meeting Minutes and Correspondences
Appendix D: Analytical Data
Appendix E: Photo Documentation
Appendix F: Field Documentation

## LIST OF TABLES

Table ES-1. HHRA Conclusions for the Former Curtis Bay Depot Arsenic and Manganese RI.. 4
Table ES-2. SLERA Conclusions for the Former Curtis Bay Depot Arsenic and Manganese RI 4
Table 3-1. Soil Investigation DQOs – Former Curtis Bay Depot ..... 14
Table 3-2. Project Screening Levels ..... 17
Table 3-3. Offset Sampling Units ..... 20
Table 5-1. Summary of Screening Results for DU 1A ..... 26
Table 5-2. Summary of Screening Results for DU 1B ..... 27
Table 5-3. Summary of Screening Results for DU 2 A ..... 28
Table 5-4. Summary of Screening Results for DU 2B ..... 29
Table 5-5. Summary of Screening Results for DU 3A ..... 30
Table 5-6. Summary of Screening Results for DU 3B ..... 31
Table 5-7. Summary of Screening Results for DU 4A (Background) ..... 32
Table 5-8. Summary of Screening Results for DU 4B (Background) ..... 33
Table 7-1. Summary of Non-Carcinogenic and Carcinogenic Risks at DU 1, DU 2, and DU 3. 56
Table 7-2. Species Observed at the Depot in 2006 and 2019 ..... 61
Table 7-3. Policy Goals, Ecological Assessment and Measurement Endpoints, and Decision Rules ..... 67
Table 7-4. Hazard Quotients (HQs) based on USEPA Region 3 Ecological Soil Screening Levels ..... 74
Table 7-5. Summary of Hazard Quotients (HQs) for Arsenic ..... 77
Table 7-6. Summary of Hazard Quotients for Manganese ..... 79
Table 7-7. Contaminant Exposure, Reference Values, and Hazard Quotients for Mouse Receptor ..... 81
Table 7-8. Contaminant Exposure, Reference Values, and Hazard Quotients for Dove Receptor ..... 81
Table 7-9. Summary of Weight-of-Evidence Evaluation for Exposure to Manganese in Soil by Ecological Receptors ..... 83
Table 9-1. HHRA Conclusions for Former Curtis Bay Depot Arsenic and Manganese RI ..... 89
Table 9-2. SLERA Conclusions for Former Curtis Bay Depot Arsenic and Manganese RI ..... 89

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| % | Percent |
| %R | Percent Recovery |
| °C | Degrees Celsius |
| °F | Degrees Fahrenheit |
| µg | Microgram |
| 95% UCL | 95% Upper Confidence Limit of the Mean |
| ABS | Absorption Factor |
| AF | Adherence Factor |
| AOC | Area of Concern |
| As | Arsenic |
| AT | Averaging Time |
| ATSDR | Agency for Toxic Substances & Disease Registry |
| AUF | Area Use Factor |
| BAF | Bioaccumulation Factor |
| bgs | below ground surface |
| BTAG | U.S. EPA Region III Biological Technical Assistance Group |
| BTV | Background Threshold Value |
| BW | Body Weight |
| $C_{air}$ | Chemical Concentration in Air |
| CCA | Copper Chromated Arsenate |
| CDI | Chronic Daily Intake |
| CENAB | USACE Baltimore District |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CF | Conversion Factor |
| CF | Dry-to-Wet-Weight Conversion Factor |
| CFR | Code of Federal Regulations |
| $Cm^2$ | square centimeters |
| COC | Chain of Custody |
| COPC | Chemical of Potential Concern |
| COPEC | Chemical of Potential Ecological Concern |
| CS | Chemical Concentration in Soil |
| CSF | Cancer Slope Factor |
| CSM | Conceptual Site Model |
| $C_{soil}$ | Chemical Concentration in Soil |
| CT | CT Laboratories, LLC. |
| DA | Dermal Absorption |
| DERP | Defense Environmental Restoration Program |
| DL | Detection Limit |
| DLA | Defense Logistics Agency |
| DNSC | Defense National Stockpile Center |
| DoD | Department of Defense |
| DOT | Department of Transportation |
| DQA | Data Quality Assessment |
| DQI | Data Quality Indicator |

| | |
|---|---|
| DQO | Data Quality Objective |
| DU | Decision Unit |
| EC | Environmental Concern or Exposure Concentration |
| ECO-SSL | Ecological Soil Screening Level |
| ED | Exposure Duration |
| EF | Exposure Frequency |
| EPC | Exposure Point Concentration |
| ERA | Ecological Risk Assessment |
| ERAGS | Ecological Risk Assessment Guidance for Superfund |
| ERT | Earth Resources Technology, Inc. |
| ESAR | Environmental Survey and Analysis Report |
| ESI | Expanded Site Investigation |
| ESV | Ecological Screening Values |
| ET | Exposure Time |
| FI | Fraction Ingested |
| FRI | Focused Remedial Investigation |
| FS | Feasibility Study |
| FSI | Focused Site Investigation |
| ft | Foot/Feet |
| FUDS | Formerly Used Defense Sites |
| GFAA | Graphite Furnace Atomic Absorption |
| GSA | General Services Administration |
| HHRA | Human Health Risk Assessment |
| HI | Hazard Index |
| HQ | Hazard Quotient |
| $I_{invertprey}$ | Daily Ingestion Rate of Invertebrate Prey Items |
| $I_{plant}$ | Plant Ingestion Rate |
| IR | Ingestion Rate |
| IRIS | Integrated Risk Information System |
| IRP | Installation Restoration Program |
| IS | Incremental Sampling |
| ISM | Incremental Sampling Methodology |
| $I_{soil}$ | Soil Ingestion Rate |
| ITR | Independent Technical Reviewer |
| ITRC | Interstate Technology Regulatory Council |
| IUR | Inhalation Unit Risk |
| J | Estimated value |
| J- | Estimated value, result may be biased low |
| J+ | Estimated value, result may be biased high |
| kg | Kilogram |
| kg/day | Kilograms per Day |
| LCS | Laboratory Control Sample |
| LOAEL | Lowest Observed Adverse Effect Level |
| LOD | Limit of Detection |
| LOQ | Limit of Quantification |
| m | Meter |

| | |
|---|---|
| $m^3/kg$ | Cubic Meter per Kilogram |
| MDE | Maryland Department of the Environment |
| MDNR | Maryland Department of Natural Resources |
| MDNRWH | MDNR Wildlife and Heritage Division |
| mg | Milligram |
| $mg/cm^2$ | Milligram per Centimeter Squared |
| mg/kg | Milligram per Kilogram |
| $mg/m^3$ | Milligrams per cubic meter |
| mm | Millimeter |
| MMRP | Military Munitions Response Program |
| MMT | Methylcyclopentadienyl Manganese Tricarbonyl |
| Mn | Manganese |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| NOAEL | No Observed Adverse Effect Level |
| NS | None specified |
| NTCRA | Non-time Critical Removal Action |
| PARCCS | Precision, Accuracy/Bias, Representativeness, Comparability, Completeness, and Sensitivity |
| PEF | Particulate Emission Factor |
| PSL | Project Screening Level |
| QAPP | Quality Assurance Project Plan |
| QC | Quality Control |
| RAGS | Risk Assessment Guidance for Superfund |
| RAIS | Risk Assessment Information System |
| RfC | Reference Concentration |
| RfD | Reference Dose |
| RI | Remedial Investigation |
| RME | Reasonable Maximum Exposure |
| RPD | Relative Percent Difference |
| RSD | Relative Standard Deviation |
| RSL | Regional Screening Level |
| RTE | Rare, Threatened, and Endangered Species |
| SA | Surface Area |
| SARA | Superfund Amendments and Reauthorization Act |
| SF | Slope Factor |
| SFF | Site-Specific Foraging Factor |
| SL | Screening Level |
| SLERA | Screening Level Ecological Risk Assessment |
| SMDP | Scientific Management Decision Point |
| SSL | Soil Screening Level |
| STR | Senior Technical Reviewer |
| SU | Sampling Unit |
| TE | Total Exposure |
| TES | Threatened and Endangered Species |

| | |
|---|---|
| TRV | Toxicity Reference Value |
| UCL | Upper Confidence Limit |
| UFP | Uniform Federal Policy |
| U.S. | United States |
| USACE | U.S. Army Corps of Engineers |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| UU/UE | Unrestricted Use/Unrestricted Exposure |
| VSP | Visual Sampling Plan |

## GLOSSARY OF TERMS

**Defense Site** – All locations that are or were owned by, leased to, or otherwise possessed or used by the Department of Defense (DoD). The term does not include any operational range, operating storage or manufacturing facility, or facility that is used or was permitted for the treatment or disposal of military munitions.

**Decision Unit (DU)** – the smallest volume of soil (or other media) for which a decision will be made based upon Incremental Sampling Methodology sampling. A DU may consist of one or more sampling units.

**Incremental Sampling Methodology (ISM)** – ISM is a structured composite sampling and processing protocol that reduces data variability and provides a reasonably unbiased estimate of mean contaminant concentrations in a volume of soil targeted for sampling. ISM provides representative samples of specific soil volumes defined as decision units (DUs) by collecting numerous increments of soil that are combined, processed, and subsampled according to specific protocols.

**Sampling Unit (SU) –** An SU is a volume of soil from which increments are collected to determine an estimate of the mean concentration for that volume.

**U.S. EPA Region III Biological Technical Assistance Group –** A USEPA Region III group of scientists to advise and assist site managers with ecological studies produced in conjunction with Remedial Investigations and Feasibility Studies (RI/FSs) and Removal Actions at Superfund sites. In general, these groups are known as Biological Technical Assistance Groups or BTAGs.

# EXECUTIVE SUMMARY

## INTRODUCTION AND SCOPE

ERT, Inc., has been contracted to perform a site-wide Remedial Investigation (RI) and Feasibility Study (FS) at the Former Curtis Bay Ordnance Depot, Curtis Bay, Maryland, (herein after referred to as "the Depot") focusing on depot-wide arsenic and manganese potential contamination under U.S. Army Corps of Engineers (USACE) Baltimore District (CENAB) contract [redacted] Delivery Order [redacted]

This RI Report describes the procedures, methods, organization, and resources that ERT used to achieve the project objectives described in the Performance Work Statement dated 11 March 2016, the Modifications of Contract dated 6 February 2019 and 26 August 2020, the Final Uniform Federal Policy for Quality Assurance Project Plan (UFP-QAPP)/Work Plan (ERT, 2019), and modifications to the UFP-QAPP as identified in the Maryland Department of the Environment (MDE) comments on the Draft Final RI Report. The overall purpose of this RI was to determine whether further response actions are necessary for arsenic and/or manganese in soil under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Military Munitions Response Program (MMRP) processes. The objectives of the RI were to:

- Determine if arsenic and/or manganese concentrations in surface (0-1 foot [ft] bgs) and/or subsurface (1-2 ft bgs) soil pose a potential unacceptable risk to human health and/or the environment;
- Determine site-specific background arsenic and manganese concentrations in surface (0-1 ft bgs) and subsurface (1-2 ft bgs) soil; and
- Refine the Conceptual Site Model (CSM), as necessary.

This RI did not include investigations of unexploded ordnance or the associated munitions constituents and is focused only on the impacts to site soil from arsenic and manganese. Investigation of munitions and explosives of concern and associated munitions constituent sampling were conducted during previous investigations.

## PROPERTY DESCRIPTION AND HISTORICAL INFORMATION

The Depot is located in Anne Arundel County, Curtis Bay, Maryland, approximately one mile southeast of Baltimore, Maryland. Through various property transfers, the Depot now covers approximately 435 acres and is bordered on the east by Curtis Creek and on the south by Furnace Creek (Appendix A, Figure 1).

The original U.S. Army Ordnance Depot was built in 1918 on 789 acres of farmland and became fully operational in 1920. Additional acreage was acquired, increasing the total area to 815 acres. Approximately 37 acres were reassigned to the U.S. Army Reserve in 1958 and 1966. Following several land transfers to Anne Arundel County and the Maryland Department of Transportation (DOT), the remaining 435 acres were transferred to the General Services Administration (GSA)

as excess property in the late 1950s. A map of the existing property (435 acres) is shown in Appendix A, Figure 2.

All historical Depot activities within the investigation area that may have contributed to arsenic and manganese are not known. Pesticide/herbicides were reportedly used at the Depot around the railroad tracks, buildings, and ore stockpiles (Parsons, 1999). However, the Depot was built on farmland (Parsons, 1999) and pesticides/herbicides were likely used. Stockpiles of raw ores, some of which contained arsenic and/or manganese were stored throughout the Depot (Parsons, 1999). Arsenic and manganese also occur under natural conditions as a result of both chemical and physical weathering process on parent rock. Therefore, the known potential contributors to arsenic and manganese in soil include:

- Ore stockpiles (arsenic and manganese);
- Anthropogenic sources (pesticide/herbicide use [arsenic], atmospheric deposition [arsenic and manganese]); and
- Natural sources.

## INVESTIGATION AREAS FOR THE RI

ERT investigated arsenic and manganese impacts within the boundaries of the Depot that are currently owned by the GSA and managed by the Defense Logistics Agency (DLA), except for the area that is undergoing a Non-Time Critical Removal Action (NTCRA), as shown in Appendix A, Figure 2. The investigation area for this RI is approximately 425 acres and does not include the Anne Arundel County Facility or U.S. Army Reserve Dock, which are not owned by GSA.

The Decision Units (DUs) for arsenic and manganese in soil were based on previous RI soil analytical data for arsenic and/or manganese, primarily in surface soil, where concentrations were greater than the previous investigation PSLs.

Previous soil sample analyses indicate:

- arsenic is present in the DU 2 soil at elevated concentrations;
- manganese is present in the DU 3 soil at elevated concentrations; and
- arsenic and manganese are present in the remaining area of the Depot (DU 1) soil at elevated concentrations in various locations with no discernable clusters.

## INVESTIGATION ACTIVITIES

ERT collected all soil samples using the Incremental Sampling Methodology (ISM). Based on the approved UFP-QAPP (ERT, 2018) sampling units (SUs) for this investigation were approximately 150 ft x 150 ft (approximately 0.52 acres), or less. Thirty increments were collected from each sampling unit (SU), irrespective of the size of the SU.

The RI sampling program included:

- 87 (59 in DU 1A, 18 in DU 2A, and 10 in DU 3A) incremental sampling (IS) surface soil samples (0-1 ft below ground surface [bgs]);
- 87 IS (59 in DU 1B, 18 in DU 2B, and 10 in DU 3B) subsurface soil samples (1-2 ft bgs); and

- 7 IS surface (DU 4A) and 7 subsurface (DU 4B) background soil samples (0-1 ft bgs and 1-2 ft bgs, respectively).

All samples were submitted for laboratory analysis of arsenic and manganese. The analytical data obtained during the RI were deemed valid and usable for project decision making.

## RI FINDINGS

Site-wide (the combined areas of DU 1, DU 2, and DU 3), arsenic was reported in 85 of 87 surface soil SUs and in 83 of 87 subsurface soil SUs at concentrations greater than the U.S. Environmental Protection Agency (USEPA) Regional Screening Level (RSL) for residential soil (0.68 mg/kg). Site-wide, arsenic was reported in 82 of 87 surface soil site SUs and in 75 of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for industrial soil (3.0 mg/kg). Site-wide, arsenic was reported in 61 of 87 surface soil site SUs and in 49 of 87 subsurface soil site SUs at concentrations greater than the background threshold value (BTV [7.8 mg/kg]). Site-wide, no reported results for arsenic were greater than the Biological Technical Assistance Group (BTAG) screening level for arsenic (330 mg/kg).

Site-wide, manganese was reported in 43 of 87 surface soil site SUs and in 18 of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for residential soil (300 mg/kg). Site-wide, manganese was reported in ten of 87 surface soil site SUs and in two of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for industrial soil (13,000 mg/kg). Site-wide, manganese was reported in 60 of 87 surface soil SUs and 35 of 87 subsurface soil SUs at concentrations greater than the BTV (460.5 mg/kg). Site-wide, manganese was reported in 69 of 87 surface soil SUs and 50 of 87 subsurface soil SUs at concentrations greater than the BTAG screening level (330 mg/kg).

Sampling results were greater than the human health and/or ecological screening levels for arsenic and manganese at all three DUs. There were sufficient data to evaluate the risks to human health and to the environment, and as part of this RI, ERT conducted an HHRA and SLERA to quantify the risks.

## HUMAN HEALTH RISK ASSESSMENT SUMMARY

The HHRA quantitatively evaluated the risks to human health for the resident child, resident adult, site worker, and construction worker. Although it is unlikely that the site will be developed for residential use in the future, this evaluation included a potential future use of the land as residential to provide protective future risk estimates. For the future residential child, site soil impacts due to arsenic and/or manganese in all three DUs may result in non-cancer hazard and/or cancer risk above the acceptable values. For the future residential adult, site soil impacts due to arsenic and/or manganese at DU 2 and DU 3 may result in non-cancer hazard and/or cancer risk above the acceptable values. For the current/future site worker and future construction worker, exposure to soil may result in non-cancer hazard risk above the acceptable value due to dermal exposure to manganese in soil. Table ES-1 summarizes the conclusions of the HHRA for each DU at the Depot.

**Table ES-1. HHRA Conclusions for the Former Curtis Bay Depot Arsenic and Manganese RI**

| Decision Unit | DU 1 | DU 2 | DU 3 |
|---|---|---|---|
| Future Resident Child | **Unacceptable Non-Carcinogenic Risks Due to Manganese** | **Unacceptable Carcinogenic Risks Due to Arsenic**<br><br>**Unacceptable Non-Carcinogenic Risk Due to Manganese** | **Unacceptable Carcinogenic Risks Due to Arsenic**<br><br>**Unacceptable Non-Carcinogenic Risk Due to Manganese** |
| Future Resident Adult | No Risks Identified | **Unacceptable Carcinogenic Risks Due to Arsenic** | **Unacceptable Non-Carcinogenic Risk Due to Manganese** |
| Current and Future Site Workers | No Risks Identified | No Risks Identified | **Unacceptable Non-Carcinogenic Risk Due to Manganese** |
| Current and Future Construction Workers | No Risks Identified | No Risks Identified | **Unacceptable Non-Carcinogenic Risk Due to Manganese** |

*Legend:*
***Bold text indicates unacceptable human health risks. (i.e., Carcinogenic Risks > $10^{-5}$; Non-carcinogenic HI > 1)***

## SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT

Although the Depot is not a managed ecological site and will likely be used as an industrial (based on current zoning) site, ERT conducted a SLERA in accordance with USEPA guidance for each site DU. Based on the results of the SLERA for the Depot, significant ecological impacts due to the presence of arsenic in soils at all three DU sites are unlikely.

Based on the results of the SLERA for the Depot, potentially significant ecological impacts due to the presence of manganese exist at DU 3. Table ES-2 summarizes the conclusions of the SLERA for each DU at the Depot.

**Table ES-2. SLERA Conclusions for the Former Curtis Bay Depot Arsenic and Manganese RI**

| Decision Unit | DU 1 | DU 2 | DU 3 |
|---|---|---|---|
| SLERA HQ Arsenic* | Ecological Impacts Are Unlikely | Ecological Impacts Are Unlikely | Ecological Impacts Are Unlikely |
| SLERA HQ Manganese* | Ecological Impacts Are Unlikely | Ecological Impacts Are Unlikely | **Ecological Impacts are Likely** |

*Legend:*
* *Based on the 95% Upper Confidence Limit of the mean.*
*HQ Hazard Quotient*

Due to ecological risks identified in the SLERA, ERT conducted uptake modeling of ecological risk due to arsenic and manganese in Depot soil (Step 3A of the 8-step ecological risk assessment).

Uptake modeling evaluated the arsenic and manganese ingestion modeling for two animal receptor species known to occur on-site and which are known to be sensitive to the chemicals in question: the white-footed mouse and the mourning dove. Results of the Step 3A modeling confirmed the SLERA conclusions for arsenic and manganese.

Although the overall ecological risk in DU 1 and DU 2 are unlikely, review of individual SU sampling data for DUs 1 and 2 reveal an apparent pattern of significantly elevated concentrations of manganese in soil in the southwestern-most 2 SUs of DU 2 (SU11A and SU12A) and 3 adjacent SUs of DU 1 (SU12A/B, SU15A, and SU18A). It is recommended that this area be evaluated in the FS for remedial action to protect ecological receptors in the vicinity of these SUs.

There are additional DU 1 SUs (SU23A, SU24A, and SU37A/B) where manganese concentrations in soil may adversely impact ecological receptors. It is recommended that these DU 1 SUs be evaluated in the FS for remedial action to protect ecological receptors.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the HHRA, potential unacceptable risks to residential child and/or adult receptors due to arsenic and/or manganese concentrations in surface and subsurface soil exist in all three site DUs and potential unacceptable risk to site workers and construction workers due primarily to manganese concentrations in surface and subsurface soil exists in DU 3. Based on the results of the SLERA, potential unacceptable risks to the environment due to manganese concentrations in surface and subsurface soil exists in DU 3 and in individual SUs in DU 1 and DU 2. Therefore, further environmental management decisions should be considered at the Depot to mitigate potential unacceptable risks resulting from arsenic and manganese concentrations in site soil. An FS is recommended to evaluate remedial alternatives that adequately address the potential unacceptable risks to human health and the environment from arsenic and manganese in the Depot soil.

**This Page Intentionally Left Blank**

# 1.0 INTRODUCTION

ERT, Inc., has been contracted to complete a site-wide Remedial Investigation (RI) and Feasibility Study (FS) focusing on depot-wide arsenic and manganese potential contamination at the Former Curtis Bay Ordnance Depot, Curtis Bay, Maryland, (herein after referred to as "the Depot") under U.S. Army Corps of Engineers (USACE) Baltimore District (CENAB) contract [redacted] Delivery Order [redacted]

All work was performed in consideration of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) [42 USC 9601 et seq.], the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300), and applicable DoD policies.

This RI Report describes in detail the procedures, methods, organization, and resources that ERT used to achieve the project objectives described in the Performance Work Statement dated 11 March 2016, the Modification of Contract dated 6 February 2019, and the Final Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)/Work Plan (ERT, 2019).

## 1.1 Purpose and Scope

The overall purpose of this RI is to determine whether further response actions are necessary under the CERCLA, Military Munitions Response Program (MMRP), and Installation Restoration Program (IRP) processes.

Historical data indicate that locations within the investigation area contain arsenic and/or manganese, primarily in surface soil, at elevated concentrations. Previous soil sampling data indicated a release of arsenic to surface soil at Decision Unit (DU) 2 (formerly known as the IRP Shop Area) and a release of manganese to surface soil in DU 3 (formerly known as the Environmental Concern [EC]-57D area, an MMRP site). Previous soil sampling data within the remaining investigation area (DU 1) indicated a potential release of arsenic and/or manganese to surface soil, but the data were not sufficient to determine if the potential releases represented a potentially unacceptable risk to human health and/or the environment. Therefore, additional investigation activities are being completed during this effort to determine if elevated concentrations of arsenic and manganese in surface and subsurface soil throughout the investigation area (DU 1, DU 2, and DU 3) pose a potential unacceptable risk to human health and/or the environment.

The objectives of the RI are to:

1. Determine if arsenic and/or manganese concentrations in surface (0-1 foot [ft] below ground surface [bgs]) and/or subsurface (1-2 ft bgs) soil pose a potential unacceptable risk to human health and/or the environment;
2. Determine site-specific background arsenic and manganese concentrations in surface (0-1 ft bgs) and subsurface (1-2 ft bgs) soil; and
3. Refine the Conceptual Site Model (CSM), as necessary.

This RI does not include investigations of unexploded ordnance or the associated munitions constituents and is focuses only on the impacts to site soil from arsenic and manganese. Investigation of munitions and explosives of concern and associated munitions constituent sampling were conducted during previous investigations.

## 1.2 Property Description

The Depot is located in Anne Arundel County, Curtis Bay, Maryland, approximately one mile southeast of Baltimore, Maryland. Through various property transfers, the Depot now covers approximately 435 acres and is bordered on the east by Curtis Creek and on the south by Furnace Creek (Appendix A, Figure 1).

## 1.3 Former Curtis Bay Ordnance Depot Historical Information

The original U.S. Army Ordnance Depot was built in 1918 on 789 acres of farmland and became fully operational in 1920. Additional acreage was acquired, increasing the total area to 815 acres. Approximately 37 acres were reassigned to the U.S. Army Reserve in 1958 and 1966. Following several land transfers to Anne Arundel County and the Maryland Department of Transportation (DOT), the remaining 435 acres was transferred to the General Services Administration (GSA) as excess property in the late 1950s. A map of the existing property (435 acres) is shown in Appendix A, Figure 2.

The former U.S. Army Ordnance Depot's mission, from approximately the 1920s through the 1950s, included receipt, storage, maintenance, and demilitarization of ammunition of domestic and overseas supplies. During this time, the property was designated as the Curtis Bay Ordnance Depot. Among the original facilities constructed in 1918 were docks, pump houses, 33 standard magazines, eight standard high explosive magazines, 57 smokeless magazines, nine fuze and primer magazines, barracks, mess halls, a medical building, an engine house, a machine shop, a repacking house, a guard house, a fire engine house, and two general warehouses. Ordnance-related operations at the Depot included a renovation plant which transferred 75-millimeter (mm) shrapnel to metal containers (Green, n.d.).

A 1928 fire within a smokeless powder magazine that contained 630,000 pounds of 9.2 howitzer powder and the ensuing public protest prompted the removal of 155mm high explosive ammunition from the Curtis Bay Ordnance Depot to the Savanna Illinois Ordnance Depot. The remaining high explosive ammunition stored at the Depot consisted of 75mm shells (Green, n.d.). In 1932, bonderizing plant operations began in a section of Building 1022. Operations at the bonderizing plant included the breakdown of 75mm shrapnel, inspection of the powder, and re-priming. From 1938 to 1942, a different section of Building 1022 was used as a bag loading plant for manufacturing propelling charges for 155mm howitzers and guns (Green, n.d.).

Facilities at the Depot underwent renovations and rehabilitation, primarily through the Works Progress Administration between 1939 and 1940. The function of the Depot then evolved in 1942 to include its use as a small arms packing plant, a transshipment depot for Hawkins Point Pier, and

facility for personnel training, particularly in bag loading. Operations at the small arms packing plant began in 1951 and included belting, linking, and clipping .30- and .50-caliber cartridges.

Following World War II and the Korean War, the Depot's mission involved sorting, processing and decommissioning munitions returning from overseas. This operation was known as Operation Brass and Steel (Miduski, circa 1952-1953 and Green, n.d.). An ammunition-popping plant located in Warehouse 1022 was built in the 1950s. The operations in the ammunition popping plant included disarming and dismantling small brass ammunition returning from overseas (Miduski, circa 1952-1953).

The Depot's mission once again evolved in the 1950s to include: the inspection, maintenance, and storage of small arms ammunition, inert ammunition, ammunition packing materials and smokeless powder (Class 2 only); the demilitarization of unsafe and surplus small arms ammunition, components, and smokeless powder; the storage of general supplies; the receipt, inspection, demilitarization, and shipment of mixed metals, such as fired artillery shells, containers, brass, and projectile plugs; the winterization of equipment; and the receipt and storage of ore for the GSA (Miduski, circa 1952-1953).

In 1952, GSA delegated a new strategic and critical materials stockpile program to its own newly established Emergency Procurement Service. A portion of the Curtis Bay Ordnance Depot was set aside for the storage of GSA strategic and critical materials by the Emergency Procurement Service.

Munitions related activities at the Curtis Bay Ordnance Depot were placed on inactive status in 1958, except for the strategic and critical materials activity. In 1958, the 435.46 acres of the Depot, including the critical materials storage area, were transferred from the DoD to GSA as excess property.

Between 1949 and 1988, responsibility for the storage of strategic and critical materials was the responsibility of the GSA and the Federal Emergency Management Agency. This responsibility was transferred to the Secretary of Defense and assigned to the Defense Logistics Agency (DLA) in 1988. In 1992, the DLA established the Defense National Stockpile Center (DNSC) to manage the stockpile program. The DNSC ceased stockpile operations in 2005 and no longer conducts operations at the Depot; all stockpiles have been removed from the Depot.

The GSA owns the land currently occupied by the Depot. The Depot was declared as excess property in 2005. GSA delegated the responsibilities for environmental investigations and possible remedial actions to the DLA, who acts as executor for the GSA for the Depot environmental activities. The dock area of Curtis Creek is owned and controlled by the U.S. Army Reserve and lies outside the project area. There are currently no active uses of the areas of the Depot owned by GSA.

## 1.4 Previous Former Curtis Bay Ordnance Depot Investigations

Numerous historical investigations have occurred at the Depot. Although many historical reports exist, only those reports directly relevant to the purposes of this RI are detailed below.

### 1.4.1 Focused Site Investigation (FSI) and Final Expanded SI (ESI), Parsons

Parsons conducted an FSI at the Depot in 1999 to determine whether hazardous substances had been released in the environment by the Depot's ore stockpiles, and, if a released had occurred, to determine the likelihood that the hazardous substances had migrated off-site and impacted human or environmental receptors (Parsons, 2000). During the FSI and ESI, Parsons collected soil, sediment, groundwater, and surface water samples from four areas of concern (AOCs). The AOCs were focused on the ore stockpiles.

The objective of the environmental sampling is to determine whether specific media contained concentrations of contaminants above background and/or regulatory standards. Upon evaluation of each medium, Parsons recommended additional field sampling and investigations for three of the four AOCs to further characterize the groundwater, surface water, and soil pathways.

In 2003, Parsons conducted a Final ESI, as a follow-up to the FSI. Based on exceedances found in the FSI samples, Parsons recommended that three sites (Stockpile Area No. 1, Stockpile Area No. 2, and the Medical Supplies Burial Area) be investigated further to determine the nature and extent of the contamination. Additional environmental sampling was performed in surface and subsurface soil, surface water, and groundwater. Samples were analyzed and screened against applicable standards.

Based on the sampling, sediment, surface water, surface soil, and subsurface soil samples had results for some metals that were greater than either the background values or 2008 Maryland Department of the Environment (MDE) non-residential soil cleanup standard (Parsons, 2003). Based on these results, Parsons recommended further environmental sampling of the groundwater, surface water, and soil pathways to determine the nature and extent of the reported contamination.

### 1.4.2 Final Revised DSNC Focused RI (FRI), Parsons

In 2005, Parsons conducted an FRI to delineate the nature and extent of contaminations within specific AOCs identified during their previous FSI and ESI activities, and within areas of known DoD activity not previously investigated. AOCs associated with known DLA/DNSC activities were designated, including four ore stockpile areas, a medical supplies burial area, and areas identified by MDE as requiring further investigation. Ore stockpiles included (but are not limited to) ferromanganese and manganese ores. A Human Health Risk Assessment (HHRA) and an Ecological Screening Level Risk Assessment were conducted to evaluate the human health and environmental risks associated with Depot activities. Parsons collected more than 200 surface/subsurface soil (using discrete sampling methodology), sediment, surface water, and groundwater samples from AOCs designated within the property. The HHRA and the Ecological Screening Level Risk Assessment did not identify any contaminants of concern for any receptors, determined there was no risk to human health or the environment, and concluded that no further evaluation was warranted for the Depot associated with the AOCs that were investigated (Parsons, 2006).

### 1.4.3 Environmental Survey and Analysis Report (ESAR), EA

In 2011, EA Engineering, Science, and Technology, Inc. developed a Final Environmental Survey and Analysis Report (ESAR) for the Depot. The ESAR documented areas of potential environmental concern (ECs) and whether potential ECs may have impacted the soil or groundwater as a result of past or current uses of the Depot. Past uses may have involved hazardous materials, hazardous substances, hazardous wastes, or petroleum products. To prepare the ESAR, EA reviewed previously developed documentation, and performed on-site reconnaissance and interviews. The ESAR summarizes the environmental suitability of the Depot by identifying and characterizing potential ECs.

The ESAR classified each of the 63 identified ECs into one of seven categories; each category provides the environmental condition of the EC and whether additional investigations were required. The categories were based on the current or former presence of operations that involved hazardous materials, hazardous substances, hazardous wastes, or petroleum products. The report presents detailed information on the Depot's utilities and infrastructure, hazardous substances and petroleum products, stockpiled materials, medical and biohazardous waste, suspected asbestos-containing material, lead-based paint, radioactive materials/wastes, military munitions/ordnance, and polychlorinated biphenyl. The report concluded that 22 ECs (seven MMRP and 15 IRP ECs) required additional investigations, in the form of an RI.

### 1.4.4 Remedial Investigation/Feasibility Study for MMRP and IRP ECs, ERT

In 2016, ERT conducted an RI of the ECs that included surface soil, subsurface soil, sediment, surface water, and groundwater sampling to investigate potential human health and environmental risks. ERT collected a total of 826 discrete samples, including 583 primary surface and subsurface samples, 26 groundwater samples, four sediment samples, six surface water samples, and 183 quality control (QC) samples. Based on the results of this sampling and the HHRA and Screening Level Ecological Risk Assessment (SLERA) results, all but two ECs, EC-21 and EC-32, were recommended for no further action, while additional human health and ecological risk assessments are being conducted for EC-21 and EC-32.

As part of the RI data evaluation, it was determined that further evaluation, including a reassessment of the CSM and data gap analysis was needed for arsenic and manganese.

## 1.5 Areas of Investigation for the RI

ERT investigated arsenic and manganese impacts within the boundaries of the Former Curtis Bay Ordnance Depot that are currently owned by the GSA and managed by the DLA, except for the area that is undergoing a Non-Time Critical Removal Action (NTCRA), as shown in Appendix A, Figure 2. The investigation area for this RI is approximately 425 acres and does not include the Anne Arundel County Facility or U.S. Army Reserve Dock, which are not owned by GSA.

The 2016 RI sampling results for arsenic in the IRP Shop Area and manganese in the EC-57D area were not consistent with the EC RI CSM for those areas. Boundaries for the IRP Shop Area and

EC-57D are shown in Appendix A, Figure 2 and previous sampling results are shown in Appendix A, Figure 4. The EC RI CSM identified point sources of arsenic contamination, primarily treated wood storage and use. As the results are wide-spread and are not consistent in magnitude, these results do not appear to be related to the EC-specific activities. Historical Depot activities that may have contributed to the widespread, non-point source arsenic contamination potentially include herbicide/pesticide usage and/or material stockpiling. Therefore, further evaluation including a reassessment of the CSM and data gap analysis was recommended to determine the source of the elevated arsenic concentrations in the IRP Shop Area.

Because manganese concentrations in soil were higher north of the EC-57D boundary (Appendix A, Figure 2), ERT reviewed the historical documentation for the Depot to determine if there were sources of manganese other than the storage of munitions in this EC. During this review, it was determined that a historical manganese ore stockpile existed just north of EC-57D (Parsons, 2006). Locations in the northern portion of the EC and north of the EC boundary correlate with the higher analytical concentrations around the historical stockpile area. Manganese concentrations generally decrease outside of the original 2005 RI stockpile boundary; therefore, it appears that the 2016 RI manganese concentrations are not related to historical munitions-related activities associated specifically with EC-57D. Consequently, further evaluation including a reassessment of the CSM and data gap analysis was recommended to determine the source of the elevated manganese concentrations in the EC-57D Area.

Arsenic and manganese results that were greater than PSLs were found primarily in the surface soil samples. Surface soil was defined as 0 – 0.5 ft bgs during the EC RI. Therefore, a surface soils sampling interval of 0 – 1 ft bgs and subsurface soil sampling interval of 1 – 2 ft bgs were used to sufficiently delineate arsenic and/or manganese impacted soil within the Depot during this RI.

## 1.6 Report Organization

This report is organized in general accordance with the suggested RI report table of contents presented in the U.S. Environmental Protection Agency (USEPA) Guidance for Conducting RI/FS (USEPA, 1988) and the U.S. Army (Army) MMRP RI/FS Guidance (USACE, 2009).

Sections 1.0 and 2.0 present the introduction, history, and site description. Section 3.0 presents the investigation approach and Section 4.0 presents the assessment of analytical data quality. Section 5.0 presents the RI results. Section 6.0 describes the contaminant fate and transport. Section 7.0 presents a summary of the HHRA and SLERA. Section 8 presents the revised CSM. Section 9.0 presents the conclusions and recommendations for the Former Curtis Bay Ordnance Depot. Section 10 presents the references. All figures are presented in Appendix A. Other appendices present meeting minutes, Analytical Data, the complete HHRA and SLERA, a Photographic Log, and Field Documentation.

# 2.0 SITE DESCRIPTION AND ENVIRONMENTAL SETTING

## 2.1 Surface Features

Elevations at the Depot range from approximately 10 ft above mean sea level in the south to approximately 50 ft above mean sea level to the north (U.S. Geological Survey [USGS], 2011). The land surface generally slopes south-southeast (EA, 2011).

Surface features of the Depot have been significantly impacted by anthropogenic activities throughout the years. The U.S. Army Ordnance Depot was originally built in 1918 on 789 acres of farmland and surface features changed drastically up until the early 1990's. As a Depot, the properties main purpose was the receipt, storage, and maintenance of supplies both foreign and domestic.

To accommodate the storage and stockpiling of large quantities of materials, many miles of railroad tracks were built, interconnecting nearly all areas of the Depot-wide property. Large warehouses were located throughout the property, many of which are collapsed or have been demolished. Many revetments and berms were created to facilitate the demilitarization of ammunition and prevent train cars from over-running tracks. In 1952, GSA's new strategic and critical materials stockpile program started and much of the Depot was used for stockpiling large quantities of materials – such as various internationally sourced mineral and metal ores. Most of these stockpile areas were paved, graveled, and/or concrete pads were poured. Like the miles of intertwined railroad connecting nearly every acre of the property, an intricate network of roads exists to expedite the efficient transfer of materials and personnel throughout the Depot.

## 2.2 Hydrogeology

The Depot groundwater is part of the Patuxent reservoir, which is confined by the Arundel clay formation. The Patuxent formation, near Baltimore, is known to yield high supplies of groundwater ranging from 400 to 600 gallons per minute. As part of prior investigations, driller's logs have demonstrated varying degrees of thickness within the sand and gravel units, suggesting that the hydrologic properties of the Patuxent formation may not be uniform (USACE St. Louis, 1993). The Depot is supplied with drinking water by the Glen Burnie public water supply system. Baltimore City supplies the drinking water for the properties surrounding the Depot.

Approximately one half of the Depot's perimeter is bounded by creeks. An unnamed tributary, located in the center of the Depot, drains approximately one half of the Depot's surface water to Back Creek. From Back Creek, the water flows east to Furnace Creek then to Curtis Creek, eventually flowing into Curtis Bay and the Patapsco River, within the Chesapeake Bay. It is possible that the Depot may experience flooding from the unnamed tributary, or in the case of storm surges, from the Chesapeake Bay backwater (USACE St. Louis, 1993).

## 2.3 Climate

Curtis Bay is located within the Mid-Atlantic States with weather consisting of four distinct seasons. The average temperatures in the summer and winter are in the mid-80s [Fahrenheit (°F)]

and mid-30s (°F), respectively. July is the warmest month of the year with an average high temperature of 90°F; January is the coldest with an average low temperature of 29°F. Daily temperature variations between night and day in the summer may reach up to 18°F in difference, while daily temperature variations in the winter average approximately 15°F in difference (U.S. Army Engineering and Support Center Huntsville [CEHNC], 2011).

The annual average precipitation is 43.59 inches. Rainfall is evenly distributed throughout the year. The wettest month of the year is May with an average rainfall of 4.18 inches (EA, 2011).

## 2.4 Geology

The Depot lies within the Atlantic Coastal Plain physiographic province, which is characterized by soft, unconsolidated sediment dating from the lower Cretaceous to the Pleistocene age. This soft, unconsolidated sediment generally overlies crystalline bedrock, which is predominately composed of gneiss, schist, and gabbroic rocks from the Pre-Cambrian and Paleozoic eras.

The Pre-Cambrian-Paleozoic age crystalline bedrock has been affected greatly by intrusions, pressure from folding, and periods of erosion. Characteristic of the Coastal Plain depositional environment during the Cretaceous age, the younger, overlying, unconsolidated sediments comprise non-marine, irregularly bedded, and lenticular sediments due to their down gradient location from the Piedmont Plateau. The three formations deposited during the Cretaceous age are the Patuxent, the Arundel clay, and the Patapsco. The oldest Cretaceous age formation, the Patuxent, is defined by a series of lenticular beds of sands, gravels, and clays. The Patuxent is further defined as being unfossilerous, lacking in a characteristic color, and ranging in thickness from 200 to 300 ft. The depositional environment of the Arundel Clay is swamp-like, as evidenced by lignitic material and organic matter such as tree trunks and roots. The Arundel clay, ranging in thickness from 25 to 200 ft in the Baltimore area, is characterized by gray and red clay containing geodes and nodules of limonitic material. The Arundel clay formation is considered to be a confining layer (USACE St. Louis, 1993). The Patapsco Formation is at the surface, and it consists of "gray, brown, and red variegated silts and clays; lenticular, cross-bedded, argillaceous, subrounded sands; and minor gravels" (Cleaves, et al., 1968).

## 2.5 Demography and Land Use

There are currently no active uses of the Depot. The property is zoned for "W2 - Industrial Light" (Anne Arundel County, 2019) use and the future land use is expected to remain industrial. Ownership of the property is expected to be transferred once all environmental investigations are complete. Once transferred, the property will likely be developed for industrial uses.

## 2.6 Ecology

Since the Depot was declared as excess property in 2005, surface features of the Depot have been influenced by ecological succession. The invasive Bradford Pear (Pyrus calleryanan) is widespread throughout the property. The Depot has been filled, drained, graded and otherwise altered to the point that there are no natural areas remaining, although there are areas of the Depot now covered by successional fields and successional hardwood forests. Currently, the site features

consist of warehouses in various stages of disrepair, concrete pads where warehouses once stood, a network of paved and gravel roads, numerous revetments and large piles of spoil, and abandoned railroad tracks and railroad beds.

A large central drainage ditch and numerous shallow ditches convey surface water to discharge into adjacent open water bodies, with very little surface water retained on site. The majority of the ditches draining the site are small, intermittent, and support wetland species like cattail and giant reed. Most of the area outside the project boundary and within a half-mile radius is urban land or open water.

Additional information on the Depot ecology is provided in the SLERA (Section 7.2).

### 2.6.1 Sensitive Habitats

Based on a review of the National Wetlands Inventory (2019), approximately 10 acres of wetlands were identified within the Depot boundary, primarily along the edges of the Depot where they meet Back Creek and Furnace Creek, as well as along the unnamed tributary. These areas are part of the investigation area for this project

The nearby Curtis Bay Channel, Patapsco River, and Stoney Creek have been identified as Historic Waterfowl Staging and Concentration Areas. Portions of the Depot are within the Critical Buffer Area (Anne Arundel County, Maryland, 2007).

### 2.6.2 Endangered, Threatened, or Special Concern Species

No rare, threatened, or endangered species or rare habitats have been documented at the Depot (EA, 2011; Parsons, 2006; CEHNC ,2011). Sensitive bird species, such as the formerly federally-endangered peregrine falcon (Falco peregrinus), with the formerly state-threatened and formerly federally-threatened bald eagle (Haliaeetus leucocephalus), and the osprey (Pandion haliaetus) have been recorded breeding in the vicinity (two to four miles) of the Depot (Parsons, 2006; CEHNC, 2011). Many pairs of P. haliaetus were observed on site during this RI, exhibiting nesting and breeding behaviors.

The Depot is not within the recorded range of most rare, threatened, or endangered fish, reptile, or amphibian species in Maryland (Maryland Department of Natural Resources [MDNR] 2007; MDNR, 2010). Additionally, the Depot does not contain suitable habitat for species of interest that do occur within Anne Arundel County, such as the state-endangered eastern tiger [redacted] (Ambystoma tigrinum) and the state-rare northern scarletsnake (Cemophora coccinea copei).

Additional information on the species found within the Depot is provided in the SLERA (Section 7.2.1.2).

**This Page Intentionally Left Blank**

# 3.0 INVESTIGATION APPROACH

The goals of the investigation activities were to determine the nature and extent of arsenic and/or manganese impacts in surface and subsurface soil at the Depot, potentially caused by prior DoD use, determine potential risks to human health and/or the environment, and to recommend whether further environmental management decisions are warranted. This section discusses the investigation that was conducted to make these determinations for arsenic and manganese. RI field investigations were conducted in accordance with the technical project planning (TPP) meeting (Appendix C) and the Final UFP-QAPP (ERT, 2019), except as detailed in Section 3.3.

## 3.1 Data Needs

Data were needed to assess the nature and extent of potential arsenic and manganese contamination resulting from past practices at the Depot. Environmental sampling and analysis were conducted to determine the distribution and concentrations of arsenic and manganese in surface and subsurface soil. All sample data were screened against the relevant comparison criteria (Section 3.2.2) to evaluate potential risks due to human health and/or the environment to achieve the RI objectives.

### 3.1.1 Preliminary Conceptual Site Model

A CSM was developed in accordance with EM-200-1-12 (USACE, 2012), to illustrate the mechanisms by which arsenic and manganese from past DoD activities at the Depot could potentially migrate from affected source media to the point of exposure where contact with receptors may occur.

#### *3.1.1.1 Human and Ecological Receptors*

Due to the limited use of the Depot property, potential human receptors at the Depot are likely limited to authorized site workers, which could include outdoor workers (mowing and maintenance activities) and construction workers (potential intrusive activities). While the site is mostly fenced and there are gates along the Depot entrance areas, the fence is not maintained and has areas where trespassers can get onto the property. Evidence of trespassers has been seen during site visits to include: the potential use of the buildings for shelter by homeless people, and lawn chairs and beer kegs along the creeks edge and within the Depot boundaries. Additional anecdotal information on the trespassers has been provided by the U.S. Army Reserve staff who have "chased people off of the Depot property" when they see them. Ecological receptors include terrestrial plants, soil invertebrates, reptiles, amphibians, birds, and mammals.

The preliminary CSMs indicate the potential for site workers, trespassers, and biota to be exposed to arsenic and/or manganese in surface soil at the Depot. The preliminary CSMs indicate the potential for construction workers to be exposed to arsenic and/or manganese in surface and/or subsurface soil at the Depot. This is based on the historical data collected at the Depot detailed in Section 1.4.

#### *3.1.1.2 Contamination Sources*

Section 1.4 presents the results of the previous investigations of arsenic and manganese at the Depot. A complete list of historical Depot activities within the investigation area that may have contributed to arsenic and manganese is not known. Pesticide/herbicides were reportedly used at the Depot around the railroad tracks, buildings, and ore stockpiles (Parsons, 1999). However, the Depot was built on farmland (Parsons, 1999) and pesticides/herbicides were likely used. Stockpiles of raw ores, some of which contained arsenic and/or manganese were stored throughout the Depot (Parsons, 1999). Arsenic and manganese also occur under natural conditions as a result of both chemical and physical weathering process on parent rock. Therefore, the known potential contributors to arsenic and manganese in soil include:

- Ore stockpiles (arsenic and manganese);
- Anthropogenic sources (pesticide/herbicide use [arsenic], atmospheric deposition [arsenic and manganese]); and
- Natural sources.

#### *3.1.1.3 Transport Process*

Metals may dissolve in surface water or become sorbed to the soil. Contaminants may move between dissolved and sorbed states depending on a variety of physical and chemical factors.

The fate and transport of the arsenic are dependent on a wide variety of factors. Contaminant fate refers to the expected final state that an element, compound, or group of compounds will achieve following release to the environment. Contaminant transport refers to the mechanisms and rates of migration of contaminants away from the source area. Migration pathways often include air, water, soil, sediment, and the interfaces between the phases of the contaminant (i.e., solid, liquid, or gas). The fate and transport of contaminants occur in all environmental media: terrestrial, aquatic, and atmospheric. Terrestrial environments comprise soil and groundwater; aquatic environments include surface water, marsh, and, sediment; and air is the only component of the atmospheric environment.

Most metals are indigenous to the earth and are found in varying concentrations in most environmental media. Some metals accumulate in animal tissues and others accumulate in plant tissues. Metals do not degrade. However, the mobility and toxicity of some metals are affected by changes in the oxidation state (e.g., chromium).

#### *3.1.1.4 Exposure Pathways*

A complete exposure pathway contains a contaminant source, a mechanism for transport, receptor access to the contaminant, and an exposure route. Exposure could potentially occur via dermal contact, inhalation of dust, and/or incidental ingestion during routine caretaker activities, a future construction project, or trespassing. Plants may uptake contaminants from the soil and contribute contaminants to the food chain, creating an additional exposure pathway for humans and animals.

Current and future site workers may be exposed to arsenic/manganese impacted surface soil by wind-blown dust or incidental (e.g., during mowing or other maintenance activities) or intentional

(e.g., during landscaping and landscape maintenance) contact with soil. Future construction workers may be exposed to arsenic/manganese impacted surface and/or subsurface soil during construction activities. Current and future trespassers may be exposed to arsenic/manganese impacted surface soil by wind-blown dust or contact with soil while sitting along the creek edge or within the Depot, or when trying to enter the property through fence opening. It is not likely that current and future trespassers will engage in activities that expose them to the arsenic/manganese impacted subsurface soil; therefore, this is not considered a complete pathway.

Previous investigation sampling and analysis included groundwater, sediment, and surface water. Groundwater samples were collected at 34 locations throughout the Depot. Four co-located sediment and surface water samples were collected within the unnamed tributary. All groundwater, sediment, and surface water samples were analyzed for arsenic and manganese (ERT, 2016). Arsenic and manganese were not identified as chemicals of potential concern (COPCs) in groundwater during the human HHRA of the previous investigation. Therefore, groundwater is considered an incomplete exposure pathway. Similarly, arsenic and manganese were not identified as COPCs in the HHRA for surface water or sediment during the previous investigation (ERT, 2016). Arsenic was identified as a chemical of potential ecological concern (COPEC) in sediment, however, the SLERA determined there was no unacceptable risks to the environment from arsenic in the sediment (ERT, 2016). Manganese was not identified as a COPEC in sediment in the SLERA. Arsenic and manganese were not identified as COPECs in surface water. Therefore, surface water and sediment are also considered incomplete exposure pathways.

The IRP Shop Area has been designated as Decision Unit (DU) 2. The EC-57D area has been designated as DU 3. DU 1 is the remainder of the Depot that is not in the NTCRA, DU 2, or DU 3 areas. Within DU 2 and DU 3, the pathways for surface soil were considered complete as previous investigations in these areas indicate a release of arsenic (DU 2) or manganese (DU 3) in surface soil. Within DU 2 and DU 3 the pathways for subsurface soil were considered potentially complete until subsurface soil contaminant source areas were identified. A graphical representation of the preliminary exposure pathways for the DU 2 and DU 3 areas are shown in Appendix A, Figure 3a.

Within the remaining area of investigation, previous sampling results for arsenic and manganese that were greater than the PSLs were scattered throughout the investigation area with no clear indication that results may represent an unacceptable risk to human health and/or the environment (see Appendix A, Figure 4). In addition, the distances between previous sampling locations are, in many cases greater than 200 feet and there are large areas where no soil sampling was conducted. As a result, it was unknown if source areas for arsenic or manganese existed within the remaining investigation area, DU 1. Therefore, the surface soil pathways were considered potentially complete in the remaining area of investigation until surface soil sampling was completed during this RI.

Based on previous sampling results, it was not considered likely that arsenic and/or manganese concentrations in subsurface soil would pose an unacceptable risk to human health and/or the environment unless arsenic and/or manganese were found in the surface soil at concentrations that would pose an unacceptable risk to human health and/or the environment. However, the pathway for subsurface soil was considered potentially complete until sampling results demonstrated otherwise within the remaining area of investigation. A graphical representation of the preliminary exposure pathways for the remaining investigation area, DU 1, is shown in Appendix A, Figure 3b.

Updated CSMs based on the current RI sampling results and/or the HHRA/SLERA conclusions are presented in Section 7.

### 3.1.2 Data Quality Objectives

Data quality objectives (DQOs), including laboratory analytical DQOs for environmental sampling, were developed and presented in the approved UFP-QAPP (ERT, 2019) to support the determination of the nature and extent of arsenic and/or manganese contamination at the Depot and to recommend whether further actions are warranted. All DQOs were reviewed and accepted by the Project Delivery Team prior to beginning field activities. The DQOs are presented in Table 3-1.

**Table 3-1. Soil Investigation DQOs – Former Curtis Bay Depot**

| DQO Element | Specific DQO Statement |
|---|---|
| Project Objective(s) Satisfied | To determine the nature and extent of arsenic and/or manganese contamination. |
| Data User Perspective(s) | To obtain representative soil data to determine if an arsenic (As) and/or manganese (Mn) release has occurred, and if a release is identified, define nature and extent of As/Mn, and compare results against defined screening levels and background sampling results. Conduct an HHRA and SLERA to determine if there are human health and/or ecological risks associated with contamination present in soils due to past DoD activities. |
| Contaminant or Characteristic of Interest | Based on historical use of the Former Curtis Bay Depot and historical data, analyze the media of interest for the following metals (As and Mn) |
| Media of Interest | Surface (0-1 ft bgs) and subsurface (1-2 ft bgs) soil |
| Required Sampling Locations or Areas | Three decision units (DUs) defined based on previous soil sampling results for As/Mn. |
| Number of Samples Required | A. 87 incremental sampling (IS) surface soil samples (exclusive of background and QC replicates)<br>B. 87 IS subsurface soil samples (exclusive of background and QC replicates)<br>C. 7 IS surface and 7 IS subsurface background soil samples (exclusive of QC replicates) |
| Reference Concentration of Interest or Other | PSLs included U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) for residential and industrial soil, |

| Table 3-1. Soil Investigation DQOs – Former Curtis Bay Depot | |
|---|---|
| **DQO Element** | **Specific DQO Statement** |
| Performance Criteria | USEPA Region III Biological Technical Assistance Group (BTAG) Screening Benchmarks, and background As and Mn concentrations. Comparisons to these criteria to be utilized along with comparisons to background results, to determine contaminant extent, and, subsequently as warranted, to select COPCs and COPECs for an HHRA and SLERA. Exceedances of background As and Mn concentrations will determine the need for remedial action(s). |
| Sampling Methods and Depths | A. IS method for surface soil in the 0-1 ft bgs interval using a step probe.<br>B. IS subsurface soil samples will be at 1 ft to 2 ft bgs. IS subsurface soil samples will be collected using a step probe.<br>C. A Geoprobe will be used in areas where soil/substrate conditions prevent the use of a step probe. |
| Analytical Methods | Metals analysis by CT Laboratories, LLC via analytical method SW-846 Method 6010C[1]. |

1. The UFP-QAPP incorrectly identified analytical method SW-6020A. However, CT Laboratories, LLC does not perform this method. See Section 3.3.4 for more details.

## 3.2 Characterization of Arsenic and Manganese in Soil

The DUs for arsenic and manganese soil sampling were based on previous soil sampling data for arsenic and/or manganese, primarily in surface soil, where concentrations were greater than the previous investigation PSLs. Previous sampling results indicate that:

- arsenic is present in the DU 2 at concentrations greater than the PSL that was used at the time;
- manganese is present in the DU 3 at concentrations greater than the PSL that was used at the time; and
- arsenic and manganese are present at various locations in the remaining area of the Depot (DU 1) at concentrations greater than the PSLs that were used at the time.

### 3.2.1 General Approach

ERT's sampling approach reflected the approved UFP-QAPP procedures intended to allow for identifying arsenic and manganese concentrations in the soils at the Depot and provide sufficient data of sufficient quality for the risk assessments. The target populations (surface [0-1 ft bgs] and subsurface soil [1-2 ft bgs]) were the set of all possible sampling units within each surface and subsurface DU. Thus, there are six DUs defined for this investigation (the horizontal extents of each DU are shown in Appendix A, Figure 4). DU 1A is the surface soil DU and DU 1B is the subsurface soil DU for the remaining area (not including the IRP Shop Area and EC-57D), where there is no defined release of arsenic and/or manganese, based on previous investigations. DU 2A is the surface soil DU and DU 2B is the subsurface soil DU in the IRP Shop Area where an arsenic release was identified during previous investigations. DU 3A is the surface soil DU and DU 3B

is the subsurface soil DU in the EC-57D Area where a manganese release was identified during previous investigations.

The sampling unit (SU) size was based on the current and (assumed) future industrial land use of the Depot. Therefore, all sampling units (SUs) for this investigation were approximately 150 ft x 150 ft (approximately 0.52 acres). An SU is the area over which each incremental soil sample was collected during the RI. Note that, due to property access restrictions, no sampling occurred outside of the DU boundaries. Grids (150 ft x 150 ft) that overlapped the Depot boundaries were truncated at the property boundary, adjacent truncated areas were combined to form SUs so that the maximum SU area was approximately 0.52 acres (150 ft x 150 ft) and the minimum SU area was 0.32 acres. Thirty increments were collected from each SU, irrespective of the size of the SU. Appendix A, Figures 5 through 7 show the SUs for each site DU.

ERT conducted background surface and subsurface soil sampling in the U. S. Army Reserve Property. Background sampling consisted of seven surface soil SUs (DU 4A) and seven subsurface soil SUs (DU 4B). Locations were selected so that they were not in paved areas or wetlands. Background SUs are shown in Appendix A, Figure 8.

All Incremental Sampling Methodology (ISM soil) samples were submitted to CT Laboratories, LLC. (CT) for analysis of arsenic and manganese via USEPA method SW-846 6010C[1].

### 3.2.2 Comparison Criteria

To support the HHRA and SLERA, the soil sampling results were compared to the USEPA RSLs for residential soil (USEPA, 22020b), the USEPA RSLs for industrial soil (USEPA, 2020b), and the USEPA Region III BTAG Screening Benchmarks (USEPA, 1995a). Although the Depot is zoned for industrial use, the USEPA RSL for residential soil were used in the RI to evaluate the risks to future hypothetical resident receptors (child and adult) to support the development of a cleanup alternative in the FS, if necessary, that allows for residential land use. A residential cleanup alternative is typically developed so that DoD can consider the measures necessary to allow "unrestricted use/unrestricted exposure" (UU/UE) of the land. Because UU/UE is interpreted to mean residential land use, it is necessary to determine if unacceptable risk is posed by arsenic or manganese to hypothetical residential receptors.

In addition, site sampling results were compared to background threshold values (BTVs). The BTVs are a measure of the concentrations of naturally occurring and anthropogenic sources of chemicals at locations with similar soil properties, but which are not influenced by releases from the site. BTVs are used for comparing individual site sampling results. BTVs are estimated by statistics representing the upper tail of the background data distribution and are intended to cover the range of background data at some confidence level (e.g., 95%). BTVs were calculated using

[1] The UFP-QAPP incorrectly identified analytical method SW-6020A. However, CT Laboratories, LLC does not perform this method. See Section 3.3.4 for more details.

the surface and subsurface soil sampling results from seven background SUs and ProUCL version 5.1 software and technical guidance (USEPA, 2015). Statistical analysis of the background sampling results indicated that the surface soil data were not significantly different than the subsurface soil data for arsenic or manganese. Therefore, the surface soil and subsurface soil data were combined into a single data set to develop the BTVs. A complete discussion of the development of the BTVs and the BTV statistics used is provided in Appendix D.1.

Project screening values are provided in Table 3-2.

**Table 3-2. Project Screening Levels**

| Parameter | Chemical Abstract Service Number | BTV (mg/kg) | USEPA Residential (mg/kg) | USEPA Industrial (mg/kg) | USEPA BTAG (mg/kg) |
|---|---|---|---|---|---|
| Arsenic | 7440-38-2 | 7.8 | 0.68 | 3 | 328 |
| Manganese | 7439-96-5 | 460.5 | 900 | 13,000 | 330 |

*Legend:*

| | |
|---|---|
| *BTV* | *Background Threshold Value* |
| *USEPA Residential* | *May 2020 USEPA RSL for residential soil, with a target cancer risk level of 1 x $10^{-6}$ and hazard quotient = 0.5 (USEPA, 2020b, 2020c)* |
| *USEPA Industrial* | *May 2020 USEPA RSL for industrial soil, with a target cancer risk level of 1 x $10^{-6}$ and hazard quotient = 0.5 (USEPA, 2020b, 2020c)* |
| *USEPA BTAG* | *USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995a)* |
| *mg/kg* | *milligrams per kilogram* |

### 3.2.3 Soil Sampling

Soil samples were collected in March and April 2019. A photographic log of the field sampling efforts is included in Appendix E and the field documentation is provided in Appendix F.

#### *3.2.3.1 DU 1*

DU 1 constitutes the remaining area of the Depot that is controlled by GSA, excluding DU 2, DU 3, and the NTCRA area (Appendix A, Figure 5). DU 1 is the portion of the site-wide investigation area that shows diffuse potential arsenic and manganese contamination, based on previously collected discrete surface soil samples. As part of the selection of DUs, it was determined that site workers and trespassers would be traveling over the whole area, and there is no clear pattern to suggest special areas of concern within DU 1. Based on the historical data, the majority of potential contamination is in the surface soil. However, subsurface soil was sampled during this investigation to determine the vertical extent of potential arsenic and manganese contamination across DU 1. DU1A consisted of 59 surface soil SUs and DU 1B consisted of 59 subsurface soil SUs. The determination of the number and location of the SUs was determined using Visual Sampling Plan (VSP) and is discussed in detail in the approved Final UFP-QAPP (ERT, 2019). A total of 118 soil samples (plus QC replicates), each consisting of 30 increments, were collected from the 118 SUs in DU 1.

#### *3.2.3.2 DU 2*

DU 2A and DU 2B are located in the IRP Shop Area (Appendix A, Figure 6). As shown on Appendix A, Figure 6, the DUs are covered by 18 SUs. DU 2A consisted of 18 surface soil SUs and DU 2B consisted of 18 subsurface soil SUs. A total of 36 soil samples (plus QC replicates), each consisting of 30 increments, were collected from the 36 SUs in DU2.

#### *3.2.3.3 DU 3*

DU 3A and DU 3B (Appendix A, Figure 7) are based around the EC-57D area as it was defined in the prior RI. During the previous investigations, manganese concentrations that were greater than background concentrations were seen primarily in surface soil. As shown on Appendix A, Figure 7, the DU 3 DUs are covered by 10 SUs. DU 3A consisted of 10 surface soil SUs and DU 3B consisted of 10 subsurface soil SUs. A total of 20 soil samples (plus QC replicates), each consisting of 30 increments, were collected from the 20 SUs in DU 3.

#### *3.2.3.4 Background (DU 4)*

ERT conducted background surface and subsurface soil sampling in the U. S. Army Reserve Property. The background area was selected based on a review of historical records for the Former Curtis Bay Depot. During the use of the background area for the Depot, the area selected for the background sampling contained administrative and housing for base personnel and was not used for other mission support activities. Therefore, this area is not likely to be impacted by the ore pile storage and related activities associated with the potential arsenic and manganese impacts to site soil. Background sampling consisted of seven surface soil SUs (DU 4A) and seven subsurface soil SUs (DU 4B). Locations were selected so that they were not in paved areas or wetlands. DU 4A consisted of seven surface soil SUs and DU 4B consisted of seven subsurface soil SUs (Appendix A, Figure 8). A total of 14 soil samples (plus QC replicates), each consisting of 30 increments, were collected from the 14 SUs in DU 4.

## 3.3 UFP-QAPP Variances

Although every effort was made to adhere to the UFP-QAPP, variances from the UFP-QAPP are noted below.

### 3.3.1 **Puck mill vs Ball Mill**

The UFP-QAPP specified the use of a Teflon-coated ball mill for the processing of ISM soil samples, however a puck mill was used for ISM soil sample processing. CT Laboratories expressed concern that although they do possess Teflon-coated ball mills for sample preparation, this equipment has limited capacity with regard to the ISM soil sample mass (5-15 kilogram [kg]) for samples collected at the Depot. ERT and CT provided information to the PDT on using the puck mill for sample preparation that included analysis of arsenic and manganese in method blank and spiked laboratory control samples to determine the effects of puck mill grinding on soil sample analysis. Use of the puck mill was approved by the PDT (see Appendix C) on 12 March 2019.

### 3.3.2 Background Area Sample Naming

The field team inadvertently changed the designation of the background sampling area to DU4 instead of BKG, as specified in the UFP-QAPP. Although the field team recognized this error, all background samples were named as using the DU4 designation to maintain consistency with the initial background samples.

*Example:*
The subsurface sample collected from SU 2 in the background area was labelled as *DU4B-SU02*.

### 3.3.3 SU Increment or Location Offsets

During field sampling, the field team determined that either the increments within an SU or an entire SU needed to be moved in 23 SUs within DU 1 in order to collect the required samples. Table 3-1 presents the SUs in DU 1 that were moved or where increments were offset, and the reason for the offset. Increments were also offset as necessary in DU 2 to accommodate remaining site structures (buildings and/or foundations), but no SUs were moved. Increments were offset to an accessible location as close to the original increment location as possible (i.e., at boundary of obstruction or adjacent to fence). The planned number of increments (30) were collected for all SUs.

| Table 3-3. Offset Sampling Units | | |
|---|---|---|
| **Decision Unit** | **Sampling Unit** | **Reason for Offset** |
| DU 1 | SU01 | SU inaccessible due to property fence and main site entry road. |
| | SU03 | SU outside property fence. |
| | SU04 | SU on heavily graveled railroad bed. |
| | SU05 | SU on heavily graveled railroad bed. |
| | SU06 | Original location of SU consisted of roadway and concrete pad. |
| | SU10 | Original location of SU was in the road |
| | SU11 | SU on heavily graveled railroad bed. |
| | SU12 | SU on heavily graveled railroad bed and main road. |
| | SU13 | SU moved off of fence line due to roadway (East Ave.). |
| | SU14 | SU offset due to heavily graveled area |
| | SU17 | SU moved off of apparent former gravel parking area |
| | SU19 | Increments offset due to former building foundation. |
| | SU28 | SU moved due to fence and due to being partially located on the U.S. Army Reserve dock property. |
| | SU31 | SU moved to avoid former gravel parking area |
| | SU35 | Increments offset to avoid boundary fence. |
| | SU40 | SU offset to avoid barricade. |
| | SU42 | Increments were offset to avoid obstructions (road, concrete pad, and gravel). |
| | SU46 | Increments located within the sidewalk were offset. |
| | SU51 | Several increment locations were offset due to fence. |
| | SU53 | Several increment locations were offset due to former railroad tracks. |
| | SU54 | SU was within the NTCRA support area. |
| | SU55 | Original location on top of former building foundation |
| | SU56 | Five increment locations were offset due to former building foundation. |

### 3.3.4 Analytical Method

The UFP-QAPP incorrectly specified analysis of arsenic and manganese via analytical method SW846 6020A. However, CT is not certified to perform this method. Therefore, CT used analytical method SW846 6010C for all samples collected. The limit of quantitation (LOQ) for arsenic analyzed via method SW846 6010C does not achieve the necessary sensitivity for the USEPA RSL for residential soil screening level for arsenic (0.68 mg/kg).

The LOQs, limits of detection (LODs), and detection limits (DLs) for method SW846 6010C are:

- Arsenic - LOQ = 0.80 mg/kg, LOD = 0.40, DL = 0.13, and
- Manganese - LOQ = 0.15, LOD = 0.075, DL = 0.025.

Therefore, all samples for which the analytical results for arsenic that were less than the LOQ using analytical method SW846 6010C (i.e., analytical results were non-detect [U qualified] or detected at concentrations less than the LOQ [J qualified]) were also analyzed via analytical

method Graphite Furnace Atomic Absorption (GFAA) 7010. The LOQ (0.16 mg/kg), LOD (0.08 mg/kg), and DL (0.04 mg/kg) are less than the USEPA RSL for residential soil screening level for arsenic (0.68 mg/kg).

### 3.3.5 Subsampling of Large Mass Samples

Collecting 30 increments over 1-ft intervals generated samples in excess of the required 2 kg mass. Field methods were used to reduce the sample mass and laboratory sample processing. In accordance with the Interstate Technology Regulatory Council (ITRC) Incremental Sampling Guidance (ITRC, 2012), the field team used core wedging to reduce the amount of sample mass obtained when using the DPT method (masses were greater than 10 kg). Field split samples were collected at 10% of the SUs where field splitting was used (split sample collected at DU1A-SU30 and DU1B-SU30) to quantify errors that may have been associated with the core wedging. All relative standard deviations (RSDs) for the field split samples were less than 30 percent indicating that the field splitting did not result in increased sample result uncertainties.

## 4.0 DATA QUALITY ASSESSMENT

The data quality assessment (DQA) describes the evaluation of the data quality indicators (DQIs) that were used to assess the overall quality of the soil analytical data collected during the RI field activities. The DQIs are assessed with respect to the DQOs. Project DQOs presented in Worksheet #11 of the UFP-QAPP establish the data uses, users, and provides objective criteria by which the data quality can be measured. Moreover, the DQO process identifies the protocols, processes, procedures, and methods by which the DQOs can be met. Achievement of DQOs provides the basis for concluding that the acquired investigation data are scientifically sound, legally defensible, and adequate for their intended use. The DQI's – precision, accuracy/bias, representativeness, comparability, completeness, and sensitivity (PARCSS) – were defined in Worksheet #37 of the UFP-QAPP (ERT, 2019) and were evaluated and incorporated into this data usability assessment.

The analytical data were validated in accordance with specifications given in the UFP-QAPP (ERT, 2019). An overview of the results of the DQA is presented in Section 4.1. Statistical analysis of the RSDs for field and laboratory IS replicates are presented in Appendix D.1. The complete DQA analysis is presented in Appendix D.2 in the data validation reports. Laboratory Level IV reports are provided in Appendix D.4.

### 4.1 Data Quality

- The data validation process found no systematic problems but indicated exceedances of QC limits. A total of 22 (4.6 percent) of the 478 results (sample and field QC samples) were qualified as estimated based on data validation review (e.g., "J" [estimated value], "J-" [estimated value may be biased low], "J+" [estimated value may be biased high],or "UJ" [not detected, Limit of Detection (LOD) is an estimated value due to analyte-specific quality control issues]). There were no rejected results.
- Completeness, regarding the number of regular and field QC samples collected compared to the number of regular and field QC samples that were planned to be collected, was 100 percent.
- Completeness, regarding the number of regular and field QC analytical results that were determined to be usable, was 100 percent.
- Data validation determined that the overall accuracy, based on the percentage of matrix spike (MS) and matrix spike duplicate (MSD) samples that were within the established percent recovery (%R) control limits, was acceptable. Of the 478 sampling results, a total of 8 results (1.7 percent) were qualified as estimated based on minor exceedances of MS/MSD %R limits.
- Data validation determined that the overall accuracy, based on the percentage of laboratory control samples (LCS) that were within the established %R control limits, was acceptable. No results were qualified as estimated based on LCS %R limits.
- Data validation determined that the overall accuracy, based on the percentage of serial dilutions within the percent difference limits and post-digestion spike recoveries that were within the established %R control limits, was acceptable. Of the 478 sampling results, a total of 8 results (1.7 percent) were qualified as estimated based on minor exceedances of QC limits.

- Overall MS/MSD duplicate precision for all samples was acceptable. No results were qualified as estimated based on minor exceedances of MS/MSD Relative Percent Difference (RPD) precision limits.
- Overall LCS replicate (either duplicate or triplicate) precision for all samples was acceptable. Of the 478 sampling results, a total of 14 results (2.9 percent) were qualified as estimated based on exceedances of LCS RPD or RSD precision limits.
- Of the 47 calculated RSDs for field replicate samples, 49% (23) were within project DQOs, 30% (14) were greater than 30% but less than 50%, 15% (7) were greater than 50% but less than 100%, and 6.0% (3) were greater than 100%.
- Representativeness was evaluated by comparing preservation and analytical procedures to those described in the UFP-QAPP, by evaluating holding times, and by examining blanks for possible contamination of samples during collection and analysis. All samples were preserved, prepared, and analyzed following methods specified in the UFP-QAPP, except as noted in Section 3.3. Due to use of the puck mill grinding process, low levels of arsenic and manganese were detected in the method blanks. However, only three arsenic results (via method GFAA 7010) were qualified due to the reported results being less than five times the amount reported for the blank. Therefore, representativeness was achieved.
- Comparability refers to the confidence with which one data set can be compared to another. To improve data comparability, the data set used for sampling activities for the RI was generated by employing standardized sampling, analytical, and data validation procedures. Project planning, including laboratory selection, incorporated various appropriate USEPA guidance documents, as well as direct input from USACE on field, laboratory, and data screening issues to ensure the comparability of the data. Because of the implementation of standard and consistent planning, field, analytical, and validation procedures during this investigation, the site data can be compared with confidence to historical site data of acceptable data quality. Therefore, comparability was achieved.
- Use of the additional analytical method (GFAA 7010) for arsenic in soil ensured that analytical limits of detection (LODs) and limits of quantitation (LOQ) for soil were less than the PSLs. Therefore, the sensitivity of laboratory limits to screening level benchmarks was met.

## 4.2 Data Uncertainty

As with all datasets, a level of uncertainty is typically associated with the data and its usability. In order to reduce the data uncertainties and biases, field instrument calibration, sample collection, and laboratory analyses were conducted in accordance with the standard operating procedures as outlined in the UFP-QAPP. Additionally, laboratory analytical techniques have a degree of uncertainty associated with them. These uncertainties are documented by using data qualifiers to reflect the uncertainty of the measurement. The presence of "J, "J-", "J+", and "UJ" qualified data in this dataset reflect this uncertainty. A J flag indicates the reported result is estimated, but the direction of bias, if present, is not specified or known; a J- flag indicates that the reported result is likely biased low; and a J+ flag indicates that the reported result is likely biased high. Note that the estimated result totals, as provided in the data validation reports (Appendix D.1), did not include sample concentrations that were qualified as estimated by the laboratory (reported results that were less than the analytical LOQ, but greater than the DL).

Data that are flagged with "J" or "UJ" qualifiers have more measurement uncertainty surrounding them than do non-qualified data. However, they were deemed valid and usable for purposes of this RI and these uncertainties are not likely to affect the project conclusions.

RSD results that are greater than the project DQOs for replicate samples increase the uncertainty in the estimated mean of the replicate result. Of the 47 calculated RSDs for field replicate samples, 49% (23) were within project DQOs, 30% (14) were greater than 30% but less than 50%, 15% (7) were greater than 50% but less than 100%, and 6% (3) were greater than 100%. Of the 46 calculated laboratory replicate RSDs, 74% (34) were within the project DQOs and 26% were greater than the project DQOs. Based on the RSDs, ERT evaluated the field and laboratory sampling and preparation methods. No systematic field sampling or laboratory processing errors were identified. It is likely that the RSDs greater than the project DQOs are likely due to the non-parametric distribution of arsenic and manganese in soil which may be due to the ore sources of the contaminant metals. The presence of RSDs greater than project DQOs may increase the level of uncertainty with respect to the decisions made based on these data. To address the increased level of uncertainty and to minimize the false negative decision errors that might be associated with high RSDs, ERT used the non-parametric (Chebyshev) equation for calculating the 95% upper confidence limit of the mean (95% UCL) for arsenic and/or manganese for all replicate samples for which the RSD was greater than project DQOs for comparison to the project screening levels.

## 5.0 INVESTIGATION RESULTS

This section provides the results of the investigation sample analyses screened against the comparison criteria presented in Section 3. Analysis of the findings and what the results mean for this site are presented in detail in the Section 7.0 HHRA/SLERA.

Site-wide, soil samples were collected from 87 surfaces soil SUs and 87 subsurface soil SUs, and were analyzed for arsenic and manganese. Site sampling results were compared to the USEPA RSLs for residential soil, USEPA RSLs for industrial soil, BTAG screening levels, and BTVs.

Site-wide, arsenic was reported in 85 of 87 surface soil site SUs and in 83 of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for residential soil (0.68 mg/kg). Site-wide, arsenic was reported in 82 of 87 surface soil site SUs and in 75 of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for industrial soil (3.0 mg/kg). Site-wide, arsenic was reported in 61 of 87 surface soil site SUs and in 49 of 87 subsurface soil site SUs at concentrations greater than the BTV (7.8 mg/kg). Site-wide, no reported results for arsenic were greater than the BTAG standard for arsenic (330 mg/kg).

Site-wide, manganese was reported in 43 of 87 surface soil site SUs and in 18 of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for residential soil (300 mg/kg). Site-wide, manganese was reported in of ten surface soil site SUs and in two of 87 subsurface soil site SUs at concentrations greater than the USEPA RSL for industrial soil (13,000 mg/kg). Site-wide, manganese was reported in 60 of 87 surface soil SUs and 35 of 87 subsurface soil SUs at concentrations greater than the BTV (460.5 mg/kg). Site-wide, manganese was reported in 69 of 87 surface soil SUs and 50 of 87 subsurface soil SUs at concentrations greater than the BTAG screening level (330 mg/kg).

Where replicate samples were collected, the SU 95% UCL was compared to the screening criteria (see Appendix D.3). A summary of results for each DU is provided in Sections 5.1 through 5.4.

### 5.1 DU 1 Remaining Area (DU1 A and DU 1B)

Fifty-nine surface (DU 1A) and 59 subsurface (DU 1B) soil samples were collected from 59 DU 1 SUs and submitted for laboratory analysis of arsenic and manganese. Sampling results for DU 1 are summarized in Sections 5.1.1 and 5.2.2, and provided in Appendix D, Tables D.3-1 (DU 1A) and D.3-2 (DU 1B). Soil sampling results that are screened against the human health screening levels are shown in Appendix A, Figures 9a (northern portion of DU 1) and 9c (southern portion of DU 1). Soil sampling results that are screened against the ecological screening levels are shown in Appendix A, Figures 9b (northern portion of DU 1) and 9d (southern portion of DU 1).

#### 5.1.1 DU 1A (Remaining Area Surface Soil)

Table 5-1 presents a summary of the number of SUs greater than screening levels for DU 1A. Arsenic was detected in all 59 surface soil SUs collected from DU 1A. Reported results for arsenic in DU 1 surface soil ranged from 0.38 mg/kg in the sample collected from DU1A-SU44R2 to 55.1 mg/kg in the sample collected from DU1A-SU18. Reported results for arsenic in DU 1 surface

soil were greater than the USEPA RSL for residential soil (0.68 mg/kg) in 57 of 59 SUs. Reported results for arsenic in DU 1 surface soil were greater than the USEPA RSL for industrial soil (3 mg/kg) in 54 of the 59 SUs. Reported results for arsenic in surface soil were greater than the BTV (7.8 mg/kg) in 38 of 59 SUs. No reported results for arsenic in DU 1 surface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was detected in all 59 SUs collected from DU 1A. Reported results for manganese in DU 1 surface soil ranged from 105 mg/kg (DU1A-SU44R3; 95% UCL 151 mg/kg)) to 27,700 mg/kg (DU1A-SU12). Reported results for manganese in DU 1 surface soil were greater than the USEPA RSL for residential soil (900 mg/kg) in 23 of 59 SUs. Reported results for manganese in DU 1 surface soil were greater than the USEPA RSL for industrial soil (13,000 mg/kg) in four of 59 SUs. Reported results for manganese in surface soil were greater than the BTV (460.5 mg/kg) in 33 of 59 SUs. Reported results for manganese in DU 1 surface soil samples were greater than the BTAG screening level (330 mg/kg) in 42 of 59 SUs.

**Table 5-1. Summary of Screening Results for DU 1A**

| Parameter | USEPA RSL for Residential Soil (mg/kg) | USEPA RSL for Industrial Soil (mg/kg) | BTV (mg/kg) | BTAG mg/kg | DU 1A Surface Soil (0-1 ft bgs) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # of SUs Exceeding RSL for Residential | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTV | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 7.8 | 328 | 57 | 54 | 38 | 0 |
| Manganese | 900 | 13,000 | 460.5 | 330 | 23 | 4 | 33 | 42 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

### 5.1.2 DU 1B (Remaining Area Subsurface Soil)

Table 5-2 presents a summary of the number of SUs greater than screening levels for DU 1B.

Arsenic was detected in all 59 subsurface soil SUs collected from DU1B. Reported results for arsenic ranged from 0.19 mg/kg in the sample collected from DU1B-SU48 to 38.9 mg/kg in the sample collected from DU1B-SU19. Reported results for arsenic were greater than the USEPA RSL for residential soil (0.68 mg/kg) in 55 of 59 subsurface soil SUs and greater than the USEPA RSL for industrial soil (3.0 mg/kg) in 51 of 59 subsurface soil SUs. Reported results for arsenic

in subsurface soil were greater than the BTV (7.8 mg/kg) in 34 of 59 SUs. No reported results for arsenic in DU 1 subsurface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was detected in all 59 subsurface soil SUs collected from DU1B. Reported results for manganese ranged from 57.6 mg/kg in the sample collected from DU1B-SU35 to 18,500 mg/kg in the sample collected from DU1B-SU37. Reported results for manganese in DU 1 subsurface soil were greater than the USEPA RSL for residential soil (900 mg/kg) in nine of 59 subsurface soil SUs, greater than the USEPA RSL for industrial soil (13,000 mg/kg) in one of 59 SUs, greater than the BTV (460.5 mg/kg) in 19 of 59 SUs, and greater than the BTAG screening level (330 mg/kg) in 31 of 59 SUs.

**Table 5-2. Summary of Screening Results for DU 1B**

| Parameter | USEPA RSL for Residential Soil (mg/kg) | USEPA RSL for Industrial Soil (mg/kg) | BTV (mg/kg) | BTAG mg/kg | DU 1B Subsurface Soil (1-2 ft bgs) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # of SUs Exceeding RSL for Residential Soil | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTV | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 7.8 | 328 | 55 | 51 | 34 | 0 |
| Manganese | 900 | 13,000 | 460.5 | 330 | 9 | 1 | 19 | 31 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

## 5.2 DU2 Former IRP Shop Area (DU 2A and DU 2B)

Eighteen surface (DU 2A) and 18 subsurface (DU 2B) soil samples were collected from 18 DU 2 SUs and submitted for laboratory analysis of arsenic and manganese. The results are summarized below. Sampling results for DU 2 are also provided in Tables D.3-3 (DU 2A) and D.3-4 (DU 2B). Soil sampling results that are screened against the human health screening levels are shown in Appendix A, Figure10a. Soil sampling results that are screened against the ecological screening levels are shown in Appendix A, Figure 10b.

### 5.2.1 DU 2 A (Former IRP Shop Area Surface Soil)

Table 5-3 presents a summary of the number of SUs greater than screening levels for DU 2A.

Arsenic was detected in all 18 SUs collected from DU 2A. Reported results for arsenic ranged from 4.1 mg/kg in the sample collected from DU2A-SU01 to 96 mg/kg in the sample collected

from DU2A-SU07R3 (95% UCL 118.8 mg/kg). Reported results for arsenic in DU 2 surface soil were greater than the USEPA RSL for residential soil (0.68 mg/kg) in 18 of 18 surface soil SUs and greater than the USEPA RSL for industrial soil (3 mg/kg) in 18 of 18 surface soil SUs. Reported results for arsenic in surface soil were greater than the BTV (7.8 mg/kg) in 15 of 18 SUs. No reported results for arsenic in DU 2 surface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was also detected in all 18 SUs collected from DU 2A. Manganese values ranged from 179 mg/kg in the sample collected from DU2A-SU07 to 7,010 mg/kg in the sample collected from DU2A-SU12. Reported results for manganese in DU 2 surface soil were greater than the USEPA RSL for residential soil (900 mg/kg) in 11 of 18 SUs. No reported results for manganese in DU 2 surface soil were greater than the USEPA RSL for industrial soil (13,000 mg/kg). Reported results for manganese in surface soil were greater than the BTV (460.5 mg/kg) in 17 of 18 SUs. Reported results for manganese in DU 2 surface soil samples were greater than the BTAG screening level (330 mg/kg) in 17 of 18 SUs.

**Table 5-3. Summary of Screening Results for DU 2 A**

| Parameter | USEPA RSL for Residential Soil | USEPA RSL for Industrial Soil | BTV | BTAG | DU 2A Surface Soil (0-1 ft bgs) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # of SUs Exceeding RSL for Residential Soil | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTV | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 7.8 | 328 | 18 | 18 | 15 | 0 |
| Manganese | 900 | 13,000 | 460.5 | 330 | 11 | 0 | 17 | 17 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

### 5.2.2 DU2B (Former IRP Shop Area Subsurface Soil)

Table 5-4 presents a summary of the number of SUs greater than screening levels for DU 2B.

Arsenic was detected in all 18 SUs collected from DU 2B. Reported results for arsenic ranged from 2.1 mg/kg in the sample collected from DU2B-SU10 to 114 mg/kg in the sample collected from DU2B-SU06. Reported results for arsenic in DU 2 subsurface soil were greater than the USEPA RSL for residential soil (0.68 mg/kg) in 18 of 18 subsurface soil SUs and greater than the USEPA RSL for industrial soil (3 mg/kg) in 16 of 18 subsurface soil SUs. Reported results for

arsenic were greater than the BTV (7.8 mg/kg) in 12 of 18 SUs. No reported results for arsenic in DU 2 subsurface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was detected in all 18 SUs collected from DU 2B. Reported results for manganese ranged from 90.5 mg/kg in the sample collected from DU2B-SU02 to 1,960 mg/kg in the sample collected from DU2B-SU07. Reported results for manganese in DU 2 subsurface soil were greater than the USEPA RSL for residential soil (900 mg/kg) in 3 of 18 SUs. No reported results for manganese in DU 2 subsurface soil were greater than the USEPA RSL for industrial soil (13,000 mg/kg). Reported results for manganese were greater than the BTV (460.5 mg/kg) in 9 of 18 SUs. Reported results for manganese in DU 2 subsurface soil samples were greater than the BTAG screening level (330 mg/kg) in 12 of 18 SUs.

**Table 5-4. Summary of Screening Results for DU 2B**

| Parameter | USEPA RSL for Residential Soil | USEPA RSL for Industrial Soil | BTV | BTAG | DU 2B Subsurface Soil (1-2 ft bgs) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # of SUs Exceeding RSL for Residential Soil | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTV | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 7.8 | 328 | 18 | 16 | 12 | 0 |
| Manganese | 900 | 13,000 | 460.5 | 330 | 3 | 0 | 9 | 12 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

## 5.3 DU 3 Former EC-57D Area (DU 3A and DU 3B)

Ten surface (DU 3A) and 10 subsurface (DU 3B) soil samples were collected from 10 DU 3 SUs and submitted for laboratory analysis of arsenic and manganese. The results are summarized below. Sampling results for DU 3 are also provided in Tables D.3-5 (DU 3A) and D.3-6 (DU 3B). Soil sampling results that are screened against the human health screening levels are shown in Appendix A, Figure11a. Soil sampling results that are screened against the ecological screening levels are shown in Appendix A, Figure 11b.

### 5.3.1 DU 3A (Former EC-57D Area Surface Soil)

Table 5-5 presents a summary of the number of SUs greater than screening levels for DU 3A.

Arsenic was detected in all 10 SUs collected from DU 3A. Reported results for arsenic ranged from 6.3 mg.kg in the sample collected from DU3A-SU07 to 28.6 mg/kg in the sample collected from DU3A-SU03. Reported results for arsenic in DU 3 surface soil were greater than the USEPA RSL for residential soil (0.68 mg/kg) and greater than the USEPA RSL for industrial soil (3.0 mg/kg) in 10 of 10 SUs. Reported results for arsenic in surface soil were greater than the BTV (7.8 mg/kg) in eight of 10 SUs. No reported results for arsenic in DU 3 surface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was detected in all 10 SUs collected from DU 3A. Reported results for manganese ranged from 867 mg/kg in the sample collected from DU3A-SU05 to 48,800 mg/kg in the sample collected from DU3A-SU04. Reported results for manganese in DU 3 surface soil were greater than the USEPA RSL for residential soil (900 mg/kg) in nine of 10 SUs. Reported results for manganese in DU 3 surface soil were greater than the USEPA RSL for industrial soil (13,000 mg/kg) in six of 10 SUs. Reported results for manganese in surface soil were greater than the BTV (460.5 mg/kg) in 10 of 10 SUs. Reported results for manganese in DU 3 surface soil samples were greater than the BTAG screening level (330 mg/kg) in 10 of 10 SUs.

**Table 5-5. Summary of Screening Results for DU 3A**

| Parameter | USEPA RSL for Residential Soil | USEPA RSL for Industrial Soil | BTV | BTAG | DU 3A Surface Soil (0-1 ft bgs) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # of SUs Exceeding RSL Residential Soil | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTV | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 7.8 | 328 | 10 | 10 | 8 | 0 |
| Manganese | 900 | 13,000 | 460.5 | 330 | 9 | 6 | 10 | 10 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

### 5.3.2 DU 3B (Former EC-57D Area Subsurface Soil)

Table 5-6 presents a summary of the number of SUs greater than screening levels for DU 3B.

Arsenic was detected in all 10 SUs collected from DU 3B. Reported results for arsenic ranged from 1.5 mg/kg in the sample collected from DU3B-SU06 to 66 mg/kg in the sample collected from SU3B-SU03. Reported results for arsenic in DU 3 subsurface soil were greater than the USEPA RSL for residential soil (0.68 mg/kg) in 10 of 10 SUs and greater than the USEPA RSL

for industrial soil (3 mg/kg) in 8 of 10 SUs. Reported results for arsenic in subsurface soil were greater than the BTV (7.8 mg/kg) in three of 10 SUs. No reported results for arsenic in DU 3 subsurface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was detected in all ten SUs collected from DU 3B. Reported results for manganese ranged from 89 mg/kg in the sample collected from DU3B-SU06 to 24,600 mg/kg in the sample collected from DU3B-SU04. Reported results for manganese in DU 3 subsurface soil were greater than the USEPA RSL for residential soil (900 mg/kg) in six of 10 SUs. Reported results for manganese in DU 3 subsurface soil were greater than the USEPA RSL for industrial soil (13,000 mg/kg) in one of 10 SUs. Reported results for manganese in subsurface soil were greater than the BTV in seven of 10 SUs. Reported results for manganese in DU 3 subsurface soil samples were greater than the BTAG screening level (330 mg/kg) in seven of 10 SUs.

**Table 5-6. Summary of Screening Results for DU 3B**

| Parameter | USEPA RSL for Residential Soil | USEPA Industrial Soil RSL | BTV | BTAG | DU 3B Subsurface Soil (1-2 ft bgs) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # of SUs Exceeding RSL for Residential Soil | # of SUs Exceeding Industrial Soil RSL | # of SUs Exceeding BTV | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 7.8 | 328 | 10 | 8 | 3 | 0 |
| Manganese | 900 | 13,000 | 460.5 | 330 | 6 | 1 | 7 | 7 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

## 5.4 Background (DU 4A and DU 4B)

Seven surface (DU 4A) and seven subsurface (DU 4B) soil samples were collected from seven background SUs and submitted for laboratory analysis of arsenic and manganese. The results are summarized below. Sampling results for DU 4 are also provided in Tables D.3-7 (DU 4A) and D.3-8 (DU 4B). Soil sampling results that are screened against the human health screening levels are shown in Appendix A, Figure12a. Soil sampling results that are screened against the ecological screening levels are shown in Appendix A, Figure 12b.

Note that background sampling results were used to derive the BTVs used for site soil sample comparisons.

### 5.4.1 Background Surface Soil (DU 4A)

Table 5-7 presents a summary of the number of SUs greater than screening levels for DU 4A.

Arsenic was detected in all seven surface soil SUs collected from DU 4A. Reported results for arsenic in surface soil ranged from 1.2 mg/kg in the sample collected from DU4A-SU05 to 3.5 mg/kg in the sample collected from DU4A-SU03. Reported results for arsenic were greater than the USEPA RSL for residential soil (0.68 mg/kg) in all SUs. The reported result for arsenic in DU4A-SU03 was greater than the USEPA RSL for industrial soil (3.0 mg/kg). No reported results for arsenic in background surface soil samples were greater than the BTAG screening level (328 mg/kg).

Manganese was detected in all seven surface soil SUs collected from DU 4A. Reported results for manganese in surface soil ranged from 85.9 (DU4A-SU06) to 334 mg/kg (DU4A-SU01). The reported results for manganese in DU4A-SU01 was greater than the BTAG screening level (330 mg/kg). No reported results for manganese in background surface soil samples were greater than the USEPA RSL for residential soil (900 mg/kg) or greater than the USEPA RSL for industrial soil (13,000 mg/kg).

**Table 5-7. Summary of Screening Results for DU 4A (Background)**

| Parameter | USEPA RSL for Residential Soil | USEPA RSL for Industrial Soil | BTAG | DU 4A Surface Soil (0-1 ft bgs) | | |
|---|---|---|---|---|---|---|
| | | | | # of SUs Exceeding RSL for Residential Soil | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 328 | 7 | 1 | 0 |
| Manganese | 900 | 13,000 | 330 | 0 | 0 | 1 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

### 5.4.2 Background Subsurface Soil (DU 4B)

Table 5-8 presents a summary of the number of SUs greater than screening levels for DU 4B.

Arsenic was detected in all seven subsurface soil SUs collected from DU 4B. Reported results for arsenic ranged from 0.81 J (DU4B-SU05) to 7.2 mg/kg (DU4B-SU01). All reported results for arsenic in the subsurface background soil exceeded the USEPA RSL for residential soil (0.68 mg/kg) and one reported result (DU4B-SU01) exceeded the USEPA RSL for Industrial Soil (3.0

mg/kg). No reported results for arsenic in background subsurface soil samples were greater than the BTAG screening level (330 mg/kg).

Manganese was detected in all seven SUs collected from DU 4B. Reported results for manganese ranged from 72.3 (DU4B-SU06) to 327 mg/kg (DU4B-SU03). No reported results for manganese in the subsurface background soil were greater than the USEPA RSL for residential soil (900 mg/kg), the USEPA RSL for industrial soil (13,000 mg/kg), or the BTAG screening level (330 mg/kg).

**Table 5-8. Summary of Screening Results for DU 4B (Background)**

| Parameter | USEPA RSL for Residential Soil | USEPA RSL for Industrial Soil | BTAG | DU 4B Subsurface Soil (1-2 ft bgs) | | |
|---|---|---|---|---|---|---|
| | | | | # of SUs Exceeding RSL for Residential Soil | # of SUs Exceeding RSL for Industrial Soil | # of SUs Exceeding BTAG |
| Arsenic | 0.68 | 3 | 328 | 7 | 1 | 0 |
| Manganese | 900 | 13,000 | 330 | 0 | 0 | 0 |

*Legend:*
*BTAG - Biological Technical Assistance Group*
*BTV - Background Threshold Value*
*DU - Decision Unit*
*ft bgs - feet below ground surface*
*mg/kg - milligrams per kilogram*
*RSL - Regional Screening Level, May 2019*
*SU - Sampling Unit*
*USEPA - U.S. Environmental Protection Agency*

This Page Intentionally Left Blank

# 6.0 CONTAMINANT FATE AND TRANSPORT

Fate and transport mechanisms potentially affect the release and distribution of constituents. In order to completely characterize the site, an evaluation of the environmental fate and transport of constituents that were reported at concentrations exceeding the risk screening criteria was performed. As part of the RI, surface soil and subsurface soil were evaluated and detected constituents exceeding the risk screening criteria were evaluated for persistence in the environment and the potential for inter-media transfer and migration. The subsections detail the potential routes of constituent transport; estimate the persistence of identified constituents based on physical, chemical and biological factors affecting fate and transport; and predict migration routes.

## 6.1 Potential Contaminant Sources and Release Mechanisms

As presented in Section 3.1.1.2, the potential contaminant sources are the former DoD activities. Stockpiles of raw ores, some of which contained arsenic and/or manganese were stored throughout the Depot (Parsons, 1999). Arsenic and manganese also occur under natural conditions as a result of both chemical and physical weathering process on parent rock. However, the Depot was built on farmland (Parsons, 1999) and pesticides/herbicides were likely used. Pesticide/herbicides were reportedly used at the Depot around the railroad tracks, buildings, and ore stockpiles (Parsons, 1999). Although a complete list of activities performed at the Depot are unknown, the known potential contributors to arsenic and manganese in soil include:

- Ore stockpiles (arsenic and manganese);
- Anthropogenic sources (pesticide/herbicide use [arsenic], atmospheric deposition [arsenic and manganese]); and
- Natural sources.

## 6.2 Potential Contaminant Migration Pathways

Migration pathways from a source provide the route of transport for released chemicals to be transported across and between media. Migration pathways can be naturally occurring or man-made pathways. Historical DoD activities resulted in the downward migration of contaminants through possible downward infiltration/percolation of rainfall into the surface soils or horizontal migration through contaminated fugitive dust. Typically, surface and subsurface soil are not considered transport media, although if sufficiently impacted, may affect the final transportation and disposition of identified COPCs, and can result in groundwater becoming secondary sources of contamination. After migrating through the vadose zone, contaminants can then enter the groundwater where they may undergo hydrolysis, oxidation, reduction, or other processes resulting in the chemical transformation of a contaminant.

Site groundwater was sampled during the EC RI (ERT, 2016) and arsenic and manganese were not detected at concentration greater than the PSLs. This indicates that arsenic and manganese are not migrating to groundwater. Site surface water and sediment samples were collected from the unnamed tributary and analyzed confirming that arsenic and manganese are not migrating to the unnamed tributary. The EC RI (ERT, 2016) concluded that there were no unacceptable risks to human health or the environment from arsenic and/or manganese in surface water and/or sediment.

Constituents are also attenuated mechanically as they migrate through the subsurface by processes such as dilution, dispersion, diffusion, and absorption. Potential secondary release mechanisms include infiltration and/or percolation of water through contaminated subsurface soil.

Contaminated soil may also be tracked from one location to another; plant life may absorb soil contaminants; and, wildlife may ingest plants that have assimilated contaminants in leaf and stem tissue. In addition, contaminants can be conveyed by surface water and/or sediments to aquatic life that may be ingested by wildlife. Contaminants can also accumulate in a specific medium. The potential for specific contaminants to migrate from one medium to another or to be transformed is dependent on the physical and chemical properties of each contaminant.

Fate and transport physiochemical principals and characteristics of chemicals were used to evaluate site-specific analytical data in order to identify COPCs reported above the screening levels that have the potential to persist or migrate along potential transport pathways. Three pathways were evaluated; air transport, soil erosion, and surface water runoff. Previous groundwater sampling has confirmed that constituents have not contaminated groundwater.

Air transport of impacted soil is possible but considered unlikely due to the minimal amount of exposed soil at the site and the vegetation enclosing the site.

Offsite migration of COPCs via surface water and soil erosion in exposed areas is possible on a limited basis. Metals adhered to eroded soil may be transported via surface water. The heavier metal constituents typically sorb to clays and organic materials and precipitate out of groundwater. In addition, due to the predominantly aerobic and neutral pH conditions at the site, it is assumed that migration of arsenic is negligible.

### 6.2.1 Airborne Transport

Movement of surface soil particulates from impacted soils via atmospheric wind is a transportation pathway. Such particulate transport is generally limited due to particle size, wind speeds and other site-specific conditions. Contaminant transport via wind across the Depot is also possible. However, the surface soil generally consists of vegetation which tends to suppress erosion and the airborne transport of particulates. However, there are areas of the site (e.g., roadways) that are not overgrown with vegetation and provide potential air transport concerns.

### 6.2.2 Soil and Sediment Transport

Site conditions maintain the movement of surface water flow towards historical site features (i.e., drainage ditches). Soil and sediment deposits tend to accumulate in historic features such as drainage ditches and are ultimately deposited along with the surface water into the Chesapeake Bay.

### 6.2.3 Surface Water Transport

Surface water provides a potential critical pathway for constituents to migrate from a source area. Based on the typical topography associated with the site, characterized by relatively level grade surface and several man-made drainage features. Vegetation typically inhibits the erosion of soil

particles and very few areas at the site are devoid of ground surface grass and brush vegetation. During heavy rain events, sheet flow or overland flow of surface water may result in surface water draining into the nearest drainage ditch. Engineering of the various drainage ditches associated with the former Depot ultimately directs the surface water discharge into local streams, and ultimately the Chesapeake Bay.

Direct infiltration of surface water to the shallow groundwater can contribute to the migration of constituents. The overall low permeability at the former Depot inhibits surface water infiltration into the shallow groundwater.

## 6.3 Contaminant Persistence

The environmental fate and transport of chemicals are dependent upon the physical and chemical properties of the compounds, the environmental transformation processes affecting them, and the media through which they migrate.

Metal constituents were identified in soil above background concentrations and screening levels. The potential for transport of metal analytes in the subsurface is based upon analyte specific affinity to soil and groundwater. Factors affecting transport dynamics include soil-water chemistry and charge deficiency on adsorbent surfaces, such as soil and sediment. In order to neutralize the surface charge, an accumulation of ions near the soil-groundwater interface is required. Factors including soil texture, soil chemistry, pH and redox potential also enhance or diminish the mobility of a metal analyte. Typically, the solubility of metals tends to increase proportional to increased acidity, and conversely under alkaline conditions.

There are numerous natural materials that strongly interact with water. Metal sorption is affected primarily by physical and chemical processes. Generally, the sorption coefficient for a metal is indicative of the relative affinity of a metal to soil, and ultimately the immobility of the metal. Physical adsorption is due to surface charges which attract ionic species of the opposite charge. Hydrous oxides may also promote the sorption of metals. Metal ions sorbed to these surfaces become precipitated with the hydrous oxides. Chemical processes for adsorption include ion exchanges, precipitation, solid-state diffusion and isomorphic substitution. Organic matter may also result in metals sorbing to soil and sediment making them insoluble in groundwater.

### 6.3.1 Arsenic

Arsenic is a widely distributed naturally occurring element occurring in soil and minerals. Arsenic may enter air, water and land through wind-blown dust and water run-off. Arsenic in the atmosphere comes from various sources, including volcanoes and microorganisms, however human activity is responsible for release through the burning of fossil fuels. In industry, arsenic is a byproduct of the smelting process (separation of metal from rock) for many metal ores. Due to human activities, mainly through mining, naturally immobile arsenics have also mobilized and can now be found in many more places than where they existed naturally (Risk Assessment Information System [RAIS], 2019b).

During the 18th, 19th, and 20th centuries, several arsenic compounds have been used as medicine. In the 19th Century, arsenic was used in paints and dyes for clothes, paper, and wallpaper. Arsenic compounds are used in making special types of glass, as a wood preservative and, more recently, in semiconductors. In the more recent past (early 20th century) arsenic was used in insecticides such as ant killers and animal dips. However, regulatory restrictions for arsenic, especially for home products, have reduced its use and the exposure to it.

Production of wood preservatives, primarily copper chromated arsenate (CCA), accounted for more than 90% of domestic consumption of arsenic trioxide in 2003. Wood treated with CCA is known as "pressure treated wood". In 2002, the USEPA reached an agreement with the manufacturers of wood preservative products containing CCA to cancel the registration of CCA for use in virtually all residential applications. However, wood treated prior to this date can still be used, and CCA-treated wood products continue to be used in industrial applications. Organoarsenic compounds have been used as chemical weapons, especially during World War I.

Arsenic appears in three allotropic forms: yellow, black and grey; the stable form is a silver-gray, brittle crystalline solid. Arsenic tarnishes rapidly in air, at high temperatures burns forming a white cloud of arsenic trioxide, and combines readily with many other elements. In the environment, arsenic combines with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds. The most common forms of arsenic in groundwater are their oxy-anions, arsenite (As+3) and arsenate (As+5). Under moderately reducing conditions, arsenite is the predominant species. In oxygenated water, arsenate is the predominant species. Both anions are capable of adsorbing to various subsurface materials, such as ferric oxides and clay particles. Ferric oxides are particularly important to arsenate fate and transport as ferric oxides are abundant in the subsurface and arsenate strongly adsorbs to these surfaces in acidic to neutral waters. An increase in the pH to an alkaline condition will cause both arsenite and arsenate to desorb, and they can be expected to be very mobile in an alkaline environment. The arsenic oxy-anions are also sensitive to redox conditions, and the speciation differential between them will change with changing redox.

Elemental arsenic is extremely persistent in both water and soil. Environmental fate processes may transform one arsenic compound to another; however, arsenic itself is not degraded. Soluble forms of arsenic tend to be quite mobile in water, while less soluble species adsorb to clay or soil particles. Microorganisms in soils, sediments, and water can reduce and methylate arsenic to yield methyl arsines, which volatilize and enter the atmosphere. These forms then undergo oxidation to become methyl arsonic acids and are ultimately transformed back to inorganic arsenic. Fish and shellfish can accumulate arsenic, but the arsenic in fish is mostly in a form that is not harmful. Bioconcentration of arsenic occurs in aquatic organisms, primarily in algae and lower invertebrates. Biomagnification in aquatic food chains does not appear to be significant, although some fish and invertebrates contain high levels of arsenic compounds which are relatively inert toxicologically. Plants may accumulate arsenic, subject to various factors including soil arsenic

concentration, plant type, and soil characteristics (Agency for Toxic Substances & Disease Registry [ATSDR], 2007).

The toxicity of inorganic arsenic depends on its valence state and on the physical and chemical properties of the compound in which it occurs. Water soluble inorganic arsenic compounds are absorbed through the gastrointestinal tract and lungs; distributed primarily to the liver, kidney, lung, spleen, aorta, and skin; and excreted mainly in the urine. Symptoms of acute inorganic arsenic poisoning in humans are nausea, anorexia, vomiting, epigastric and abdominal pain, and diarrhea. While persistent in the soil, the pathway exists for future migration of arsenic from subsurface soil to the groundwater. The mobility of arsenic is limited because it strongly sorbs to soil particles and does not readily enter the groundwater. As previously mentioned in Section 6.2., previous groundwater sampling has confirmed that arsenic has not contaminated groundwater.

### 6.3.2 Manganese

Manganese is a silver-colored, naturally occurring metal that makes up approximately 0.1 percent of the Earth's crust and is present in many geologic formations. Manganese is an essential trace element and is necessary for good health. Normal nutritional requirements of manganese are satisfied through the diet, which is the normal source of the element, with minor contributions from water and air. Environmental manganese readily combines with other substances and is not found isolated in the environment. Manganese is also utilized in industrial processes to produce carbon-based organic manganese compounds such as pesticides and methylcyclopentadienyl manganese tricarbonyl (MMT), a fuel additive in some gasolines (RAIS, 2019b). MMT is a manganese-containing compound used to enhance the octane rating in gasoline. MMT was used as an additive in leaded gasoline until the phase-out of leaded gas in the United States in 1995. It was also used in unleaded gasoline for a short period of time in the late 1970s but was banned as an additive in unleaded gasoline by USEPA in 1977. In 1995, the ban on MMT use in unleaded gasoline was lifted, and a court decision ordered USEPA to register the product for use as a fuel additive, although testing for health effects continues.

Manganese is pervasive in the environment, occurring naturally in more than 100 minerals with background levels in soil ranging from 40 to 900 mg/kg, with an estimated mean background concentration of 330 mg/kg. Background levels of manganese in the atmosphere vary widely depending on proximity of point sources.

Manganese releases to the environment from industrial emissions, fossil fuel combustion, volcanic eruptions and erosion of manganese-containing soil. The principal sources of industrial emissions are ferroalloy production and iron and steel foundries, and the principal sources of combustion emissions are power plants and coke ovens. Almost 80 percent of industrial emissions of manganese are attributable to iron and steel production facilities. While power plant and coke oven emissions contribute about 20 percent of industrial emissions of manganese. Manganese may also be released to the environment during combustion of the gasoline additive MMT. Windblown erosion of dusts and soils is also an important atmospheric source of manganese.

Atmospheric emissions of manganese and other trace metals from these industrial sources have declined over the last two decades due to the use of advanced pollution control devices and increased government regulations regarding these emissions.

Manganese compounds have negligible vapor pressures but may exist in air as suspended particulate matter derived from industrial emissions or the erosion of soils. Manganese-containing particles are mainly removed from the atmosphere by gravitational settling, with large particles tending to fall out faster than small particles. The half-life of airborne particles is usually on the order of days, depending on the size of the particle and atmospheric conditions. Some removal by washout mechanisms such as rain may also occur, although it is of minor significance in comparison to dry deposition.

There are two mechanisms involved in explaining the retention of manganese and other metals in the environment by soil. First, through cation exchange reactions, manganese ions and the charged surface of soil particles form manganese oxides, hydroxides, and oxyhydroxides, which in turn form absorption sites for other metals. Secondly, manganese can be adsorbed to other oxides, hydroxides, and oxyhydroxides through ligand exchange reactions. When the soil solution becomes saturated, these manganese oxides, hydroxides, and oxyhydroxides can precipitate into a new mineral phase and act as a new surface to which other substances can absorb (Evans, 1989).

The transport of manganese in air is largely determined by its particle size. About 80 percent of the manganese in suspended particulate matter is associated with particles having a mass median aerodynamic diameter less than 5 µg. The compound's small particle size favors widespread airborne distribution and is within the respirable range.

The transport and partitioning of manganese in water is controlled by the solubility of the specific chemical form present, which in turn is determined by pH, Eh (oxidation-reduction potential), and the characteristics of the available anions. The metal may exist in water in any of four oxidation states; however, Mn(II) predominates in most waters (pH 4–7), but may become oxidized under alkaline conditions at pH >8. The principal anion associated with Mn(II) in water is usually carbonate (CO3–2), and the concentration of manganese is limited by the relatively low solubility (65 mg/L) of manganese carbonate. Under oxidizing conditions, the solubility of Mn(II) may be controlled by manganese oxide equilibria, with manganese being converted to the Mn(II) or Mn(IV) oxidation states. In extremely reduced water, the fate of manganese tends to be controlled by formation of a poorly soluble sulfide (USEPA,1984).

Manganese is often transported in rivers as suspended sediments. Manganese in water may be significantly bioconcentrated at lower trophic levels. The tendency of soluble manganese compounds to adsorb to soils and is dependent upon the cation exchange capacity and the organic composition of the soil. Manganese can react with sulfur dioxide and nitrogen dioxide, but the occurrence of such reactions in the atmosphere has not been demonstrated. Manganese in water may undergo oxidation at high pH and is also subject to microbial activity. The microbial metabolism of manganese is presumed to be a function of pH, temperature, and other factors. The oxidation state of manganese in soils and sediments may be altered by microbial activity. As

previously mentioned in Section 6.2, previous groundwater sampling has confirmed that manganese has not contaminated groundwater.

This Page Intentionally Left Blank

# 7.0 BASELINE RISK ASSESSMENT FOR ARSENIC AND MANGANESE

The baseline risk assessments for this RI include both an HHRA and a SLERA. The objectives for the baseline risk assessments were to

- determine the potential risks posed to human health and the environment from arsenic and manganese detected at the DUs investigated for the Curtis Bay RI; and
- to support the determination of remediation alternatives for mitigation of potential risks at each individual DU, including no action.

The data used to support the Baseline Risk Assessment include surface and subsurface soil. All data results are provided in the DU-specific subsections below. The preliminary CSMs are detailed in Section 3.1.1. The HHRA and SLERA are provided in the following subsections. The supporting HHRA tables and SLERA site visit memorandum are provided in Appendix B.

## 7.1 Human Health Risk Assessment

This section provides the characterization of the potential risks estimated for identified exposure pathways. Risk characterization integrates the estimated exposure information for site receptors with the representations of the potential toxicity derived for each COPC. Using standard USEPA-recommended approaches, this integration yields quantitative estimates of theoretical excess cancer and non-cancer risk for site-related COPCs (i.e., arsenic and manganese).

The soil data were screened against RSLs for residential soil (USEPA, 2020b) to support the alternative selections in the FS. The data for each of the three DUs also were compared to site-specific background soil data collected for this RI/FS from an area unimpacted by activities at the Depot (designated DU 4) to help further determine the need for remedial action. As the concentrations of arsenic and manganese in both surface and subsurface soil exceeded USEPA RSLs for residential soil, an HHRA was conducted for all three DUs (Appendix B, Attachments B.1-A, -B, and -C). Surface soil (0-1 ft bgs) and combined surface/subsurface soil (0-2 ft bgs) from DU 1, DU 2, and DU 3 were evaluated separately for risk-based decision-making purposes. Background conditions also were evaluated (Appendix B, Attachment B.1-D).

This HHRA complies with the CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and with the relevant guidance published in support of these regulations. It also is consistent with and guided by the CSM included in Section 3.1.1 and the approved UFP-QAPP (ERT, 2019), and as updated in this report (Section 8.0).

### 7.1.1 Screening to Identify COPCs

The analytical data for arsenic and manganese in surface and subsurface soil samples collected in March and April 2019 were screened to determine whether the concentrations exceed conservative health-based screening criteria. While industrial RSLs and criteria published by the USEPA Region III Biological Technical Assistance Group (BTAG) were considered, the residential RSLs are more conservative and, therefore, were selected as the criteria for determining protection to a cancer risk level of $1 \times 10^{-6}$ (for arsenic) and a non-cancer hazard quotient (HQ) of 0.5 (for arsenic

and manganese) (USEPA, 2020b). The HQ of 0.5 was used because there are only two contaminants under consideration for this RI. Correspondingly, the target screening values are 0.68 mg/kg for arsenic and 900 mg/kg for manganese (Appendix B, Table B.1-2 for each of the DUs in Attachments A, B, and C).

The screening process is summarized in tables that follow guidance given in RAGS Part D (USEPA, 2001a), with a separate set of tables generated for DU 1 (Appendix B, Attachment A), DU 2 (Appendix B, Attachment B), and DU 3 (Appendix B, Attachment C). Background values in surface and subsurface soil were generated from ProUCL analysis of soil data from DU 4 (Appendix B, Attachment F), with the 95% UCLs used as the representative values of arsenic and manganese in background soil (Appendix B, Attachment D).

Metadata were generated for arsenic and manganese for each of the three DUs, including the minimum and maximum detected concentrations, location of each maximum concentration, and frequency of detection in surface soil and combined surface/subsurface soil (Appendix B, Tables B.1-2a and -2b of Attachments A, B, and C). The maximum concentrations were used as screening values and compared to the RSL screening values. As the maximum concentrations of arsenic and manganese at each of the three DUs exceeded the residential RSLs, both metals were identified as COPCs (USEPA, 2020b). As such, both arsenic and manganese were carried through a quantitative baseline HHRA for each of the three DUs (Attachments A, B, and C).

Both metals were detected in background soils (DU 4), as expected. Both arsenic and manganese in DU 4 were carried through a quantitative baseline HHRA, as described in the following sections.

### 7.1.2 Exposure Assessment

Exposure assessment involves integrating knowledge of the site and its characteristics with the potential for exposure to contaminated media by human receptors along complete exposure pathways (Section 3.1.1). In so doing, quantitative estimates of the type, magnitude, and duration of exposures to the COPCs can be generated (USEPA, 2001a).

#### *7.1.2.1 Exposure Pathways*

The CSM (Section 3.1.1) identified the following receptors and scenarios for each of the three DUs and for which quantitative exposure assessment was performed.

Surface Soil (0-1 ft)

- Site Worker (Current/Future)
- Construction Worker (Future)
- Resident Adult (Potential Future)
- Resident Child (Potential Future)

Combined Surface and Subsurface Soil (0-2 ft)

- Construction Worker (Future)
- Resident Adult (Potential Future)

- Resident Child (Potential Future)

In addition, trespassers are expected to be exposed to surface soil but with less exposure frequency than for site workers.

*7.1.2.2 Exposure Point Assessment*

The exposure point concentration (EPC) is a conservative estimate of the average concentration of a COPC to which a receptor may be exposed at a given site and typically is either the maximum detected concentration or the 95% UCL of the mean concentration. The 95% UCL was calculated for surface soil and combined surface/subsurface soil for each of the three DUs using USEPA's ProUCL 5.1 software (Appendix B, Attachment F). For each DU, the software indicated the data for both metals were normally distributed at a 5% significance level. The 95% UCL values were lower than the maximum concentrations detected in each of the two soil intervals at the three DUs; regardless, the ISM document specifies that the 95% UCL, rather than the maximum concentration, is to be used as the EPC with ISM data (ITRC, 2012). The recommended 95% UCLs therefore were used as the EPCs (Appendix B, Tables B.1-3a and -3b of Attachments A, B, and C).

EPCs for COPCs in airborne fugitive dust are based on soil EPCs (USEPA, 2009) and were estimated using the following equation:

$$C_{air} = C_{soil}/PEF$$

where

$C_{air}$ = COPC concentration in air at the exposure point (milligram per cubic meter [$mg/m^3$])

$C_{soil}$ = COPC exposure point concentration soil (milligram per kilogram [mg/kg])

PEF = particulate emission factor (cubic meter per kilogram [$m^3/kg$])

The PEF relates the concentration of the soil COPC to its concentration in the dust particles in the air. This calculation addresses dust generated from open sources, termed "fugitive" because it is not discharged into the atmosphere in a confined flow. The USEPA's default PEF of 4.63E+09 m3/kg was used for the determination of the COPC concentration in air using soil data (Appendix B, Tables B.1-4a, -4b, -4c, and -4d of Attachments A, B, and C).

Exposure assumptions and default values provided by USEPA were used for scenarios involving site workers, construction workers, and future adult and child residents (Appendix B, Tables B.1-4a, -4b, -4c, and -4d, respectively, in Attachments A, B, and C for each of the three DUs). As site workers would have greater exposure frequency to surface soils (250 days per year) than would trespassers (52 days per year), the potential risks for trespassers are captured by the quantitative analysis of exposure by site workers.

*7.1.2.3 Exposure Factors and Equations*

Reasonable maximum exposures (RMEs) were calculated for site workers, construction workers, and future residents (adults and children) to focus the HHRA on conservative exposures that represent the maximum exposure that is reasonably expected to occur (USEPA, 1989). The most recent exposure factors recommended by USEPA (USEPA, 2011 and 2014) were used (Appendix B, Tables B.1-4a, -4b, -4c, and -4d of Attachments A, B, and C).

To estimate COPC intakes for each of the pathways considered in the HHRA, the exposure factors are combined with the EPCs (Section 7.1.2.2). The generic equation to calculate chronic daily intake (CDI) by ingestion is:

$$\text{CDI via Ingestion Route} = CS \times IR \times FI \times EF \times ED \times CF / (BW \times AT)$$

where

CS = Chemical Concentration in Soil (mg/kg)
IR = Incidental Soil Ingestion Rate (mg/day)
FI = Faction Ingested (unitless)
EF = Exposure Frequency (days/year)
ED = Exposure Duration (Years)
CF = Conversion Factor (1E-6 for kg/mg)
BW = Body Weight (kg)
AT = Averaging Time (days)

The generic equation to calculate dermal intake is:

$$\text{CDI via Dermal Route} = CS \times SA \times AF \times DA \times CF \times EF \times ED / (BW \times AT)$$

where

CS = Chemical Concentration in Soil (mg/kg)
SA = Surface Area for Contact ($cm^2$)
AF = Adherence Factor ($mg/cm^2$)
DA = Dermal Absorption Fraction (unitless), chemical-specific (0.03 for arsenic and 0.01 for manganese (USEPA 2004))
EF = Exposure Frequency (days/year)
ED = Exposure Duration (Years)
CF = Conversion Factor (1E-6 for kg/mg)
BW = Body Weight (kg)
AT = Averaging Time (days)

The generic equation to calculate the air EC for the inhalation pathway is:

$$EC = Cair \times ET \times EF \times ED / AT$$

where

$C_{air}$ = Chemical Concentration in Air ($mg/m^3$)

ET = Exposure Time (hours over 24-hour day)

EF = Exposure Frequency (days/year)

ED = Exposure Duration (Years)

AT = Averaging Time (days)

### 7.1.3 Toxicity Assessment

For toxicity assessment, the available evidence of the potential for COPCs to cause adverse health effects to receptors is used to estimate the extent to which exposure may increase the likelihood or severity of adverse effects (USEPA, 1989). Both arsenic and manganese present potential non-cancer hazards; potential carcinogenic effects are limited to arsenic only (i.e., manganese is not a known human carcinogen).

The reference dose (RfD) and reference concentration (RfC) for a given COPC are estimates of a daily oral exposure and continuous inhalation exposure, respectively, to the human population that are likely to be without deleterious effects during a lifetime; both are USEPA's preferred toxicity values for evaluating non-carcinogenic effects (USEPA, 2001a). Cancer slope factors (CSFs) are used to estimate the risk of cancer associated with daily oral and dermal exposure to a carcinogen or potential carcinogen. The inhalation unit risk (IUR) is the excess lifetime cancer risk estimated to result from continuous exposure to a carcinogenic agent at a concentration of 1 $ug/m^3$ in air for a lifetime (USEPA, 2020a).

RfDs and RfCs for arsenic and manganese, and CSFs and IURs for arsenic, were used to estimate the potential health risks for exposure at each DU (Appendix B, Tables B.1-5a and -5b of Attachments A, B, and C). These values were obtained from the following sources:

- USEPA's Risk Assessment Guidance for Superfund, Part E (USEPA, 2004)
- USEPA's RSL Table (USEPA, 2020b)

Dermal reference doses and dermal cancer slope factors were estimated from oral values (USEPA, 2004). Specifically, oral reference doses were converted to dermal reference doses by multiplying by the ABSGI as:

$$RfDdermal = RfDoral \times ABSGI$$

where

RfDdermal = dermally adjusted reference dose (mg/kg-day)

RfDoral = oral reference dose (mg/kg-day)

ABSGI (unitless) = gastro-intestinal absorption factor, chemical-specific

Oral cancer slope factors were converted to dermal slope factors by dividing by ABSGI, as:

$$CSFdermal = CSForal / ABSGI$$

where

CSFdermal = dermally adjusted cancer slope factor (mg/kg-day)-1

CSForal = oral slope factor (mg/kg-day)-1

ABSGI (unitless) = gastro-intestinal absorption factor, chemical specific

For the inhalation pathway, the inhalation chronic toxicity factors derived by USEPA (i.e., IURs and RfCs) were expressed as air concentrations. Air concentrations, derived as described previously (Section 5.2), were compared to inhalation toxicity factors rather than daily inhalation rates being converted to internal doses (i.e., mg/kg-day), for comparison (USEPA, 1996a).

*7.1.3.1 Non-Cancer Hazards*

The potential human health risks associated with exposures to non-carcinogenic COPCs (i.e., arsenic and manganese) were estimated by comparing the non-carcinogenic average chronic daily intake (CDI) with the chemical-specific RfD. An HQ was derived for each COPC, as given in the following equation:

$$HQ = CDI / RfD$$

where

HQ (unitless) = non-cancer hazard quotient

RfD (mg/kg-day) = oral or dermal reference dose for the chemical by the ingestion or dermal pathways

CDI (mg/kg-day) = Intake = estimated average chronic daily intake of the chemical via ingestion or dermal exposure

If the CDI exceeds the RfD, the HQ will exceed a ratio of one (1.0), indicating that the potential exists for adverse non-cancer health effects to occur in the exposed populations. If the CDI does not exceed the RfD, the HQ will not exceed one, indicating that it is unlikely that potential adverse health effects would be observed in the exposed populations.

For inhalation:

$$HQ = EC / RfC$$

where

HQ (unitless) = non-cancer hazard quotient

RfC ($mg/m^3$) = reference air concentration

EC ($mg/m^3$) = Intake = air exposure concentration

The CDI and EC were calculated for each exposure route (Appendix B, Tables B.1-4a, -4b, -4c, and -4d of Attachments A, B, and C). The total potential non-carcinogenic hazard (that is, the hazard associated with exposure to all COPCs by all exposure routes) is determined by summing the HQs for all non-carcinogenic COPCs to derive a total hazard index (HI) for each receptor. An HI of one (1.0) was used when evaluating total non-carcinogenic hazards for each receptor.

Chemical-specific HQs were then calculated to determine if any single COPC results in unacceptable total HIs. Finally, the target organs or toxic endpoints of each COPC were identified based on the critical toxicity study that was used to develop the non-cancer RfD or RfC (Appendix B, Table B.1-5a of Attachments A, B, and C). Target organs (or toxic endpoints) of the non-carcinogenic COPCs include the cardiovascular system and skin for arsenic, and the central nervous system for manganese. An HI of one (1.0) is used when evaluating total non-carcinogenic hazards and/or total target organ hazards for each receptor.

Detailed inputs and calculations for the non-cancer hazards that may be associated with the COPCs for the four potential current/future soil receptors (i.e., site worker, construction worker, adult resident, and child resident) then were performed for each of the three DUs (Appendix B, Tables B.1-6a through -12a of Attachments A, B, and C). Similar calculations were performed for DU 4 (background) as a means of comparison with the three DUs at the Depot (Appendix B, Table B.1-6a through -12a of Attachment D).

#### *7.1.3.2 Carcinogenic Risks*

The carcinogenic risks potentially posed by COPCs via ingestion or dermal exposure to a receptor were calculated using the following equation:

$$\text{Risk} = \text{CDI} \times \text{CSF}$$

where

Risk = carcinogenic risk posed by the chemical through the pathway

CSF = cancer slope factor for the chemical by that pathway (i.e., ingestion and dermal pathways)

CDI = Intake = the chronic daily intake of the chemical via ingestion or dermal exposure

For inhalation, the risks were calculated using the following equation:

$$\text{Risk} = \text{IUR} \times \text{EC}$$

where

IUR $(\mu g/m^3)^{-1}$ = inhalation unit risk

EC $(\mu g/m^3)$ = Intake = air exposure concentration

Arsenic is the COPC with carcinogenic risk. Detailed inputs and calculations for the carcinogenic risk that may be associated with exposure to arsenic by the four potential current/future human receptors (i.e., site worker, construction worker, adult resident, and child resident) were performed for each of the three DUs (Appendix B, Tables B.1-6b through -12b of Attachments A, B, and C). These estimated risks were compared to the acceptable incremental cancer risk of $1x10^{-5}$ specified by the MDE. Similar calculations were performed for DU 4 (background) as a means of comparison with the three DUs on the Depot property (Appendix B, Tables B.1-6b through -12b of Attachment D).

### 7.1.4 Risk Characterization

This section provides a characterization of the potential risks estimated for identified exposure pathways. Risk characterization integrates the estimated exposure information for site receptors with the representations of the potential toxicity derived for each COPC. Using standard USEPA-recommended approaches, this integration yields quantitative estimates of theoretical excess non-cancer and cancer risk for site-related COPCs (i.e., arsenic and manganese).

Risk estimates are calculated for individual COPCs for the complete exposure pathways associated with each assessed area (Sections 3.1.1 and 7.1.2). Per USEPA guidance, risk characterization also includes combining COPC-specific risk estimates across complete exposure pathways to provide overall characterizations of potential site-related risks. The risk characterization step integrates the exposure and toxicity assessments to derive quantitative estimates of total combined risk.

Risk characterizations were performed for surface soil and combined surface/subsurface soil for DU 1, DU 2, and DU 3 (Appendix B, Tables B.1-6a through -12c of Attachments A, B, and C). Summary information and key findings for each DU are presented in the following paragraphs. Similar characterization was made for DU 4 (background) (Appendix B, Tables B.1-6a through -12c of Attachment D).

#### *7.1.4.1 Decision Unit 1 (DU 1)*

**Estimated Non-Cancer Hazards**

Total non-carcinogenic HIs were calculated for all human receptors that potentially could be exposed to surface and combined surface/subsurface soil at DU 1 (Tables B.1-6a and -6c through B.1-12a and -12c of Attachment A). Among all the exposure scenarios evaluated, total non-carcinogenic HIs exceed 1.0 only for the future resident child scenarios (Tables B.1-9a, -9c, -12a, and -12c of Attachment A).

- For the future resident child scenario of exposure to surface soil at DU 1, the total HI is 3.0 (Tables B.1-9a and -9c of Attachment A).
  - The total HQ for manganese (2.8) and the HQ for manganese via the dermal exposure route to the resident child (1.9) both exceed 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future resident child scenario of exposure to combined surface/subsurface soil at DU 1, the total HI is 1.9 (Appendix B, Tables B.1-12a and -12c of Attachment A).
  - The total HQ for manganese (1.7) and the HQ for manganese via the dermal exposure route to the resident child (1.2) both exceed 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.

**Estimated Carcinogenic Risks**

Estimated carcinogenic risks were calculated for all human receptors potentially exposed to surface soil and combined surface/subsurface soil at DU 1 (Tables B.1-6b and -6c through B.1-

12b and -12c of Attachment A). The calculations were performed only for arsenic as manganese is not a known human carcinogen. Among all the exposure scenarios evaluated, there are no estimated carcinogenic risks above the acceptable incremental risk of $1x10^{-5}$ specified by MDE (Appendix B, Table B.1-9b and -c of Attachment A). The cumulative carcinogenic risk data indicate that arsenic in surface or subsurface soil at DU 1 is within the acceptable risk for all potential human receptors.

#### *7.1.4.2 Decision Unit 2 (DU 2)*

**Estimated Non-Cancer Hazards**

Total non-carcinogenic HIs were calculated for human receptors that potentially could be exposed to surface and combined surface/subsurface soil at DU 2 (Tables B.1-6a and -6c through B.1-12a and -12c of Attachment B). Among all the exposure scenarios evaluated, total non-carcinogenic HIs exceed 1.0 only for the future resident child scenarios (Tables B.1-9a, -9c, -12a, and -12c of Attachment B).

- For the future resident child scenario of exposure to surface soil at DU 2, the total HI is 2.0 (Tables B.1-9a and -9c of Attachment B).
  - The total HQ for manganese (1.3) exceeds 1.0, while the HQ for manganese via the dermal exposure route to the resident child (0.87) is less than 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future resident child scenario of exposure to combined surface/subsurface soil at DU 2, the total HI is 1.5 (Tables B.1-12a and -12c of Attachment B).
  - No individual exposure routes for manganese exceed 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.

**Estimated Carcinogenic Risks**

Estimated carcinogenic risks were calculated for all human receptors potentially exposed to surface soil and combined surface/subsurface soil at DU 2 (Appendix B, Tables B.1-6b and -6c through B.1-12b and -12c of Attachment B). Among all the exposure scenarios evaluated, there are no estimated carcinogenic risks for site workers or construction workers above the acceptable incremental risk of $1x10^{-5}$; however, for future residents (both adult and child), estimated carcinogenic risks exceed the acceptable risk for exposure to both surface soil and subsurface soil (Appendix B, Tables B.1-8b, -8c, -9b, -9c, -11b, -11c, -12b, and -12c of Attachment B).

- For the future resident adult scenario of exposure to surface soil (Appendix B, Tables B.1-8b and -8c of Attachment B), the estimated carcinogenic risk for arsenic is $1.4x10^{-5}$, which exceeds the acceptable incremental risk specified by MDE. The carcinogenic risk through individual exposure pathways did not exceed this incremental risk limit.
- For the future resident child scenario of exposure to surface soil (Appendix B, Tables B.1-9b and -9c of Attachment B), the estimated carcinogenic risk for arsenic was $3.0x10^{-5}$, which exceeds the acceptable incremental risk specified by MDE. The carcinogenic risk

through the incidental ingestion exposure pathway ($2.3x10^{-5}$) also exceeds this incremental risk limit.

- For the future resident adult scenario to combined surface/subsurface soil (Appendix B, Tables B.1-11b and -11c of Attachment B), the estimated carcinogenic risk for arsenic is $1.3x10^{-5}$, which exceeds the acceptable incremental risk specified by MDE. The carcinogenic risk through individual exposure pathways did not exceed this incremental risk limit.
- For the future resident child scenario of exposure to combined surface/subsurface soil (Appendix B, Tables B.1-12b and -12c of Attachment B), the estimated carcinogenic risk for arsenic is $2.8x10^{-5}$, which exceeds the acceptable incremental risk specified by MDE. The carcinogenic risk through the incidental ingestion exposure pathway ($2.2x10^{-5}$) also exceeds this incremental risk limit.

#### *7.1.4.3 Decision Unit 3 (DU 3)*

**Estimated Non-Cancer Hazards**

Total non-carcinogenic HIs were calculated for all human receptors that potentially could be exposed to surface and combined surface/subsurface soil at DU 3 (Appendix B, Tables B.1-6a and -6c through B.1-12a and -12c of Attachment C). The estimated non-carcinogenic HIs exceed 1.0 for exposure to both surface soil and subsurface soil for all evaluated scenarios (Appendix B, Tables B.1-6a, -6c, -7a, -7c, 8a, -8c, 9a, -9c, -11a, -11c, -12a, and -12c of Attachment C).

- For current and future site worker scenarios of exposure to surface soil (Tables B.1-6a and -6c of Attachment C), the total HI is 1.4.
  - The non-cancer HQs for manganese via the dermal exposure route (1.1) exceeds 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future construction worker scenario of exposure to surface soil (Tables B.1-7a and -7c of Attachment C), the total HI is 2.1.
  - The non-cancer HQs for manganese via the dermal exposure route (1.1) exceeds 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future resident adult scenario of exposure to surface soil (Tables B.1-8a and -8c of Attachment C), the total HI is 2.1.
  - The non-cancer HQs for manganese via the dermal exposure route to adult (1.6) exceeds 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future resident child scenario of exposure to surface soil (Tables B.1-9a and -9c of Attachment C), the total HI is 13.8.
  - The non-cancer HQ for manganese via incidental ingestion route (3.9) and the non-cancer HQ for manganese via the dermal exposure route (9.3) both exceed 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.

- For the future resident adult scenario to combined surface/subsurface soil (Tables B.1-11a and -11c of Attachment C), the total HI is 1.6.
  - The non-cancer HQ for manganese via the dermal exposure route (1.2) exceeds 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future resident child scenario of exposure to combined surface/subsurface soil (Tables B.1-12a and -12c of Attachment C), the total HI is 10.8.
  - The non-cancer HQ for manganese via the incidental ingestion route (3.1) and the non-cancer HQ for manganese via the dermal exposure route (7.3) both exceed 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.
- For the future construction worker scenario of exposure to combined surface/subsurface soil (Tables B.1-10a and -10c of Attachment C), the total HI is 1.6.
  - No individual exposure routes have HQs for manganese that exceed 1.0.
  - No individual exposure routes have HQs for arsenic that exceed 1.0.

Estimated Carcinogenic Risks

Estimated carcinogenic risks were calculated for all human receptors potentially exposed to surface soil and combined surface/subsurface soil at DU 3 (Appendix B, Tables B.1-6b and -6c through B.1-12b and -12c of Attachment C). Among all the exposure scenarios evaluated, there are no estimated carcinogenic risks for site workers, construction workers, or future resident adults that exceed the acceptable incremental risk of $1x10^{-5}$; however, for the future resident child, estimated carcinogenic risks exceed the acceptable risk for exposure to both surface soil and combined surface/subsurface soil (Appendix B, Tables B.1-9b, -9c, -12b, and -12c of Attachment C).

- For the future resident child scenario of exposure to surface soil (Appendix B, Tables B.1-9b and -9c of Attachment C), the estimated carcinogenic risk for arsenic is $1.3x10^{-5}$, which exceeds the acceptable incremental risk of $1x10^{-5}$ specified by MDE. The carcinogenic risk through individual exposure pathways did not exceed this incremental risk limit.
- For the resident child scenario of exposure to combined surface/surface soil (Appendix B, Tables B.1-12b and -12c of Attachment C), the estimated carcinogenic risk for arsenic is $1.4x10^{-5}$, which exceeds the acceptable incremental risk specified by MDE. The carcinogenic risk through incidental ingestion exposure pathway ($1.1x10^{-5}$) slightly exceeds this incremental risk limit.

#### *7.1.4.4 Decision Unit 4 (DU 4) - Background*

Data for arsenic and manganese in soil samples collected from DU 4 (background) underwent risk characterization (Appendix B, Attachment D) to assist with the interpretation of characterizations performed for the three on-site DUs. While the maximum concentrations of arsenic in surface soil (4.5 mg/kg) and subsurface soil (7.2 mg/kg) exceed the screening level for arsenic (0.68 mg/kg), the maximum concentrations of manganese in surface soil and combined surface/subsurface soil

(both 334 mg/kg) are less than the screening level of 900 mg/kg, based on a non-cancer hazard quotient of 0.5.

**Estimated Non-Cancer Hazards**

Total potential non-carcinogenic HIs for potential human receptors were calculated for arsenic and manganese for surface and combined surface/subsurface soil at DU 4. Total non-carcinogenic HIs do not exceed the acceptable limit of 1.0 under any of the exposure scenarios (Appendix B, Tables B.1-6a and -6c through -12a and -12c of Attachment D).

**Estimated Carcinogenic Risks**

Estimated carcinogenic risks for potential human receptors were conducted for arsenic only. There are no estimated carcinogenic risks that exceed the acceptable incremental risk of $1x10^{-5}$ specified by MDE.

### 7.1.5 Uncertainty Discussion

All HHRAs involve the use of assumptions, judgments, and imperfect data to varying degrees, resulting in uncertainties in the final estimates of risk. These uncertainties are associated with each step of the process (USEPA, 1989). The parameters used in the HHRA are conservative and tend to overestimate potential site-related risks. The inherent and site-specific uncertainties associated with the estimation of human health risks are summarized in the following paragraphs.

#### *7.1.5.1 Data Evaluation and Identification of COPCs*

Representative sampling at a site is based on the assumption that a sufficient number of samples have been collected to adequately characterize the site. For this RI, a very large dataset was generated, with ISM soil samples collected at each of two depths from 94 sampling locations, 59 of which were located within DU 1. The sampling grids at DU 2 (18 sampling locations) and DU 3 (10 sampling locations) completely covered these DUs. While it is possible that other contaminants are present at the site, by design, this RI was focused only on arsenic and manganese in soil at depths of 2 ft bgs or less. Samples were collected from the proposed locations and analyzed for the two COPCs according to plan (ERT, 2019), resulting in a robust dataset. A relatively small percentage of the dataset were qualified as a result of the validation (Appendix D.2). Both metals were detected in all samples and, as laboratory detection limits were less than all screening levels, uncertainty with respect to detection is reduced.

The data used for this HHRA were validated in accordance with USEPA procedures and specifications given in the UFP-QAPP (Section 2.1). All data were found to be usable for project decision-making purposes. The generic screening levels used for selection of COPCs were appropriately conservative.

#### *7.1.5.2 Exposure Assumptions*

As the site currently is not zoned for residential use, the evaluation of residential use scenarios is a conservative approach. The more likely scenarios for exposure to soil are the direct-contact scenarios for current and future site workers and future construction workers.

The exposure assumptions used in the HHRA are based, in many cases, on USEPA default values, which presumably are collated from the best available data; for example, for time spent at one workplace, body surface area, and gastrointestinal absorption factors. However, the USEPA default exposure assumptions may or may not be applicable to scenarios that could occur at this site. Overall, the selection of conservative exposure assumptions for the RME scenarios results in upper-bound (i.e., high- end) estimates of exposures and risks, while the potentially exposed populations could, in reality, have lower exposures and risks.

#### *7.1.5.3 Toxicity Assessment*

All published toxicity values have associated uncertainties, which commonly are addressed by USEPA with the application of uncertainty or modifying factors. For example, the uncertainty associated with RfDs is addressed by the addition of safety factors. However, the level of concern does not increase linearly as the reference dose is approached or exceeded, because the RfDs do not have equal accuracy or precision and are not based on the same severity of effect (USEPA, 1989). RfDs have varying levels of confidence and thus incorporate different uncertainty adjustments and modifying factors (e.g., to account for extrapolation from animals to humans, from lowest observed adverse effect levels [LOAELs] to no observed adverse effect levels [NOAELs], from one exposure duration to another). None of these uncertainties in toxicity values have been discussed in this HHRA.

Similarly, the cancer slope factors have varying levels of confidence, which are outlined for each substance by USEPA in the IRIS on-line database (USEPA, 2020a). However, slope factors are inherently conservative, as they are upper-bound estimates (approximating a 95% confidence limit) of increased cancer risk from a lifetime exposure to an agent.

For manganese, the dermal RfD was derived from the oral RfD using a gastrointestinal absorption factor of 0.04. This low value for dermal absorption for manganese may have led to the greater contribution of the dermal pathway to overall risk, relative to the ingestion pathway. Also, an uncertainty for the soil dermal absorption factor (ABS) of 1% (the high range of 0.1% to 1%) is used by Region 3, and this may have elevated the dermal route hazard contribution by a factor of ten.

#### *7.1.5.4 Risk Characterization*

There are limitations to the risk characterization step; in particular, the summing of risks from COPCs and across exposure pathways. For example, total hazards were combined for arsenic and manganese, although their critical effects are different (i.e., arsenic can affect the cardiovascular system and skin, while manganese can affect the central nervous system). Summing non-cancer HIs for these two metals assumes dose additivity; however, risks are not necessarily additive. The potential for interactions between the two metals, between or among multiple pathways, and other combinations was not evaluated quantitatively.

### 7.1.6 **HHRA Conclusions**

Potential exposures and risks to human health have been estimated for arsenic and manganese in surface soil (0-1 ft bgs) and combined surface/subsurface soil (0-2 ft bgs) at each of the three DUs, using conservative exposure scenarios. Based on the HHRA results, cancer risk estimates are less than the MDE limit ($1x10^{-5}$) for current or future site workers and future construction workers exposed to surface or subsurface soil; however, the non-cancer risk estimates to these two receptors from exposure to surface soil and combined surface/subsurface soil exceed the HI limit (1.0) within DU3 (Table 7-1).

Although the Depot currently is not zoned for residential use, this HHRA includes risk characterizations for exposure of future residents (adult and child) to surface and subsurface soil in anticipation of the FS. For the future residential child scenario, exposure to surface or combined surface/subsurface soil at all three DUs results in non-cancer hazard quotients and/or increase in cancer risk that exceed the accepted limits (Table 7-1). For the future residential adult scenario, surface/subsurface soil exposure results in non-cancer hazard levels at DU 3 and cancer risk above the acceptable values at DU 2 (Table 7-1).

**Table 7-1. Summary of Non-Carcinogenic and Carcinogenic Risks at DU 1, DU 2, and DU 3**

| Receptor | Timeframe | | Risk | DU 1 | | DU 2 | | DU 3 | |
|---|---|---|---|---|---|---|---|---|---|
| | Current | Future | | Surface Soil | Combined Surface/ Subsurface Soil | Surface Soil | Combined Surface/ Subsurface Soil | Surface Soil | Combined Surface/ Subsurface Soil |
| Site Worker | X | X | n | 0.3 | -- | 0.2 | -- | **1.4** | -- |
| | | | c | $3.3x10^{-6}$ | | $9.8x10^{-6}$ | | $4.3x10^{-6}$ | |
| Construction Worker | -- | X | n | 0.5 | 0.3 | 0.3 | 0.3 | **2.1** | **1.6** |
| | | | c | $3.3x10^{-7}$ | $2.6x10^{-7}$ | $9.8x10^{-7}$ | $9.2x10^{-7}$ | $4.3x10^{-7}$ | $4.5x10^{-7}$ |
| Resident Adult | -- | X | n | 0.5 | 0.3 | 0.3 | 0.2 | **2.1** | **1.6** |
| | | | c | $4.8 x10^{-6}$ | $3.8x10^{-6}$ | **$1.4x10^{-5}$** | **$1.3x10^{-5}$** | $6.3x10^{-6}$ | $6.6x10^{-6}$ |
| Resident Child | -- | X | n | **3.0** | **1.9** | **2.0** | **1.5** | **13.8** | **10.8** |
| | | | c | $9.9x10^{-6}$ | $8.0x10^{-6}$ | **$3.0x10^{-5}$** | **$2.8x10^{-5}$** | **$1.3x10^{-5}$** | **$1.4x10^{-5}$** |

*Refer to Tables B.1-6c through -12c of Attachments A, B, and C.

n non-carcinogenic

c carcinogenic

-- not evaluated

**Exceeds hazard index (HI) of 1.0 or carcinogenic incremental risk increase of 1 x $10^{-5}$** specified by the MDE.

## 7.2 Screening-Level Ecological Risk Assessment

The purpose of an ecological risk assessment (ERA) is to 1) determine whether unacceptable risks are posed to ecological receptors from chemical stressors, 2) derive chemical concentrations that would not pose unacceptable risks, and 3) provide the information necessary to make a risk

management decision concerning the practical need and extent of remedial action (USEPA, 1997). The ERA process includes the following eight general steps:

1. Screening Level Problem Formulation and Effects Evaluation,
2. Screening Level Exposure Estimate and Risk Calculation,
3. Baseline Problem Formulation,
4. Study Design and DQO Process,
5. Verification of Field Sampling Design,
6. Site Investigation and Data Analysis,
7. Risk Characterization, and
8. Risk Management,

The Depot is located within Region 3 of the USEPA. The primary guidance documents for conducting an ERA for soil-based chemicals for sites located in Region 3 are

- USEPA Ecological Risk Assessment Guidance for Superfund (ERAGS): Process for Designing and Conducting Ecological Risk Assessments (Interim Final), EPA 540-R-97-006, June 1997;
- USEPA Guidelines for Ecological Risk Assessment (Final), EPA 630-R-95-002F, April 1998;
- USEPA Guidance for Developing Ecological Soil Screening Levels, OSWER Directive 9285.7-55, November 2003, Revised February 2005; and
- other USEPA Region 3 guidance documents as listed within the Region 3 website.

The overall objective of a SLERA is to evaluate whether unacceptable adverse risks are or may be posed to ecological receptors as a result of hazardous substance releases. This objective is met by characterizing the ecological plant and animal communities on and near the site, defining the particular contaminants affecting the environmental media at each DU at the site, identifying pathways for receptor exposure, estimating the potential for adverse risk to ecological receptors, and determining the extent to which response actions (including appropriate remedial alternatives) may be warranted.

This SLERA represents the first two steps in the eight-step ERA process. The intent of the SLERA is to provide information to the risk assessment team and risk managers so they may quickly determine if a site poses unacceptable ecological risk, and to identify contaminants and exposure pathways, if any, that may require further evaluation (USEPA, 1997). In Step 1 of the SLERA, important environmental aspects of the site are identified and described. In Step 2, a conservative risk estimate is made, with recommendations for further evaluation for sites identified as having risk that exceeds acceptable levels. The SLERA also identifies data gaps and addresses uncertainties associated with the assessment, conclusions, and recommendations.

Within Region 3, the SLERA process usually proceeds up to and including calculating a hazard quotient (HQ) for each chemical under evaluation. The HQ is either the maximum concentration detected or the 95% upper confidence limit of the mean concentration (95% UCL), divided by the

appropriate ecological screening value (ESV) for that chemical; in this SLERA, both have been evaluated. Any chemical in a DU for which the maximum concentration or 95% UCL concentration results in a HQ exceeding 1.0 is deemed a chemical of potential ecological concern (COPEC) and is examined further.

Upon completion of the SLERA, a scientific management decision point (SMDP) is reached, with three possible outcomes:

- There is adequate information to conclude that ecological risks are within acceptable limits and, therefore, there is no need for remediation on the basis of ecological risks;
- The SLERA is not sufficient to allow a decision, and the risk assessment process should continue to a full, eight-step (Baseline) ERA; or
- The information indicates a potential for adverse ecological effects, and further assessment and/or remedial actions are warranted.

Preliminary uptake modeling for a few likely receptor species may be conducted as part of the SLERA and is commonly referred to as Step 3A. Uptake modeling has been included in this report (Section 7.2.4) using the white-footed mouse and mourning dove, two animal receptors known to inhabit the site and known to be sensitive to the chemicals evaluated.

This SLERA is based on soil data collected in March and April 2019 and relies on information from multiple sampling events over an approximate 20-year period. It draws extensively on the 2005 ecological site assessment and language provided in the assessment report (Parsons 2006). The results of Steps 1 and 2 of this current SLERA process, supplemented by modeling from Step 3A, will be used to identify potential courses of action for the Depot.

### 7.2.1 Screening Level Problem Formulation and Effects Evaluation (Step 1)

Problem formulation is incorporated at the beginning of the process to determine the focus and scope of the assessment (USEPA, 1997). A CSM is developed, the site's ecological setting is characterized, the assessment endpoints, ecological receptor groups and measurement endpoints are selected, and COPECs and chemical stressors are identified.

#### *7.2.1.1 CSM Development*

CSMs are effective tools for describing site dynamics, identifying data gaps, defining hypotheses to be tested in the SLERA, streamlining the risk evaluation, and developing appropriate response actions. Such models are mechanisms for identifying potentially completed exposure pathways between physical media affected by site-related contamination and potential receptors.

The CSM for ecological receptors developed for the Depot was based on the evaluation of receptor exposure pathways associated with all site environmental media known or expected to be affected by site-related chemicals, as determined during previous investigations. Potentially affected media include soils, sediment, surface water, and groundwater via a connection to surface water or sediment and/or biota. Identifying potentially completed exposure pathways is a critical element

of the CSM. Exposure pathways that are potentially complete and for which adequate data are available are quantitatively evaluated in the SLERA.

The ecological CSM developed for each DU identifies exposure to site soils as a complete exposure pathway (current and future) for ecological receptors. Pathways considered in this SLERA include direct exposure (ingestion, dermal, and inhalation) and ingestion of contaminated biota. Various prey, including plants and animals, are consumed by receptors and serve as indirect exposure routes for contaminants. Receptors also incidentally ingest media during foraging activities. While terrestrial receptors are exposed to air, uncertainties associated with inhalation exposures to chemical stressors inhibit assessment of the impacts from exposure to this medium. Similarly, dermal exposure to chemical stressors is difficult to quantify due to a lack of toxicity data. Given these factors, the SLERA for the DUs at the Depot quantitatively assesses exposure to contaminated soil and biota through ingestion.

For most terrestrial receptors, soil exposure intervals are limited to the upper one foot of the soil column, although some burrowing species and deep-rooted plants can be exposed to deeper soils. For this assessment, surface soil was defined as the interval of 0-1 bgs, and combined surface/subsurface soil (mixed surface and subsurface soil) was defined as 0-2 ft bgs. Soils in the potentially impacted areas are only partially covered by pavement and are available for contact by current receptors. In the future, subsurface soils may be uncovered during excavation activities, resulting in contaminants in the subsurface soil becoming available for contact.

Typically, ecological receptors are not directly exposed to contaminants in groundwater, although they may be indirectly exposed via plant uptake or exposed to surface waters into which contaminated groundwater has discharged. Potential migration of contaminants to surface water may occur via groundwater-to-surface water migration and/or sheet flow from soils to surface water. Exposure to groundwater was deemed to be an incomplete pathway at the Depot. Exposure to surface water and sediment at the site were also deemed to be incomplete (ERT, 2016).

#### *7.2.1.2 Ecological Characterization*

The Depot and surrounding area were evaluated with respect to operational, physical, chemical, and ecological characteristics, and their current and anticipated future land uses. A site visit was performed on 18 July 2019, to assist with this effort (Appendix B, Attachment G). Understanding current site conditions and land use assists with identifying potential receptors under current and possible future scenarios.

The Depot has been filled, drained, graded, and otherwise altered to the point that there are no undisturbed areas remaining. Currently, the site features consist of warehouses in various stages of disrepair, concrete pads where warehouses once stood, a network of paved and gravel roads, numerous revetments and large piles of spoil, and abandoned railroad tracks and vacated railroad beds.

A large central drainage ditch and numerous shallow ditches convey surface water to adjacent open water bodies, with little surface water retained on-site. The majority of the ditches draining the

site are small, intermittent, and support wetland species like cattail and giant reed. The majority of the area outside the project boundary and within a half-mile radius is urban land and open water.

All areas of the installation have been altered to varying degrees by management practices, whether from mission-related maintenance activities within the last 90 years or from historical farming practices. No natural areas are present within the boundaries, and no trees are present that are more than 60 years old. In 2005, a detailed on-site field effort was conducted as part of a Focused RI (Parsons, 2006), with a one-day confirmatory site visit conducted on 18 July 2019, supplementing this earlier effort (Appendix B, Attachment G) and Table7-2). Major habitat types identified during the 2005 and 2019 site visits are summarized as follows.

**Successional Old Field.** The majority of the Depot falls into this vegetation classification. This habitat type occurs in areas in which the vegetation and/or soil have been altered by clear-cutting, grading, draining, mowing, or other activities commonly associated with land management practices. The vegetative cover in these areas is limited to herbaceous species and early successional tree and shrub species common to recently or routinely disturbed areas and includes numerous nuisance exotic and opportunistic species. It appears that the site has been planted with a commercial mixture of grass and forb species commonly used on fallow agricultural lands to enrich the soil, provide forage for wildlife, and prevent erosion. Some areas have been overrun with poison ivy, Virginia creeper, Bradford pear, and other species. Small pockets of shrub species include persimmon, black cherry, and sassafras, as well as other woody species. All upland areas within the Depot that do not support a shrub or tree stratum exceeding 50% cover fall into this classification. This vegetation classification provides excellent habitat for the white-tailed deer, which were often observed foraging in the old field areas. Other species observed in this habitat include eastern cottontail rabbit, numerous songbirds, and red fox.

**Successional Hardwoods.** Successional hardwood communities develop in areas that have been cleared, graded, filled, or otherwise disturbed. The canopy, which may form within seven years of disturbance, usually is composed of fast-growing species that require a significant amount of light. When the canopy in this community becomes fairly dense, the canopy species usually do not reproduce because of the reduced sunlight, and shade-tolerant trees and understory and ground cover species become established. This vegetation community is characterized by the dominance of early- and mid-successional native and introduced tree species. Common canopy species include black locust, tree of heaven, Bradford pear, tulip tree, silver maple, and eastern cottonwood. Understory species, when present, include shade-tolerant species such as ferns and vines. The wildlife found in this habitat includes white-tailed deer, raccoon, opossum, northern flicker, northern cardinal, and numerous other songbirds.

**Artificial Pond.** A very small (0.72 acre) pond is located [redacted] on the east side of the site. The pond is man-made, and the vegetation is dominated by giant reed and cattail. The pond appears to internally drain. This pond offers marginal wildlife habitat due to the lack of beneficial vegetation and the poor, stagnant water quality.

**Ditch/Channelized Stream.** Several channelized streams and excavated drainage ditches are found throughout the study area. The largest ditch drains the western portion of the site and discharges into Back Creek on the southwestern boundary. Other small collection ditches also drain to Back Creek. The northeastern portion of the site drains to the east to discharge into Curtis Creek. The large ditch/creek had standing water present and supports some native vegetation. The smaller ditches were vegetated predominantly with giant reed, although some cattail, soft rush, and other herbaceous species were present in some areas. Many of the ditches support common upland ruderal species and likely function only as conveyance systems during severe storms. In the eastern portion of the site, just west of the culvert under Yard Office Road, a shallow wetland has formed in a depression. The wetland supports giant reed, soft rush, cattail, blue-eyed grass, and ferns. This wetland is man-made and too small to provide significant wildlife habitat.

**Table 7-2. Species Observed at the Depot in 2006 and 2019**

| Species Observed | | Terrestrial System | | Riverine System | Lacustrine System |
|---|---|---|---|---|---|
| | | Open Uplands | Forested Uplands | Riverine Cultural | Lacustrine Cultural |
| Common Name | Scientific Name | Successional Old Field | Successional Hardwoods | Ditch/Artificial Stream | Artificial Pond |
| Red maple | *Acer rubrum* | X Y | X Y | X | |
| Silver maple | *Acer saccarum* | Y | X Y | | |
| Tree-of-heaven | *Ailanthes altissima* | X Y | X Y | X | |
| Sweet gum | *Liquidambar styraciflua* | X Y | X Y | X | |
| Tulip tree | *Liriodendron tulipifera* | | X Y | X | |
| Eastern cottonwood | *Populus deltoides* | | X Y | | |
| White oak | *Quercus alba* | | X Y | | |
| Water oak | *Quercus nigra* | | X Y | | |
| Black locust | *Robinia pseudo-acacia* | Y | X Y | X | |
| Bradford pear | *Pyrus calleryana* | Y | Y | | |
| Salt bush | *Baccharis halimifolia* | X Y | | | |
| Red-osier dogwood | *Cornus stolonifera* | X | X Y | | |
| Common persimmon | *Diospyros virginiana* | X Y | | | |
| White mulberry | *Morus alba* | | X Y | | |
| Red Mulberry | *Morus rubra* | | X | | |
| Black cherry | *Prunus serotina* | X Y | | | |
| Red raspberry | *Rubus idacus* | X Y | X Y | | |
| Black willow | *Salix nigra* | | | X | |
| Sassafras | *Sassafras albidum* | X Y | X Y | | |
| Butter and Eggs | *Linaria vulgaris* | Y | | | |
| Yarrow | *Achillea sp.* | X | | | |
| Meadow garlic | *Allium canadense* | X | | | |
| Common ragweed | *Ambrosia artimisiifolia* | X Y | | | |
| Broom sedge | *Andropogon virginicus* | X Y | | | |
| Shattercane | *Sorghum bicolor* | Y | | | |
| Common mugwort | *Artemesia vulgaris* | X Y | | | |
| Common milkweed | *Asclepias syriaca* | X Y | | | |

| Species Observed | | Terrestrial System | | Riverine System | Lacustrine System |
|---|---|---|---|---|---|
| | | Open Uplands | Forested Uplands | Riverine Cultural | Lacustrine Cultural |
| **Common Name** | **Scientific Name** | **Successional Old Field** | **Successional Hardwoods** | **Ditch/Artificial Stream** | **Artificial Pond** |
| Calico aster | *Aster lateriflorus* | X Y | | | |
| Black mustard | *Brassica nigra* | X | | | |
| Common chickweed | *Cerastium sp.* | X Y | | | |
| Chicory | *Cichorium intybus* | X Y | | | |
| Bull thistle | *Cirsium vulgare* | X Y | | | |
| Poison hemlock | *Conium maculatum* | | | X | |
| Devil's tear thumb | *Persicaria perfoliata* | Y | | | |
| Sedges | *Cyperus sp.* | | | X | |
| Orchard grass | *Dactylis glomerata* | X Y | | | |
| Queen Anne's lace | *Daucus carota* | X Y | | | |
| Teasel | *Dipsacus fullonum* | X | | | |
| Yellow spikerush | *Eleocharis flavescens* | | | X | |
| Horsetail | *Equisetum hyemale* | | | X | |
| Goldenrod | *Solidago sp.* | Y | | | |
| Common strawberry | *Fragaria virginiana* | X Y | | | |
| Yellow hawkweed | *Hieracium caespitosum* | X | | | |
| Common morning glory | *Ipomoea sp.* | X Y | | | |
| Soft rush | *Juncus effusus* | | | X | |
| Grass-leaf rush | *Juncus marginatus* | | | X | |
| Pepper weed | *Lepidium virginicum* | X | | | |
| Honeysuckle vine | *Lonicera japonica* | X Y | X | | |
| Catbriar | *Smilax sp.* | Y | | | |
| White sweet clover | *Melilotus alba* | X Y | | | |
| Blue toadflax | *Nuttallanthus canadensis* | X | | | |
| Sensitive fern | *Onoclea sensibilis* | X Y | X | X | |
| Panic grass | *Panicum spp.* | X Y | Y | | |
| Switchgrass | *Panicum virgatum* | X Y | | | |
| Virginia creeper | *Parthenocissus quinquefolia* | X Y | X Y | X | |
| Common reed | *Phragmites australis* | | | X | X |
| Bracken fern | *Pteridium latiusculum* | X Y | X | | |
| Wild rose | *Rosa carolina* | X Y | X | | |
| Blackberry | *Rubus sp.* | X Y | | | |
| Curly dock | *Rumex crispus* | | | X | |
| Arrowhead | *Sagittaria latifolia* | | | X | |
| Little bluestem | *Schizachyrium scoparium* | X Y | | | |
| Canada goldenrod | *Solidago canadensis* | | | X | |
| Blue-eyed grass | *Sisyrinchium graminoides* | X Y | | X | |
| Dandelion | *Taraxacum officinale* | X Y | | | |
| Marsh fern | *Thelypteris sp.* | | X | X | |
| Eastern marsh fern | *Thelypteris palustris* | | X | X | |
| Poison ivy | *Toxicodendron radicans* | X Y | X Y | | |

| Species Observed | | Terrestrial System | | Riverine System | Lacustrine System |
|---|---|---|---|---|---|
| | | Open Uplands | Forested Uplands | Riverine Cultural | Lacustrine Cultural |
| Common Name | Scientific Name | Successional Old Field | Successional Hardwoods | Ditch/Artificial Stream | Artificial Pond |
| Yellow salsify | *Tragopogon dubias* | X | | | |
| White clover | *Trifolium repens* | X Y | | | |
| Cattail | *Typha latifolia* | | | X | X |
| Virginia chain fern | *Woodwardia virginica* | | X Y | X | |
| Vetch | *Vivia villosa* | | | | |
| Wild grape | *Vitis sp.* | X Y | Y | | |
| Red-winged blackbird | *Agelaius phoeniceus* | | | X | X |
| Canada goose | *Branta canadensis* | X Y | | | |
| Northern cardinal | *Cardinalis* | Y | X Y | | |
| Killdeer | *Charadrius vociferius* | X Y | | X | X |
| Northern flicker | *Colaptes auratus* | | X | | |
| Common ground dove | *Columbina passerina* | X Y | | | |
| Eastern wood pewee | *Contopus virens* | X | X | | |
| Black vulture | *Coragyps atratus* | X Y | | | |
| American crow | *Corvus brachyrhynchos* | X Y | Y | | |
| Blue jay | *Cyanocitta cristata* | X | X Y | | |
| Yellow-throat warbler | *Setophaga dominica* | | | X | |
| Pine warbler | *Setophaga pinus* | X | X | | |
| Gray catbird | *Dumetella carolinensis* | X | X | | |
| Barn swallow | *Hirundo rustica* | X Y | | | |
| Song sparrow | *Melospiza melodia* | X | X | | |
| Common merganzer | *Mergus merganzer* | | | X | |
| Mockingbird | *Mimus polyglottos* | X Y | X | | |
| Great crested flycatcher | *Myiarchus crinitus* | | X Y | | |
| Osprey | *Pandion haliaetus* | X Y | | | |
| European starling | *Sturnus vulgaris* | X Y | X | | |
| Tree swallow | *Tachycineta bicolor* | X Y | | | |
| Brown thrasher | *Toxostoma rufum* | X | X | | |
| American robin | *Turdus migratorius* | X | X | | |
| Eastern kingbird | *Tyrannus tyrannus* | X Y | X | | |
| Mourning dove | *Zenaida macroura* | X Y | X | | |
| American toad | *Bufo americana* | X Y | X | | |
| Eastern snapping turtle | *Chelydra serpentina* | | | X | |
| White-tailed deer | *Odocoileus virginianus* | X Y | X Y | X | |
| Red fox | *Vulpes* | X | X | | |
| Raccoon | *Procyon lotor* | X | X | X | X |
| Eastern cottontail rabbit | *Sylvilagus floridanus* | X Y | | | |

| Species Observed | | Terrestrial System | | Riverine System | Lacustrine System |
|---|---|---|---|---|---|
| | | Open Uplands | Forested Uplands | Riverine Cultural | Lacustrine Cultural |
| Common Name | Scientific Name | Successional Old Field | Successional Hardwoods | Ditch/Artificial Stream | Artificial Pond |

X indicates field survey in 2005.
Y indicates field survey in 2019.

Residential, industrial, and other types of the built environment are described jointly as urban lands. The features included in this category are roadways, buildings, residential areas, industrial areas, agricultural areas, railroad tracks, and other areas of anthropogenic origin that provide very little ecological value. For example, the Depot has a network of paved and gravel roads, although some have not been used recently and are overgrown. The roads do not offer forage opportunities for most species but do provide basking areas for certain ectothermic species during cooler weather, thereby offering prey opportunities for certain predators. Deer and other mammals use the roads as game trails. Additionally, the abandoned buildings within the Depot provide nesting habitat for barn swallows, roosting sites for bats, and shelter for small mammals. No other habitat utilization of the abandoned buildings was observed. Although no bats or bat droppings were observed in the vicinity, it is very likely that bats inhabit the Depot, and the abandoned buildings provide excellent habitat. Railroad tracks within the site observed in both 2005 and 2019 are abandoned. The abandoned tracks are largely overgrown and provide some habitat.

Wildlife resources at the depot are not managed. Commonly occurring small mammals include eastern cottontail rabbit (Sylvilagus floridanus), raccoon (Procyon lotor), and red fox (Vulpes vulpes). Waterfowl may be attracted to the open water areas around the Depot, but the wetlands on site would not provide appropriate habitat for these species. The wildlife within a half-mile of the site consists of upland species, particularly those accustomed to urban existence, and aquatic species accustomed to survival in a high-use, highly disturbed open waterbody. Wildlife evidence and direct observations were made during site visits in 2005 and 2019 (Table 7-2).

Following the field survey conducted in 2005, an inquiry to the Maryland Department of Natural Resources Wildlife and Heritage Division (MDNRWH) resulted in the Division reporting no known rare, endangered, or threatened species or rare habitats on Depot property; i.e., there were no records of any state- or federally-protected species or rare habitats on the Depot in any of the MDNRWH databases (U.S. Department of Agriculture 1998). In June 2019, MDNRWH promulgated its newest list of rare, threatened, and endangered (RTE) species for Anne Arundel County (MDNR, 2019). This list includes both animals and plants.

A least tern colony was observed nesting on the roof of the Central Atlantic Toyota building within one-quarter mile of the Depot site during the 2005 site assessment. The least tern is a threatened species within the state of Maryland and is known to nest on barren areas with a sand or gravel substrate. There is no suitable habitat for this species on the Depot property.

The most recent mapping for bald eagle nests (Maryland Bird Conservation Partnership n.d.) indicates no eagle nests on site; however, bald eagles and peregrine falcons are known to nest within two miles of the site. The bald eagle is listed as threatened by both the U.S. Fish and Wildlife Service (USFWS) and the MDNRWH. The bald eagle may use the waters adjacent to the site for foraging, but there are no trees on site that would be suitable for nesting.

The peregrine falcon is listed by the state of Maryland as "In Need of Conservation", which is a protection status. As with the bald eagle, the peregrine falcon may forage on or around the Depot, but there is no suitable nesting habitat.

At least three osprey nests are present at the site, all on power poles near the Army/Marine Facility on Curtis Creek. The osprey is no longer protected by the federal Endangered Species Act or considered at risk in the state of Maryland, but it is protected by the U.S. Migratory Birds Treaty, which makes it illegal to disturb the birds or nests.

Field investigation of the site determined that the surrounding area is highly modified and has a disturbed ecology resulting from management consistent with mission activities. Highly-disturbed sites characteristically are colonized by opportunistic species and typically do not support rare or endangered flora and fauna. No rare or endangered species were observed during either the 2005 or 2019 site assessments.

The habitat value of the Depot site itself is considered poor, due to the lack of native vegetation, the highly urbanized nature of the surrounding lands, and the human activity on-site. The site offers habitat for only the common species of flora and fauna that have adapted to disturbed habitats.

#### *7.2.1.3 Selection of Assessment Endpoints*

Ecological risks should be expressed in terms of a definite endpoint, which is defined as an environmental value to be protected. Assessment endpoints are "explicit expressions of the actual environmental value that is to be protected" (USEPA, 1998). The assessment endpoints provide a transition between broad management, or policy goals, and the specific measures used in the assessment, supported by numerically-defined decision rules (**Table 7-3**). Under this approach, the proposed assessment endpoints are the survival and reproduction of terrestrial biotic populations that may be affected by previous Depot operations. The assessment endpoints are addressed through the comparison of maximum and 95% UCL concentrations with recently-promulgated USEPA Region 3 Soil Screening Levels (SSLs) for terrestrial plants, soil invertebrates, mammals and birds. Maximum detected concentrations and 95% UCLs for arsenic and manganese in surface soil and combined surface/subsurface soil are provided for each of the three DUs in Appendix B, Attachments A, B, and C.

#### *7.2.1.4 Selection of Receptor Group(s)*

Ecological SSLs for arsenic and manganese have recently been developed by USEPA Region 3 (USEPA, 2005) (USEPA, 2007). These screening levels include concentrations related to the following receptor groups: plants, soil invertebrates (manganese only), mammals, and birds.

Ecological receptors at the Depot include terrestrial plants and wildlife that reasonably may be expected to reside or regularly forage in areas affected by site contaminants (i.e., arsenic and manganese), given current and anticipated future site conditions.

Vegetative communities throughout most of the site consist of successional old field and successional hardwoods (Section 7.2.1.2). While no special-concern plant species or sensitive plant communities have been observed at the Depot, plants have been evaluated as a receptor group. Soil invertebrates, mammals, and birds also are considered as receptors. For the two chemical species of COPECs evaluated for this SLERA, the lowest SSLs are related to the plant receptor group.

If the comparison of chemical concentrations with SSLs results in HQs greater than one (1.0), it may be necessary to proceed from the SLERA to a full Baseline ERA (Steps 3 through 8). Specific species of plants and animals likely would need to be identified and selected for uptake modeling beyond the limited modeling performed for two representative species (i.e., the white-footed mouse and mourning dove) (Section 7.2.4). For this SLERA, the decision to proceed beyond Step 3A will be based on the results of comparing maximum concentrations or maximum 95% UCL concentrations for arsenic and manganese with Region 3 SSLs for the most sensitive receptor group(s). Alternatively, limited remedial action may reduce the ecological risks to acceptable levels and preclude the need for a Baseline ERA.

#### *7.2.1.5 Selection of Measurement Endpoints*

A measure of effect (i.e., measurement endpoint) is a measurable ecological characteristic that is related to the valued characteristic chosen as the assessment endpoint. Effects relative to the assessment endpoint are extrapolated from the selected measurement endpoints (Table 7-4). For both arsenic and manganese, the plant receptor group is the most sensitive species group, with SSLs of 18 mg/kg and 220 mg/kg, respectively.

#### *7.2.1.6 Identification of Chemical Stressors*

Arsenic and manganese detected in the soils at the Depot (Tables D.3-1 through D.3-8 of Appendix D.3) were identified as COPECs and carried through the SLERA process. The maximum detected concentrations and the maximum 95% UCL concentrations (i.e., calculated for either surface soil or combined surface/subsurface soil), were compared with the selected SSLs developed by USEPA Region 3 and confirmed as chemical stressors (Table 7-4). Area-weighted mean concentrations also were evaluated.

**Table 7-3. Policy Goals, Ecological Assessment and Measurement Endpoints, and Decision Rules**

| Policy Goals | Assessment Endpoint | Measurement Endpoint | Decision Rule |
|---|---|---|---|
| **Policy Goal 1**: The conservation of threatened and endangered species (TES) and their critical habitats. | **Assessment Endpoint 1**: No reduction in numbers of individuals of any state- or federally-designated TES. | **Measurement Endpoint 1:** Identification of potential TES habitat; COPEC concentration in physical media and predicted exposure point concentration for TES receptors. | **Decision Rule for Assessment Endpoint 1:** If TES habitat is not present, or COPEC EPCs in the media do not exceed toxicity screening thresholds or dietary NOAELS (i.e., HQ<1), the assessment endpoint is met, and TES are not at risk. |
| **Policy Goal 2**: The protection of terrestrial and aquatic species in undeveloped areas capable of sustaining wildlife populations in the vicinity of the Depot. | **Assessment Endpoint 2**: Survival and reproduction of terrestrial and aquatic populations in the area of the Depot. | **Measurement Endpoint 2**: No-effect and lowest-effect chronic non-lethal concentrations of COPECs on survival and reproduction of identified receptors. | **Decision Rule for Assessment Endpoint 2**: If ratios of estimated exposure concentrations predicted from COPEC EPCs in soil, sediment, and surface water to NOAEL toxicity reference values for adverse effects on identified receptors (HQs) are <1, then Assessment Endpoint 2 is met and terrestrial and aquatic species are not at risk. If ratios are > 1, the COPEC is retained as a preliminary COC for further evaluation in the uncertainty section. Final COCs are recommended based on an evaluation of the available weight of evidence. |

COPEC Constituent of potential ecological concern
COC Chemical of concern
EPC Exposure point concentration
HQ Hazard quotient
NOAEL No observed adverse effect level
TES Threatened and endangered species

### 7.2.2 Exposure Estimates and Risk Calculation (Step 2)

Exposure estimates are obtained by identifying and quantifying potential pathways of biota exposure to the identified COPECs. The exposure assessment is conducted by characterizing the magnitude (concentration) and distribution (locations) of the contaminants of interest detected in the impacted media, evaluating pathways by which the contaminants may be transported through the environment, and determining the points at which organisms identified at the site may contact contaminants.

Ecological exposure pathways for biota may be direct or indirect. Direct exposure pathways include dermal contact, absorption, inhalation, and ingestion. Examples of indirect exposure include animals incidentally ingesting contaminated soil; plants or invertebrates absorbing contaminants by uptake from contaminated soil; and dermal contact of animals with contaminated soil.

Food web (indirect) exposure pathways for biota can occur when terrestrial fauna consumes previously contaminated biota. Examples of food web exposure include animals at higher trophic levels consuming plants or animals that bioaccumulate contaminants. Contamination of biota could result from exposure to one or more COPECs.

Bioavailability is an important contaminant characteristic that influences the degree of chemical-receptor interaction. Bioavailable compounds are those that a receptor can take in from the environment. Bioavailability is a function of several physical and chemical environmental factors. These properties directly affect a contaminant's behavior in regard to receptor exposure.

Exposure pathways consist of four components: source and mechanism of contaminant release, transport medium, potential receptors, and exposure route. If any of these components are not complete, then contaminants in those media do not constitute an environmental risk at the site.

The concepts of bioaccumulation and biomagnification historically have been applied in several ways, typically in reference to aquatic organisms. These terms also are used for terrestrial organisms in this report. Bioaccumulation refers to the uptake and retention of a substance by an organism from its surrounding medium and food, and biomagnification refers to the process by which tissue concentrations of bioaccumulated toxic substances increase as the substances pass up through two or more trophic levels (Suter, 1993).

Potentially completed pathways are identified for the Depot in the CSM (Section 3.1.1). Ecological receptor exposure pathways potentially associated with affected media are described in the following paragraphs.

#### *7.2.2.1 Soil Exposure Pathways*

Potential receptors of soil contaminants include terrestrial flora and fauna. Most exposure of plants and animals is to the upper few feet of the soil column, typically corresponding with the plant root zone (USEPA, 1992) (Burt and Grossenheider, 1980). The primary potential ecological receptor exposure interval for which characterization data were collected is shallow soils (0-1 ft bgs). This

interval was considered appropriate for evaluating soil contaminant exposures to surface-foraging and shallow-burrowing wildlife and to many forage plants (e.g., grasses and forbs). To assess both potential future and burrowing and/or deep-rooted plant site conditions, the deeper soil interval (0-2 ft bgs) also was evaluated.

#### *7.2.2.2 Biota Exposure Pathways*

Plants may be exposed directly to site-related soil contaminants via uptake through the root system. Animals may be exposed directly and indirectly to site-related contaminants through incidental ingestion of soil and ingestion of biota (plants and animals) that have bioaccumulated contaminants.

#### *7.2.2.3 Exposure Assessment*

For the SLERA, exposure assessment is limited to a comparison of either the maximum concentration of chemical in the soil or the 95% UCL concentration with the USEPA Region 3 SSLs; HQs based on area-weighted mean concentrations also were calculated as a point of reference (Table 7-5). Any chemical concentration that exceeds the SSL may be carried forward to a Baseline ERA wherein specific receptor species are selected along with exposure rates, which involves the calculation of feeding and watering rates for site receptors. Various technical documents (USEPA, 1997 and 1999) include exposure information for avian and mammalian species. Data are directly available for body weights of various species. Similarly, information regarding feeding rates, watering rates, and dietary composition, including incidental soil ingestion, also are available for many species. Calculating wildlife receptor exposure rates involves the use of uptake models. These would be employed should the decision be made to proceed to a Baseline ERA beyond the limited uptake modeling performed as Step 3A of this SLERA.

#### *7.2.2.4 Risk Characterization*

Risk characterization involves both risk estimation and risk description. With risk estimation, the exposure and stressor-response profiles are integrated, resulting in an estimate of the probability to which adverse effects to assessment endpoints will result (USEPA, 1998). Risk description involves a complete summary of conclusions of the risk estimates and addresses the uncertainty, assumptions, and limitations of the risk estimate. Risk characterization represents the final stage of the SLERA. All elements were summarized and used in an iterative manner to define the nature of the ecological risks associated with the Depot.

**Risk Estimation**

Risk estimation is determined by calculating HQs that equal the estimated exposure divided by the toxicity of each COPEC to site receptor group(s). HQs are used to evaluate the potential for unacceptable adverse effects on terrestrial biota within the Depot property. If the risk estimation process indicates the potential for adverse effects to occur, further evaluation may be warranted. If the HQ assessment demonstrates that adverse effects are not likely to occur, the SLERA is considered complete and no further assessment is warranted. The HQs calculated for arsenic and

manganese in soil at DU 1, DU 2, and DU 3, based on the USEPA Region 3 SSLs, indicate that both potentially pose unacceptable ecological risks (Table 7-5), summarized as follows.

- For DU 1:
  - The maximum concentration of arsenic detected in surface soil (55.1 mg/kg) and the 95% UCL of the mean for arsenic in surface soil (18.6 mg/kg) both exceed the ecological SSL concentrations for plants, birds, and mammals (Table 7-4). The maximum concentration of arsenic detected in combined surface/subsurface soil (55.1 mg/kg) is the same as for surface soil, but the 95% UCL for combined surface/subsurface soil (14.9 mg/kg) is slightly lower and does not exceed the SSLs for any of the three ecological receptors.
  - The maximum concentration of manganese detected in surface soil (27,700 mg/kg) and the 95% UCL of the mean for manganese in surface soil (6,153 mg/kg) exceed the ecological SSL concentrations for manganese for all four ecological receptors (plants, soil invertebrates, birds, and mammals). The maximum concentration detected in combined surface/subsurface soil (27,700 mg/kg) is the same as for surface soil, but the 95% UCL for combined surface/subsurface soil (3,780 mg/kg) is lower and exceeds the SSLs only for plants and soil invertebrates.
- For DU 2:
  - The maximum concentration of arsenic detected in surface soil (118.8 mg/kg) and the 95% UCL of the mean (55.6 mg/kg) exceed the ecological SSLs for plants, birds, and mammals. The maximum concentration of arsenic in combined surface/subsurface soil (137.1 mg/kg) and 95% UCL of the mean (52.4 mg/kg) also exceed the ecological SSL concentrations for plants, birds, and mammals (Table B.2-3).
  - The maximum concentration of manganese detected in surface soil (7,010 mg/kg) is the same as for combined surface/subsurface soil and exceeds the ecological SSLs for all four receptor species (plants, soil invertebrates, birds, and mammals). The 95% UCL of the mean for surface soil (2,764 mg/kg) and combined surface/subsurface soil (1,675 mg/kg) exceed the ecological SSL concentrations for manganese for plants and soil invertebrates but not for birds or mammals.
- For DU 3:
  - The maximum concentration of arsenic detected in surface soil (24.4 mg/kg) and the 95% UCL of the mean (24.4 mg/kg) exceed the ecological SSLs only for plants. The maximum concentration of arsenic detected in combined surface/subsurface soil (108.1 mg/kg) exceeds the ecological SSLs for all three receptor species, while the 95% UCL exceeds the SSL only for plants.
  - The maximum concentration of manganese detected in surface soil (48,800 mg/kg) is the same as that detected in combined surface/subsurface soil and exceeds the SSLs for all four receptor species. The 95% UCLs for surface soil (29,584 mg/kg)

and combined surface/subsurface soil (22,945 mg/kg) also exceed the SSLs for the four receptor species.

**Risk Description (including Uncertainty Analysis)**

Risk description involves preparing a summary of conclusions of the risk estimates and addresses the uncertainty, assumptions, and limitations of the risk estimate. Uncertainty analysis is an important component of the SLERA.

A qualitative analysis was made of the uncertainties associated with the SLERA. This analysis allows the potential magnitude of underestimating or overestimating the potential for adverse effects to organisms to be identified. Lines of evidence and associated uncertainties that were evaluated include:

- relevance of evidence to the assessment endpoints;
- relevance of evidence to the CSM;
- sufficiency and quality of literature toxicity data and experimental designs;
- potential for bioaccumulation of contaminants;
- site risk relative to background risk;
- spatial pattern of contamination over the site (e.g., site-associated chemicals vs. those associated with stormwater runoff, etc.);
- size of site relative to foraging area of receptors;
- quality of habitat for receptors;
- strength of cause/effect relationships; and
- relative uncertainties of weight of evidence.

The uncertainty analysis and results of the SLERA are evaluated to determine the potential for adverse effects to affect the assessment endpoint. USEPA lists five criteria for evaluating adverse changes in assessment endpoints (USEPA, 1998), including:

- nature of effects,
- intensity of effects,
- spatial scale,
- temporal scale, and
- potential for recovery.

**Uncertainty Associated with Preliminary Problem Formulation**

The preliminary problem formulation step of the SLERA may have some degree of uncertainty regarding the selection of COPECs, identification of potential exposure pathways, and the selection of receptor species. The selection of assessment and measurement endpoints is determined by USEPA guidance (USEPA, 1995b, 1995c, 1997, and 1998).

The screening criteria used for the selection of ecological COPECs were taken directly from USEPA Region 3 SSLs. These SSLs are, by design, conservative, to minimize the possibility of eliminating a potentially harmful chemical. On a species-specific level, with realistic area use and

uptake factors that would be presented in a Baseline ERA, some COPECs may be eliminated from further consideration.

The selection of exposure pathways is a direct result of the sample data. To determine the potential exposure to ecological receptors to site-related constituents, the presence of constituents in environmental media must first be established. The magnitude at which these constituents are present also greatly influences resulting exposure estimates. The sampling data may not represent the actual overall distribution of contamination in the media at the site, which could result in underestimation or overestimation of potential risk from identified chemicals. However, the calculation and use of the EPC provides conservative exposure estimates and, therefore, it is unlikely that risk have been underestimated.

Receptor groups were compared with the same receptor group SSLs from USEPA Region 3. If the evaluation proceeds to a Baseline ERA, receptor group(s) will be replaced by specific analysis of individual species receptors, beyond the limited modeling performed as Step 3A (Section 7.2.4). These receptors will be selected based on several factors, including their known or potential occurrence in the vicinity of the Depot, as well as their level of sensitivity to contaminants. These decisions are based on best professional judgment and recommendations by USEPA guidance documents regarding wildlife exposure parameters and calculations (USEPA, 1998).

**Uncertainty Associated with Ecological Effects Evaluation**

Toxicity studies for species other than the receptor species of concern often are used in the development of toxicity reference values (TRVs). The use of related species to estimate toxicity to a representative receptor species may overestimate or underestimate risk due to different species sensitivity to particular toxicants.

**Uncertainty Associated with Preliminary Exposure Assessment**

Factors that can contribute to uncertainty in the exposure assessment include identification and evaluation of exposure pathways, assumptions for scenario development, intake parameters, and the use of the conservative EPCs. Exposure and toxicity information generally are not available for dermal or inhalation exposure; hence, the lack of quantitative evaluation may underestimate risk. On-site exposure of receptors to COPECs may occur via dermal and inhalation pathways. Although intake of contaminants from these additional pathways may occur, these exposure routes are expected to be negligible compared to exposure via ingestion routes. Therefore, the impact to the overall contaminant exposure is expected to be minor.

Another source of exposure estimation uncertainty is that contamination is assumed to remain constant over time. Fate-and-transport mechanisms, which would result in the degradation and loss of some COPECs from the environment, may not be considered in the exposure evaluation for ecological receptors. Metals in solid matrices frequently are bound to particles or form complexes with other elements, which would tend to reduce the bioavailability of the metals to receptors. Extensive scientific data support the concepts that the longer the chemicals remain in soil, (1) the less readily they are removed by solvents, including water, (2) the less available they

become to microorganisms, (3) the less toxic they become to organisms such as earthworms, and (4) the less they are ingested by organisms such as earthworms. This reduction in availability of the chemicals reduces the risk associated with their presence in the soil (Stroo, et al., 2005).

Estimations of uptake and retention of COPECs using bioaccumulation factors (BAFs) often do not account for the depuration of COPECs from the organism's system over time. Also, BAFs are reflective of the most contaminated source of the organism's diet fraction. For example, a receptor's invertebrate diet may consist largely of insects, while, for most COPECs, the invertebrate BAF used was reflective of earthworm bioaccumulation, as the earthworm BAFs generally are more conservative than other invertebrate BAFs.

**Uncertainty Associated with Preliminary Risk Characterization**

The preliminary risk characterization step may have some degree of uncertainty regarding risk estimation and risk description. Uncertainties in the risk estimation are compounded under the assumption of dose additivity or non-additivity for multiple substance exposure. For this assessment, it was assumed that the potential toxic effects of the COPECs (i.e., arsenic and manganese) were non-additive. This assumption may result in the underestimation of risk as concurrent exposure to several contaminants could have synergistic toxic effects. The risk characterization of metals does not include additive effects as there is no evidence of clearly additive effects in ecological systems.

**Table 7-4. Hazard Quotients (HQs) based on USEPA Region 3 Ecological Soil Screening Levels**

| COPEC | Location | Soil Interval | Area-Weighted Mean | Maximum Detected Value | 95% UCL | Species | ECO-SSL[1] | HQ using Area-Weighted Mean | HQ using Maximum Detected Value | HQ using 95% UCL |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | DU 1 | Surface | 15.5 | 55.1 | 18.6 | Plants | 18 | 0.86 | **3.1** | 1.0 |
| | | | | | | Soil Invertebrates | NA | -- | -- | -- |
| | | | | | | Birds | 43 | 0.36 | **1.3** | 0.43 |
| | | | | | | Mammals | 46 | 0.34 | **1.2** | 0.40 |
| | | Combined Surface/ Subsurface | 13.2 | 55.1 | 14.9 | Plants | 18 | 0.73 | **3.1** | 0.83 |
| | | | | | | Soil Invertebrates | NA | -- | -- | -- |
| | | | | | | Birds | 43 | 0.31 | **1.3** | 0.35 |
| | | | | | | Mammals | 46 | 0.29 | **1.2** | 0.32 |
| | DU 2 | Surface | 35.9 | 118.8 | 55.6 | Plants | 18 | **2.0** | **6.6** | **3.1** |
| | | | | | | Soil Invertebrates | NA | -- | -- | -- |
| | | | | | | Birds | 43 | 0.83 | **2.8** | **1.3** |
| | | | | | | Mammals | 46 | 0.78 | **2.6** | **1.2** |
| | | Combined Surface/ Subsurface | 30.5 | 137.1 | 52.4 | Plants | 18 | **1.7** | **7.6** | **2.9** |
| | | | | | | Soil Invertebrates | NA | -- | -- | -- |
| | | | | | | Birds | 43 | 0.71 | **3.2** | **1.2** |
| | | | | | | Mammals | 46 | 0.66 | **3.0** | **1.1** |
| | DU 3 | Surface | 15.2 | 45.1 | 24.4 | Plants | 18 | 0.84 | **2.5** | **1.4** |
| | | | | | | Soil Invertebrates | NA | -- | -- | -- |
| | | | | | | Birds | 43 | 0.35 | 1.0 | 0.57 |
| | | | | | | Mammals | 46 | 0.33 | 0.98 | 0.53 |
| | | Combined Surface/ Subsurface | 15.9 | 108.1 | 25.7 | Plants | 18 | 0.88 | **6.0** | **1.4** |
| | | | | | | Soil Invertebrates | NA | -- | -- | -- |
| | | | | | | Birds | 43 | 0.37 | **2.5** | 0.60 |
| | | | | | | Mammals | 46 | 0.35 | **2.4** | 0.56 |
| Manganese | DU 1 | Surface | 2,750 | 27,700 | 6,153 | Plants | 220 | **12** | **126** | **28** |
| | | | | | | Soil Invertebrates | 450 | **6.1** | **62** | **14** |
| | | | | | | Birds | 4,300 | 0.64 | **6.4** | **1.4** |
| | | | | | | Mammals | 4,000 | 0.69 | **6.9** | **1.5** |
| | | Combined Surface/ Subsurface | 1,890 | 27,700 | 3,780 | Plants | 220 | **8.6** | **126** | **17** |
| | | | | | | Soil Invertebrates | 450 | **4.2** | **62** | **8.4** |
| | | | | | | Birds | 4,300 | 0.44 | **6.4** | 0.88 |
| | | | | | | Mammals | 4,000 | 0.47 | **6.9** | 0.95 |
| | DU 2 | Surface | 1,948 | 7,010 | 2,764 | Plants | 220 | **8.9** | **32** | **13** |
| | | | | | | Soil Invertebrates | 450 | **4.3** | **16** | **6.1** |
| | | | | | | Birds | 4,300 | 0.45 | **1.6** | 0.64 |
| | | | | | | Mammals | 4,000 | 0.49 | **1.8** | 0.69 |
| | | Combined Surface/ Subsurface | 1,262 | 7,010 | 1,675 | Plants | 220 | **5.7** | **32** | **7.6** |
| | | | | | | Soil Invertebrates | 450 | **2.8** | **16** | **3.7** |
| | | | | | | Birds | 4,300 | 0.29 | **1.6** | 0.39 |
| | | | | | | Mammals | 4,000 | 0.32 | **1.8** | 0.42 |
| | DU 3 | Surface | 18,949 | 48,800 | 29,584 | Plants | 220 | **86** | **222** | **134** |
| | | | | | | Soil Invertebrates | 450 | **42** | **108** | **66** |
| | | | | | | Birds | 4,300 | **4.4** | **11** | **6.9** |
| | | | | | | Mammals | 4,000 | **4.7** | **12** | **7.4** |
| | | Combined Surface/ Subsurface | 11,851 | 48,800 | 22,945 | Plants | 220 | **54** | **222** | **104** |
| | | | | | | Soil Invertebrates | 450 | **26** | **108** | **51** |
| | | | | | | Birds | 4,300 | **2.8** | **11** | **5.3** |
| | | | | | | Mammals | 4,000 | **3.0** | **12** | **5.7** |

All results used for calculating HQs are in milligrams per kilogram (mg/kg).
HQs exceeding 1.0 are **bolded** and highlighted.

1. Ecologic Soil Screening Levels (ECO-SSLs) are from either:
   Region 3 Ecologic Soil Screening Levels for Arsenic Interim Final OSWER Directive 9285.7-62, or
   Region 3 Ecologic Soil Screening Levels for Manganese Interim Final OSWER Directive 9285.7-71.

This Page Intentionally Left Blank

### 7.2.3 Identification of COCs

The higher maximum detected concentration and higher 95% UCL concentration obtained for each metal at each of the three DUs were compared with USEPA Region 3 ecological SSLs for arsenic and manganese and used to calculate HQs for identifying ecological contaminants of concern (COCs) (Table 7-4 and Table 7-5). USEPA guidance qualitatively describes HQ ranges as

- 1-10 relatively low risk
- 10-100 moderate risk
- > 100 high risk

#### *7.2.3.1 Arsenic HQs*

None of the HQs for arsenic at any of the three DUs equal or exceed 10, indicating that exposure to arsenic in surface or combined surface/subsurface soil poses only low risk to ecological receptors (Table 7-4).

**DU 1**

The 95% UCL of the mean for arsenic in surface soil at DU 1 (18.6 mg/kg) slightly exceeds the Region 3 SSL concentrations for plants but yields an HQ of 1.0 after rounding (Table 7-5). The 95% UCL does not exceed the Region 3 SSL for birds or mammals. Based on this evaluation, arsenic in soils at DU 1 does not pose an unacceptable ecological risk.

**DU 2**

The 95% UCL of the mean for arsenic in surface soil at DU 2 (55.6 mg/kg) exceeds the Region 3 SSL concentrations for plants, birds, and mammals (Table 7-5). Given that these SSLs are based on highly conservative assumptions, and given the highly disturbed nature of the site, the HQ for plants of only 3.1 likely does not represent an unacceptable risk to the populations of any plant species on-site. For these reasons, it is concluded that arsenic in soils at DU 2 is not likely to pose an unacceptable ecological risk.

**DU 3**

The 95% UCL of the mean for arsenic in combined surface/subsurface soil at DU 3 (25.7 mg/kg) exceeds the SSL concentration for plants (18 mg/kg) by a relatively small amount (Table 7-5). It does not exceed the USEPA Region 3 SSL for birds or mammals. As noted previously, the SSLs are based on highly conservative assumptions, and the fact that the HQ for plants only slightly exceeds 1.0 and HQs for all other receptors do not exceed 1.0 suggests that arsenic in soil at DU 3 does not pose an unacceptable ecological risk.

**Table 7-5. Summary of Hazard Quotients (HQs) for Arsenic**

| COPEC | Location | Maximum Detected Concentration | | 95% UCL | | Species | SSL | HQ using Maximum Concentration | HQ using 95% UCL |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | DU 1 | 55.1 | (surface soil) | 18.6 | (surface soil) | Plants | 18 | **3.1** | 1.0 |
| | | | | | | Soil Invertebrates | NA | -- | -- |
| | | | | | | Birds | 43 | **1.3** | 0.43 |
| | | | | | | Mammals | 46 | **1.2** | 0.40 |
| | DU 2 | 137.1 | (combined surface/ subsurface soil) | 55.6 | (surface soil) | Plants | 18 | **7.6** | **3.1** |
| | | | | | | Soil Invertebrates | NA | -- | -- |
| | | | | | | Birds | 43 | **3.2** | **1.3** |
| | | | | | | Mammals | 46 | **3.0** | **1.2** |
| | DU 3 | 108.1 | (combined surface/ subsurface soil) | 25.7 | (combined surface/ subsurface soil) | Plants | 18 | **6.0** | **1.4** |
| | | | | | | Soil Invertebrates | NA | -- | -- |
| | | | | | | Birds | 43 | **2.5** | 0.60 |
| | | | | | | Mammals | 46 | **2.4** | 0.56 |

ECO-SSL ecological soil screening level
The 95% UCLs and SSLs are in milligrams per kilogram (mg/kg).
NA not available
"--" not evaluated

#### *7.2.3.2 Manganese HQs*

Manganese is an essential nutrient for plants and animals. Manganese is ubiquitous in the environment, and exposure arises from both natural and anthropogenic activities. It occurs naturally in more than 100 minerals. Different sources provide a variety of ranges of concentrations for manganese in soils, with one citing manganese concentrations in soils of the United States as ranging from 2 to 7,000 parts per million (ppm), with an arithmetic mean of 550 ppm (Shacklette and Boerngen, 1984). Other studies have shown that background levels of manganese in soil range from 40 to 900 mg/kg, with an estimated mean background concentration of 330 mg/kg (Barceloux 1999). Naturally-occurring concentrations of manganese in soil of up to 3,000 mg/kg have been reported for Wisconsin, with evidence that much of this may not be bio-available (Schulte and Kelling, 1999).

The bioavailability of manganese in soils depends on many factors, including oxidation state, pH, degree of organic matter, aerobic vs. anaerobic conditions, oxidation-reduction potential, soil moisture content, present of cations, etc.). Manganese in soils commonly occurs as manganese oxides, carbonates, silicates, and sulfides and is found in multiple valence states in soils. Manganese +2 is the form that is most readily available for plant use. Forms of manganese in soils can change rapidly based upon factors such soil moisture content as affected by rainfall. Manganese deficiency in soils can be a serious issue for agriculturalists, and great care is taken by farmers to ensure that adequate concentrations of manganese are bioavailable for crops.

Because the availability of manganese in soils can change, it can be difficult to assign a threshold soil concentration that is harmful to plants. During the 18 July 2019, ecological site visit (Appendix B, Attachment G), care was taken to visually examine vegetation for the following signs of manganese toxicity: brown spots, leaf yellowing, pale green color between veins, sunken patches between veins, and necrotic spots. Overall, vegetation within DU 1 and DU 2 appeared normal, with no visual signs of manganese toxicity. Likewise, no obvious signs of leaf [redacted] were observed within DU 3; however, woody vegetation within DU 3 appeared somewhat stunted in comparison with surrounding areas. Whether this was due to excess manganese within the plants could not be determined visually. Because of the variability of manganese forms in soils, the variability of manganese availability to biota, and the needs of the biota for manganese, preliminary HQs calculated for manganese toxicity in soils (Table 7-6) should be examined with some degree of leniency.

**DU 1**

The 95% UCL of the mean for manganese in surface soil at DU 1 (6,153 mg/kg) exceeds the SSL concentrations for manganese for plants, soil invertebrates, birds, and mammals (Table 7-6). However, the HQs for birds and mammals are only slightly greater than 1.0, and HQs for birds and mammals based on the maximum detected concentration are well below 10, indicating a low level of ecological risk for these two ecological receptors.

**DU 2**

The 95% UCL of the mean for manganese in surface soil at DU 2 (2,764 mg/kg) exceeds the SSL concentrations for manganese for plants and soil invertebrates but not for birds or mammals (Table 7-6). The HQs for birds and mammals, based on the maximum concentrations, are only somewhat greater than one. As noted previously, these SSLs are based on highly conservative assumptions, and the resulting HQs may overstate the potential ecological threats due to manganese at DU 2.

**DU 3**

The 95% UCL of the mean for manganese in surface soil at DU 3 (29,584 mg/kg) exceeds the SSL concentrations for manganese for plants, soil invertebrates, birds, and mammals. Utilizing the mean soil concentration (18,580 mg/kg) still results in HQs of greater than 10 for plants and soil invertebrates (Table 7-6). Given that neither group is capable of significant movement, potentially unacceptable risk is possible.

**Table 7-6. Summary of Hazard Quotients for Manganese**

| COPEC | Location | Maximum Detected Concentration | | 95% UCL | | Species | SSL | HQ using Maximum Concentration | HQ using 95% UCL |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | DU 1 | 27,700 | (surface soil) | 6,153 | (surface soil) | Plants | 220 | **126** | **28** |
| | | | | | | Soil Invertebrates | 450 | **62** | **14** |
| | | | | | | Birds | 4,300 | **6.4** | **1.4** |
| | | | | | | Mammals | 4,000 | **6.9** | **1.5** |
| | DU 2 | 7,010 | (surface soil) | 2,764 | (surface soil) | Plants | 220 | **32** | **13** |
| | | | | | | Soil Invertebrates | 450 | **16** | **6.1** |
| | | | | | | Birds | 4,300 | **1.6** | 0.64 |
| | | | | | | Mammals | 4,000 | **1.8** | 0.69 |
| | DU 3 | 48,000 | (surface soil) | 29,584 | (surface soil) | Plants | 220 | **222** | **134** |
| | | | | | | Soil Invertebrates | 450 | **108** | **66** |
| | | | | | | Birds | 4,300 | **11** | **6.9** |
| | | | | | | Mammals | 4,000 | **12** | **7.4** |

ECO-SSL ecological soil screening level
The 95% UCLs and SSLs are in milligrams per kilogram (mg/kg).
Shaded values exceed 1.
NA not available
"--" not evaluated

### 7.2.4 Uptake Modeling (Step 3A)

To provide additional information for the SMDP deliberations that are to follow the SLERA, preliminary uptake modeling was conducted for the site. The modeling took the greatest 95% UCL concentration for any of the DUs (55.6 mg/kg for arsenic and 29,584 mg/kg for manganese), with conservative ingestion parameters from USEPA documents and an area use factor (AUF) of 100% (i.e., under the assumption that the receptor spends all of its time feeding within the area of highest chemical concentration). The modeling was performed with two animal receptor species known to occur on-site and known to be sensitive to the chemicals in question: the white-footed mouse and the mourning dove. These two species often are utilized for modeling of soils as both are ground foragers that will ingest soil along with soil invertebrates (the mouse), plants (both species) and seeds (both species).

Consistent with USEPA ecological risk assessment guidance, arsenic and manganese were evaluated based on published literature and environmental toxicity databases regarding characteristics of environmental transport, fate, and known toxicity among floral and faunal species during the development of conceptual exposure models, including pathway and receptor model species selection. Pathways and receptors were chosen to produce the maximum estimate of exposure and toxic effects, based on the contaminant-specific properties.

For terrestrial receptors, the potential for toxic effects from soil contaminants is driven by the ingestion pathway. The exposure through this pathway relates primarily to contaminants ingested

along with soil and contaminants that have entered a food chain. There are considerable experimental data from feeding studies on contaminants in laboratory rodents, and rodents have been shown to be relatively sensitive to contaminant exposure through this pathway. Based on the relatedness to the test species and its presence at the site, it is assumed that the mouse is a sensitive receptor for ingestion of COPECs from soils found at this site. Mice ingest soil while grooming, and their omnivory exposes them to bioaccumulation through both plant and animal sources. Uptake in soil-dwelling invertebrates (e.g., earthworms) frequently is the manner in which COPECs enter animal food chains, and the mice feed on these organisms. Thus, the white-footed mouse is expected to receive a relatively large exposure to soil contaminants through the pathway most sensitive for terrestrial vertebrates and thereby serves as a suitable, sensitive receptor species.

There are fewer toxicity data in the literature for birds, but, in most cases, data are adequate for assessment purposes. The mourning dove represents the common ground-foraging birds at the site. The mourning dove is an herbivore and incidentally ingests soil while foraging. Furthermore, mourning doves forage in ruderal communities in and adjacent to the site of contamination. Therefore, the mourning dove was selected as a receptor model species for upland birds and is a reasonable surrogate species for other ground-feeding species of birds.

Exposure for the terrestrial mourning dove and cotton mouse to soil contaminants was modeled by a food chain uptake model as follows.

$$TE = [[(Csoil \times Isoil) + (Csoil \times SP \times CF \times Iplant) + (Csoil \times BAF1 \times Iinvertprey)] \times SFF] / BW$$

Where:

| | | |
|---|---|---|
| TE | = | total (combined soil, plant and animal ingestion) exposure dose (mg/kg/day) |
| $C_{soil}$ | = | concentration of the COPEC in soil (mg/kg) |
| $I_{soil}$ | = | soil ingestion rate (kg/day) |
| SP | = | soil-to-plant uptake factor, assumed to be 1.0 if no data are available |
| CF | = | dry-to-wet-weight conversion factor, used where needed, and assumed to be 0.2 |
| $I_{plant}$ | = | plant ingestion rate (kg/day) |
| BAF1 | = | maximum bioconcentration factor for invertebrates from the literature for the COPEC |
| $I_{invertprey}$ | = | daily ingestion rate of invertebrate prey items (kg/day) |
| SFF | = | site-specific foraging factor, set to 1.0 for all calculations by default |
| BW | = | body weight of average receptor species (kg) from literature |

Ingestion rates and body weights differ between receptors and are given in the respective tables. Ingestion rates for the mouse were based on values for the white-footed mouse (USEPA, 1993).

The food uptake model is adapted from USEPA (USEPA, 1999). Because the dove is herbivorous, the ingestion rate of contaminated invertebrates is assumed to be zero in the model. In contrast, the mouse is relatively omnivorous in consuming insects, earthworms, and other invertebrates, as well as plant material (primarily seeds). The equations for estimating the concentration of contaminants in plants and invertebrates are contaminant-specific and given in the EPA ecological SSL documents for arsenic and manganese.

For the dove receptor, the TRVs (NOAEL was used), ingestion rates, and equation for estimating the concentration of the contaminant in plant material consumed were taken from Table 5.2, page 8, for USEPA guidance for arsenic (USEPA, 2005) and Table 5.2, page 10, for USEPA guidance for manganese (USEPA, 2007). The dove food ingestion rate is 0.019 kg/kg body weight per day, and the soil ingestion as proportion of diet is 0.139.

Parameters for the mouse are based on data for the white-footed mouse given in the Wildlife Exposure Factors Handbook (USEPA, 1993) and in Toxicological Benchmarks for Wildlife (U.S. Department of Energy, 1996). To estimate the concentration of contaminants in invertebrate prey consumed by the mouse, the following equations from Tables 5.2 (USEPA, 2005 and 2007) were used to predict these values from the observed soil concentration.

$$\text{Arsenic (invertebrates)} = \exp(0.707 * \ln(\text{Soil}_{conc}) - 1.421$$

$$\text{Manganese (invertebrates)} = \exp(0.682 * \ln(\text{Soil}_{conc}) - 0.809$$

**Table 7-7. Contaminant Exposure, Reference Values, and Hazard Quotients for Mouse Receptor**

| COPEC | UCL95 Soil Conc (mg/kg) Detects | Soil-to-plant accumulation factor | Exposure (mg/kg/d) | Toxicity Reference Value (mg/kg/d) | Hazard Quotient (HQ) |
|---|---|---|---|---|---|
| Arsenic | 55.6 | 0.0372 | 0.329 | 1.04 | 0.32 |
| Manganese | 29,584 | 0.079 | 206.79 | 51.5 | 4.02 |

Notes:
mg/kg/d milligrams per kilogram per day
Uptake parameters: body weight 0.022 kg, plant ingestion 0.00118 kg/d, invertebrate ingestion 0.00176 kg/d, soil ingestion 0.00006 kg/d
All model parameters were taken from USEPA ecological SSL documents.
Concentration in invertebrates estimated using formulas given in SSLs based on soil concentrations.

**Table 7-8. Contaminant Exposure, Reference Values, and Hazard Quotients for Dove Receptor**

| COPEC | 95% UCL Soil Concentration (mg/kg) | Soil-to-plant accumulation factor | Exposure (mg/kg/d) | Toxicity Ref Value (mg/kg/d) | Hazard Quotient |
|---|---|---|---|---|---|
| Arsenic | 55.6 | 0.0372 | 0.932 | 1.55 | 0.42 |
| Manganese | 29,584 | 0.079 | 629.93 | 179.00 | 3.52 |

Notes:
mg/kg/d milligrams per kilogram per day
Uptake parameters: body weight 0.157 kg, plant ingestion 0.017 kg/d, invertebrate ingestion 0.00 kg/d, soil ingestion 0.002 kg/d
All model parameters were taken from US EPA ecological SSL documents.

The resulting HQs for arsenic exposure for both the mouse (0.32) and the dove (0.42) are less than 1.0. As the 95% UCL concentrations for arsenic at the other DUs are less than that used in the model, HQs for the other two DU sites would be even lower than the model outputs. These results

support the preliminary contention from Step 2 of the SLERA that arsenic is not an issue for animal receptors at the Depot (Section 7.2.3.1).

The resulting HQs for manganese exposure for the mouse (4.02) and the dove (3.52) exceed the HQ threshold of 1.0 but are less than 10 and thus indicate only low risk. The endpoint used in establishing the NOAEL levels in the SSL assessment for manganese (USEPA, 2007) for both species was growth and reproduction.

The manganese concentration used in the modeling (29,584 mg/kg) was from DU 3. This concentration is roughly five times greater than the 95% UCL for DU 1 (6,250 mg/kg), and about ten times greater than the 95% UCL for DU 2 (2,764 mg/kg) (Table 7-4). If the two species were modeled using these lesser concentrations, the resulting HQs would lower. Consequently, the preliminary conclusion regarding manganese reached from Step 2 of the SLERA is supported by this Step 3A modeling; i.e., the combined weight-of-evidence evaluation indicates a low level of concern at DU 3 and no concern at DU 1 or DU 2 (Table 7-9).

### 7.2.5 Weight of Evidence

Unlike most other heavy metals, manganese is an essential nutrient for plants and animals. Consequently, analyses of risk associated with exposure to manganese can benefit from a review of findings from Steps 1, 2, and 3A and weight-of-evidence approach (Table 7-9). Manganese concentrations within DU 1 and DU 2 are elevated with respect to background concentrations but are within the range of manganese known to occur naturally in soils (Shacklette and Boerngen, 1984). Not all manganese in soil is expected to be bioavailable; hence, total concentrations in soil likely over-estimate the risk of exposure to manganese by vegetation and animals. Use of the 95% UCL estimates of the mean concentrations of manganese in soil indicates only a low risk to birds and mammals, and use of the mean concentrations indicates no unacceptable risk to birds or mammals. On-site visual inspections of the vegetation within DU 1 and DU 2 did not indicate signs of stress from excessive manganese. Consequently, it is expected that manganese concentrations in soils at DU 1 and DU 2 do not constitute any significant risk to the biota.

In contrast to the situation at DU 1 and DU 2, manganese concentrations within DU 3 are extremely high. Even the mean concentrations within DU 3 are higher than the highest reported naturally-occurring concentrations in soil (Shacklette and Boerngen, 1984). On-site visual inspections of the vegetation within DU 3 suggest less vigorous growth than within surrounding areas (although there may be other factors affecting vegetation growth in this DU). HQs for all categories are in excess of 1.0, even when mean concentrations rather than 95% UCL concentrations, are used. HQs for plants are extremely high. Consequently, manganese concentrations within DU 3 may constitute a risk to the biota.

**Table 7-9. Summary of Weight-of-Evidence Evaluation for Exposure to Manganese in Soil by Ecological Receptors**

| Criteria | DU 1 | DU 2 | DU 3 |
|---|---|---|---|
| Essential nutrient for plants and animals | 95% UCL concentration within ranges occurring in native soils. | 95% UCL concentration within ranges occurring in native soils. | 95% UCL concentration greater than ranges in native soils. |
| | Mean concentration within ranges occurring in native soils. | Mean concentration within ranges occurring in native soils. | Mean concentration greater than ranges in native soils. |
| 95% UCL concentration compared with SSL | Plant HQ = 28.0 | Plant HQ = 12.6 | Plant HQ = 134 |
| | Invert HQ = 13.7 | Invert HQ = 6.14 | Invert HQ = 65.7 |
| | Bird HQ = 1.43 | Bird HQ < 1 | Bird HQ = 6.88 |
| | Mammal HQ = 1.54 | Mammal HQ < 1 | Mammal HQ = 7.40 |
| Highest overall 95% UCL concentration (DU 3) in Uptake model with AUF of 100% | -- | -- | Dove HQ = 3.52 |
| | | | Mouse HQ = 4.02 |
| 95% UCL concentration in uptake model with AUF of 100% | Dove HQ < 1 | Dove HQ < 1 | Dove HQ = 3.52 |
| | Mouse HQ < 1 | Mouse HQ < 1 | Mouse HQ = 4.02 |
| Mean concentration compared with SSL | Plant HQ = 12.5 | Plant HQ = 8.85 | Plant HQ = 86 |
| | Invert HQ = 6.1 | Invert HQ = 4.33 | Invert HQ = 42.1 |
| | Bird HQ < 1 | Bird HQ < 1 | Bird HQ = 4.41 |
| | Mammal HQ < 1 | Mammal HQ < 1 | Mammal HQ = 4.74 |
| Visual inspection of vegetation | No visual evidence of stress | No visual evidence of stress | Vegetation appears stunted. |

Native soil concentrations and ranges as given by Shacklette and Boerngen, 1984.
AUF - Area Use Factor
HQ - hazard quotient
SSL - ecological soil screening level
"--" not evaluated

### 7.2.6 SLERA Summary

Ecological SSLs for arsenic and manganese were used to calculate screening level HQs for ecological receptors (plants, soil invertebrates, birds, and mammals) by comparing the SSLs with maximum concentrations and 95% UCL estimates of the mean at DU 1, DU 2, and DU 3.

- For arsenic, the HQ values indicate that the risk levels at DU 1, DU 2, and DU 3 are low (i.e., no HQ exceeds 10).
- For manganese,
  - risk levels at DU 1 are considered moderate for plants and soil invertebrates, and low for birds and mammals. The weight of evidence suggests that manganese is not a significant risk to ecological receptors in DU 1.

- risk levels at DU 2 are considered moderate for plants, low for soil invertebrates, and no threat for birds and mammals. The weight of evidence suggests that manganese is not a significant risk to ecological receptors in DU 2.
- risk levels at DU 3 are considered high for plants, moderate for soil invertebrates, and low for birds and mammals. The weight of evidence suggests that manganese is potentially a significant risk to ecological receptors in DU 3.

Although the overall ecological risk in DU 1 and DU 2 are unlikely, review of individual SU sampling data for DUs 1 and 2 reveal an apparent pattern of significantly elevated concentrations of manganese in soil in the southwestern-most 2 SUs of DU 2 (SU11A and SU12A) and 3 adjacent SUs of DUI (SU12A/B, SU15a, and SU18A). In addition, sampling results for four DU 1 SUs (SU23A, SU24A, and SU37A/B) exhibit manganese concentrations in soil that may adversely impact ecological receptors.

For this SLERA, conservative, health protective assumptions were used to calculate screening level HQs (Table 7-4), consistent with USEPA guidance. For example, the relative bioavailability of contaminants at the Depot was assumed to be 100%; however, contaminants in environmental media generally are less available to biological organisms than they are in experimental media (i.e., food, water, nutrients). Also, while the foraging factors were assumed to be one (1.0) for the SLERA, site foraging factors for many site-specific receptors generally are less than one; i.e., the receptors spend only part of the time at places within the site that contain elevated chemical concentrations. The net effect is that these conservative assumptions, in general, result in overestimation of the risks to the ecological receptors, and additional evaluation may be needed to clearly characterize potential ecological risks.

This Page Intentionally Left Blank

# 8.0 REVISED CONCEPTUAL SITE MODEL

Soil sampling results indicate that a contaminant source of arsenic and manganese is present in both the surface and subsurface soil. Transport processes include air (e.g., dust) and soil transport via surface water flow. The primary human receptors, based on current and future land use at the Depot, are current and future site workers, construction workers, and trespassers. It is unlikely that the site will have future residential receptors because the Depot is zoned for industrial use and is within an industrial area. Ecological receptors include plants, invertebrates, birds, and mammals. However, the Depot does not contain any areas managed for ecological purposes. Exposure to arsenic and/or manganese may occur via ingestion, inhalation, and dermal contact.

Site groundwater, sediment, and surface water were evaluated in a previous RI report and the pathways to human and ecological receptors to arsenic and manganese in groundwater, sediment, and surface water were determined to be incomplete.

Based on the previously conducted RI, the soil sampling results from this investigation, and the conclusions of the HHRA and SLERA for arsenic and manganese in site soil, the CSM for soil at each of the site DUs has been updated.

## 8.1 DU 1

Surface and subsurface soil sampling results in DU 1 were consistent with the sources of arsenic and manganese identified in the preliminary CSM (Section 3.1.1). Surface and subsurface soil sampling results were greater than project screening levels at DU 1. Therefore, ERT conducted an HHRA and SLERA for DU 1. The HHRA concluded that there are non-carcinogenic risks to the future resident child for exposure to DU 1 soil. No unacceptable carcinogenic risks were identified to any receptor at DU 1. The SLERA concluded that the combined weight-of-evidence evaluation indicates no ecological concern due to manganese or arsenic at DU 1. Although the DU-wide ecological risks are unlikely, individual SUs exhibiting high manganese concentrations were noted in the SLERA (Section 7.2.6) where unacceptable ecological risks may be present.

Therefore, the complete pathways for DU 1 are to the future resident child. An updated CSM for DU 1 is shown in Appendix A, Figure 13.

## 8.2 DU 2

Surface and subsurface soil sampling results in DU 2 were consistent with the sources of arsenic and manganese identified in the preliminary CSM (Section 3.1.1). Surface and subsurface soil sampling results were greater than project screening levels at DU 2. Therefore, ERT conducted an HHRA and SLERA for DU 2. The HHRA concluded that there are non-carcinogenic risks to the future resident child for exposure to DU 2 soil. Carcinogenic risks were greater than the acceptable incremental risk for the resident adult and the resident child exposed to DU 2 soil. The SLERA concluded that the combined weight-of-evidence evaluation indicates no ecological concern due to manganese or arsenic at DU 2. Although the DU-wide ecological risks are unlikely, individual SUs exhibiting high manganese concentrations were noted in the SLERA (Section 7.2.6) where unacceptable ecological risks may be present.

Therefore, the complete pathways for DU 2 are to the future resident child and future resident adult. An updated CSM for DU 2 is shown in Appendix A, Figure 13.

### 8.3 DU 3

Surface and subsurface soil sampling results in DU 3 were consistent with the sources of arsenic and manganese identified in the preliminary CSM (Section 3.1.1). Surface and subsurface soil sampling results were greater than project screening levels at DU 3. Therefore, ERT conducted an HHRA and SLERA for DU 3. The HHRA concluded that there are non-carcinogenic risks to the future resident child, future resident adult, site workers, and future construction workers for exposure to DU 3 soil. Carcinogenic risks were greater than the acceptable incremental risk for the resident child exposed to DU 3 soil. The combined weight-of-evidence evaluation indicates a moderate to high level of ecological concern due to manganese and no ecological concern due to arsenic at DU 3.

Therefore, the complete pathways for DU 3 are to all four modeled human receptors and to site biota (plants and invertebrates). An updated CSM for DU 3 is shown in Appendix A, Figure 14.

# 9.0 RI CONCLUSIONS AND RECOMMENDATIONS

The goal of the RI was to determine the nature and extent of arsenic and/or manganese contamination at the Depot, potentially caused by prior DoD operations, and to recommend whether further environmental management decisions are warranted.

Arsenic and manganese field sampling activities were completed in April and May 2019. IS soil sampling included collecting surface and subsurface soil samples from 87 SUs in three DUs and surface and subsurface soil samples from seven background SUs.

## 9.1 Conclusions

ISM soil samples were collected from the surface and subsurface soil in 87 site SUs (59 in DU 1, 18 in DU 2, and 10 in DU 3). Sampling results were greater than the human health and/or ecological screening levels for arsenic and/or manganese at all three DUs. There were sufficient data to evaluate the risks to human health and to the environment, and both a HHRA and a SLERA were completed to quantify the risks.

Site soil sampling results were greater than the PSLs in all three site DUs in the surface and subsurface soil samples, indicating that releases of arsenic and manganese have likely occurred at all three DUs.

Although the Depot is zoned for industrial use, the USEPA RSLs for residential soil were used in this RI to evaluate the risks to future hypothetical resident receptors (child and adult) to support the development of an alternative in the FS, if required, that includes residential land use. A residential cleanup alternative is typically developed so that DoD can consider the measures necessary to allow "unrestricted use/unrestricted exposure" of the land.

The HHRA quantitatively evaluated the risks to human health for the resident child, resident adult, site worker, and construction worker. The trespasser site receptor risks would be equal to or less than the site worker risks. For DU 1 and DU 2, the only receptors for which human health risks were identified are the resident child and resident adult. For DU 3, human health risks were identified for all four receptors. For current and future site workers or future construction workers, non-cancer hazards exist from exposure to surface and combined surface/subsurface soil impacted by manganese. Although it is unlikely that the site will be developed for residential use in the future, this evaluation included a potential future use of the land as residential to support the FS. For the future residential child, surface/subsurface soil impacts by arsenic and manganese in all three DUs may result in non-cancer hazard and/or cancer risk above the acceptable values. For the future residential adult, surface/subsurface soil impacts by arsenic and manganese at DU2 and DU3 may result in non-cancer hazard or cancer risk above the acceptable limits. Table 9-1 summarizes the conclusions of the HHRA for each DU at the Depot.

**Table 9-1. HHRA Conclusions for Former Curtis Bay Depot Arsenic and Manganese RI**

| Decision Unit | DU 1 | DU 2 | DU 3 |
|---|---|---|---|
| Future Resident Child | **Unacceptable Non-Carcinogenic Risks Due to Manganese** | **Unacceptable Carcinogenic Risks Due to Arsenic**<br><br>**Unacceptable Non-Carcinogenic Risk Due to Manganese** | **Unacceptable Carcinogenic Risks Due to Arsenic**<br><br>**Unacceptable Non-Carcinogenic Risk Due to Manganese** |
| Future Resident Adult | No Risks Identified | **Unacceptable Carcinogenic Risks Due to Arsenic** | **Unacceptable Non-Carcinogenic Risk Due to Manganese** |
| Current and Future Site Workers | No Risks Identified | No Risks Identified | **Unacceptable Non-Carcinogenic Risk Due to Manganese** |
| Current and Future Construction Workers | No Risks Identified | No Risks Identified | **Unacceptable Non-Carcinogenic Risk Due to Manganese** |

*Legend:*
***Bold text indicates unacceptable human health risks (i.e., Carcinogenic Risks > $10^{-5}$; Non-carcinogenic HI > 1).***

ERT conducted a SLERA in accordance with USEPA guidance for each site DU. Based on the results of the SLERA for the Depot, significant ecological impacts due to the presence of arsenic in soils at all three DU sites are unlikely. Based on the results of the SLERA for the Depot, potentially significant ecological impacts due to the presence of manganese require further examination. Table 9-2 summarizes the conclusions of the SLERA for each DU at the Depot.

**Table 9-2. SLERA Conclusions for Former Curtis Bay Depot Arsenic and Manganese RI**

| Decision Unit | DU 1 | DU 2 | DU 3 |
|---|---|---|---|
| SLERA HQ Arsenic* | Ecological Impacts Are Unlikely | Ecological Impacts Are Unlikely | Ecological Impacts Are Unlikely |
| SLERA HQ Manganese* | Ecological Impacts Are Unlikely | Ecological Impacts Are Unlikely | **Ecological Impacts are Likely** |

*Legend:*
* *Based on the 95% Upper Confidence Limit of the mean.*
*HQ Hazard Quotient*

The Step 3A evaluated the arsenic and manganese ingestion modeling for two animal receptor species known to occur on-site and which are known to be sensitive to the chemicals in question: the white-footed mouse and the mourning dove. Results of the Step 3A modeling confirmed the SLERA conclusions for arsenic and manganese.

Although the overall ecological risk in DU 1 and DU 2 are unlikely, review of individual SU sampling data for DUs 1 and 2 reveal an apparent pattern of significantly elevated concentrations of manganese in soil in the southwestern-most 2 SUs of DU 2 (SU11A and SU12A) and 3 adjacent

SUs of DU 1 (SU12A/B, SU15A, and SU18A). It is recommended that this area be evaluated in the FS for remedial action to protect ecological receptors in the vicinity of these SUs.

There are additional DU 1 SUs (SU23A, SU24A, and SU37A/B) where manganese concentrations in soil may adversely impact ecological receptors. It is recommended that these DU 1 SUs be evaluated in the FS for remedial action to protect ecological receptors.

## 9.2 Recommendations

### 9.2.1 DU 1 A/B

Based on the results of the HHRA and SLERA, potential risks to human health and potential ecological risks in select SUs due to manganese contamination in surface (DU 1A) and subsurface (DU 1B) soil exist in DU 1. Therefore, further action is warranted to address the manganese impacts to DU 1 soil. An FS is recommended to evaluate the remedial alternatives to address the potential risks to human health and the environment from manganese in the DU 1 soil.

### 9.2.2 DU 2 A/B

Based on the results of the HHRA and SLERA, potential risks to human health due to arsenic and/or manganese contamination in surface (DU 2A) and subsurface (DU 2B) soil exist in DU 2 and potential ecological risks due to manganese contamination in surface soil in select SUs. Further action is warranted to address the arsenic and manganese impacts to soil at DU 2. An FS is recommended to evaluate the remedial alternatives to address the potential risks to human health and the environment from arsenic and/or manganese in the DU 2 soil.

### 9.2.3 DU 3 A/B

Based on the results of the HHRA and SLERA, potential risks to human health and/or the environment due to arsenic and/or manganese contamination in surface (DU 3A) and subsurface (DU 3B) soil exist in DU 3. Further action is warranted to address the arsenic and manganese impacts to soil at DU 3. An FS is recommended to evaluate the remedial alternatives to address the potential risks to human health and the environment from arsenic and manganese in the DU 3 soil.

This Page Intentionally Left Blank

## 10.0 REFERENCES

Agency for Toxic Substances and Disease Registry, 2007. *Toxicology Profile for Arsenic.* U.S. Department of Health and Human Services, Public Health Service. August

Anne Arundel County, Maryland, 2007. Anne Arundel County Critical Area Map. January 25.

Anne Arundel County, Maryland, 2019. Zoning and Land Use Web Based Application (http://annearundelmd.maps.arcgis.com/apps/webappviewer/index.html?id=2db78a2b73ce4db984e5374fbe1036c6). Last accessed 9 September 2019

Barceloux, D.G. 1999. *Manganese toxicity in the central nervous system: Decreeing the catecholamine in rat's brains.* Journal of Toxicology - Clinical Toxicology 37: 293-307.

Beyer, W.N., E.E. Connor, e S. Gerould. s.d. *Estimates of soil ingestion by wildlife.* Journal of Wildlife Management 58: 375-382.

Burt, William H., Richard P. Grossenheider. 1980. *Field Guide to Mammals* (Peterson Field Guides). Houghton Mifflin.

Cleaves, E.T., Edwards, J., Jr., Glaser, J.D., 1968. Geologic Map of Maryland: Maryland Geological Survey, Baltimore, Maryland, scale 1: 250,000.

EA Engineering, Science, and Technology, Inc (EA). 2011. *Final Environmental Survey and Analysis Report, U.S. Army Ordnance Depot, Curtis Bay Depot, Baltimore, Anne Arundel, Maryland*. November.

ERT, Inc., 2016. *Draft Final Military Munitions Response Program and Installation Restoration Program Remedial Investigation Report, Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland.* October

ERT, 2019. *Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland.* February

Evans, L.J, 1989. *Chemistry of Metal Retention by Soils: Several Processes Explained. Environmental Science & Technology, 23: 1048-1056.*

Green, Samuel, Date Unknown. *History of the Curtis Bay Ordnance Depot at Curtis Bay, MD 1917-1942*.

Interstate Technology Regulatory Council (ITRC), 2012. *Technical and Regulatory Guidance, Incremental Sampling Methodology*. February.

Maryland Bird Conservation Group, 2019. https://MarylandBirds.org/bald-eagle-nest-monitoring.

Maryland Department of Natural Resources (MDNR), 2007. *Rare, Threatened, and Endangered Animals of Maryland*. Wildlife and Heritage Service. December 11.

MDNR, 2019. *Current and Historical Rare, Threatened, and Endangered Species of Anne Arundel County, Maryland.* Wildlife and Heritage Service. June.

Miduski, Theodore. circa 1952 to 1953. *Curtis Bay – Sub depot of Letterkenny Ordnance Depot*.

National Wetlands Inventory, 2019. www.fws.gov/wetlands/. Last accessed September 2019.

Parsons, 1999. *Final Preliminary Assessment, Curtis Bay Depot, Curtis Bay, Maryland*. January.

Parsons, 2000. *Final Site Investigation Report (FSI), Curtis Bay Depot, Curtis Bay, Maryland.* August.

Parsons, 2003. *Expanded Site Investigation Report, Curtis Bay Depot, Curtis Bay, Maryland.* April.

Parsons, 2006. *Defense National Stockpile Center, Curtis Bay Depot Focused Remedial Investigation, Volume I: Report.* Prepared for U.S. Army Engineering and Support Center Huntsville (CEHNC). February.

Risk Assessment Information System/Oak Ridge National Laboratory (RIAS), 2019. Online database. (https://rais.ornl.gov/tools/profile.php). Accessed July 2019

Sample, B.E., D.M. Opresko and G.W. Suter II, 1996. *Toxicological Benchmarks for Wildlife*. Oak Ridge National Laboratory ES/ER/TM-86/R3.

Schulte, E.E. and K.A. Kelling, 1999. *Understanding Plant Nutrients.* University of Wisconsin, A2526.

Shacklette, Hansford T. and Josephine G. Boerngen, 1984. *Element concentrations in soils and other surficial materials of the conterminous United States*. U.S. Geological Survey. Professional Paper 1270.

Sherod, S.K, 1978. *Diets of North American Faconiformes*. Raptor Res. 12: 49-121.

Stroo, Hans F., David V. Nakles, Joseph P. Kreitinger, Raymond C. Loehr, Steven B. Hawthorne, Richard G. Luthy, Hoi-Ying Holman, and Adrienne LaPierre, 2005. *Improving Risk Assessments for Manufactured Gas Plant Soils by Measuring PAH Availability*. Integrated Environmental Assessment and Management I: 259-266.

Suter, G.W., 1993. *Ecological Risk Assessment*. Boca Raton, Florida: Lewis Publishers.

Swartjes, F.A., M. Rutgers, J.P.A. Lijzen, P.F. Otte, A. Wintersen, E. Brand, and L. Posthuma, 2012. *State of the art of contaminated site management in the Netherlands: Policy framework and risk assessment tools.* Sci. Tot. Environ. 427-428: 1-10.

U.S. Army Corp of Engineers (USACE) St. Louis, 1993. *Defense Environmental Restoration Program for FUDS Ordnance and Explosive Waste Chemical Warfare Materials Archives Search Report National Defense Storage Stock Pile Depot (Curtis Bay Ordnance Depot), Anne Arundel County, Maryland*. September.

USACE, 2008b. *Implementation of Incremental Sampling of Soil for the Military Munitions Response Program, Environmental and Munitions Center of Expertise Interim Guidance Document 09-02.* July.

USACE, 2009. *US Army Munitions Response RI/FS Guidance.* November 2009.

USACE, 2012. *Conceptual Site Models, EM 200-1-12*. December.

U.S. Army Engineering and Support Center Huntsville (CEHNC), 2011. Final Site Inspection Report. Former Curtis Bay General Services Administration Property Site, Anne Arundel County, Maryland. February. Department of Defense (DoD), 2012. *Defense Environmental Restoration Program (DERP) Management, Manual Number 4715.20*. 9 March.

U.S. Department of Agriculture, 1998. *National Agriculture Statistics Service*.

U.S. Department of Energy, 1996. *Toxicological Benchmarks for Wildlife.* 1996 Revision. Prepared by the Risk Assessment Program, Health Sciences Research Division, Oak Ridge, Tennessee, for the U.S. Department of Energy, Office of Environmental Management. ES/ER/TM-86/R3.

U.S. Environmental Protection Agency (USEPA), 1984. *Health Assessment Document for Manganese. Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. EPA/600/8-83/013F*.

USEPA, 1988. *USEPA's Guidance for Conducting RI/FS Under CERCLA.* October.

USEPA, 1989. *Risk Assessment Guidance for Superfund (RAGS), Volume I: Human Health Evaluation Manual (Part A) (Interim Final)*.

USEPA, 1991. *Summary Report on Issues in Ecological Risk Assessment.* Risk Assessment Forum.

USEPA, 1992. *Framework for Ecological Risk Assessment.* Risk Assessment Forum. February.

USEPA, 1993. *Wildlife Exposure Factors Handbook*. Office of Research and Development, December.

USEPA, 1995a. *Region III BTAG Screening Benchmarks*.

USEPA, 1995b. *Health Effects Summary Tables.* USEPA 540/R-95-036.

USEPA, 1995c. *Supplemental Guidance to RAGS: Region 4 Bulletin, Ecological Risk Assessment (Draft).* Bulletins 1-4, Office of Health Assessment.

USEPA, 1996a. *Soil Screening Guidance*. June.

USEPA, 1996b. Ecotox Thresholds. Office of Solid Waste and Emergency Response. Publ. 9345.012FSL, USEPA 540/F-95/038, PB95-963324.

USEPA, 1996c. USEPA's Proposed Guidelines for Ecological Risk Assessments. USEPA 61 FR 47552.

USEPA, 1997. *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (Interim Final).*

USEPA, 1998. *Guidelines for Ecological Risk Assessment.* Risk Assessment Forum, Washington, D.C. USEPA/630/R095/002F.

USEPA, 1998c. *Ecological Risk Assessment at Military Bases: Process Considerations, Timing of Activities, and Inclusion of Stakeholders.* Office of Technical Service, Atlanta, Georgia.

USEPA, 1999. *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities, Volume One.* Office of Solid Waste, Washington, D.C. EPA 530-D-99-001.

USEPA, 2001a. *Risk Assessment Guidance for Superfund (RAGS), Volume I, Human Health Evaluation Manual (Part D)*.

USEPA, 2001b. *The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments.* Office of Solid Waste and Emergency Response, Washington, D.C. Publication 9345.0-14. USEPA 540/F-01/014. June 2001.

USEPA, 2002a. *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites.* Office of Emergency and Remedial Responses, Washington, D.C. USEPA 540-R-01-003. September.

USEPA, 2002b. *Role of Background in the CERCLA Cleanup Program.* Office of Solid Waste and Emergency Response, Washington, D.C. OSWER 9285.6-07P. April.

USEPA, 2003. *Guidance for Developing Ecological Soil Screening Levels.* Office of Solid Waste and Emergency Response. November. Revised February 2005.

USEPA, 2004. *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E - Supplemental Guidance for Dermal Risk Assessment), Final.*

USEPA, 2005. E*cological Soil Screening Levels for Arsenic - Interim Final.* OSWER Directive 9285.7-62. March.

USEPA, 2006. *Guidance on Systematic Planning Using the Data Quality Objectives Process. USEPA QA/G-4*. Office of Environmental Information, Washington, D.C. USEPA/240/B-06/001. February.

USEPA, 2007. *Ecological Soil Screening Levels for Manganese - Interim Final*. OSWER Directive 9285.7-71. April.

USEPA, 2009. *Risk Assessment Guidance for Superfund, Volume I, Human Health Risk Evaluation Manual (Part F - Supplemental Guidance for Inhalation Risk Assessment.*

USEPA, 2011. *Exposure Factors Handbook 2011 Edition (Final Report).* EPA/600/R-09/052F.

USEPA, 2014. *Human Health Evaluation Manual, Supplemental Guidance Update of Standard Default Exposure Factors.* OSWER Directive 9200.1-120. February.

USEPA, 2015. *ProUCL Version 5.1.002 Technical Guide, Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations.* October.

USEPA, 2019ab. *Risk Assessment*. USEPA. https://www.epa.gov/risk.

USEPA, 2020a. *Integrated Risk Information System (IRIS)*. www.epa.gov/iris.

USEPA, 2020b. *Regional Screening Levels Table.* https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. May.

USEPA, 2020c. *Regional Screening Levels Calculator. https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search. Accessed in May 2020.*

U.S. Geological Survey (USGS), 2011. 7.5-minute Curtis Bay, MD Topographic Quadrangle.

U.S Fish and Wildlife Service (USFWS), 1984. *Handbook of toxicity of pesticides to wildlife*. Res. Publ. 153. Washington, D.C.

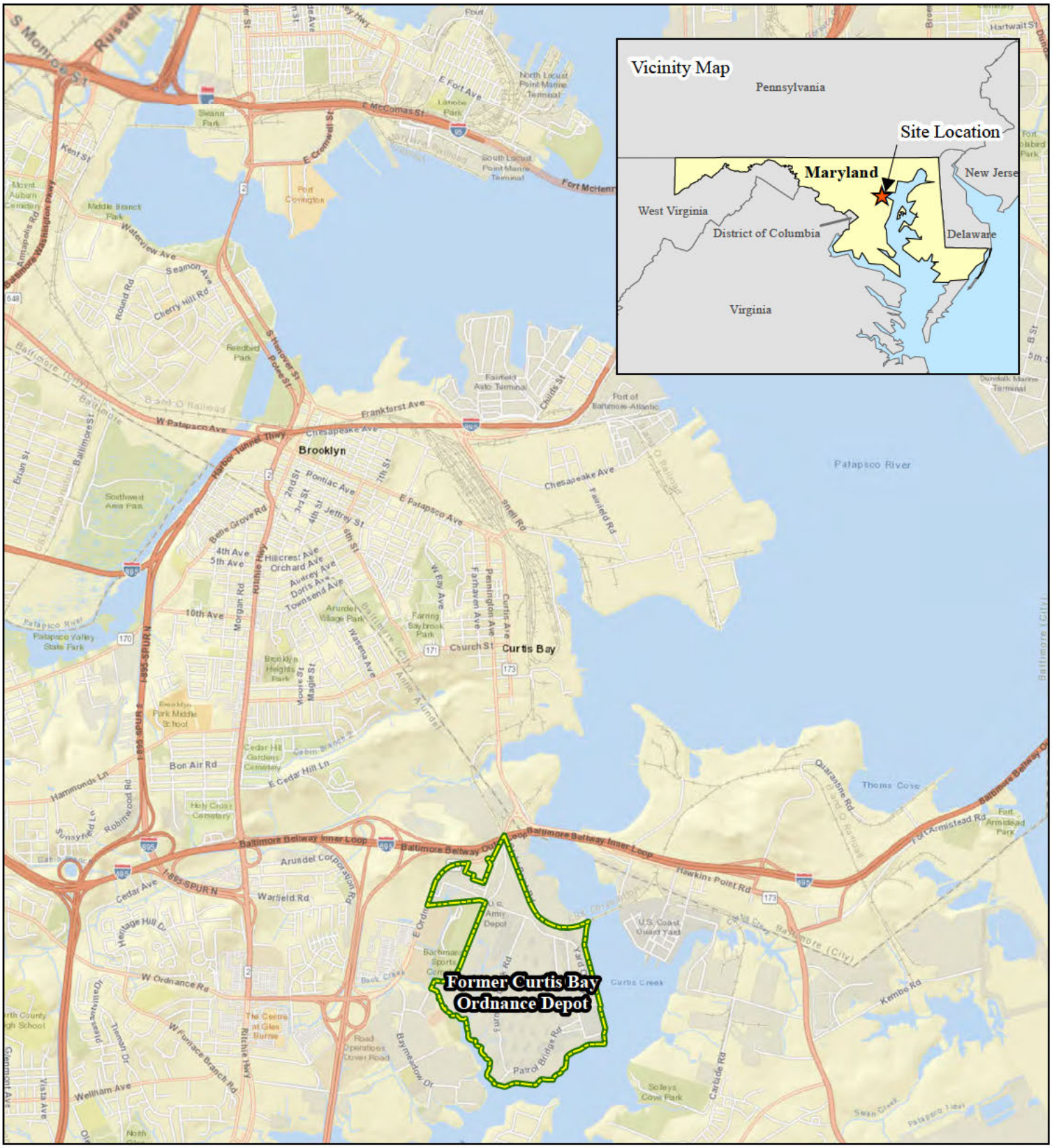
USFWS. 1987. *Habitat management guidelines for the bald eagle in the Southeast region*. Third revision.

Verschueren, K. s.d. *Handbook of Environmental Data on Organic Chemicals*. Second. Van Nostrand Reinhold Company.

This Page Intentionally Left Blank

# APPENDIX A: FIGURES

**This Page Intentionally Left Blank**




US Army Corps of Engineers
BUILDING STRONG

ERT

**Legend**

Former Curtis Bay Ordnance Depot Boundary

N
W E
S

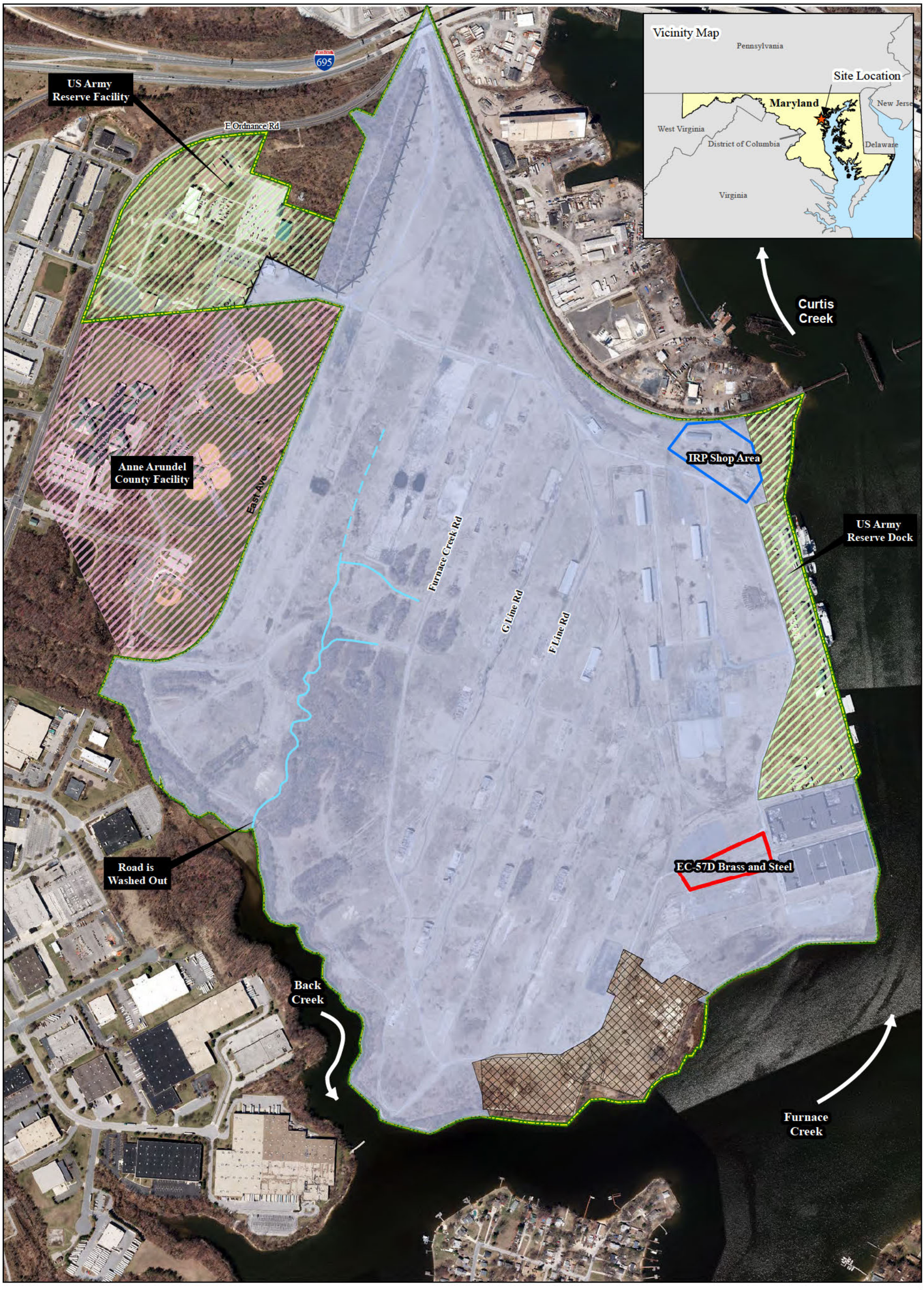
0 2,000 4,000
Feet

**Figure 1**
**Site Location**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: September 2019

Source: ESRI Online

Document Path: N[redacted].mxd




**Legend**

- Arsenic and Manganese InvestigationArea
- IRP Shop Area
- Non-Time Critical Removal Action (NTCRA)
- EC Boundaries
- Curtis Bay Ordnance Depot Boundary
- US Army Reserve Property
- Anne Arundel County Facility
- Un-Named Tributary (Intermittent Where Dashed)
- Fence

N W E S

0 300 600 Feet

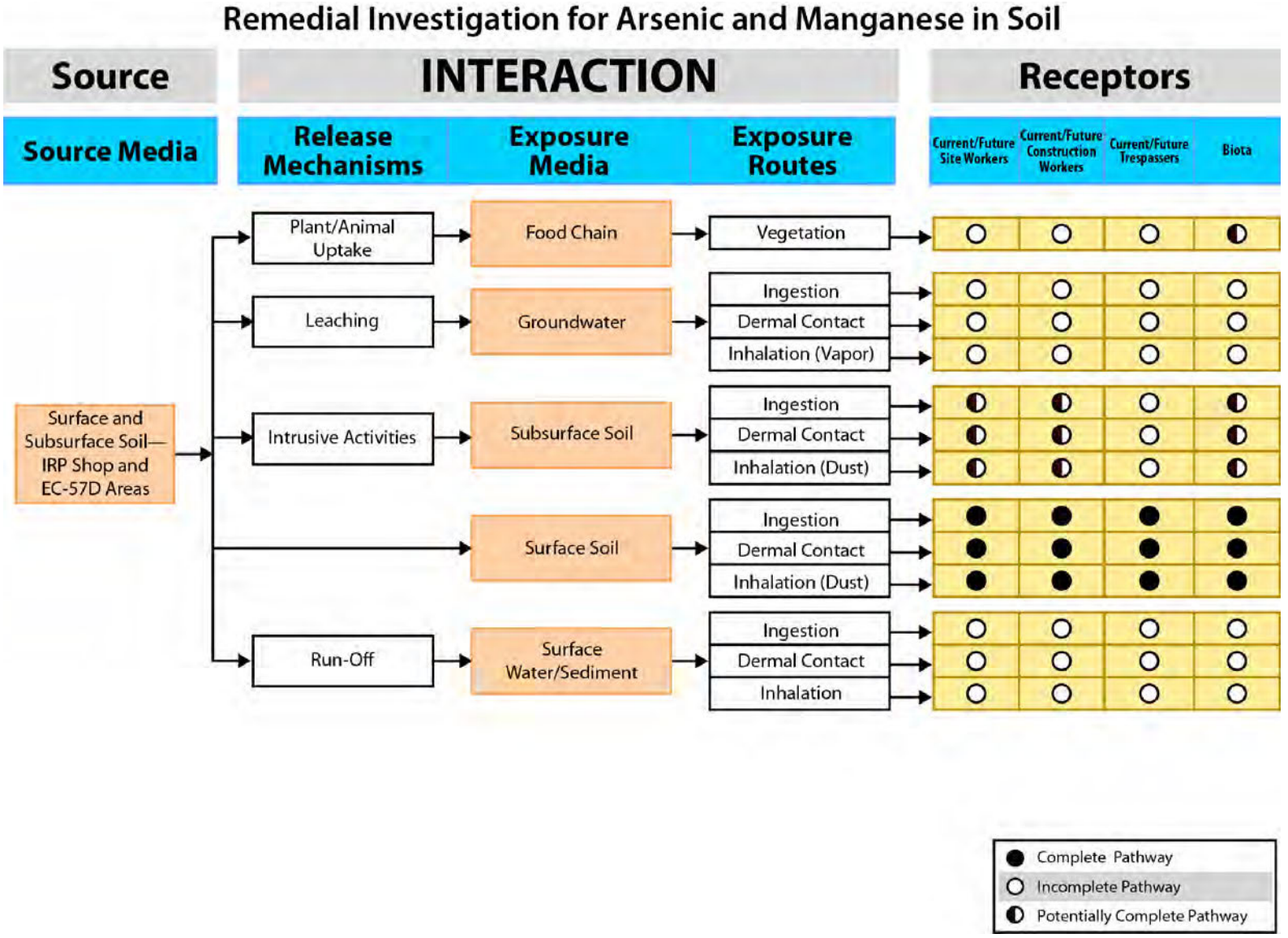
US Army Corps of Engineers
BUILDING STRONG
ERT

**Figure 2**
**Site Layout**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: September 2019

Imagery Source: U.S. Gelogical Survey, 2011, Data Sources: Parsons, 2006

Document Path: N[redacted].mxd

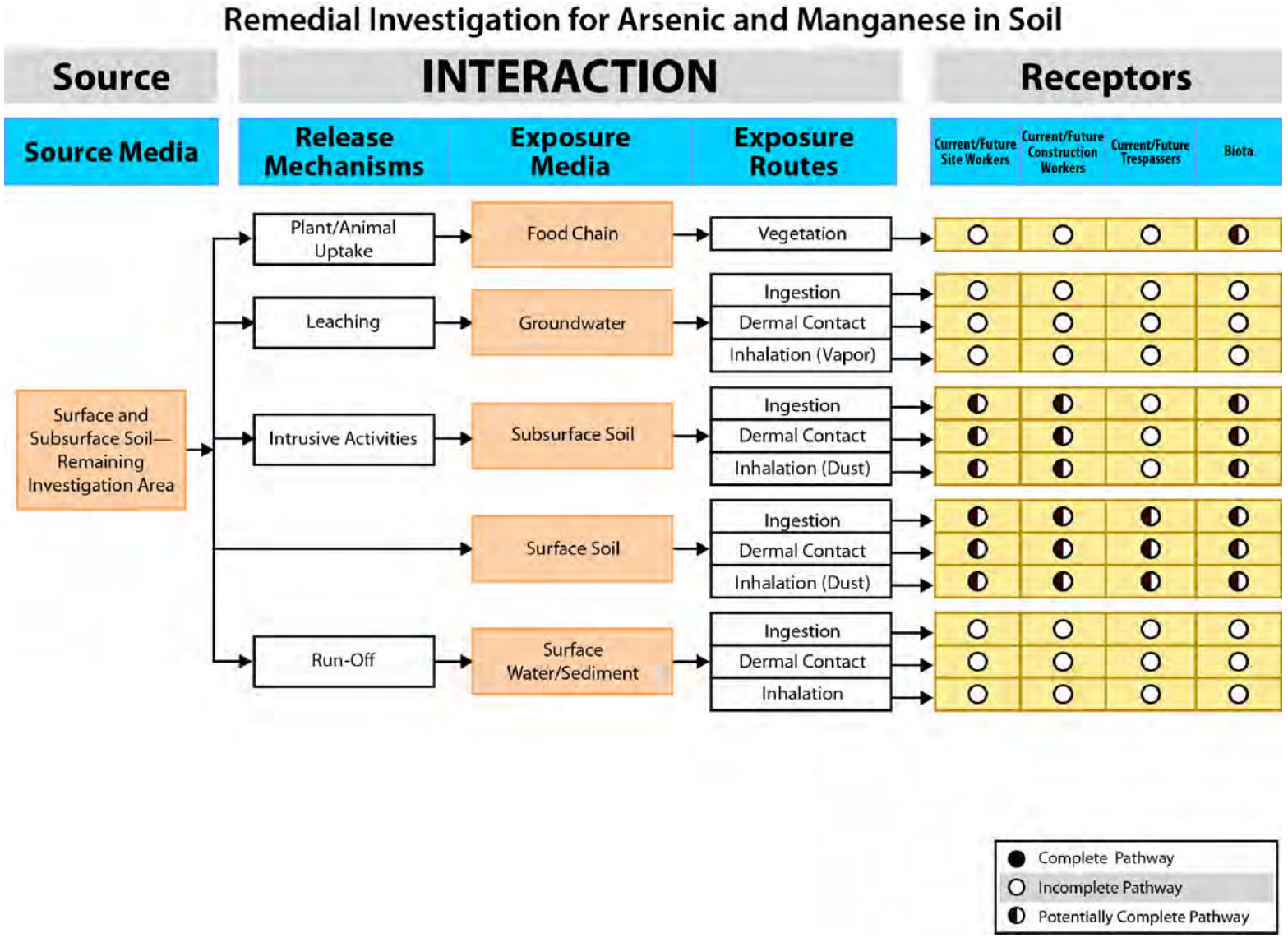



US Army Corps of Engineers
BUILDING STRONG

ERT

**Figure 3a**
**Preliminary Conceptual Site Model for DU 2 (Formerly the IRP Shop Area and DU 3 (Formerly the EC-57D Area)**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: September 2019

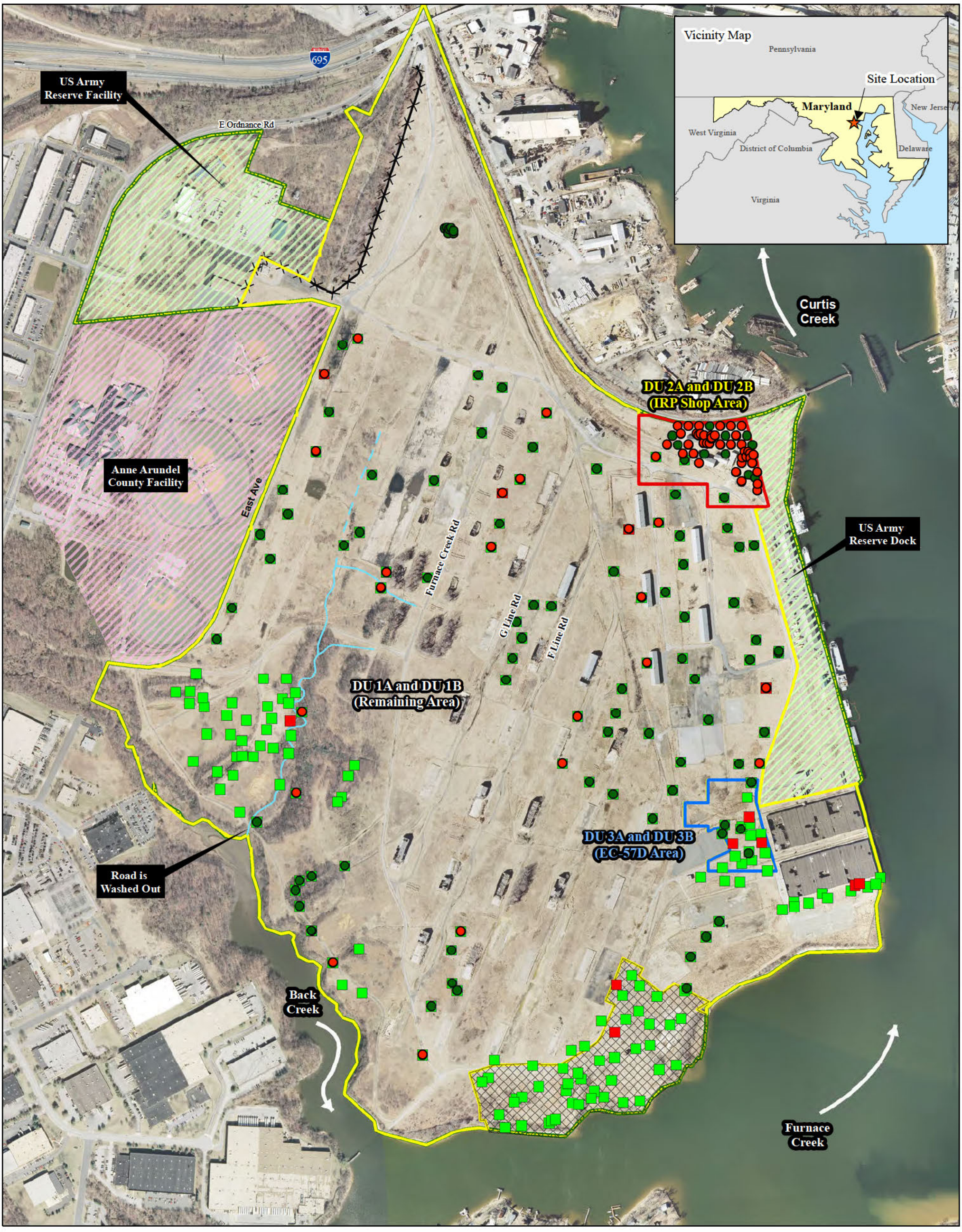



US Army Corps of Engineers
BUILDING STRONG

ERT

**Figure 3b**
**Preliminary Conceptual Site Model for DU 1 (Remaining Investigation Area)**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: September 2019




**Legend**

Decision Units (DUs)

- DU 1
- DU 2
- DU 3

A - surface soil (0-1 ft bgs)
B - subsurface soil (1-2 ft bgs)
ft - foot/feet
bgs - below ground surface

- Sampling Location Arsenic Result Less Than Background
- Sampling Location Arsenic Result Greater Than Background
- Sampling Location Manganese Result Less Than USEPA RSL for Industrial Soil (HI = 0.5)
- Sampling Location Manganese Result Greater Than USEPA RSL for Industrial Soil (HI = 0.5)

- NTRCA and RA Area
- Curtis Bay Ordnance Depot Boundary
- US Army Reserve Property
- Anne Arundel County Facility
- Un-Named Tributary (Intermittent Where Dashed)

N W E S

0 300 600 Feet

US Army Corps of Engineers
BUILDING STRONG

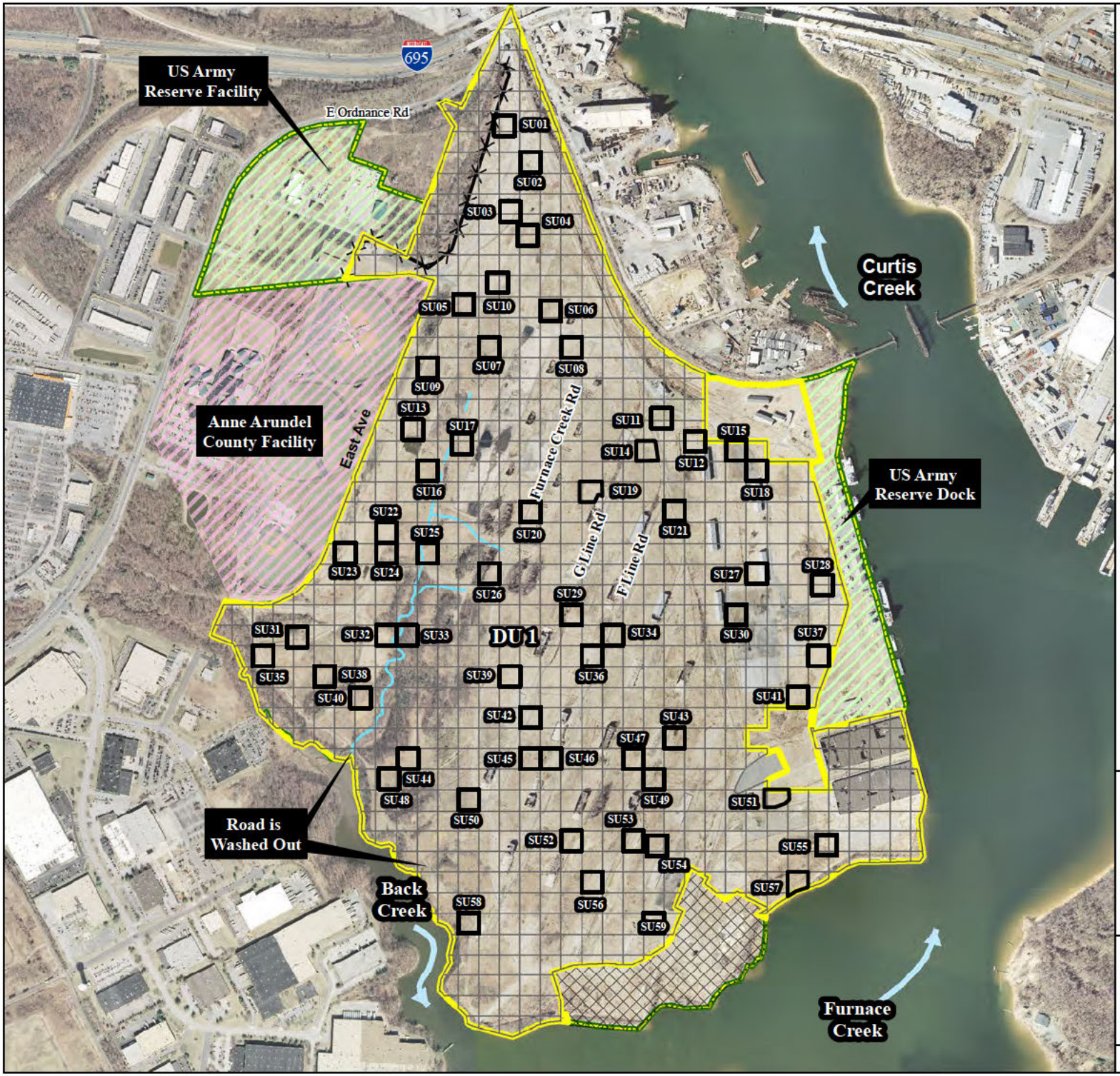
ERT

Date: September 2019

Imagery Source: U.S. Gelogical Survey, 2011, Data Sources: Parsons, 2006

# Figure 4
## Previous Discrete Method Soil Sampling Results Former Curtis Bay Ordnance Depot
**Anne Arundel County, Maryland**

Document Path: [redacted]d




**Legend**

- Decision Unit (DU) 1 Boundary
- DU1 Soil Sampling Units (SUs)
- DU 1 Potential SUs
- NTCRA and RA Area
- Former Curtis Bay Ordnance Depot Boundary
- Un-Named Tributary (Intermittent Where Dashed)
- Fence
- US Army Reserve Property
- Anne Arundel County Facility

Imagery Source: U.S. Gelogical Survey, 2011; Data Sources: USACE, 2016; Parsons, 2006

NTCRA - Non-Time Critical Removal Action
RA - Remedial Action

N
W E
S

0 500 1,000
Feet

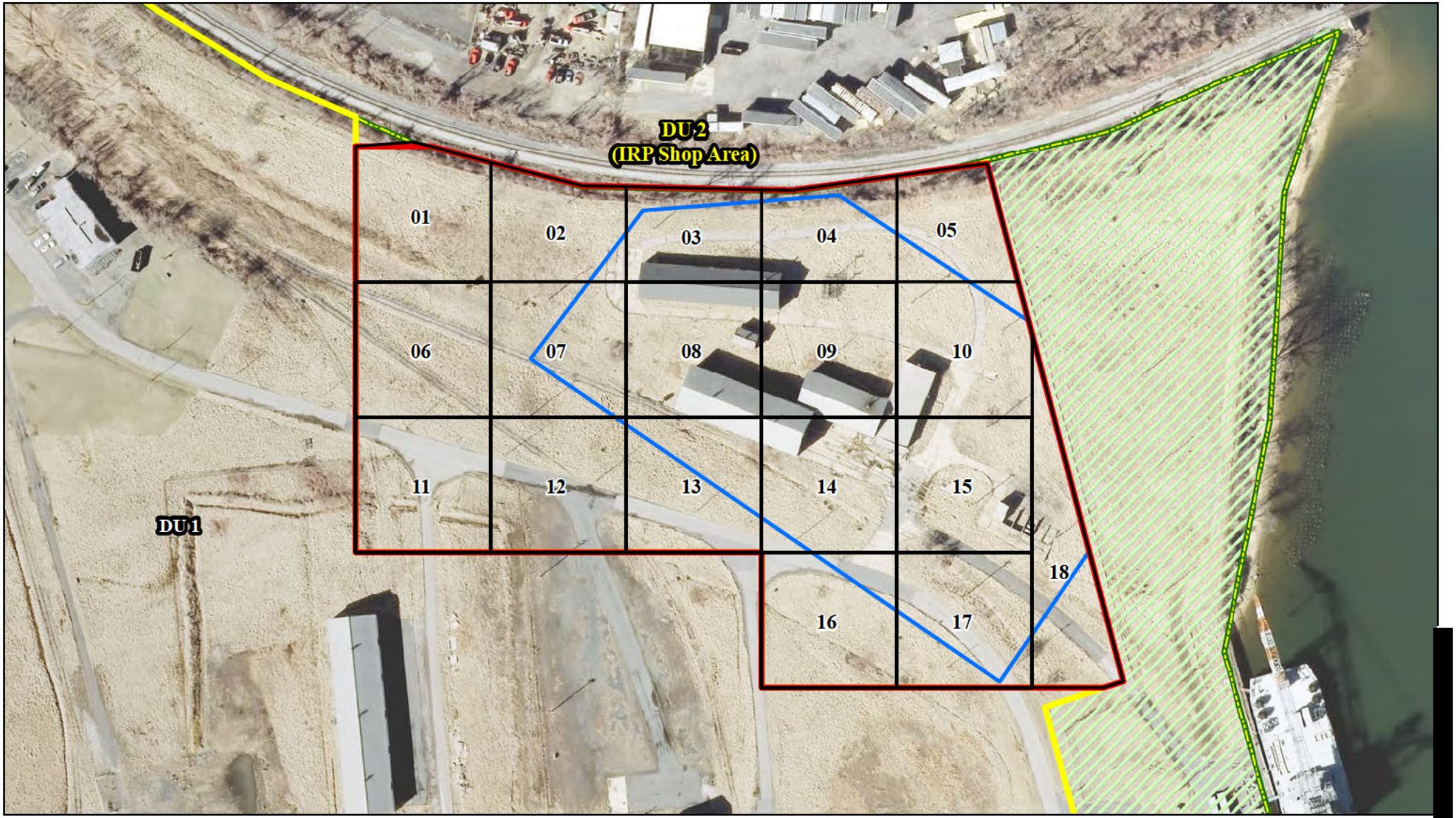
**Figure 5**
**Sampling Units for Decision Unit 1**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

US Army Corps of Engineers
BUILDING STRONG

ERT

Date: September 2019

Document




US Army Corps of Engineers
BUILDING STRONG

ERT

**Legend**

DU 2 (IRP Shop Area) Sampling Units (SUs)

Decision Units (DUs)
- DU 1
- DU 2

Curtis Bay Ordnance Depot Boundary

IRP Shop Area

US Army Reserve Property

N
W E
S

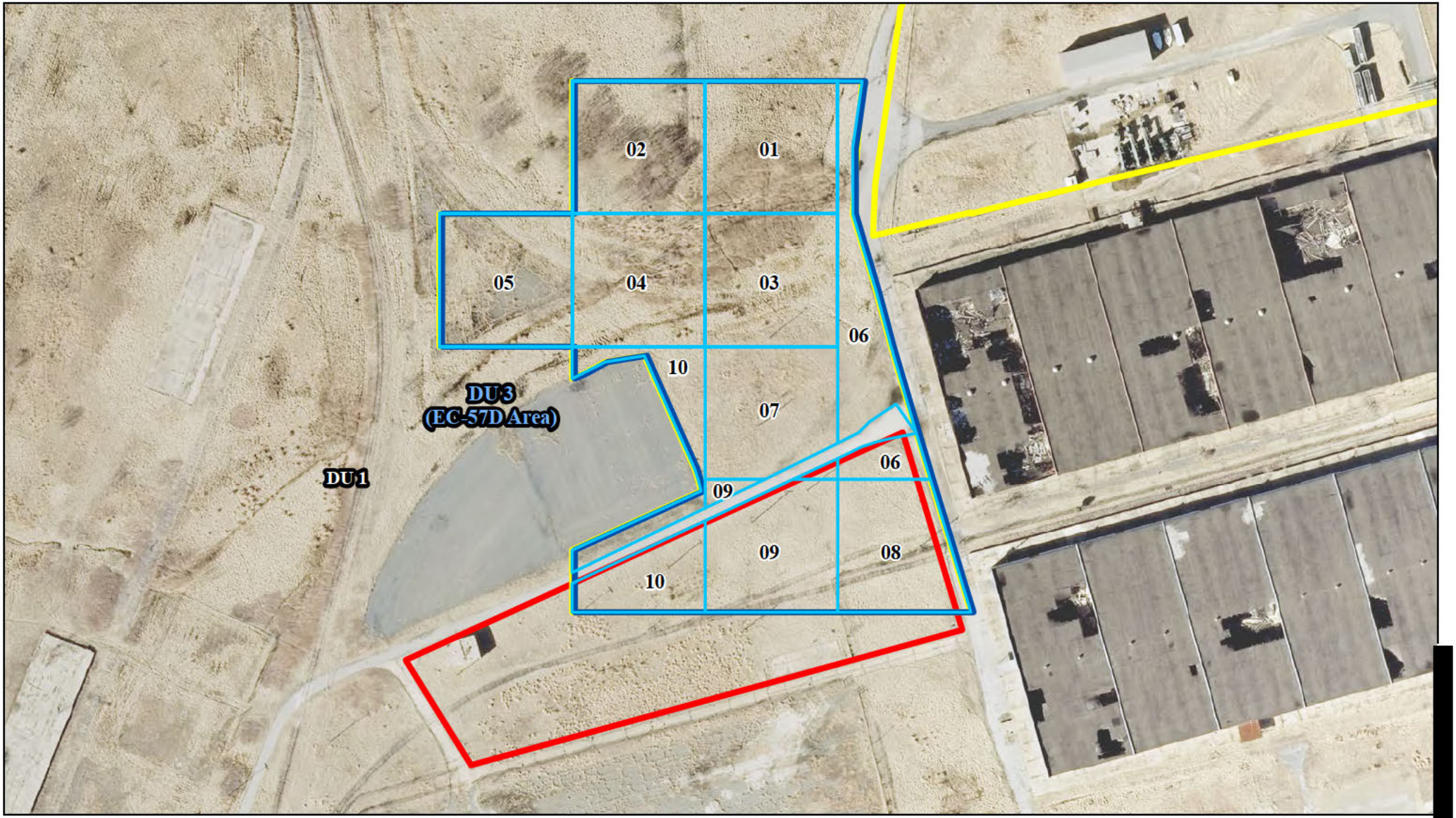
0 75 150
Feet

**Figure 6**
**Sampling Units**
**for DU 2 (IRP Shop Area)**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: September 2019

Imagery Source: U.S. Gelogical Survey, 2011

Document Path:




US Army Corps of Engineers
BUILDING STRONG

ERT

**Legend**

DU 3 (EC-57D Area) Sampling Units (SUs)

EC-57D Boundary

Decision Units (DUs)

DU 3 (EC-57D Area)

DU 1

N
W E
S

0 75 150

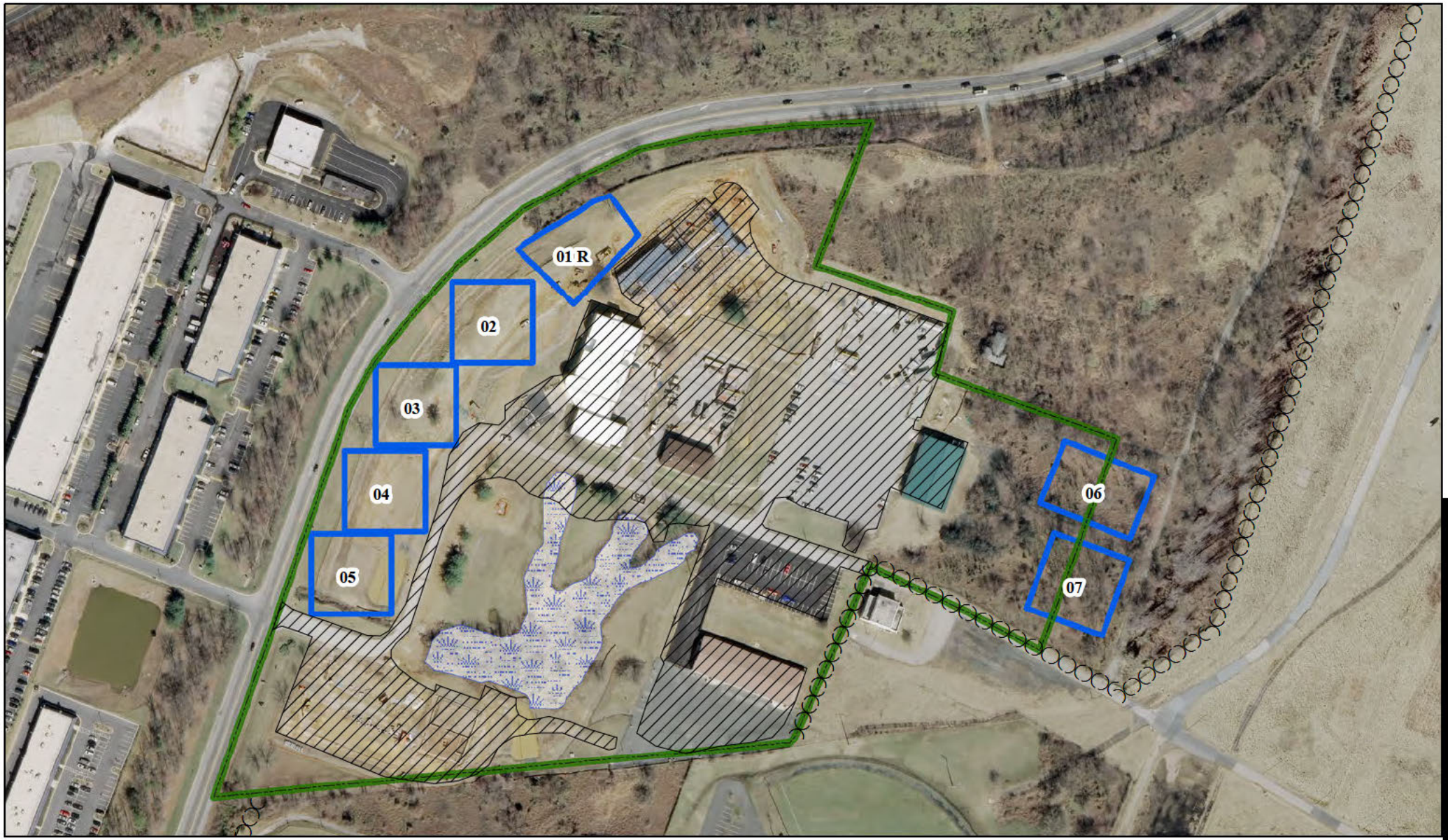
Feet

**Figure 7**
**Sampling Units**
**for DU 3 (EC-57D Area)**
**Former Curtis Bay**
**Ordnance Depot**
**Anne Arundel County,**
**Maryland**

Date: September 2019

Imagery Source: U.S. Gelogical Survey, 2011

Document Path: N




US Army Corps of Engineers
BUILDING STRONG

ERT

**Legend**

- Approximate Fence Line
- Background Sampling Units
- Landscape or Hardscape
- US Army Reserve Property
- Wetland

Note: Background Sampling Units (SUs) 06 and 07 overlap the US Army Reserve property boundary, but are withing the fence line separating the US Army Reserve Property from the Former Curtis Bay Ordance Depot site. The original SU locations are in an area that was formerly a parking lot.

N
W E
S

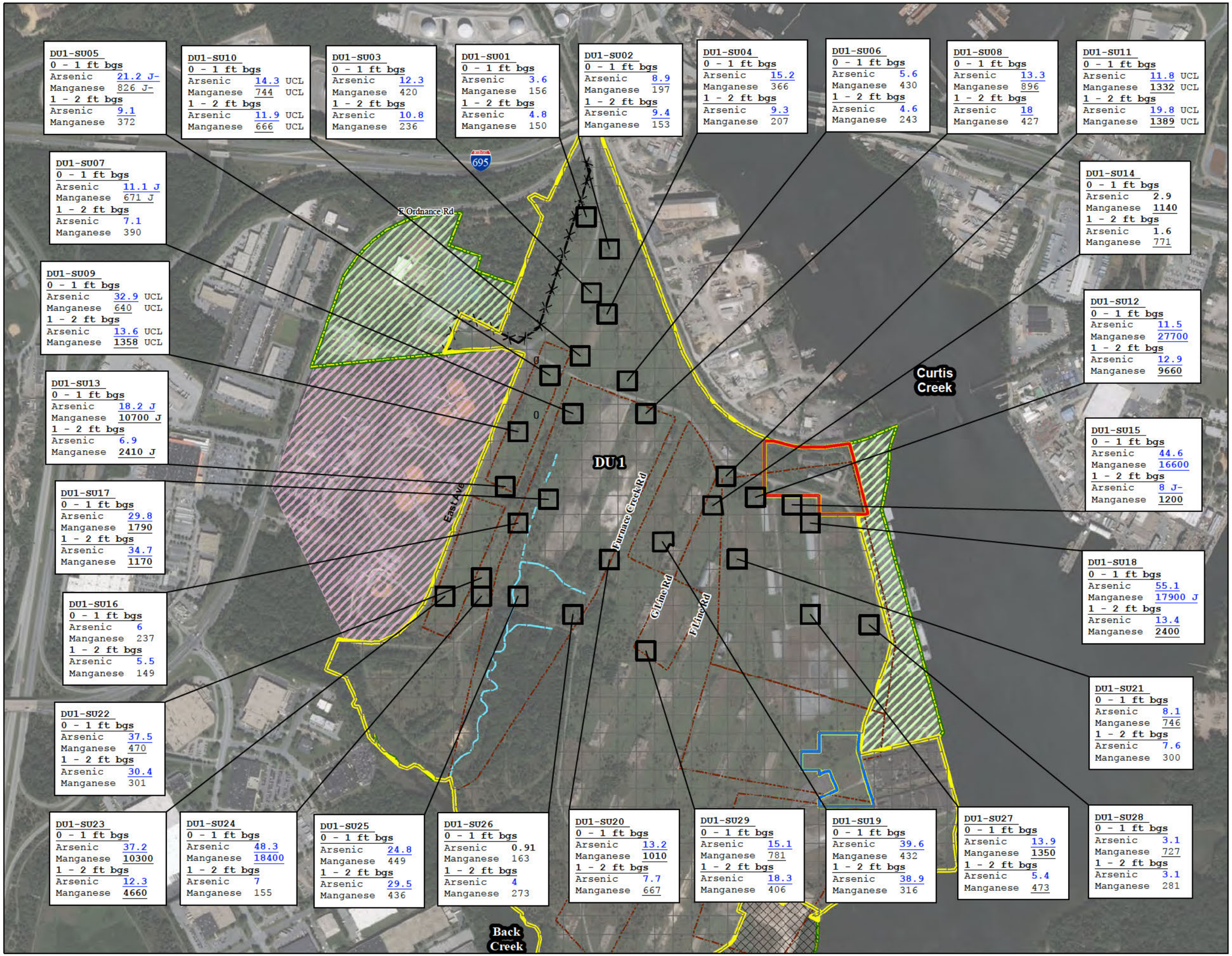
0 125 250
Feet

# Figure 8
## Background Sampling Units
## Former Curtis Bay Ordnance Depot
### Anne Arundel County, Maryland

Date: September 2019

Imagery Source: ESRI Online, Data Sources: Parsons, 2006, Anne Arundel County, 2014

Document Path




**Legend**

- Decision Unit (DU) 1 Boundary
- DU 2 Boundary
- DU 3 Boundary
- DU1 Soil Sampling Units (SUs)
- DU 1 Potential SUs
- NTCRA and RA Area
- Parsons Ore Pile AOCs
- Former Curtis Bay Ordnance Depot Boundary
- Fence
- Un-Named Tributary (Intermittent Where Dashed)
- US Army Reserve Property
- Anne Arundel County Facility

Imagery Source: ESRI Online;
Data Sources: USACE, 2016; Parsons, 2006
AOC - Area of Concern
NTCRA - Non-Time Critical Removal Action
RA - Remedial Action

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier
**Bolded results are greater than the USEPA RSL for residential soil.**
Results in blue font are greater than or equal to the USEPA RSL for industrial soil.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
J-: result is estimated and may be biased low.
J: result is estimated.
RSL: Regional Screening Level
All results are in milligrams per kilogram (mg/kg).

| Human Health Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| USEPA RSL for Residential Soil | 0.68 | 900 |
| USEPA RSL for Industrial Soil | 3 | 13,000 |
| BTV | 7.8 | 460.5 |

N W E S

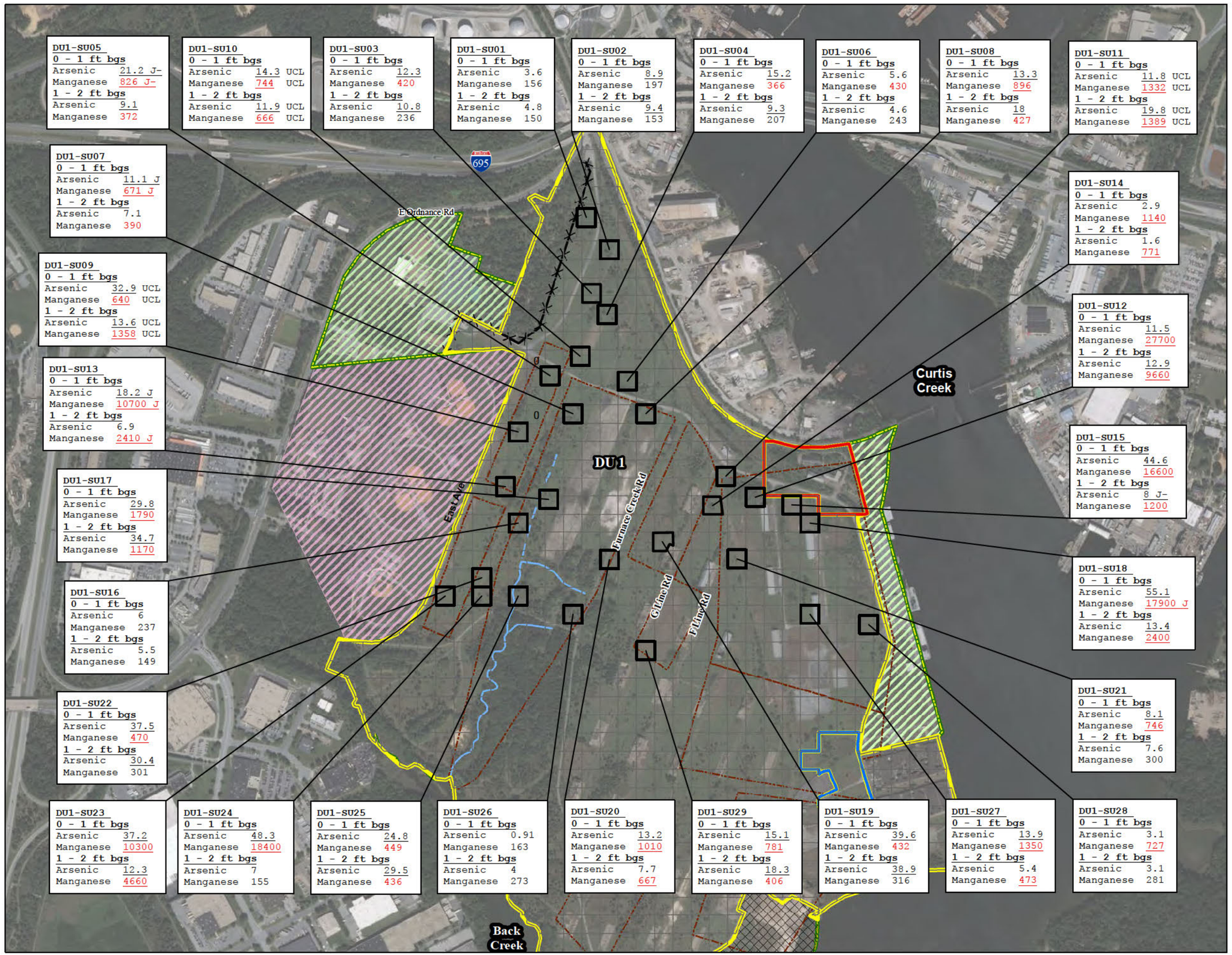
0 375 750
Feet

**Figure 9a**
**Northern DU 1 Surface and Subsurface Soil Sampling Results Human Health Screening**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

US Army Corps of Engineers
BUILDING STRONG
ERT

Date: September 2019

Document Path: N




**Legend**

- DU1 Soil Sampling Units (SUs)
- DU 1 Potential SUs
- DU 1
- DU 2
- DU 3
- NTCRA and RA Area
- Parsons Ore Pile AOCs
- Former Curtis Bay Ordnance Depot Boundary
- Fence
- Name
- Un-Named Tributary (Intermittent Where Dashed)
- US Army Reserve Property
- Anne Arundel County Facility

Imagery Source: ESRI Online;
Data Sources: USACE, 2016; Parsons, 2006
AOC - Area of Concern
NTCRA - Non-Time Critical Removal Action
RA - Remedial Action

**Sample Results Key**

Sample Location Name
Sample interval in feet below ground surface (ft bgs)
Analyte Name Result Qualifier
Results in red font are greater than or equal to the BTAG screening level.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
J-: result is estimated and may be biased low.
J: result is estimated.
BTAG: USEPA Region III Biological Technical Assistance Group
All results are in milligrams per kilogram (mg/kg).

| Ecological Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| BTAG | 328 | 330 |
| BTV | 7.8 | 460.5 |

N W E S

0 375 750
Feet

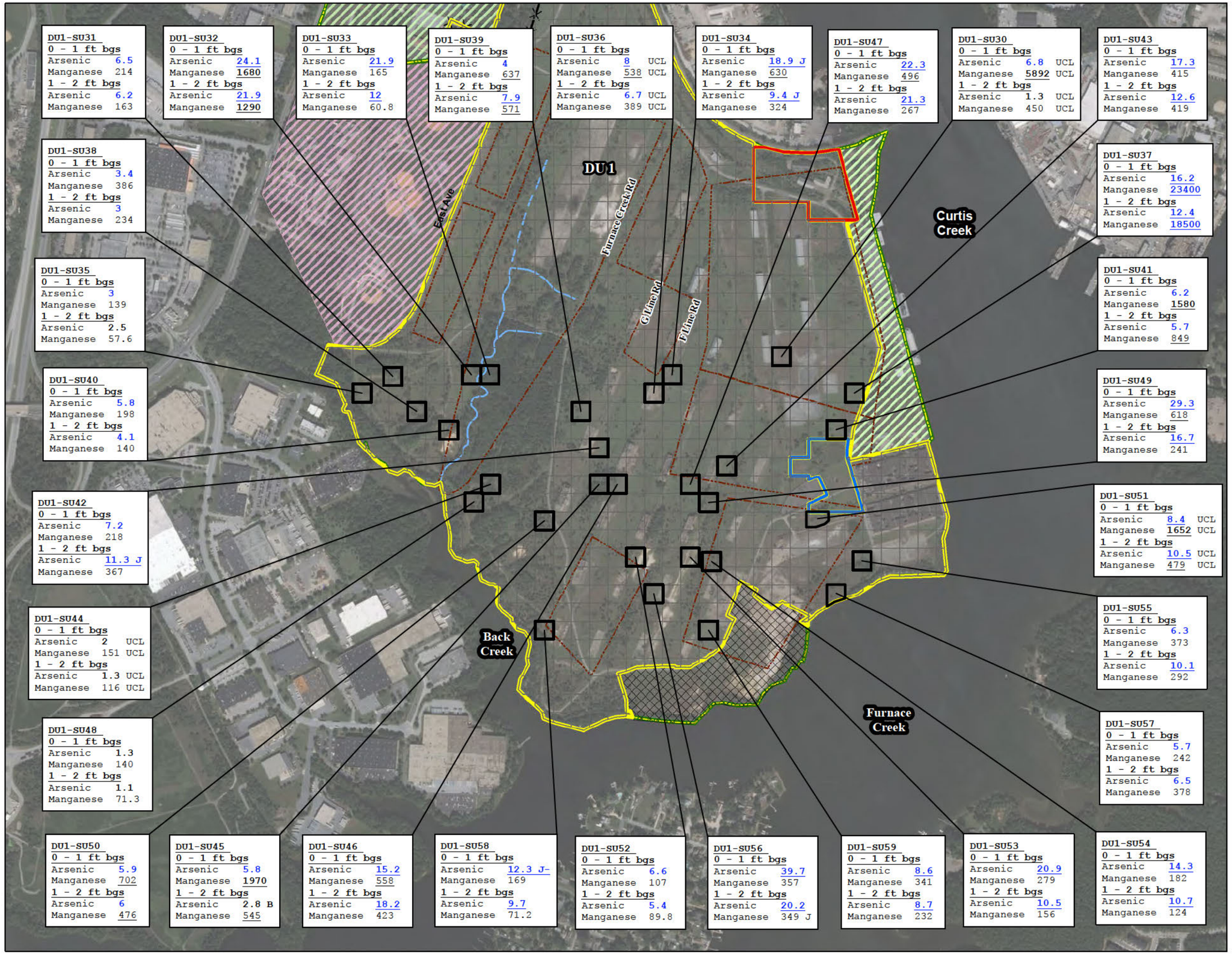
**Figure 9b**
**Northern DU 1 Surface and Subsurface Soil Sampling Results Ecological Screening Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

US Army Corps of Engineers
BUILDING STRONG

ERT

Date: September 2019

Document Path: N




**Legend**

- Decision Unit (DU) 1 Boundary
- DU 2 Boundary
- DU 3 Boundary
- DU1 Soil Sampling Units (SUs)
- DU 1 Potential SUs
- NTCRA and RA Area
- Former Curtis Bay Ordnance Depot Boundary
- Fence
- Un-Named Tributary (Intermittent Where Dashed)
- US Army Reserve Property
- Anne Arundel County Facility
- Parsons Ore Pile AOCs

Imagery Source: ESRI Online;
Data Sources: USACE, 2016; Parsons, 2006
AOC - Area of Concern
NTCRA - Non-Time Critical Removal Action
RA - Remedial Action

**Sample Results Key**

Sample Location Name
Sample interval in feet below ground surface (ft bgs)
Analyte Name Result Qualifier
**Bolded results are greater than the USEPA RSL for residential soil.**
Results in blue font are greater than or equal to the USEPA RSL for industrial soil.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
J-: result is estimated and may be biased low.
J: result is estimated.
RSL: Regional Screening Level
All results are in milligrams per kilogram (mg/kg).

| Human Health Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| USEPA RSL for Residential Soil | 0.68 | 900 |
| USEPA RSL for Industrial Soil | 3 | 13,000 |
| BTV | 7.8 | 460.5 |

N W E S

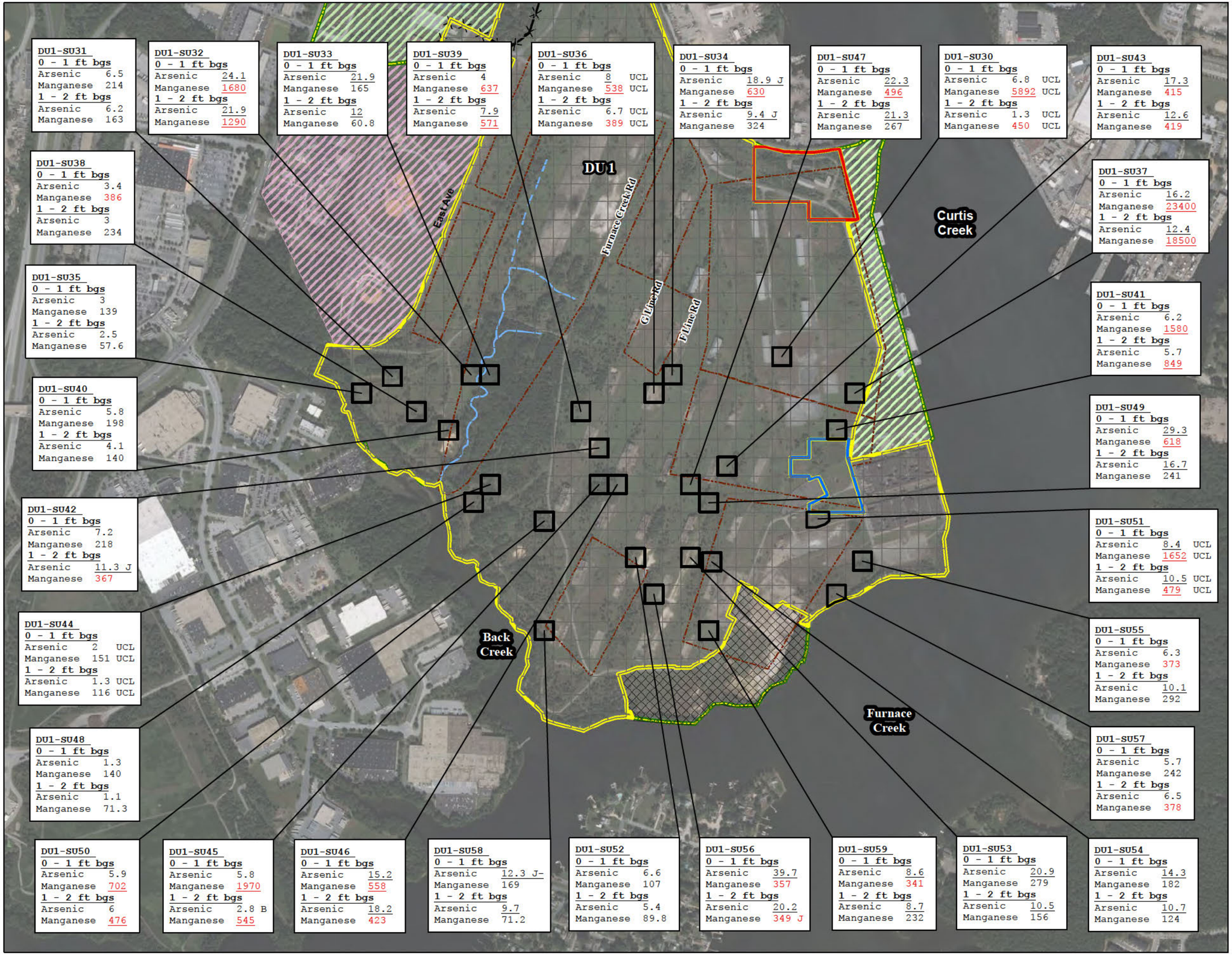
0 375 750
Feet

**Figure 9c**
**Southern DU 1 Surface and Subsurface Soil Sampling Results**
**Human Health Screening**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

US Army Corps of Engineers
BUILDING STRONG
ERT

Date: September 2019

Document Path:




**Legend**

- Decision Unit (DU) 1 Boundary
- DU 2 Boundary
- DU 3 Boundary
- DU1 Soil Sampling Units (SUs)
- DU 1 Potential SUs
- NTCRA and RA Area
- Former Curtis Bay Ordnance Depot Boundary
- Fence
- Un-Named Tributary (Intermittent Where Dashed)
- US Army Reserve Property
- Anne Arundel County Facility
- Parsons Ore Pile AOCs

Imagery Source: ESRI Online;
Data Sources: USACE, 2016; Parsons, 2006
AOC - Area of Concern
NTCRA - Non-Time Critical Removal Action
RA - Remedial Action

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier
Results in red font are greater than or equal to the BTAG screening level.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
J-: result is estimated and may be biased low.
J: result is estimated.
BTAG: USEPA Region III Biological Technical Assistance Group
All results are in milligrams per kilogram (mg/kg).

| Ecological Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| BTAG | 328 | 330 |
| BTV | 7.8 | 460.5 |

N W E S

0 375 750
Feet

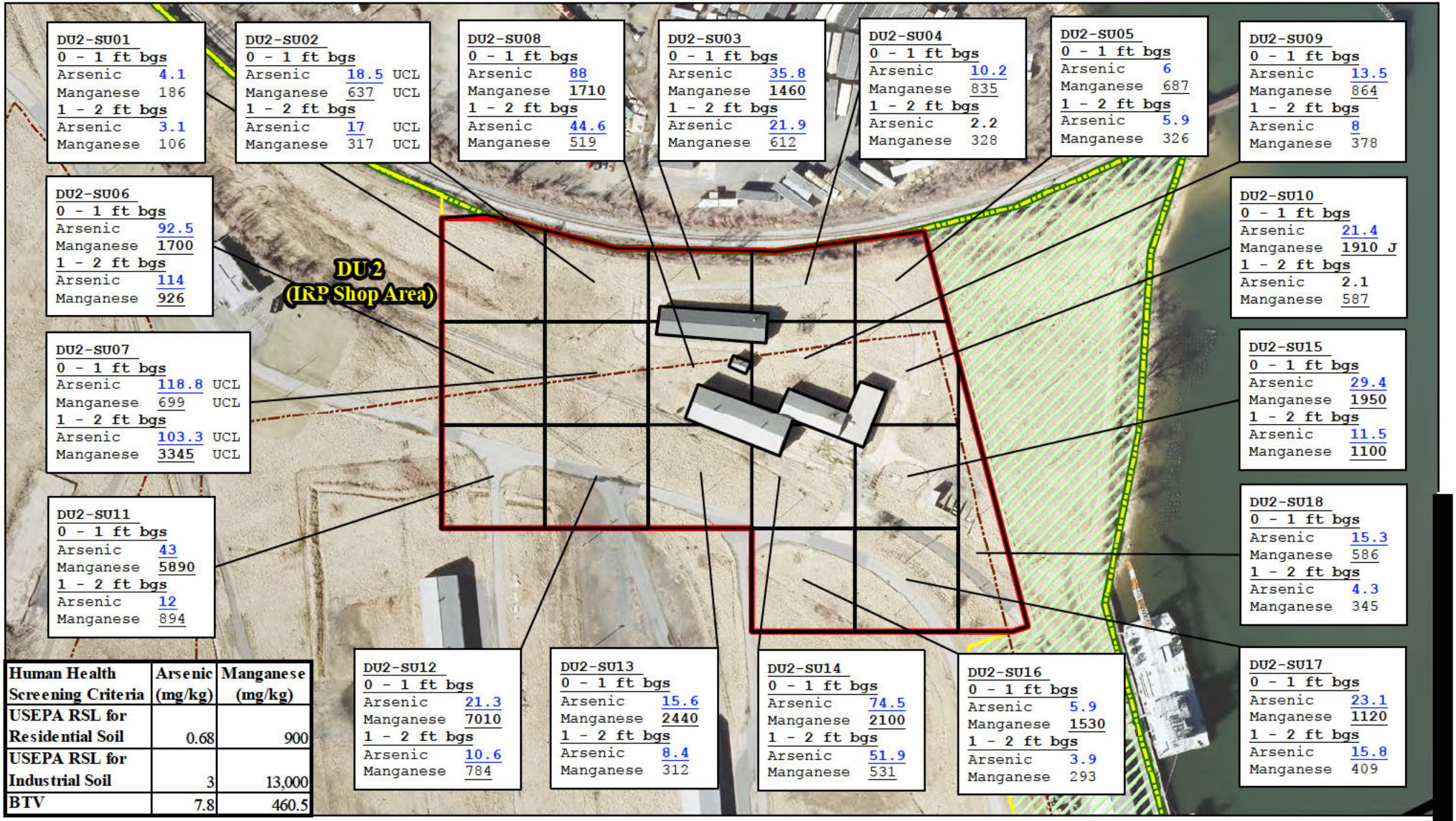
**Figure 9d**
**Southern DU 1 Surface and Subsurface Soil Sampling Results**
**Ecological Screening**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

US Army Corps of Engineers
BUILDING STRONG

ERT

Date: September 2019

Document Path:




| Human Health Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| USEPA RSL for Residential Soil | 0.68 | 900 |
| USEPA RSL for Industrial Soil | 3 | 13,000 |
| BTV | 7.8 | 460.5 |

US Army Corps of Engineers
BUILDING STRONG

ERT

**Legend**

- DU 2 (IRP Shop Area) Sampling Units (SUs)
- Decision Units (DUs)
- DU 1
- DU 2
- AOC - Area of Concern
- Parsons Ore Pile AOCs
- Curtis Bay Ordnance Depot Boundary
- US Army Reserve Property

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier
**Bolded results are greater than the USEPA RSL for residential soil.**
Results in blue font are greater than or equal to the USEPA RSL for industrial soil.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
RSL: Regional Screening Level
All results are in milligrams per kilogram (mg/kg).

N W E S

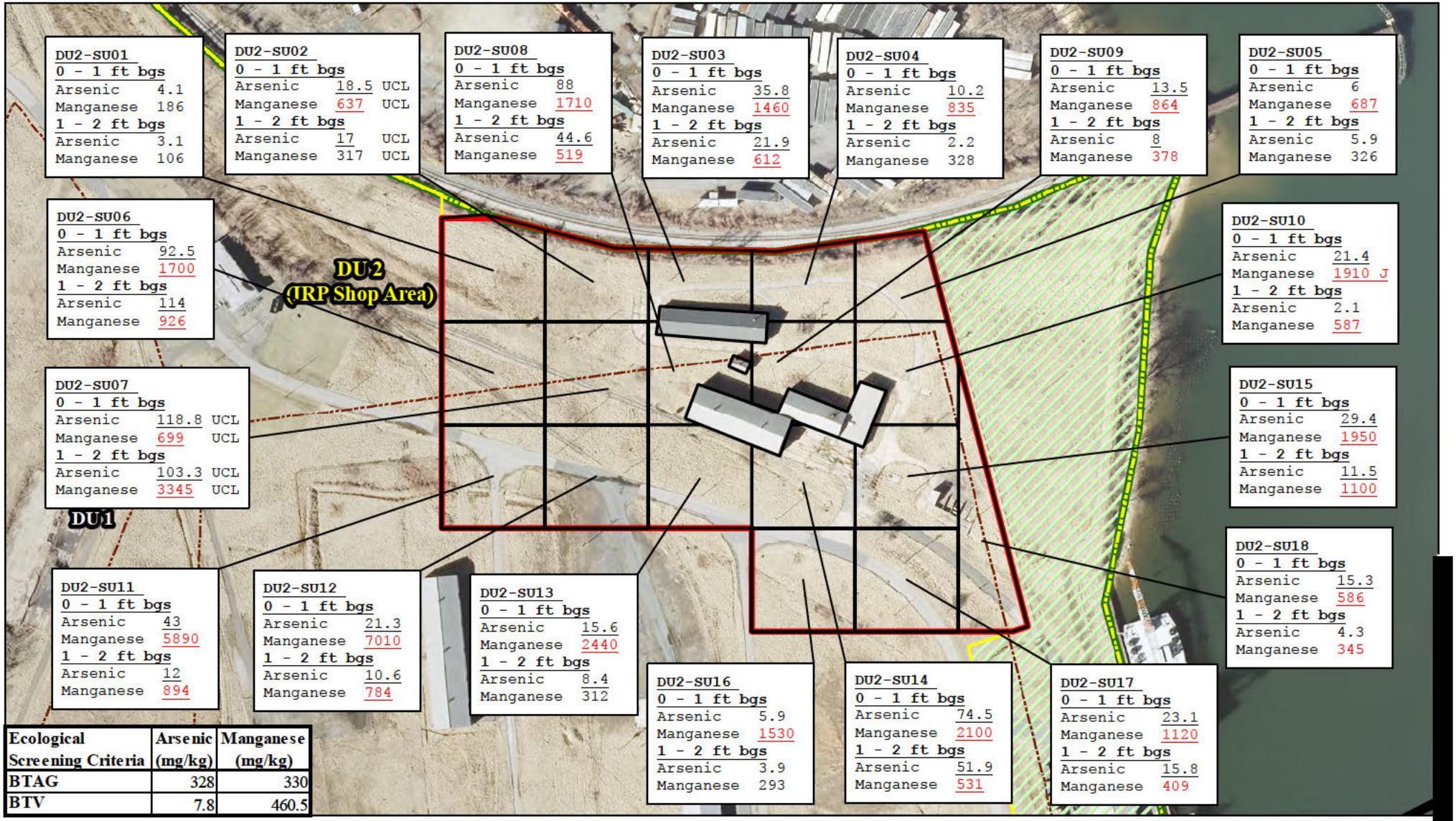
0 100 200
Feet

**Figure 10a**
**DU 2 (IRP Shop Area) Surface and Subsurface Soil Sampling Results Human Health Screening Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: November 2019

Data Sources: USACE, 2016; Parsons, 2006; Imagery Source: U.S. Gelogical Survey, 2011

Document Path:




| Ecological Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| BTAG | 328 | 330 |
| BTV | 7.8 | 460.5 |

US Army Corps of Engineers
BUILDING STRONG

ERT

**Legend**

- DU 2 (IRP Shop Area) Sampling Units (SUs)
- Decision Units (DUs)
- DU 1
- DU 2
- AOC - Area of Concern
- Parsons Ore Pile AOCs
- Curtis Bay Ordnance Depot Boundary
- US Army Reserve Property

**Sample Results Key**

Sample Location Name
Sample interval in feet below ground surface (ft bgs)
Analyte Name Result Qualifier
Results in red font are greater than or equal to the BTAG screening level.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
BTAG: USEPA Region III Biological Technical Assistance Group
All results are in milligrams per kilogram (mg/kg).

N W E S

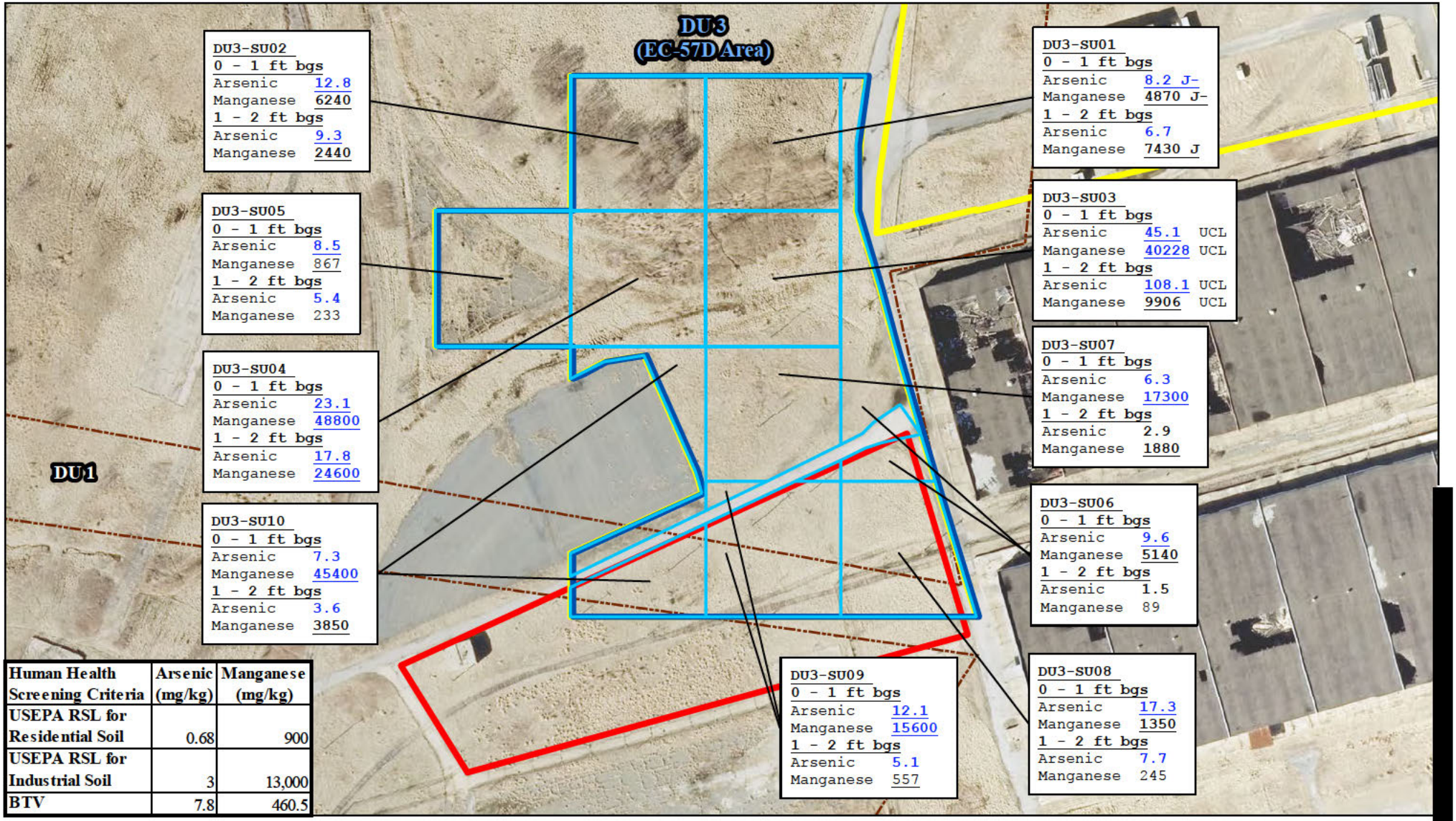
0 100 200
Feet

**Figure 10b**
**DU 2 (IRP Shop Area) Surface and Subsurface Soil Sampling Results Eclogical Screening Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: September 2019

Data Sources: USACE, 2016; Parsons, 2006; Imagery Source: U.S. Gelogical Survey, 2011

Document Path: N




| Human Health Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| USEPA RSL for Residential Soil | 0.68 | 900 |
| USEPA RSL for Industrial Soil | 3 | 13,000 |
| BTV | 7.8 | 460.5 |

US Army Corps of Engineers®
BUILDING STRONG®

ERT

**Legend**

Sampling Units
- DU 3 (EC-57D Area) Sampling Units (SUs)

Decision Units (DUs)
- DU 1
- DU 3 (EC-57D Area)
- EC-57D Boundary
- Parsons Ore Pile AOCs

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier

**Bolded results are greater than the USEPA RSL for residential soil.**
Results in blue font are greater than or equal to the USEPA RSL for industrial soil.
Underlined results are greater than or equal to the site-specific background threshold value (BTV).

UCL: indicates replicate sample, result is the 95% UCL.
J-: result is estimated and may be biased low.
J: result is estimated.
RSL: Regional Screening Level
All results are in milligrams per kilogram (mg/kg).

AOC - Area of Concern

N W E S

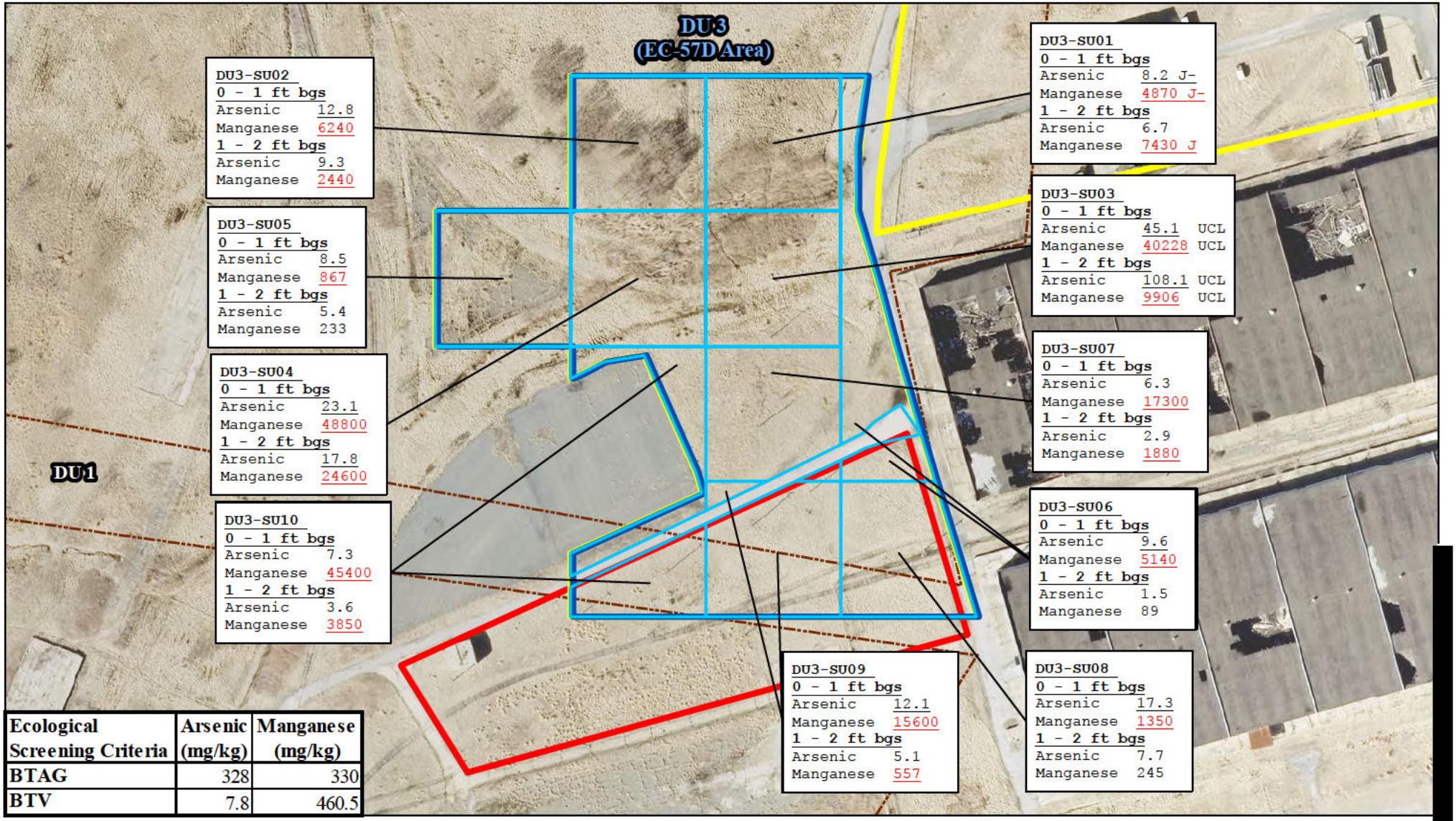
0 75 150
Feet

Date: September 2019

Imagery Source: U.S. Gelogical Survey, 2011

**Figure 11a**
**DU 3 (EC-57D Area) Surface and Subsurface Soil Sampling Results Human Health Screening**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Document




| Ecological Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| BTAG | 328 | 330 |
| BTV | 7.8 | 460.5 |

US Army Corps of Engineers®
BUILDING STRONG®

ERT

**Legend**

Sampling Units
- DU 3 (EC-57D Area) Sampling Units (SUs)

Decision Units (DUs)
- DU 1
- DU 3 (EC-57D Area)
- EC-57D Boundary
- Parsons Ore Pile AOCs

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier
Results in red font are greater than or equal to the BTAG screening level.
Underlined results are greater than or equal to the site-specific background threshold value )BTV).

UCL: indicates replicate sample, result is the 95% UCL.
J-: result is estimated and may be biased low.
BTAG: USEPA Region III Biological Technical Assistance Group
All results are in milligrams per kilogram (mg/kg).

N
W E
S

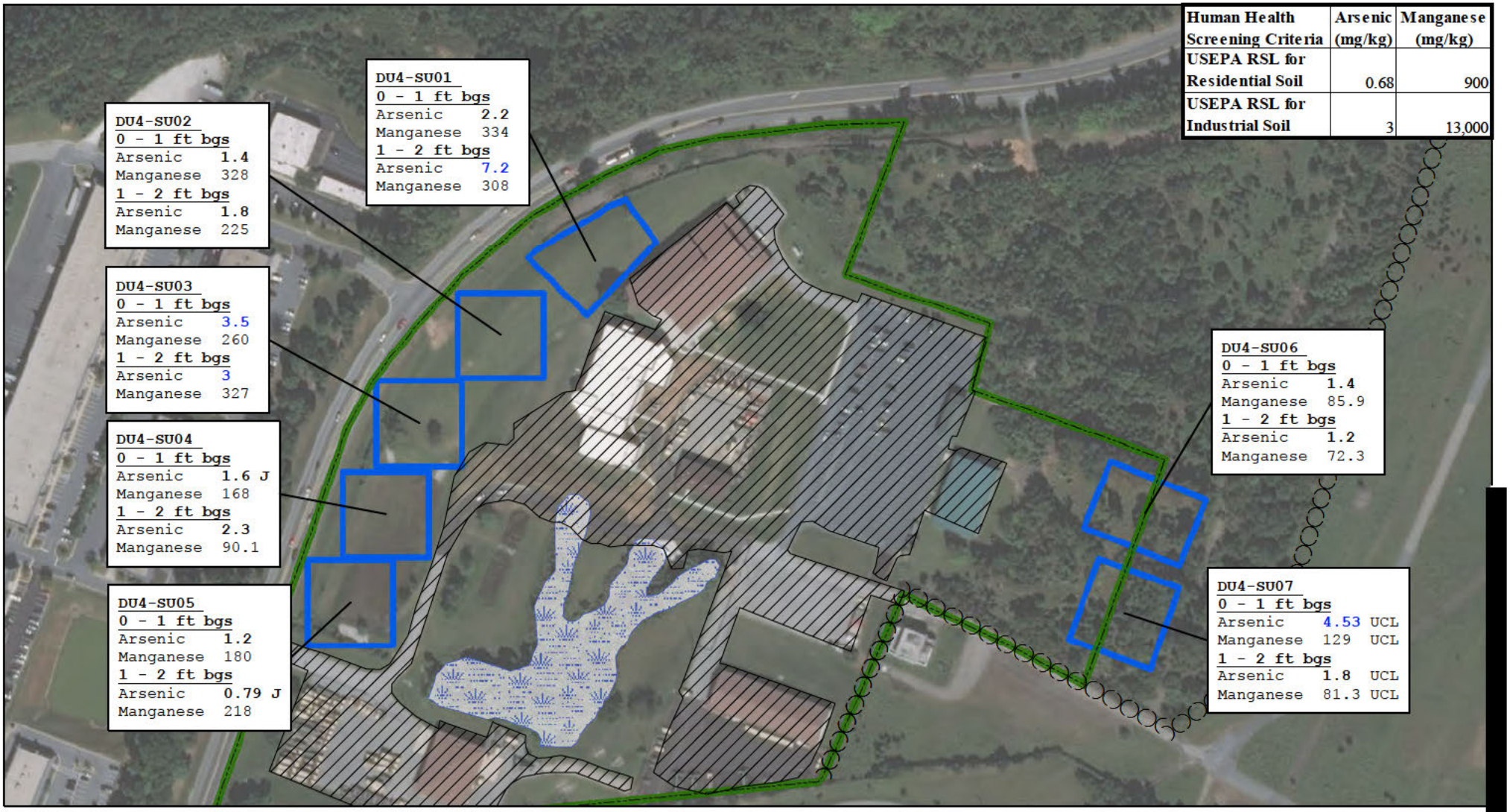
0 75 150
Feet

Date: September 2019

Imagery Source: U.S. Gelogical Survey, 2011

**Figure 11b**
**DU 3 (EC-57D Area) Surface and Subsurface Soil Sampling Results Ecological Screening**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Document Path:




| Human Health Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| USEPA RSL for Residential Soil | 0.68 | 900 |
| USEPA RSL for Industrial Soil | 3 | 13,000 |

US Army Corps of Engineers®
BUILDING STRONG®
ERT

**Legend**

- Approximate Fence Line
- Background Sampling Units
- Landscape or Hardscape
- US Army Reserve Property
- Wetland

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier
**Bolded results are greater than the USEPA RSL for residential soil.**
Results in blue font are greater than or equal to the USEPA RSL for industrial soil.

UCL: indicates replicate sample, result is the 95% UCL.
J: result is estimated.
RSL: Regional Screening Level
All results are in milligrams per kilogram (mg/kg).

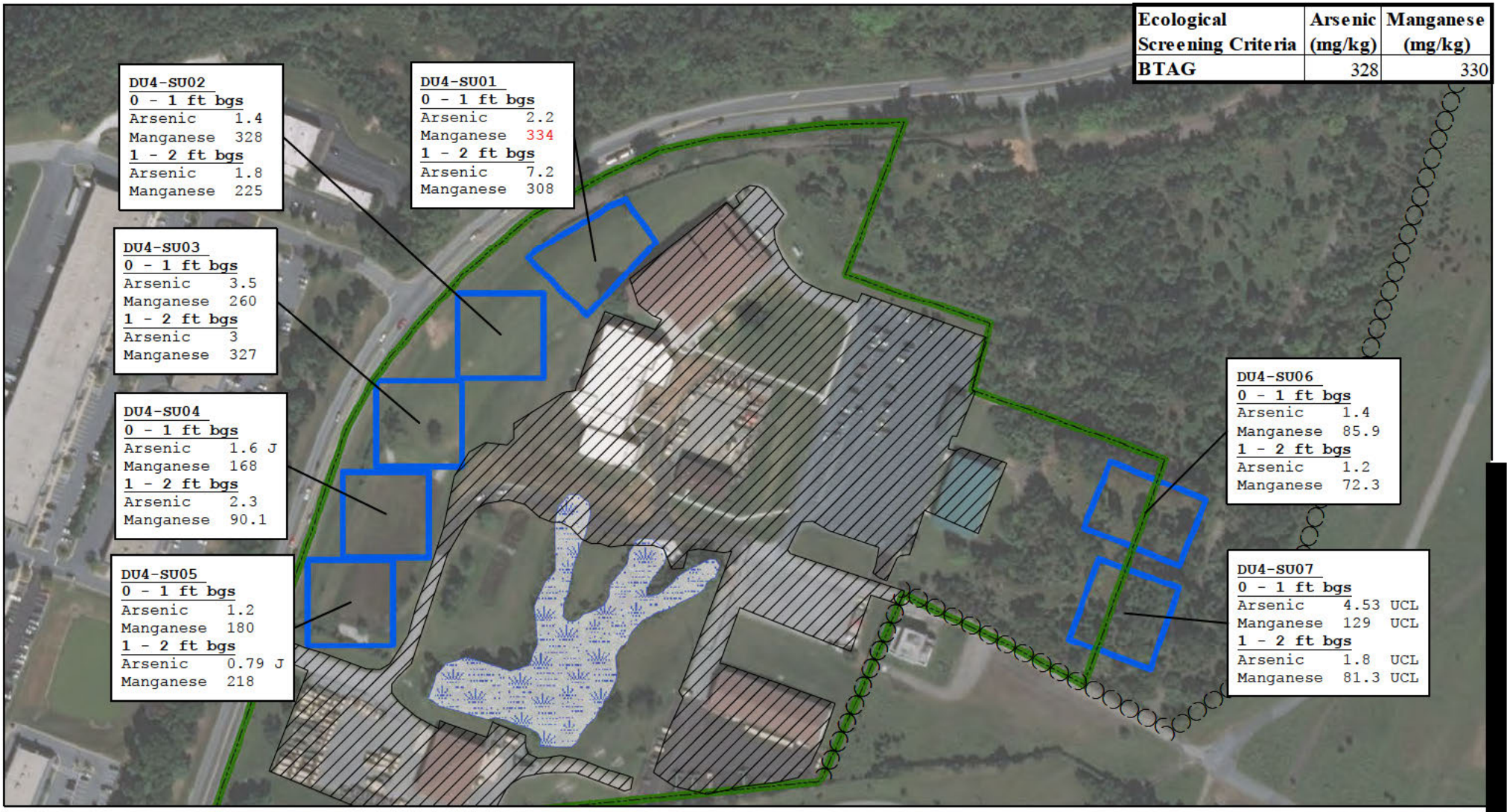
N
W E
S

0 125 250
Feet

# Figure 12a
## Background Sampling (DU 4)
## Surface and Subsurface Soil Sampling Results
## Human Health Screening
## Former Curtis Bay Ordnance Depot
**Anne Arundel County, Maryland**

Date: September 2019

Imagery Source: ESRI Online, Data Sources: Parsons, 2006, Anne Arundel County, 2014




| Ecological Screening Criteria | Arsenic (mg/kg) | Manganese (mg/kg) |
|---|---|---|
| BTAG | 328 | 330 |

US Army Corps of Engineers®
BUILDING STRONG®
ERT

**Legend**

- Approximate Fence Line
- Background Sampling Units
- Landscape or Hardscape
- US Army Reserve Property
- Wetland

**Sample Results Key**

**Sample Location Name**
**Sample interval in feet below ground surface (ft bgs)**
Analyte Name Result Qualifier
Results in red font are greater than or equal to the BTAG screening level.

UCL: indicates replicate sample, result is the 95% UCL.
J: result is estimated.
BTAG: USEPA Region III Biological Technical Assistance Group
All results are in milligrams per kilogram (mg/kg).

N
W E
S
0 125 250
Feet

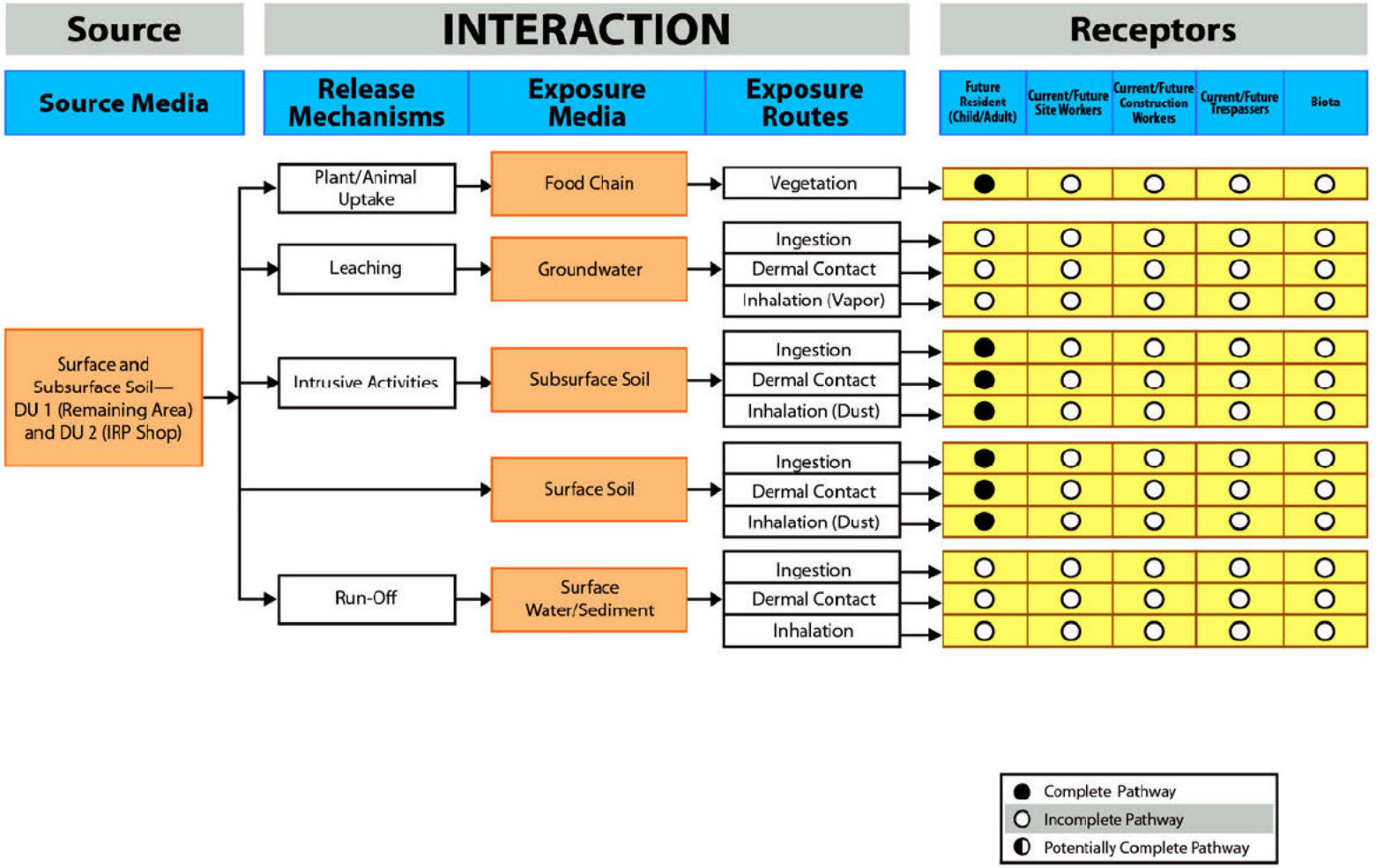
# Figure 12b
## Background Sampling (DU 4)
## Surface and Subsurface Soil Sampling Results
## Ecological Screening
## Former Curtis Bay Ordnance Depot
**Anne Arundel County, Maryland**

Date: September 2019

Imagery Source: ESRI Online, Data Sources: Parsons, 2006, Anne Arundel County, 2014

Document

## Remedial Investigation for Arsenic and Manganese in Soil



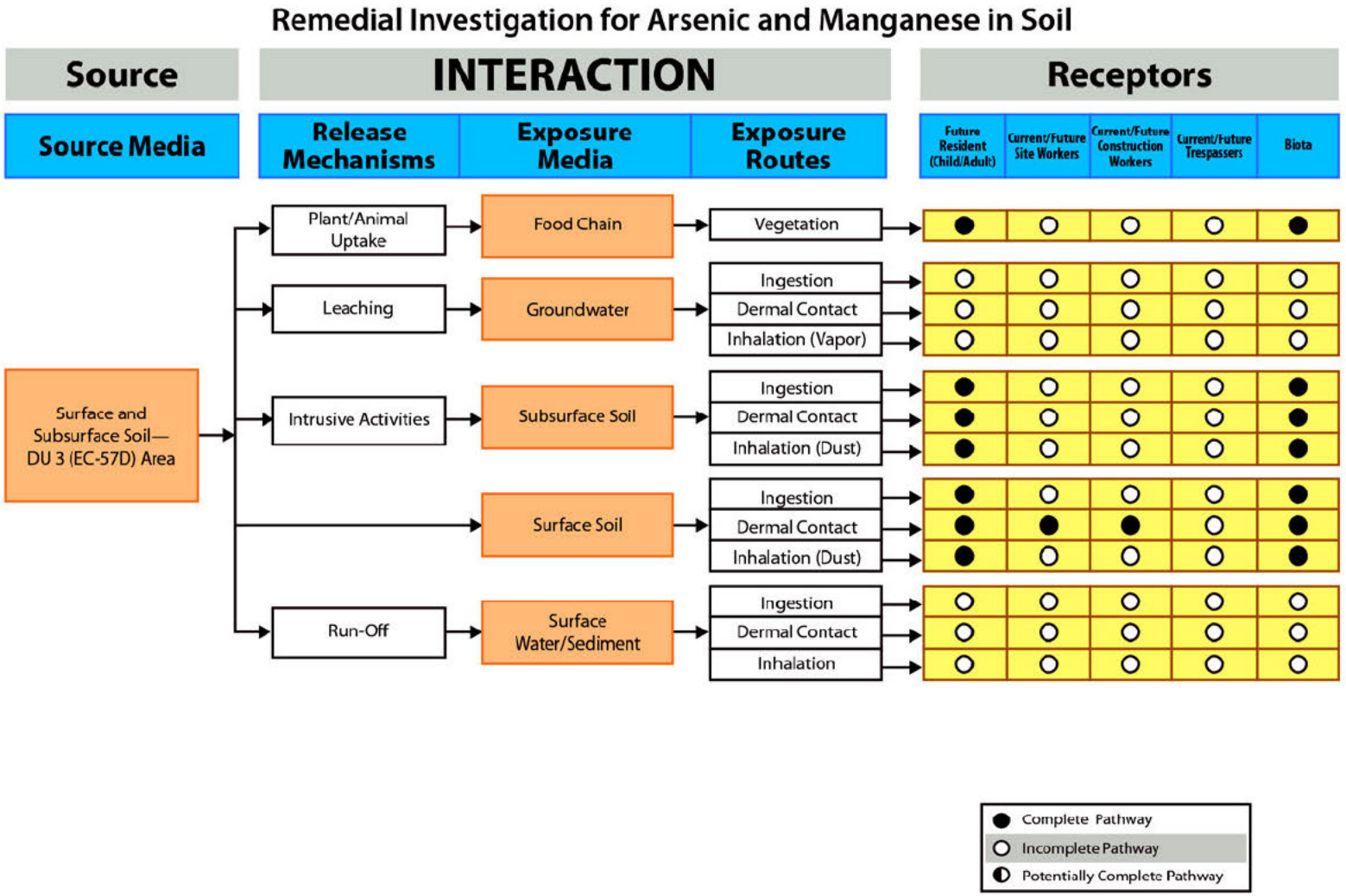

US Army Corps of Engineers® BUILDING STRONG®

ERT

**Note:** Although DU-wide ecological risks are unlikely, the elevated manganese concentrations in the DU 1 SUs (SU12A/B, SU15A, SU18A, SU23A, SU24A, and SU37A/B) and the DU 2 SUs (SU11A and SU12A) may represent an ecological risk in these areas. Remedial alternatives for ecological risks within these SUs are recommended for evaluation in the FS.

**Figure 13**
**Revised Conceptual Site Model for DU 1 and DU 2**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: April 2021




US Army Corps of Engineers®
BUILDING STRONG®

ERT

**Note:** The total Hazard Index (1.6) for the Construction Worker receptor to the combined surface/subsurface soil at DU 3 was greater than 1, but no individual exposure routes Hazard Quotients exceeded 1.

**Figure 14**
**Revised Conceptual Site Model for DU 3**
**Former Curtis Bay Ordnance Depot**
**Anne Arundel County, Maryland**

Date: October 2020

Document

# APPENDIX B: HHRA TABLES AND SLERA SITE VISIT MEMORANDUM

**This Page Intentionally Left Blank**

**Attachment A**

**Surface and Combined Surface/Subsurface Soil Data and COPC Screening Tables – DU 1**

(Page intentionally left blank)

**Table B.1-1 (DU 1). Selection of Exposure Pathways**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1'), Surface/Subsurface Soil (0-2')
Exposure Point: DU 1

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | Onsite/Offsite | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Current | Soil | Surface Soil | Surface Soil at DU 1 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal<br>Ingestion<br>Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU1 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| Future | Soil | Surface Soil | Surface Soil at DU 1 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal<br>Ingestion<br>Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU 1 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |

**Table B.1-2a (DU 1). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 1

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.91 | -- | 55.1 | -- | mg/Kg | DU1A-SU18 | 59/59 | 55.1 | 3.197 | 0.68 | c | Y | ARSL |
| 7439-96-5 | Manganese | 107 | -- | 27,700 | -- | mg/Kg | DU1A-SU12 | 59/59 | 27,700 | 283.3 | 900 | n | Y | ARSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated).
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination.

(3) COPC Selection Rationale:

ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

c Carcinogenic
n Non-Carcinogenic
-- No qualifier
Y Yes
N No

**Table B.1-2b (DU 1). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 1

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440382 | Arsenic | 0.91 | -- | 55.1 | -- | mg/Kg | DU1A-SU18 | 118/118 | 55.1 | 3.4 | 0.68 | c | Y | ARSL |
| 7439965 | Manganese | 57.6 | -- | 27,700 | -- | mg/Kg | DU1A-SU12 | 118/118 | 27,700 | 247.9 | 900 | n | Y | ARSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated).
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination.

(3) COPC Selection Rationale:

ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

c Carcinogenic
n Non-Carcinogenic
-- No qualifier
Y Yes
N No

**Table B.1-3a (DU 1). Medium-Specific Exposure Point Concentration Summary (Soil 0-1 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 1

| Chemical of Potential Concern | Units | Area Weighted Mean | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 15.51 | 18.62 | 55.1 | -- | 18.62 | 95% Approximate Gamma UCL |
| Manganese | mg/Kg | 2749.78 | 6153 | 27,700 | -- | 6153 | 95% Chebyshev (Mean, Sd) UCL |

(1) EPA ProUCL 5.1

**Table B.1-3b (DU 1). Medium-Specific Exposure Point Concentration Summary (Soil 0-2 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 1

| Chemical of Potential Concern | Units | Area Weighted Mean | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 13.2 | 14.94 | 55.1 | -- | 14.94 | 95% Approximate Gamma UCL |
| Managnese | mg/Kg | 1890 | 3780 | 27,700 | -- | 3780 | 95% Chebyshev (Mean, Sd) UCL |

(1) EPA ProUCL 5.1

**Table B.1-4a (DU 1). Values Used for Exposure Calculations (Surface Soil, Site Worker)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 1
Receptor Population: Site Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA 2014 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:

EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)
EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03
EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992
EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure
EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995
EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995
EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996
EPA, 2004. Supplemental Guidance for Dermal Risk Assessment, Part E. July 2004.
EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.
ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.
EPA, Region 3. Assessing Dermal Exposure from Soil. Technical Guidance Manual, Risk Assessment. Accessed October 24, 2019. https://www.epa.gov/risk/assessing-dermal-exposure-soil

**Table B.1-4b (DU 1). Values Used for Exposure Calculations (Surface Soil/Subsurface, Construction Worker)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 1
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 330 | EPA 2014 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:

EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)
EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03
EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992
EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure
EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995
EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995
EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996
EPA, 2004. Supplemetnal Guidance for Dermal Risk Assessment, Part E. July 2004.
EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.
ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.
EPA, Region 3. Assessing Dermal Exposure from Soil. Technical Guidance Manual, Risk Assessment. Accessed October 24, 2019. https://www.epa.gov/risk/assessing-dermal-exposure-soil

**Table B.1-4c (DU 1). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 1
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA 2014 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.07 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 6,032 | EPA 2014 (for whole body) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.00 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2004. Supplemental Guidance for Dermal Risk Assessment, Part E. July 2004.

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

EPA, Region 3. Assessing Dermal Exposure from Soil. Technical Guidance Manual, Risk Assessment. Accessed October 24, 2019. https://www.epa.gov/risk/assessing-dermal-exposure-soil

**Table B.1-4d (DU 1). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 1
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x IR x EF x ED x CF x FI /BW /AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 200 | EPA 2014 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | CDI= |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x SA x AF x DA x CF x EF x ED /BW /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.2 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 2,373 | EPA 2014 (for head, hands, forearms, lower legs, and feet) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.00 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2004. Supplemetnal Guidance for Dermal Risk Assessment, Part E. July 2004.

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

EPA, Region 3. Assessing Dermal Exposure from Soil. Technical Guidance Manual, Risk Assessment. Accessed October 24, 2019. https://www.epa.gov/risk/assessing-dermal-exposure-soil

**Table B.1-5a (DU 1). Non-Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Chronic/ Subchronic | Oral RfD Value<br>mg/kg-day | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2)<br>mg/kg-day | Chronic Inhalation RfC<br>$mg/m^3$ | Primary Target Organ | Combined Undertainty / Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | Chronic | 3.00E-04 | 95% | 2.85E-04 | 1.50E-05 | Cardiovascular<br>Skin | 30 | IRIS/CalEPA | 9/14/1998 |
| Manganese | Chronic | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central nervous system | 1000 | IRIS (Non-Diet) | 9/14/1998 |

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor (EPA, 2004).

(2) Reference dose x adjustment factor

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-5b (DU 1). Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Oral Cancer Slope Factor CSFo<br>$(mg/kg\text{-}day)^{-1}$ | Oral to Absorption Efficiency for Dermal (1) | Absorption Cancer Slope For Dermal CSFd (2)<br>$(mg/kg\text{-}day)^{-1}$ | Inhalation Unit Risk IUR<br>$(ug/m^3)^{-1}$ | Primary Target Organ | Combined Uncertainty / Modifying Factors | Sources of CSF: Cancer | Dates of CSF (3) |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.50E+00 | 95% | 1.58E+00 | 4.30E-03 | A Human carcinogen | 30 | IRIS | 9/14/1998 |

N/A=Not available

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor (EPA, 2004).

(2) Reference dose/adjustment factor.

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-6a (DU 1). Calculation of Non-Cancer Hazards (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 4.0E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0133 |
| | Manganese | 6153 | mg/kg | 1.3E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.055 |
| | subtotal | | | | | | | 0.068 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 2.0E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0071 |
| | Manganese | 6153 | mg/kg | 2.2E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.23 |
| | subtotal | | | | | | | 0.24 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 9.2E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000061 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 3.0E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0061 |
| | subtotal | | | | | | | 0.0061 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.31 |

**Table B.1-6b (DU 1). Calculation of Cancer Risks (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 1.4E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 6153 | mg/kg | 4.7E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 7.2E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-06 |
| | Manganese | 6153 | mg/kg | 8.0E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 3.3E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-12 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 1.1E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.3E-06 |

NA Not Available

**Table B.1-6c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.1E-06 | 1.4E-12 | 1.1E-06 | 3.3E-06 | Cardiovascular Skin | 0.013 | 0.00006 | 0.007 | 0.02 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.05 | 0.006 | 0.2 | 0.3 |
| | | | Subtotal | 2.1E-06 | 1.4E-12 | 1.1E-06 | 3.3E-06 | | 0.07 | 0.006 | 0.2 | 0.3 |
| | | | | | | | Total Risk Across Soil | 3.3E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | 0.3 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 3.3E-06 | | | | |

NA Not Available

**Table B.1-7a (DU 1). Calculation of Non-Cancer Hazards (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 1.3E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 4E-02 |
| | Manganese | 6153 | mg/kg | 4.3E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 2E-01 |
| | subtotal | | | | | | | 2E-01 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 2.0E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 7E-03 |
| | Manganese | 6153 | mg/kg | 2.2E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 2E-01 |
| | subtotal | | | | | | | 2E-01 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 9.2E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 6E-05 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 3.0E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 6E-03 |
| | subtotal | | | | | | | 6E-03 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5E-01 |

**Table B.1-7b (DU 1). Calculation of Cancer Risks (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 1.9E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-07 |
| | Manganese | 6153 | mg/kg | 6.2E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-07 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 2.9E-08 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 5E-08 |
| | Manganese | 6153 | mg/kg | 3.2E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 5E-08 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 1.3E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 6E-14 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 4.3E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 6E-14 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-07 |

NA - Not Available

**Table B.1-7c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.8E-07 | 5.6E-14 | 4.6E-08 | 3.3E-07 | Cardiovascular Skin | 0.04 | 0.00006 | 0.007 | 0.05 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.18 | 0.006 | 0.23 | 0.42 |
| | | | Subtotal | 2.8E-07 | 5.6E-14 | 4.6E-08 | 3.3E-07 | | 0.2 | 0.006 | 0.2 | 0.5 |
| | | | | | | | Total Risk Across Soil | 3.3E-07 | | | | Total Hazard Index Across All Media and All Exposure Routes | 0.5 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 3.3E-07 | | | | | |

N/A = not available

**Table B.1-8a (DU 1). Calculation of Non-Cancer Hazards (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 5.6E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0186 |
| | Manganese | 6153 | mg/kg | 1.8E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.077 |
| | subtotal | | | | | | | 0.095 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 2.8E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0099 |
| | Manganese | 6153 | mg/kg | 3.1E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.32 |
| | subtotal | | | | | | | 0.33 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 3.9E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000257 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 1.3E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0255 |
| | subtotal | | | | | | | 0.0257 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.46 |

**Table B.1-8b (DU 1). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 2.1E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-06 |
| | Manganese | 6153 | mg/kg | 6.8E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 1.1E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 6153 | mg/kg | 1.2E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 1.4E-09 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 6E-12 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 4.7E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 6E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.8E-06 |

NA - Not Available

**Table B.1-8c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 3.1E-06 | 6.2E-12 | 1.7E-06 | 4.8E-06 | Cardiovascular<br>Skin | 0.02 | 0.00026 | 0.010 | 0.03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.08 | 0.025 | 0.3 | 0.4 |
| | | | Subtotal | 3.1E-06 | 6.2E-12 | 1.7E-06 | 4.8E-06 | | 0.10 | 0.026 | 0.3 | 0.5 |
| | | | | | | | Total Risk Across Soil | 4.8E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | 0.5 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 4.8E-06 | | | | |

N/A = not available

**Table B.1-9a (DU 1). Calculation of Non-Cancer Hazards (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 6.0E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.1984 |
| | Manganese | 6153 | mg/kg | 2.0E-02 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.819 |
| | subtotal | | | | | | | 1.018 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 1.7E-05 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0595 |
| | Manganese | 6153 | mg/kg | 1.9E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 1.94 |
| | subtotal | | | | | | | 2.00 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 3.9E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000257 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 1.3E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0255 |
| | subtotal | | | | | | | 0.0257 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.05 |

**Table B.1-9b (DU 1). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 5.1E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 8E-06 |
| | Manganese | 6153 | mg/kg | 1.7E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 7.7E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 18.62 | mg/kg | 1.5E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 6153 | mg/kg | 1.6E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2.3E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 4.02E-09 | $mg/m^3$ | 3.3E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-12 |
| | Manganese | 1.33E-06 | $mg/m^3$ | 1.1E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1.4E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 9.95E-06 |

NA - Not Available

**Table B.1-9c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 7.7E-06 | 1.4E-12 | 2.3E-06 | 9.9E-06 | Cardiovascular<br>Skin | 0.20 | 0.00026 | 0.059 | 0.26 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.82 | 0.025 | 1.9 | 2.8 |
| | | | Subtotal | 7.7E-06 | 1.4E-12 | 2.3E-06 | 9.9E-06 | | 1.02 | 0.026 | 2.0 | 3.0 |
| | | | | | | | Total Risk Across Soil | 9.9E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | 3.0 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 9.9E-06 | | | | |
| | | | | | | | | | Total [Cardiovasculer, skin] HI = | | | 0.26 |
| | | | | | | | | | Total [Nervous System] HI = | | | 2.8 |

N/A = not available

**Table B.1-10a (DU 1). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 1.1E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 4E-02 |
| | Manganese | 3780 | mg/kg | 2.7E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 1E-01 |
| | subtotal | | | | | | | 1E-01 |
| Dermal | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 1.6E-06 | mg/kg-day | 2.85E-04 | N/A | 6E-03 |
| | Manganese | 3780 | mg/kg | 1.3E-04 | mg/kg-day | 9.60E-04 | N/A | 1E-01 |
| | subtotal | | | | | | | 1E-01 |
| Inhalation | | | | | | | | |
| | Arsenic | 3.23E-09 | $mg/m^3$ | 7.4E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 5E-05 |
| | Manganese | 8.16E-07 | $mg/m^3$ | 1.9E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 4E-03 |
| | subtotal | | | | | | | 4E-03 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-01 |

**Table B.1-10b (DU 1). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 1.5E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-07 |
| | Manganese | 3780 | mg/kg | 3.8E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-07 |
| Dermal | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 2.3E-08 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-08 |
| | Manganese | 3780 | mg/kg | 1.9E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-08 |
| Inhalation | | | | | | | | |
| | Arsenic | 3.23E-09 | $mg/m^3$ | 1.1E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 5E-14 |
| | Manganese | 8.16E-07 | $mg/m^3$ | 2.7E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 5E-14 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-07 |

NA - Not Available

**Table B.1-10c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.3E-07 | 4.5E-14 | 3.6E-08 | 2.6E-07 | Cardiovascular<br>Skin | 0.04 | 0.00005 | 0.006 | 0.04 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.11 | 0.004 | 0.14 | 0.26 |
| | | | Subtotal | 2.3E-07 | 4.5E-14 | 3.6E-08 | 2.6E-07 | | 0.1 | 0.004 | 0.1 | 0.3 |
| | | | | | | | Total Risk Across Soil | 2.6E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | 0.3 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 2.6E-07 | | | | |

NA = not available

**Table B.1-11a (DU 1). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | /Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 4.5E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0149 |
| | Manganese | 3780 | mg/kg | 1.1E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.047 |
| | subtotal | | | | | | | 0.062 |
| Dermal | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 2.3E-06 | mg/kg-day | 2.85E-04 | N/A | 0.0080 |
| | Manganese | 3780 | mg/kg | 1.9E-04 | mg/kg-day | 9.60E-04 | N/A | 0.20 |
| | subtotal | | | | | | | 0.21 |
| Inhalation | | | | | | | | |
| | Arsenic | 3.23E-09 | $mg/m^3$ | 3.1E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000206 |
| | Manganese | 8.16E-07 | $mg/m^3$ | 7.8E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0157 |
| | subtotal | | | | | | | 0.0159 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.29 |

**Table B.1-11b (DU 1). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 1.7E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 3780 | mg/kg | 4.2E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 8.4E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-06 |
| | Manganese | 3780 | mg/kg | 7.1E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 3.23E-09 | $mg/m^3$ | 1.1E-09 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 5E-12 |
| | Manganese | 8.16E-07 | $mg/m^3$ | 2.9E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 5E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.8E-06 |

NA - Not Available

**Table B.1-11c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.5E-06 | 4.9E-12 | 1.3E-06 | 3.8E-06 | Cardiovascular<br>Skin | 0.01 | 0.00021 | 0.008 | 0.02 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.05 | 0.016 | 0.2 | 0.3 |
| | | | Subtotal | 2.5E-06 | 4.9E-12 | 1.3E-06 | 3.8E-06 | | 0.06 | 0.016 | 0.2 | 0.3 |
| | | | | | | | Total Risk Across Soil | 3.8E-06 | | | | Total Hazard Index Across All Media and All Exposure Routes | 0.3 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 3.8E-06 | | | | | |

N/A = not available

**Table B.1-12a (DU 1). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 4.8E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.1592 |
| | Manganese | 3780 | mg/kg | 1.2E-02 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.503 |
| | subtotal | | | | | | | 0.663 |
| Dermal | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 1.4E-05 | mg/kg-day | 2.85E-04 | N/A | 0.0477 |
| | Manganese | 3780 | mg/kg | 1.1E-03 | mg/kg-day | 9.60E-04 | N/A | 1.19 |
| | subtotal | | | | | | | 1.24 |
| Inhalation | | | | | | | | |
| | Arsenic | 3.23E-09 | $mg/m^3$ | 3.1E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000206 |
| | Manganese | 8.16E-07 | $mg/m^3$ | 7.8E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0157 |
| | subtotal | | | | | | | 0.0159 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.92 |

**Table B.1-12b (DU 1). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
| Ingestion | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 4.1E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 6E-06 |
| | Manganese | 3780 | mg/kg | 1.0E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 6E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 14.94 | mg/kg | 1.2E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 3780 | mg/kg | 9.8E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 3.23E-09 | $mg/m^3$ | 2.7E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-12 |
| | Manganese | 8.16E-07 | $mg/m^3$ | 6.7E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.0E-06 |

NA - Not Available

**Table B.1-12c (DU 1). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | otential Future |
| Medium: | Soil |
| Exposure Medium: | Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 1 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 6.14E-06 | 1.14E-12 | 1.84E-06 | 7.98E-06 | Cardiovascular<br>Skin | 0.16 | 0.00021 | 0.048 | 0.21 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.50 | 0.016 | 1.2 | 1.7 |
| | | | Subtotal | 6.14E-06 | 1.14E-12 | 1.84E-06 | 7.98E-06 | | 0.66 | 0.016 | 1.2 | 1.9 |
| | | | | | | | Total Risk Across Soil | 7.98E-06 | | | | Total Hazard Index Across All Media and All Exposure Routes | 1.9 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 8.0E-06 | | | | | |
| | | | | | | | | | | | | Total [Cardiovasculer, skin] HI = | 0.21 |
| | | | | | | | | | | | | Total [Nervous System] HI = | 1.7 |

A = not available

**Attachment B**

**Surface and Combined Surface/Subsurface Soil Data and COPC Screening Tables – DU 2**

(Page intentionally left blank)

**Table B.1-1 (DU 2). Selection of Exposure Pathways**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1'), Surface/Subsurface Soil (0-2')
Exposure Point: DU 2

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | Onsite/Offsite | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Current | Soil | Surface Soil | Surface Soil at DU 2 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal<br>Ingestion<br>Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU 2 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| Future | Soil | Surface Soil | Surface Soil at DU 2 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal<br>Ingestion<br>Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU 2 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |

**Table B.1-2a (DU 2). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 2

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.1 | -- | 118.78 | -- | mg/Kg | DU2A-SU07 | 18/18 | 118.78 | 3.197 | 0.68 | c | Y | ARSL |
| 7439-96-5 | Manganese | 186 | -- | 7,010 | -- | mg/Kg | DU2A-SU12 | 18/18 | 7,010 | 283.3 | 900 | n | Y | ARSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated)
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination

(3) COPC Selection Rationale:
ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

c Carcinogenic
n Non-Carcinogenic
-- No qualifier
Y Yes
N No

**Table B.1-2b (DU 2). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 2

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440382 | Arsenic | 2.1 | -- | 137.1 | -- | mg/Kg | DU2A-SU07 | 36/36 | 137.1 | 3.4 | 0.68 | c | Y | ARSL |
| 7439965 | Manganese | 106 | -- | 7,010 | -- | mg/Kg | DU2A-SU12 | 36/36 | 7,010 | 247.9 | 900 | n | Y | ARSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated).
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination.

(3) COPC Selection Rationale:

ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

| | |
|---|---|
| c | Carcinogenic |
| n | Non-Carcinogenic |
| -- | No qualifier |
| Y | Yes |
| N | No |

**Table B.1-3a (DU 2). Medium-Specific Exposure Point Concentration Summary (Soil 0-1 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 2

| Chemical of Potential Concern | Units | Area Weighted Mean | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 35.92 | 55.57 | 118.8 | -- | 55.57 | 95% Adjusted Gamma UCL |
| Manganese | mg/Kg | 1947.85 | 2764 | 7010 | -- | 2764 | 95% Adjusted Gamma UCL |

(1) EPA ProUCL 5.1

**Table B.1-3b (DU 2). Medium-Specific Exposure Point Concentration Summary (Soil 0-2 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 2

| Chemical of Potential Concern | Units | Area Weighted Mean | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 30.5 | 52.45 | 137.1 | -- | 52.45 | 95% H-UCL |
| Managnese | mg/Kg | 1262 | 1675 | 7010 | -- | 1675 | 95% Adjusted Gamma UCL |

(1) EPA ProUCL 5.1

**Table B.1-4a (DU 2). Values Used for Exposure Calculations (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 2
Receptor Population: Site Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.

**Table B.1-4b (DU 2). Values Used for Exposure Calculations (Surface Soil/Subsurface, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 2
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 330 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.

**Table B.1-4c (DU 2). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 2
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.07 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 6,032 | EPA 2014 (for whole body) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.00 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

**Table B.1-4d (DU 2). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 2
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x IR x EF x ED x CF x FI /BW /AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 200 | EPA 2014 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | CDI= |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x SA x AF x DA x CF x EF x ED /BW /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.2 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 2,373 | EPA 2014 (for head, hands, forearms, lower legs, and feet) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.00 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

**Table B.1-5a (DU 2). Non-Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Chronic/Subchronic | Oral RfD Value<br>mg/kg-day | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2)<br>mg/kg-day | Chronic Inhalation RfC<br>$mg/m^3$ | Primary Target Organ | Combined Undertainty / Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | Chronic | 3.00E-04 | 95% | 2.85E-04 | 1.50E-05 | Cardiovascular<br>Skin | 30 | IRIS/CalEPA | 9/14/1998 |
| Manganese | Chronic | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central nervous system | 1000 | IRIS (Non-Diet) | 9/14/1998 |

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor.

(2) Reference dose x adjustment factor

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-5b (DU 2). Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Oral Cancer Slope Factor CSFo<br>$(mg/kg\text{-}day)^{-1}$ | Oral to Absorption Efficiency for Dermal (1) | Absorption Cancer Slope For Dermal CSFd (2)<br>$(mg/kg\text{-}day)^{-1}$ | Inhalation Unit Risk IUR<br>$(ug/m^3)^{-1}$ | Primary Target Organ | Combined Uncertainty / Modifying Factors | Sources of CSF: Cancer | Dates of CSF (3) |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.50E+00 | 95% | 1.58E+00 | 4.30E-03 | A Human carcinogen | 30 | IRIS | 9/14/1998 |
| Manganese | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central Nervous System | 1000 | IRIS (Non-Diet) | 9/14/1998 |

N/A=Not available

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor.

(2) Reference dose/adjustment factor.

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-6a (DU 2). Calculation of Non-Cancer Hazards (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 1.2E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0396 |
| | Manganese | 2764 | mg/kg | 5.9E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.025 |
| | subtotal | | | | | | | 0.064 |
| Dermal | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 6.0E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0212 |
| | Manganese | 2764 | mg/kg | 1.0E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.10 |
| | subtotal | | | | | | | 0.13 |
| Inhalation | | | | | | | | |
| | Arsenic | 1.20E-08 | $mg/m^3$ | 2.7E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000183 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 1.4E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0027 |
| | subtotal | | | | | | | 0.0029 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.19 |

NA Not Available

**Table B.1-6b (DU 2). Calculation of Cancer Risks (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 55.57 | mg/kg | 4.2E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 6E-06 |
| | Manganese | 2764 | mg/kg | 2.1E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 6E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 2.2E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-06 |
| | Manganese | 2764 | mg/kg | 3.6E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 1.20E-08 | $mg/m^3$ | 9.8E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 4E-12 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 4.9E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 4E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 9.8E-06 |

NA Not Available

**Table B.1-6c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 6.4E-06 | 4.2E-12 | 3.4E-06 | 9.8E-06 | Arsenic | Cardiovascular Skin | 0.04 | 0.00018 | 0.021 | 0.06 |
| | | | Manganese | NA | NA | NA | NA | Manganese | Central nervous system | 0.02 | 0.003 | 0.10 | 0.13 |
| | | | Subtotal | 6.4E-06 | 4.2E-12 | 3.4E-06 | 9.8E-06 | Subtotal | | 0.06 | 0.003 | 0.126 | 0.2 |
| | | | | | | | Total Risk Across Soil | 9.8E-06 | | | | | Total Hazard Index Across All Media and All Exposure Routes | 0.19 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 9.8E-06 | | | | | |

NA Not Available

**Table B.1-7a (DU 2). Calculation of Non-Cancer Hazards (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 3.9E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 1E-01 |
| | Manganese | 2764 | mg/kg | 2.0E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 8E-02 |
| | subtotal | | | | | | | 2E-01 |
| | Arsenic | 55.57 | mg/kg | 6.0E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 2E-02 |
| | Manganese | 2764 | mg/kg | 1.0E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 1E-01 |
| | subtotal | | | | | | | 1E-01 |
| Inhalation | | | | | | | | |
| | Arsenic | 1.20E-08 | $mg/m^3$ | 2.7E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 2E-04 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 1.4E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 3E-03 |
| | subtotal | | | | | | | 3E-03 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-01 |

**Table B.1-7b (DU 2). Calculation of Cancer Risks (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 55.57 | mg/kg | 5.6E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 8E-07 |
| | Manganese | 2764 | mg/kg | 2.8E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 8E-07 |
| Dermal | Arsenic | 55.57 | mg/kg | 8.6E-08 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-07 |
| | Manganese | 2764 | mg/kg | 1.4E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-07 |
| Inhalation | Arsenic | 1.20E-08 | $mg/m^3$ | 3.9E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-13 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 1.9E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-13 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 1E-06 |

NA - Not Available

**Table B.1-7c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 8.4E-07 | 1.7E-13 | 1.4E-07 | 9.8E-07 | Arsenic | Cardiovascular Skin | 0.13 | 0.00018 | 0.021 | 0.15 |
| | | | Manganese | NA | NA | NA | NA | Manganese | Central nervous system | 0.08 | 0.003 | 0.10 | 0.19 |
| | | | Subtotal | 8.4E-07 | 1.7E-13 | 1.4E-07 | 9.8E-07 | Subtotal | | 0.2 | 0.003 | 0.1 | 0.3 |
| | | | | | | | Total Risk Across Soil | 9.8E-07 | | | | | Total Hazard Index Across All Media and All Exposure Routes | 0.3 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 9.8E-07 | | | | | |

N/A = not available

**Table B.1-8a (DU 2). Calculation of Non-Cancer Hazards (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 1.7E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0555 |
| | Manganese | 2764 | mg/kg | 8.3E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.035 |
| | subtotal | | | | | | | 0.090 |
| Dermal | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 8.4E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0296 |
| | Manganese | 2764 | mg/kg | 1.4E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.15 |
| | subtotal | | | | | | | 0.18 |
| Inhalation | | | | | | | | |
| | Arsenic | 1.20E-08 | $mg/m^3$ | 1.2E-08 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000767 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 5.7E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0114 |
| | subtotal | | | | | | | 0.0122 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.28 |

**Table B.1-8b (DU 2). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 55.57 | mg/kg | 6.2E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 9E-06 |
| | Manganese | 2764 | mg/kg | 3.1E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 9E-06 |
| Dermal | Arsenic | 55.57 | mg/kg | 3.1E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 5E-06 |
| | Manganese | 2764 | mg/kg | 5.2E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 5E-06 |
| Inhalation | Arsenic | 1.20E-08 | $mg/m^3$ | 4.3E-09 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-11 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 2.1E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-11 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 1.4E-05 |

NA - Not Available

**Table B.1-8c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 9.3E-06 | 1.8E-11 | 4.9E-06 | 1.4E-05 | Cardiovascular<br>Skin | 0.06 | 0.00077 | 0.030 | 0.09 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.03 | 0.011 | 0.1 | 0.2 |
| | | | Subtotal | 9.3E-06 | 1.8E-11 | 4.9E-06 | 1.4E-05 | | 0.09 | 0.012 | 0.2 | 0.3 |
| | | | | | | Total Risk Across Soil | 1.4E-05 | Total Hazard Index Across All Media and All Exposure Routes | | | | 0.3 |

N/A = not available

**Table B.1-9a (DU 2). Calculation of Non-Cancer Hazards (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 1.8E-04 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.5921 |
| | Manganese | 2764 | mg/kg | 8.8E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.368 |
| | subtotal | | | | | | | 0.960 |
| Dermal | | | | | | | | |
| | Arsenic | 55.57 | mg/kg | 5.1E-05 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.1775 |
| | Manganese | 2764 | mg/kg | 8.4E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.87 |
| | subtotal | | | | | | | 1.05 |
| Inhalation | | | | | | | | |
| | Arsenic | 1.20E-08 | $mg/m^3$ | 1.2E-08 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000767 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 5.7E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0114 |
| | subtotal | | | | | | | 0.0122 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.02 |

**Table B.1-9b (DU 2). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 55.57 | mg/kg | 1.5E-05 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.3E-05 |
| | Manganese | 2764 | mg/kg | 7.6E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-05 |
| Dermal | Arsenic | 55.57 | mg/kg | 4.3E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 7E-06 |
| | Manganese | 2764 | mg/kg | 7.2E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 7E-06 |
| Inhalation | Arsenic | 1.20E-08 | $mg/m^3$ | 9.9E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 4E-12 |
| | Manganese | 5.97E-07 | $mg/m^3$ | 4.9E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 4E-12 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 3.0E-05 |

NA - Not Available

**Table B.1-9c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.3E-05 | 4.2E-12 | 6.8E-06 | 3.0E-05 | Cardiovascular Skin | 0.59 | 0.00077 | 0.177 | 0.77 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.37 | 0.011 | 0.87 | 1.3 |
| | | | Subtotal | 2.3E-05 | 4.2E-12 | 6.8E-06 | 3.0E-05 | | 0.96 | 0.012 | 1.1 | 2.0 |
| | | | | | | Total Risk Across Soil | 3.0E-05 | Total Hazard Index Across All Media and All Exposure Routes | | | | 2.0 |

N/A = not available

| | |
|---|---|
| Total [Cardiovasculer, skin] HI = | 0.77 |
| Total [Nervous System] HI = | 1.3 |

**Table B.1-10a (DU 2). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 52.45 | mg/kg | 3.7E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 1E-01 |
| | Manganese | 1675 | mg/kg | 1.2E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 5E-02 |
| | subtotal | | | | | | | 2E-01 |
| Dermal | Arsenic | 52.45 | mg/kg | 5.7E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 2E-02 |
| | Manganese | 1675 | mg/kg | 6.1E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 6E-02 |
| | subtotal | | | | | | | 8E-02 |
| Inhalation | Arsenic | 1.13E-08 | $mg/m^3$ | 2.6E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 2E-04 |
| | Manganese | 3.62E-07 | $mg/m^3$ | 8.3E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 2E-03 |
| | subtotal | | | | | | | 2E-03 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-01 |

**Table B.1-10b (DU 2). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 52.45 | mg/kg | 5.3E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 8E-07 |
| | Manganese | 1675 | mg/kg | 1.7E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 8E-07 |
| Dermal | Arsenic | 52.45 | mg/kg | 8.1E-08 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-07 |
| | Manganese | 1675 | mg/kg | 8.7E-07 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-07 |
| Inhalation | Arsenic | 1.13E-08 | $mg/m^3$ | 3.7E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-13 |
| | Manganese | 3.62E-07 | $mg/m^3$ | 1.2E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-13 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 9E-07 |

NA - Not Available

**Table B.1-10c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 7.9E-07 | 1.6E-13 | 1.3E-07 | 9.2E-07 | Cardiovascular Skin | 0.12 | 0.00017 | 0.020 | 0.14 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.05 | 0.0017 | 0.06 | 0.11 |
| | | | Subtotal | 7.9E-07 | 1.6E-13 | 1.3E-07 | 9.2E-07 | | 0.17 | 0.00182 | 0.083 | 0.3 |
| | | | | | | Total Risk Across Soil | 9.2E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | | 0.3 |

N/A = not available

**Table B.1-11a (DU 2). Calculation of Non-Cancer Hazards** (Surface/Subsurface Soil, Resident Adult)

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 52.45 | mg/kg | 1.6E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0524 |
| | Manganese | 1675 | mg/kg | 5.0E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.021 |
| | subtotal | | | | | | | 0.073 |
| Dermal | Arsenic | 52.45 | mg/kg | 8.0E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0279 |
| | Manganese | 1675 | mg/kg | 8.5E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.09 |
| | subtotal | | | | | | | 0.12 |
| Inhalation | Arsenic | 1.13E-08 | $mg/m^3$ | 1.1E-08 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000724 |
| | Manganese | 3.62E-07 | $mg/m^3$ | 3.5E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0069 |
| | subtotal | | | | | | | 0.0077 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.20 |

**Table B.1-11b (DU 2). Calculation of Calculation of Cancer Risks** (Surface/Subsurface Soil, Resident Adult)

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 52.45 | mg/kg | 5.8E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 9E-06 |
| | Manganese | 1675 | mg/kg | 1.9E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 9E-06 |
| Dermal | Arsenic | 52.45 | mg/kg | 3.0E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 5E-06 |
| | Manganese | 1675 | mg/kg | 3.1E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 5E-06 |
| Inhalation | Arsenic | 1.13E-08 | $mg/m^3$ | 4.0E-09 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-11 |
| | Manganese | 3.62E-07 | $mg/m^3$ | 1.3E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-11 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.3E-05 |

NA - Not Available

**Table B.1-11c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 8.8E-06 | 1.7E-11 | 4.7E-06 | 1.3E-05 | Cardiovascular Skin | 0.05 | 0.00072 | 0.028 | 0.08 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.02 | 0.007 | 0.1 | 0.1 |
| | | | Subtotal | 8.8E-06 | 1.7E-11 | 4.7E-06 | 1.3E-05 | | 0.07 | 0.008 | 0.1 | 0.2 |
| | | | | | | Total Risk Across Soil | 1.3E-05 | Total Hazard Index Across All Media and All Exposure Routes | | | | 0.2 |

N/A = not available

**Table B.1-12a (DU 2). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 52.45 | mg/kg | 1.7E-04 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.5588 |
| | Manganese | 1675 | mg/kg | 5.4E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.223 |
| | subtotal | | | | | | | 0.782 |
| Dermal | Arsenic | 52.45 | mg/kg | 4.8E-05 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.1675 |
| | Manganese | 1675 | mg/kg | 5.1E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.53 |
| | subtotal | | | | | | | 0.70 |
| Inhalation | Arsenic | 1.13E-08 | $mg/m^3$ | 1.1E-08 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000724 |
| | Manganese | 3.62E-07 | $mg/m^3$ | 3.5E-07 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0069 |
| | subtotal | | | | | | | 0.0077 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.49 |

**Table B.1-12b (DU 2). Calculation of Calculation of Cancer Risks** (Surface/Subsurface Soil, Resident Child)

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 52.45 | mg/kg | 1.4E-05 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.2E-05 |
| | Manganese | 1675 | mg/kg | 4.6E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-05 |
| Dermal | Arsenic | 52.45 | mg/kg | 4.1E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 6E-06 |
| | Manganese | 1675 | mg/kg | 4.4E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 6E-06 |
| Inhalation | Arsenic | 1.13E-08 | $mg/m^3$ | 9.3E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 4E-12 |
| | Manganese | 3.62E-07 | $mg/m^3$ | 3.0E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 4E-12 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 2.8E-05 |

NA - Not Available

**Table B.1-12c (DU 2). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 2 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.2E-05 | 4.0E-12 | 6.5E-06 | 2.8E-05 | Cardiovascular Skin | 0.56 | 0.00072 | 0.168 | 0.73 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.22 | 0.007 | 0.53 | 0.76 |
| | | | Subtotal | 2.2E-05 | 4.0E-12 | 6.5E-06 | 2.8E-05 | | 0.78 | 0.008 | 0.7 | 1.5 |
| | | | | | | Total Risk Across Soil | 2.8E-05 | Total Hazard Index Across All Media and All Exposure Routes | | | | 1.5 |

N/A = not available

Total [Cardiovasculer, skin] HI = 0.73
Total [Nervous System] HI = 0.8

**Attachment C**

**Surface and Combined Surface/Subsurface Soil Data and COPC Screening Tables – DU 3**

(Page intentionally left blank)

**Table B.1-1 (DU 3). Selection of Exposure Pathways**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1'), Surface/Subsurface Soil (0-2')
Exposure Point: DU 3

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | Onsite/Offsite | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Current | Soil | Surface Soil | Surface Soil at DU 3 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal<br>Ingestion<br>Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU 3 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| Future | Soil | Surface Soil | Surface Soil at DU 3 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal<br>Ingestion<br>Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU 3 | Construction Worker | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal<br>Ingestion<br>Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |

**Table B.1-2a (DU 3). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 3

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.3 | -- | 45.14 | -- | mg/Kg | DU3A-SU03 | 10/10 | 45.14 | 3.197 | 0.68 | c | Y | ARSL |
| 7439-96-5 | Manganese | 867 | -- | 48,800 | -- | mg/Kg | DU3A-SU04 | 10/10 | 48,800 | 283.3 | 900 | n | Y | ARSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated)
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination

(3) COPC Selection Rationale:
ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

c Carcinogenic
n Non-Carcinogenic
-- No qualifier
Y Yes
N No

**Table B.1-2b (DU 3). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 3

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440382 | Arsenic | 1.5 | -- | 108.1 | -- | mg/Kg | DU3B-SU03 | 20/20 | 108.1 | 3.4 | 0.68 | c | Y | ARSL |
| 7439965 | Manganese | 89 | -- | 48,800 | -- | mg/Kg | DU3A-SU04 | 20/20 | 48,800 | 247.9 | 900 | n | Y | ARSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated).
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination.

(3) COPC Selection Rationale:

ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

| | |
|---|---|
| c | Carcinogenic |
| n | Non-Carcinogenic |
| -- | No qualifier |
| Y | Yes |
| N | No |

**Table B.1-3a (DU 3). Medium-Specific Exposure Point Concentration Summary (Soil 0-1 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 3

| Chemical of Potential Concern | Units | Area Weighted Mean | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 15.19 | 24.45 | 45.14 | -- | 24.45 | 95% Adjusted Gamma UCL |
| Manganese | mg/Kg | 18949.24 | 29584 | 48800 | -- | 29584 | 95% Student's-t UCL |

(1) EPA ProUCL 5.1

**Table B.1-3b (DU 3). Medium-Specific Exposure Point Concentration Summary (Soil 0-2 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 3

| Chemical of Potential Concern | Units | Area Weighted Mean | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 15.9 | 25.73 | 108.1 | -- | 25.73 | 95% H-UCL |
| Managnese | mg/Kg | 11851 | 22945.00 | 48800 | -- | 22945 | 95% Adjusted Gamma UCL |

(1) EPA ProUCL 5.1

**Table B.1-4a (DU 3). Values Used for Exposure Calculations (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 3
Receptor Population: Site Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.

**Table B.1-4b (DU 3). Values Used for Exposure Calculations (Surface Soil/Subsurface, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 3
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 330 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.

**Table B.1-4c (DU 3). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 3
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.07 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 6,032 | EPA 2014 (for whole body) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.0 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

**Table B.1-4d (DU 3). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 3
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x IR x EF x ED x CF x FI /BW /AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 200 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | CDI= |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x SA x AF x DA x CF x EF x ED /BW /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.2 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 2,373 | EPA 2014 (for head, hands, forearms, lower legs, and feet) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.0 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

**Table B.1-5a (DU 3). Non-Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Chronic/Subchronic | Oral RfD Value<br>mg/kg-day | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2)<br>mg/kg-day | Chronic Inhalation RfC<br>$mg/m^3$ | Primary Target Organ | Combined Undertainty / Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | Chronic | 3.00E-04 | 95% | 2.85E-04 | 1.50E-05 | Cardiovascular<br>Skin | 30 | IRIS/CalEPA | 9/14/1998 |
| Manganese | Chronic | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central nervous system | 1000 | IRIS (Non-Diet) | 9/14/1998 |

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor.

(2) Reference dose x adjustment factor

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-5b (DU 3). Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Oral Cancer Slope Factor CSFo<br>$(mg/kg\text{-}day)^{-1}$ | Oral to Absorption Efficiency for Dermal (1) | Absorption Cancer Slope For Dermal CSFd (2)<br>$(mg/kg\text{-}day)^{-1}$ | Inhalation Unit Risk IUR<br>$(ug/m^3)^{-1}$ | Primary Target Organ | Combined Uncertainty / Modifying Factors | Sources of CSF: Cancer | Dates of CSF (3) |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.50E+00 | 95% | 1.58E+00 | 4.30E-03 | A Human carcinogen | 30 | IRIS | 9/14/1998 |
| Manganese | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central Nervous System | 1000 | IRIS (Non-Diet) | 9/14/1998 |

N/A=Not available

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor.

(2) Reference dose/adjustment factor.

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-6a (DU 3). Calculation of Non-Cancer Hazards (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 5.2E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0174 |
| | Manganese | 29584 | mg/kg | 6.3E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.264 |
| | subtotal | | | | | | | 0.281 |
| Dermal | Arsenic | 24.45 | mg/kg | 2.7E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0093 |
| | Manganese | 29584 | mg/kg | 1.1E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 1.12 |
| | subtotal | | | | | | | 1.13 |
| Inhalation | Arsenic | 5.28E-09 | $mg/m^3$ | 1.2E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000080 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 1.5E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0292 |
| | subtotal | | | | | | | 0.0293 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.44 |

NA Not Available

**Table B.1-6b (DU 3). Calculation of Cancer Risks (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 1.9E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-06 |
| | Manganese | 29584 | mg/kg | 2.3E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 24.45 | mg/kg | 9.5E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-06 |
| | Manganese | 29584 | mg/kg | 3.8E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-06 |
| Inhalation | | | | | | | | |
| | Arsenic | 5.28E-09 | $mg/m^3$ | 4.3E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-12 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 5.2E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.3E-06 |

NA Not Available

**Table B.1-6c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 2.8E-06 | 1.9E-12 | 1.5E-06 | 4.3E-06 | Cardiovascular Skin | 0.02 | 0.00008 | 0.009 | 0.03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.26 | 0.029 | 1.1 | 1.4 |
| | | | Subtotal | 2.8E-06 | 1.9E-12 | 1.5E-06 | 4.3E-06 | | 0.28 | 0.029 | 1.1 | 1.4 |
| | | | | | | Total Risk Across Soil | 4.3E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | | 1.4 |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 4.3E-06 | | | | | |
| | | | | | | | | | | | Total [Cardiovasculer, skin] HI = | 0.03 |
| | | | | | | | | | | | Total [Nervous System] HI = | 1.4 |

NA Not Available

**Table B.1-7a (DU 3). Calculation of Non-Cancer Hazards (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 24.45 | mg/kg | 1.7E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 6E-02 |
| | Manganese | 29584 | mg/kg | 2.1E-02 | mg/kg-day | 2.40E-02 | mg/kg-day | 9E-01 |
| | subtotal | | | | | | | 9E-01 |
| | Arsenic | 24.45 | mg/kg | 2.7E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 9E-03 |
| | Manganese | 29584 | mg/kg | 1.1E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 1E+00 |
| | subtotal | | | | | | | 1E+00 |
| Inhalation | | | | | | | | |
| | Arsenic | 5.28E-09 | $mg/m^3$ | 1.2E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 8E-05 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 1.5E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 3E-02 |
| | subtotal | | | | | | | 3E-02 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2E+00 |

**Table B.1-7b (DU 3). Calculation of Cancer Risks (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 2.5E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-07 |
| | Manganese | 29584 | mg/kg | 3.0E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-07 |
| Dermal | Arsenic | 24.45 | mg/kg | 3.8E-08 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 6E-08 |
| | Manganese | 29584 | mg/kg | 1.5E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 6E-08 |
| Inhalation | Arsenic | 5.28E-09 | $mg/m^3$ | 1.7E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 7E-14 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 2.1E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 7E-14 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4E-07 |

NA - Not Available

**Table B.1-7c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 3.7E-07 | 7.4E-14 | 6.0E-08 | 4.3E-07 | Cardiovascular Skin | 0.06 | 0.00008 | 0.009 | 0.07 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.87 | 0.029 | 1.12 | 2.02 |
| | | | Subtotal | 3.7E-07 | 7.4E-14 | 6.0E-08 | 4.3E-07 | | 0.9 | 0.029 | 1.1 | 2.1 |
| | | | | | | Total Risk Across Soil | 4.3E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | | 2.1 |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 4.3E-07 | | | | | |
| | | | | | | | | | | | Total [Cardiovasculer, skin] HI = | 0.07 |
| | | | | | | | | | | | Total [Nervous System] HI = | 2.0 |

N/A = not available

**Table B.1-8a (DU 3). Calculation of Non-Cancer Hazards (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 7.3E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0244 |
| | Manganese | 29584 | mg/kg | 8.9E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.369 |
| | subtotal | | | | | | | 0.394 |
| Dermal | Arsenic | 24.45 | mg/kg | 3.7E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0130 |
| | Manganese | 29584 | mg/kg | 1.5E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 1.56 |
| | subtotal | | | | | | | 1.57 |
| Inhalation | Arsenic | 5.28E-09 | $mg/m^3$ | 5.1E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000338 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 6.1E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.1225 |
| | subtotal | | | | | | | 0.1229 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.09 |

**Table B.1-8b (DU 3). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 2.7E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-06 |
| | Manganese | 29584 | mg/kg | 3.3E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-06 |
| Dermal | Arsenic | 24.45 | mg/kg | 1.4E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 29584 | mg/kg | 5.6E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-06 |
| Inhalation | Arsenic | 5.28E-09 | $mg/m^3$ | 1.9E-09 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 8E-12 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 2.3E-06 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 8E-12 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 6.3E-06 |

NA - Not Available

**Table B.1-8c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 4.1E-06 | 8.1E-12 | 2.2E-06 | 6.3E-06 | Cardiovascular Skin | 0.02 | 0.00034 | 0.013 | 0.04 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.37 | 0.123 | 1.6 | 2.1 |
| | | | Subtotal | 4.1E-06 | 8.1E-12 | 2.2E-06 | 6.3E-06 | | 0.39 | 0.123 | 1.6 | 2.1 |
| | | | | | | Total Risk Across Soil | 6.3E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | | 2.1 |

N/A = not available

| | |
|---|---|
| Total [Cardiovasculer, skin] HI = | 0.04 |
| Total [Nervous System] HI = | 2.1 |

**Table B.1-9a (DU 3). Calculation of Non-Cancer Hazards (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 7.8E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.2605 |
| | Manganese | 29584 | mg/kg | 9.5E-02 | mg/kg-day | 2.40E-02 | mg/kg-day | 3.940 |
| | subtotal | | | | | | | 4.201 |
| Dermal | Arsenic | 24.45 | mg/kg | 2.2E-05 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0781 |
| | Manganese | 29584 | mg/kg | 9.0E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 9.35 |
| | subtotal | | | | | | | 9.43 |
| Inhalation | Arsenic | 5.28E-09 | $mg/m^3$ | 5.1E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000338 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 6.1E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.1225 |
| | subtotal | | | | | | | 0.1229 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 13.75 |

**Table B.1-9b (DU 3). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 24.45 | mg/kg | 6.7E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.00E-05 |
| | Manganese | 29584 | mg/kg | 8.1E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1.00E-05 |
| Dermal | Arsenic | 24.45 | mg/kg | 1.9E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.0E-06 |
| | Manganese | 29584 | mg/kg | 7.7E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3.0E-06 |
| Inhalation | Arsenic | 5.28E-09 | $mg/m^3$ | 4.3E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1.9E-12 |
| | Manganese | 6.39E-06 | $mg/m^3$ | 5.3E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1.9E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.3E-05 |

NA - Not Available

**Table B.1-9c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 1.0E-05 | 1.9E-12 | 3.0E-06 | 1.3E-05 | Cardiovascular Skin | 0.26 | 0.00034 | 0.078 | 0.34 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 3.94 | 0.123 | 9.3 | 13.4 |
| | | | Subtotal | 1.0E-05 | 1.9E-12 | 3.0E-06 | 1.3E-05 | | 4.20 | 0.123 | 9.4 | 13.8 |
| | | | | | | | Total Risk Across Soil | 1.3E-05 | Total Hazard Index Across All Media and All Exposure Routes | | | 13.8 |

N/A = not available

| | |
|---|---|
| Total [Cardiovasculer, skin] HI = | 0.34 |
| Total [Nervous System] HI = | 13.4 |

**Table B.1-10a (DU 3). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 25.73 | mg/kg | 1.8E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 6E-02 |
| | Manganese | 22945 | mg/kg | 1.6E-02 | mg/kg-day | 2.40E-02 | mg/kg-day | 7E-01 |
| | subtotal | | | | | | | 7E-01 |
| Dermal | Arsenic | 25.73 | mg/kg | 2.8E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 1E-02 |
| | Manganese | 22945 | mg/kg | 8.3E-04 | mg/kg-day | 9.60E-04 | mg/kg-day | 9E-01 |
| | subtotal | | | | | | | 9E-01 |
| Inhalation | Arsenic | 5.56E-09 | $mg/m^3$ | 1.3E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 8E-05 |
| | Manganese | 4.96E-06 | $mg/m^3$ | 1.1E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 2E-02 |
| | subtotal | | | | | | | 2E-02 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2E+00 |

**Table B.1-10b (DU 3). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 25.73 | mg/kg | 2.6E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-07 |
| | Manganese | 22945 | mg/kg | 2.3E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-07 |
| Dermal | Arsenic | 25.73 | mg/kg | 4.0E-08 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 6E-08 |
| | Manganese | 22945 | mg/kg | 1.2E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 6E-08 |
| Inhalation | Arsenic | 5.56E-09 | $mg/m^3$ | 1.8E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 8E-14 |
| | Manganese | 4.96E-06 | $mg/m^3$ | 1.6E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 8E-14 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5E-07 |

NA - Not Available

**Table B.1-10c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 3.9E-07 | 7.8E-14 | 6.3E-08 | 4.5E-07 | Cardiovascular Skin | 0.06 | 0.00008 | 0.010 | 0.07 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.68 | 0.023 | 0.87 | 1.56 |
| | | | Subtotal | 3.9E-07 | 7.8E-14 | 6.3E-08 | 4.5E-07 | | 0.7 | 0.023 | 0.9 | 1.6 |
| | | | | | | Total Risk Across Soil | 4.5E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | | 1.6 |

N/A = not available

Total [Cardiovasculer, skin] HI = 0.07

**Table B.1-11a (DU 3). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 25.73 | mg/kg | 7.7E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0257 |
| | Manganese | 22945 | mg/kg | 6.9E-03 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.286 |
| | subtotal | | | | | | | 0.312 |
| Dermal | Arsenic | 25.73 | mg/kg | 3.9E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0137 |
| | Manganese | 22945 | mg/kg | 1.2E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 1.21 |
| | subtotal | | | | | | | 1.22 |
| Inhalation | Arsenic | 5.56E-09 | $mg/m^3$ | 5.3E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000355 |
| | Manganese | 4.96E-06 | $mg/m^3$ | 4.8E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0950 |
| | subtotal | | | | | | | 0.0954 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.63 |

**Table B.1-11b (DU 3). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 25.73 | mg/kg | 2.9E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-06 |
| | Manganese | 22945 | mg/kg | 2.6E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-06 |
| Dermal | Arsenic | 25.73 | mg/kg | 1.5E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-06 |
| | Manganese | 22945 | mg/kg | 4.3E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-06 |
| Inhalation | Arsenic | 5.56E-09 | $mg/m^3$ | 2.0E-09 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 9E-12 |
| | Manganese | 4.96E-06 | $mg/m^3$ | 1.8E-06 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 9E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 6.6E-06 |

NA - Not Available

**Table B.1-11c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 4.3E-06 | 8.5E-12 | 2.3E-06 | 6.6E-06 | Cardiovascular Skin | 0.03 | 0.00036 | 0.014 | 0.04 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.29 | 0.095 | 1.2 | 1.6 |
| | | | Subtotal | 4.3E-06 | 8.5E-12 | 2.3E-06 | 6.6E-06 | | 0.31 | 0.095 | 1.2 | 1.6 |
| | | | | | | Total Risk Across Soil | 6.6E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | | 1.6 |

N/A = not available

| | |
|---|---|
| Total [Cardiovasculer, skin] HI = | 0.04 |
| Total [Nervous System] HI = | 1.6 |

**Table B.1-12a (DU 3). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 25.73 | mg/kg | 8.2E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.2741 |
| | Manganese | 22945 | mg/kg | 7.3E-02 | mg/kg-day | 2.40E-02 | mg/kg-day | 3.056 |
| | subtotal | | | | | | | 3.330 |
| Dermal | Arsenic | 25.73 | mg/kg | 2.3E-05 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0822 |
| | Manganese | 22945 | mg/kg | 7.0E-03 | mg/kg-day | 9.60E-04 | mg/kg-day | 7.25 |
| | subtotal | | | | | | | 7.33 |
| Inhalation | Arsenic | 5.56E-09 | $mg/m^3$ | 5.3E-09 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000355 |
| | Manganese | 4.96E-06 | $mg/m^3$ | 4.8E-06 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0950 |
| | subtotal | | | | | | | 0.0954 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 10.76 |

**Table B.1-12b (DU 3). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 25.73 | mg/kg | 7.0E-06 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.06E-05 |
| | Manganese | 22945 | mg/kg | 6.3E-03 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1.1E-05 |
| Dermal | Arsenic | 25.73 | mg/kg | 2.0E-06 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-06 |
| | Manganese | 22945 | mg/kg | 6.0E-04 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-06 |
| Inhalation | Arsenic | 5.56E-09 | $mg/m^3$ | 4.6E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-12 |
| | Manganese | 4.96E-06 | $mg/m^3$ | 4.1E-07 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-12 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 1.4E-05 |

NA - Not Available

**Table B.1-12c (DU 3). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 3 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 1.1E-05 | 2.0E-12 | 3.2E-06 | 1.4E-05 | Cardiovascular Skin | 0.27 | 0.00036 | 0.082 | 0.36 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 3.06 | 0.095 | 7.3 | 10.4 |
| | | | Subtotal | 1.1E-05 | 2.0E-12 | 3.2E-06 | 1.4E-05 | | 3.33 | 0.095 | 7.3 | 10.8 |
| | | | | | | | Total Risk Across Soil | 1.4E-05 | Total Hazard Index Across All Media and All Exposure Routes | | | 10.8 |

N/A = not available

| | |
|---|---|
| Total [Cardiovasculer, skin] HI = | 0.36 |
| Total [Nervous System] HI = | 10.4 |

**Attachment D**

**Surface and Combined Surface/Subsurface Soil Data and COPC Screening Tables – DU 4**

(Page intentionally left blank)

**Table B.1-1 (DU 4). Selection of Exposure Pathways**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1'), Surface/Subsurface Soil (0-2')
Exposure Point: DU 4

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | Onsite/Offsite | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Current and Future | Soil | Surface Soil | Surface Soil at DU 4 | Construction Worker | Adult | Dermal Ingestion Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Site Worker | Adult | Dermal Ingestion Inhalation | Y | Quantitative | Outdoor site worker could occur on the site both currently and in the future |
| | | | | Trespasser | Adolescent | Dermal Ingestion Inhalation | Y | Qualitative | Trespassers could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal Ingestion Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal Ingestion Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | Surface/ Subsurface Soil | Surface/ Subsurface Soil at DU 4 | Construction Worker | Adult | Dermal Ingestion Inhalation | Y | Quantitative | Construction could occur on the site both currently and in the future |
| | | | | Residential | Child | Dermal Ingestion Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |
| | | | | | Adult | Dermal Ingestion Inhalation | Y | Quantitative | Potential future resident receptors, included at the direction of MDE |

**Table B.1 -2a (DU 4). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 4

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.2 | -- | 4.529 | -- | mg/Kg | DU3A-SU03 | 10/10 | 4.529 | 3.197 | 0.68 | c | Y | ARSL |
| 7439-96-5 | Manganese | 85.9 | -- | 334 | -- | mg/Kg | DU3A-SU04 | 10/10 | 334 | 283.3 | 900 | n | N | BRSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated)
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination

(3) COPC Selection Rationale:
ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

c Carcinogenic
n Non-Carcinogenic
-- No qualifier
Y Yes
N No

**Table B.1-2b (DU 4). Occurrence, Distribution and Selection of Chemicals of Potential Concern**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 4

| CAS Number | Chemical | Minimum Detected Concentration | Minimum Qualifier | Maximum Detected Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Concentration Used for Screening | Background Value (1) | Screening Toxicity Value (2) | | COPC Flag | Rationale for Contaminant Deletion or Selection (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440382 | Arsenic | 0.81 | -- | 7.2 | -- | mg/Kg | DU3B-SU03 | 20/20 | 7.2 | 3.4 | 0.68 | c | Y | ARSL |
| 7439965 | Manganese | 72.3 | -- | 334 | -- | mg/Kg | DU3A-SU04 | 20/20 | 334 | 247.9 | 900 | n | N | BRSL |

Notes:

(1) Based on soil values obtained at DU4 in March/April 2019.

(2) RSL - USEPA Residential Soil Regional Screening Level, November 2018
(Cancer benchmark value = E-06, HQ = 0.5 unless otherwise indicated)
Residential Soil Regional Screening Levels were used as screening values for surface soil COPC determination

(3) COPC Selection Rationale:
ABL = Above Background Level
BBL = Below Background Level
ARSL = Above EPA Residential RSL
BRSL = Below EPA Residential RSL

c Carcinogenic
n Non-Carcinogenic
-- No qualifier
Y Yes
N No

**Table B.1-3a (DU 4). Medium-Specific Exposure Point Concentration Summary (Soil 0-1 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 4

| Chemical of Potential Concern | Units | Average | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 2.30 | 3.197 | 4.53 | -- | 3.197 | 95% Student's-t UCL |
| Manganese | mg/Kg | 212.00 | 283.3 | 334 | -- | 283.3 | 95% Student's-t UCL |

(1) EPA ProUCL 5.1

**Table B.1-3b (DU 4). Medium-Specific Exposure Point Concentration Summary (Soil 0-2 ft)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current and Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 4

| Chemical of Potential Concern | Units | Averagae | 95% UCL of Normal Data (1) | Maximum Detected Concentration | Maximum Qualifier | Reasonable Maximum Exposure | |
|---|---|---|---|---|---|---|---|
| | | | | | | Medium EPC Value | Medium EPC Statistic |
| Arsenic | mg/Kg | 2.4 | 3.44 | 7.2 | -- | 3.44 | 95% Adjusted Gamma UCL |
| Managnese | mg/Kg | 201 | 247.9 | 334 | -- | 247.9 | 95% Student's-t UCL |

(1) EPA ProUCL 5.1

**Table B.1-4a (DU 4). Values Used for Exposure Calculations (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface Soil (0-1 ft bls)
Exposure Point: DU 4
Receptor Population: Site Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a | See Table 3a | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 25 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.

**Table B.1-4b (DU 4). Values Used for Exposure Calculations (Surface Soil/Subsurface, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Current / Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 4
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 330 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 8 | Assumed | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.12 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 3,527 | EPA 2014 (for head, hands, and forearms) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA 1989 | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 1 | Assumed | |
| | EF | Exposure Frequency | days/year | 250 | EPA 2014 | |
| | ET | Exposure Time | 8hr/24hr | 0.33 | Assumed | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

ERT, 2019: Former Curtis Bay Ordnance Depot - Risk Assessment. Final Uniform Federal Policy - Quality Assurance Project Plan - Appendix D, Table 1-1.

**Table B.1-4c (DU 4). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 4
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x IR x EF x ED x CF x FI / BW / AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 100 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | CDI = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | CS x SA x AF x DA x CF x EF x ED / BW / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA, 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.07 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 6,032 | EPA 2014 (for whole body) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 7,300 | EPA 1989 | Cair x ET x EF x ED / AT |
| | BW | Body Weight | kg | 80 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 26 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.00 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

**Table B.1-4d (DU 4). Values Used for Exposure Calculations (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

Scenario Timeframe: Potential Future
Medium: Soil
Exposure Medium: Surface/Subsurface Soil (0-2 ft bls)
Exposure Point: DU 4
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale / Reference | Intake Equation / Model Name |
|---|---|---|---|---|---|---|
| Ingestion | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x IR x EF x ED x CF x FI /BW /AT |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | FI | Fraction from Contaminated Source | unitless | 0.25 | Assumed | |
| | IRo | Ingestion Rate | mg/day | 200 | EPA, 2002 | |
| Dermal | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | CDI= |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | CS x SA x AF x DA x CF x EF x ED /BW /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CF | Conversion Factor | kg/mg | 1.0E-06 | EPA 1989 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | hr/day | 24 | EPA 2014 | |
| | AF | Adherence Factor | $mg/cm^2$ | 0.2 | EPA 2014 | |
| | SA | Skin Surface Area | $cm^2$ | 2,373 | EPA 2014 (for head, hands, forearms, lower legs, and feet) | |
| | DA | Dermal Absorption Fraction | unitless | 0.03<br>0.01 | for Arsenic (EPA 2004)<br>for Manganese (EPA Region 3) | |
| Inhalation | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA 1989 (70 years*365 days/year) | Air Exposure Concentration (EC) ($mg/m^3$) = |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA 1989 (6 years*365days/year) | Cair x ET x EF x ED /AT |
| | BW | Body Weight | kg | 15 | EPA 2014 | |
| | CS | Chemical Concentration in Soil | mg/kg | EPC in Table 3a/b | See Table 3a/b | |
| | Cair | Chemical Concentration in Air | $mg/m^3$ | | CS/PEF | |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 4.63E+09 | EPA 1989 | |
| | ED | Exposure Duration | yr | 6 | EPA 2014 | |
| | EF | Exposure Frequency | days/year | 350 | EPA 2014 | |
| | ET | Exposure Time | 24hr/24hr | 1.00 | EPA 2014 | |

Sources:


EPA, 1989, Risk Assessment Guidance for Superfund, Volume I, Part A (RAGS)

EPA, 1991b, Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", OSWER Directive 9285.6-03

EPA, 1992, Dermal Exposure Assessment: Principals and Applications, ORD EPA/600/8-91/011B, January 1992

EPA, 1993, Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure

EPA, 1995a: Supplemental Guidance to RAGS: Region 4 Bulletins - Human Health Risk Assessment, Office of Health Assessment, November 1995

EPA, 1995b: Exposure Factors Handbook, NCEA-W-005, Draft update, May 1995

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins, October 1996

EPA, 2014: Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. February 2014.

**Table B.1-5a (DU 4). Non-Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Chronic/Subchronic | Oral RfD Value<br>mg/kg-day | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2)<br>mg/kg-day | Chronic Inhalation RfC<br>$mg/m^3$ | Primary Target Organ | Combined Undertainty / Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | Chronic | 3.00E-04 | 95% | 2.85E-04 | 1.50E-05 | Cardiovascular<br>Skin | 30 | IRIS/CalEPA | 9/14/1998 |
| Manganese | Chronic | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central nervous system | 1000 | IRIS (Non-Diet) | 9/14/1998 |

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor.

(2) Reference dose x adjustment factor

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-5b (DU 4). Cancer Toxicity Data - Oral/Dermal/Inhalation**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| Chemical of Potential Concern<br>Unit | Oral Cancer Slope Factor CSFo<br>$(mg/kg\text{-}day)^{-1}$ | Oral to Absorption Efficiency for Dermal (1) | Absorption Cancer Slope For Dermal CSFd (2)<br>$(mg/kg\text{-}day)^{-1}$ | Inhalation Unit Risk IUR<br>$(ug/m^3)^{-1}$ | Primary Target Organ | Combined Uncertainty / Modifying Factors | Sources of CSF: Cancer | Dates of CSF (3) |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.50E+00 | 95% | 1.58E+00 | 4.30E-03 | A Human carcinogen | 30 | IRIS | 9/14/1998 |
| Manganese | 2.40E-02 | 4% | 9.60E-04 | 5.00E-05 | Central Nervous System | 1000 | IRIS (Non-Diet) | 9/14/1998 |

N/A=Not available

(1) Refer to RAGS, Part E, for the oral to dermal adjustment factor.

(2) Reference dose/adjustment factor.

(3) Date IRIS was searched.
Date of HEAST.
NCEA values taken from EPA Region 3 RBCs. Table April 1999.

**Table B.1-6a (DU 4). Calculation of Non-Cancer Hazards (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.197 | mg/kg | 6.8E-07 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0023 |
| | Manganese | 283.3 | mg/kg | 6.1E-05 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.003 |
| | subtotal | | | | | | | 0.005 |
| Dermal | Arsenic | 3.197 | mg/kg | 3.5E-07 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0012 |
| | Manganese | 283.3 | mg/kg | 1.0E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.01 |
| | subtotal | | | | | | | 0.01 |
| Inhalation | Arsenic | 6.90E-10 | $mg/m^3$ | 1.6E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000011 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 1.4E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0003 |
| | subtotal | | | | | | | 0.0003 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.017 |

NA Not Available

**Table B.1-6b (DU 4). Calculation of Cancer Risks (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.197 | mg/kg | 2.4E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-07 |
| | Manganese | 283.3 | mg/kg | 2.2E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-07 |
| Dermal | | | | | | | | |
| | Arsenic | 3.197 | mg/kg | 1.2E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 2E-07 |
| | Manganese | 283.3 | mg/kg | 3.7E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 2E-07 |
| Inhalation | | | | | | | | |
| | Arsenic | 6.90E-10 | $mg/m^3$ | 5.6E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-13 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 5.0E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-13 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 5.6E-07 |

NA Not Available

**Table B.1-6c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Site Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Site Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 3.7E-07 | 2.4E-13 | 2.0E-07 | 5.6E-07 | Cardiovascular<br>Skin | 2.28E-03 | 1.05E-05 | 1.22E-03 | 3.51E-03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 2.53E-03 | 2.79E-04 | 1.07E-02 | 1.35E-02 |
| | | | Subtotal | 3.7E-07 | 2.4E-13 | 2.0E-07 | 5.6E-07 | | 4.81E-03 | 2.90E-04 | 1.19E-02 | 1.70E-02 |
| | | | | | | | Total Risk Across Soil | 5.6E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | 1.70E-02 |
| | | | | | | | Total Risk Across All Media and All Exposure Routes | 5.6E-07 | | | | |

NA Not Available

**Table B.1-7a (DU 4). Calculation of Non-Cancer Hazards (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Does Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 3.197 | mg/kg | 2.3E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 8E-03 |
| | Manganese | 283.3 | mg/kg | 2.0E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 8E-03 |
| | subtotal | | | | | | | 2E-02 |
| | Arsenic | 3.197 | mg/kg | 3.5E-07 | mg/kg-day | 2.85E-04 | mg/kg-day | 1E-03 |
| | Manganese | 283.3 | mg/kg | 1.0E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 1E-02 |
| | subtotal | | | | | | | 1E-02 |
| Inhalation | | | | | | | | |
| | Arsenic | 6.90E-10 | $mg/m^3$ | 1.6E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 1E-05 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 1.4E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 3E-04 |
| | subtotal | | | | | | | 3E-04 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-02 |

**Table B.1-7b (DU 4). Calculation of Cancer Risks (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.197 | mg/kg | 3.2E-08 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 5E-08 |
| | Manganese | 283.3 | mg/kg | 2.9E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 5E-08 |
| Dermal | Arsenic | 3.197 | mg/kg | 5.0E-09 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 8E-09 |
| | Manganese | 283.3 | mg/kg | 1.5E-07 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 8E-09 |
| Inhalation | Arsenic | 6.90E-10 | $mg/m^3$ | 2.3E-12 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-14 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 2.0E-10 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1E-14 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 6E-08 |

NA - Not Available

**Table B.1-7c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 4.8E-08 | 9.7E-15 | 7.8E-09 | 5.6E-08 | Cardiovascular Skin | 7.53E-03 | 1.05E-05 | 1.22E-03 | 8.76E-03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 8.34E-03 | 2.79E-04 | 1.07E-02 | 1.93E-02 |
| | | | Subtotal | 4.8E-08 | 9.7E-15 | 7.8E-09 | 5.6E-08 | | 1.59E-02 | 2.90E-04 | 1.19E-02 | 2.81E-02 |
| | | | | | | Total Risk Across Soil | 5.6E-08 | Total Hazard Index Across All Media and All Exposure Routes | | | | 2.81E-02 |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 5.6E-08 | | | | | |

N/A = not available

**Table B.1-8a (DU 4). Calculation of Non-Cancer Hazards (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 3.197 | mg/kg | 9.6E-07 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0032 |
| | Manganese | 283.3 | mg/kg | 8.5E-05 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.004 |
| | subtotal | | | | | | | 0.007 |
| Dermal | | | | | | | | |
| | Arsenic | 3.197 | mg/kg | 4.9E-07 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0017 |
| | Manganese | 283.3 | mg/kg | 1.4E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.01 |
| | subtotal | | | | | | | 0.02 |
| Inhalation | | | | | | | | |
| | Arsenic | 6.90E-10 | $mg/m^3$ | 6.6E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000044 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 5.9E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0012 |
| | subtotal | | | | | | | 0.0012 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.02 |

**Table B.1-8b (DU 4). Calculation of Calculation of Cancer Risks (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.197 | mg/kg | 3.6E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 5E-07 |
| | Manganese | 283.3 | mg/kg | 3.2E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 5E-07 |
| Dermal | Arsenic | 3.197 | mg/kg | 1.8E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-07 |
| | Manganese | 283.3 | mg/kg | 5.3E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-07 |
| Inhalation | Arsenic | 6.90E-10 | $mg/m^3$ | 2.5E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-12 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 2.2E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1E-12 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 8.2E-07 |

NA - Not Available

**Table B.1-8c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 5.3E-07 | 1.1E-12 | 2.8E-07 | 8.2E-07 | Cardiovascular<br>Skin | 3.19E-03 | 4.41E-05 | 1.70E-03 | 4.94E-03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 3.54E-03 | 1.17E-03 | 1.49E-02 | 1.96E-02 |
| | | | Subtotal | 5.3E-07 | 1.1E-12 | 2.8E-07 | 8.2E-07 | | 6.73E-03 | 1.22E-03 | 1.66E-02 | 2.46E-02 |
| | | | | | | | Total Risk Across Soil | 8.2E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | 2.46E-02 |

N/A = not available

**Table B.1-9a (DU 4). Calculation of Non-Cancer Hazards (Surface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 3.197 | mg/kg | 1.0E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0341 |
| | Manganese | 283.3 | mg/kg | 9.1E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.038 |
| | subtotal | | | | | | | 0.072 |
| Dermal | | | | | | | | |
| | Arsenic | 3.197 | mg/kg | 2.9E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0102 |
| | Manganese | 283.3 | mg/kg | 8.6E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.09 |
| | subtotal | | | | | | | 0.10 |
| Inhalation | | | | | | | | |
| | Arsenic | 6.90E-10 | $mg/m^3$ | 6.6E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000044 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 5.9E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0012 |
| | subtotal | | | | | | | 0.0012 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.17 |

**Table B.1-9b (DU 4). Calculation of Calculation of Cancer Risks**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-1 ft bls) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.197 | mg/kg | 8.8E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-06 |
| | Manganese | 283.3 | mg/kg | 7.8E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-06 |
| Dermal | Arsenic | 3.197 | mg/kg | 2.5E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-07 |
| | Manganese | 283.3 | mg/kg | 7.4E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-07 |
| Inhalation | Arsenic | 6.90E-10 | $mg/m^3$ | 5.7E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 2E-13 |
| | Manganese | 6.12E-08 | $mg/m^3$ | 5.0E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 2E-13 |
| | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | 1.7E-06 |

NA - Not Available

**Table B.1-9c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

| | |
|---|---|
| Scenario T | Potential Future |
| Medium: | Soil |
| Exposure | Surface Soil (0-1 ft bls) |
| Exposure | DU 4 |
| Receptor I | Resident |
| Receptor A | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 1.3E-06 | 2.4E-13 | 3.9E-07 | 1.7E-06 | Cardiovascular Skin | 0.03 | 0.00004 | 0.010 | 0.04 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.04 | 0.001 | 0.1 | 0.1 |
| | | | Subtotal | 1.3E-06 | 2.4E-13 | 3.9E-07 | 1.7E-06 | | 0.07 | 0.001 | 0.1 | 0.2 |
| | | | | | | | Total Risk Across Soil | 1.7E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | 0.2 |

N/A = not available

**Table B.1-10a (DU 4). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.44 | mg/kg | 2.4E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 8E-03 |
| | Manganese | 247.9 | mg/kg | 1.8E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 7E-03 |
| | subtotal | | | | | | | 2E-02 |
| Dermal | Arsenic | 3.44 | mg/kg | 3.7E-07 | mg/kg-day | 2.85E-04 | mg/kg-day | 1E-03 |
| | Manganese | 247.9 | mg/kg | 9.0E-06 | mg/kg-day | 9.60E-04 | mg/kg-day | 9E-03 |
| | subtotal | | | | | | | 1E-02 |
| Inhalation | Arsenic | 7.43E-10 | $mg/m^3$ | 1.7E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 1E-05 |
| | Manganese | 5.35E-08 | $mg/m^3$ | 1.2E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 2E-04 |
| | subtotal | | | | | | | 3E-04 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3E-02 |

**Table B.1-10b (DU 4). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.44 | mg/kg | 3.5E-08 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 5E-08 |
| | Manganese | 247.9 | mg/kg | 2.5E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 5E-08 |
| Dermal | Arsenic | 3.44 | mg/kg | 5.3E-09 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 8E-09 |
| | Manganese | 247.9 | mg/kg | 1.3E-07 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 8E-09 |
| Inhalation | Arsenic | 7.43E-10 | $mg/m^3$ | 2.4E-12 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-14 |
| | Manganese | 5.35E-08 | $mg/m^3$ | 1.7E-10 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1E-14 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 6E-08 |

NA - Not Available

**Table B.1-10c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface/Subsurface Soil, Construction Worker)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 5.2E-08 | 1.0E-14 | 8.4E-09 | 6.0E-08 | Cardiovascular Skin | 8.10E-03 | 1.13E-05 | 1.31E-03 | 9.42E-03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 7.30E-03 | 2.44E-04 | 9.36E-03 | 1.69E-02 |
| | | | Subtotal | 5.2E-08 | 1.0E-14 | 8.4E-09 | 6.0E-08 | | 1.54E-02 | 2.56E-04 | 1.07E-02 | 2.63E-02 |
| | | | | | | | Total Risk Across Soil | 6.0E-08 | Total Hazard Index Across All Media and All Exposure Routes | | | 2.63E-02 |

N/A = not available

**Table B.1-11a (DU 4). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 3.44 | mg/kg | 1.0E-06 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0034 |
| | Manganese | 247.9 | mg/kg | 7.4E-05 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.003 |
| | subtotal | | | | | | | 0.007 |
| Dermal | | | | | | | | |
| | Arsenic | 3.44 | mg/kg | 5.2E-07 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0018 |
| | Manganese | 247.9 | mg/kg | 1.3E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.01 |
| | subtotal | | | | | | | 0.01 |
| Inhalation | | | | | | | | |
| | Arsenic | 7.43E-10 | $mg/m^3$ | 7.1E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000047 |
| | Manganese | 5.35E-08 | $mg/m^3$ | 5.1E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0010 |
| | subtotal | | | | | | | 0.0011 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.02 |

**Table B.1-11b (DU 4). Calculation of Calculation of Cancer Risks** (Surface/Subsurface Soil, Resident Adult)

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.44 | mg/kg | 3.8E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 6E-07 |
| | Manganese | 247.9 | mg/kg | 2.8E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 6E-07 |
| Dermal | Arsenic | 3.44 | mg/kg | 1.9E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 3E-07 |
| | Manganese | 247.9 | mg/kg | 4.7E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 3E-07 |
| Inhalation | Arsenic | 7.43E-10 | $mg/m^3$ | 2.6E-10 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 1E-12 |
| | Manganese | 5.35E-08 | $mg/m^3$ | 1.9E-08 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 1E-12 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.8E-07 |

NA - Not Available

**Table B.1-11c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Adult)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 5.7E-07 | 1.1E-12 | 3.1E-07 | 8.8E-07 | Cardiovascular<br>Skin | 3.44E-03 | 4.75E-05 | 1.83E-03 | 5.31E-03 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 3.10E-03 | 1.03E-03 | 1.31E-02 | 1.72E-02 |
| | | | Subtotal | 5.7E-07 | 1.1E-12 | 3.1E-07 | 8.8E-07 | | 6.53E-03 | 1.07E-03 | 1.49E-02 | 2.25E-02 |
| | | | | | | Total Risk Across Soil | 8.8E-07 | Total Hazard Index Across All Media and All Exposure Routes | | | | 2.25E-02 |

N/A = not available

**Table B.1-12a (DU 4). Calculation of Non-Cancer Hazards (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose | Reference Dose Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.44 | mg/kg | 1.1E-05 | mg/kg-day | 3.00E-04 | mg/kg-day | 0.0366 |
| | Manganese | 247.9 | mg/kg | 7.9E-04 | mg/kg-day | 2.40E-02 | mg/kg-day | 0.033 |
| | subtotal | | | | | | | 0.070 |
| Dermal | Arsenic | 3.44 | mg/kg | 3.1E-06 | mg/kg-day | 2.85E-04 | mg/kg-day | 0.0110 |
| | Manganese | 247.9 | mg/kg | 7.5E-05 | mg/kg-day | 9.60E-04 | mg/kg-day | 0.08 |
| | subtotal | | | | | | | 0.09 |
| Inhalation | Arsenic | 7.43E-10 | $mg/m^3$ | 7.1E-10 | $mg/m^3$ | 1.50E-05 | $mg/m^3$ | 0.000047 |
| | Manganese | 5.35E-08 | $mg/m^3$ | 5.1E-08 | $mg/m^3$ | 5.00E-05 | $mg/m^3$ | 0.0010 |
| | subtotal | | | | | | | 0.0011 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 0.16 |

**Table B.1-12b (DU 4). Calculation of Calculation of Cancer Risks (Surface/Subsurface Soil, Resident Child)**

Former Curtis Bay Ordnance Depot

Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | /Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|
| Ingestion | | | | | | | | |
| | Arsenic | 3.44 | mg/kg | 9.4E-07 | mg/kg-day | 1.50E+00 | $(mg/kg\text{-}day)^{-1}$ | 1E-06 |
| | Manganese | 247.9 | mg/kg | 6.8E-05 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 1E-06 |
| Dermal | | | | | | | | |
| | Arsenic | 3.44 | mg/kg | 2.7E-07 | mg/kg-day | 1.58E+00 | $(mg/kg\text{-}day)^{-1}$ | 4E-07 |
| | Manganese | 247.9 | mg/kg | 6.4E-06 | mg/kg-day | NA | NA | NA |
| | subtotal | | | | | | | 4E-07 |
| Inhalation | | | | | | | | |
| | Arsenic | 7.43E-10 | $mg/m^3$ | 6.1E-11 | $mg/m^3$ | 4.30E-03 | $(mg/m^3)^{-1}$ | 3E-13 |
| | Manganese | 5.35E-08 | $mg/m^3$ | 4.4E-09 | $mg/m^3$ | NA | NA | NA |
| | subtotal | | | | | | | 3E-13 |
| | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.8E-06 |

NA - Not Available

**Table B.1-12c (DU 4). Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure (Surface Soil, Resident Child)**
Former Curtis Bay Ordnance Depot
Anne Arundel County, Maryland

| | |
|---|---|
| Scenario Timeframe: | Potential Future |
| Medium: | Soil |
| Exposure Medium: | Surface/Subsurface Soil (0-2 ft) |
| Exposure Point: | DU 4 |
| Receptor Population: | Resident |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Soil | Soil | On-site | Arsenic | 1.4E-06 | 2.6E-13 | 4.2E-07 | 1.8E-06 | Cardiovascular Skin | 0.04 | 0.00005 | 0.011 | 0.05 |
| | | | Manganese | NA | NA | NA | NA | Central nervous system | 0.03 | 0.001 | 0.1 | 0.1 |
| | | | Subtotal | 1.4E-06 | 2.6E-13 | 4.2E-07 | 1.8E-06 | | 0.07 | 0.001 | 0.1 | 0.2 |
| | | | | | | | Total Risk Across Soil | 1.8E-06 | Total Hazard Index Across All Media and All Exposure Routes | | | 0.2 |

N/A = not available

**Attachment E**

**ProUCL Analysis and 95% UCLs for Arsenic and Manganese in Field Replicates (Triplicate Samples) Collected from DU 1, DU 2, DU 3, and DU 4**

(Page intentionally left blank)

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU09

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:25:42 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 8.9 | Mean | 15.17 |
| Maximum | 22.8 | Median | 13.8 |
| SD | 7.05 | Std. Error of Mean | 4.07 |
| Coefficient of Variation | 0.465 | Skewness | 0.84 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.972 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.244 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 27.05 | 95% Adjusted-CLT UCL (Chen-1995) | 23.97 |
| | | 95% Modified-t UCL (Johnson-1978) | 27.38 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 6.986 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 2.171 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 41.92 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU09 | | | |
|---|---|---|---|
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.998 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.185 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 2.186 | Mean of logged Data | 2.646 |
| Maximum of Logged Data | 3.127 | SD of logged Data | 0.471 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 120.1 | 90% Chebyshev (MVUE) UCL | 27.18 |
| 95% Chebyshev (MVUE) UCL | 32.63 | 97.5% Chebyshev (MVUE) UCL | 40.19 |
| 99% Chebyshev (MVUE) UCL | 55.04 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 21.86 | 95% Jackknife UCL | 27.05 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 27.38 | 95% Chebyshev(Mean, Sd) UCL | 32.91 |
| 97.5% Chebyshev(Mean, Sd) UCL | 40.59 | 99% Chebyshev(Mean, Sd) UCL | 55.67 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 27.05 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU09 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 183 | Mean | 325 |
| Maximum | 420 | Median | 372 |
| SD | 125.3 | Std. Error of Mean | 72.34 |
| Coefficient of Variation | 0.386 | Skewness | -1.45 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.894 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.313 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 536.2 | 95% Adjusted-CLT UCL (Chen-1995) | 379.3 |
| | | 95% Modified-t UCL (Johnson-1978) | 526.1 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 8.367 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 38.84 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 50.2 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.857 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.336 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU09 | | | |
|---|---|---|---|
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.209 | Mean of logged Data | 5.723 |
| Maximum of Logged Data | 6.04 | SD of logged Data | 0.449 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 2144 | 90% Chebyshev (MVUE) UCL | 574.4 |
| 95% Chebyshev (MVUE) UCL | 686.6 | 97.5% Chebyshev (MVUE) UCL | 842.3 |
| 99% Chebyshev (MVUE) UCL | 1148 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 444 | 95% Jackknife UCL | 536.2 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 542 | 95% Chebyshev(Mean, Sd) UCL | 640.3 |
| 97.5% Chebyshev(Mean, Sd) UCL | 776.8 | 99% Chebyshev(Mean, Sd) UCL | 1045 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 536.2 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU10

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:27:05 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 10.4 | Mean | 11.6 |
| Maximum | 13.4 | Median | 11 |
| SD | 1.587 | Std. Error of Mean | 0.917 |
| Coefficient of Variation | 0.137 | Skewness | 1.458 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.893 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.314 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 14.28 | 95% Adjusted-CLT UCL (Chen-1995) | 13.93 |
| | | 95% Modified-t UCL (Johnson-1978) | 14.4 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 83.23 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.139 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 499.4 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU10 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.906 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.305 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 2.342 | Mean of logged Data | 2.445 |
| Maximum of Logged Data | 2.595 | SD of logged Data | 0.133 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 15.29 | 90% Chebyshev (MVUE) UCL | 14.27 |
| 95% Chebyshev (MVUE) UCL | 15.48 | 97.5% Chebyshev (MVUE) UCL | 17.15 |
| 99% Chebyshev (MVUE) UCL | 20.45 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 13.11 | 95% Jackknife UCL | 14.28 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 14.35 | 95% Chebyshev(Mean, Sd) UCL | 15.59 |
| 97.5% Chebyshev(Mean, Sd) UCL | 17.32 | 99% Chebyshev(Mean, Sd) UCL | 20.72 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 14.28 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU10 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 459 | Mean | 564.7 |
| Maximum | 672 | Median | 563 |
| SD | 106.5 | Std. Error of Mean | 61.49 |
| Coefficient of Variation | 0.189 | Skewness | 0.0704 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 1 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.177 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 744.2 | 95% Adjusted-CLT UCL (Chen-1995) | 668.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 744.6 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 41.7 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 13.54 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 250.2 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.998 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.186 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 6.129 | Mean of logged Data | 6.324 |
| Maximum of Logged Data | 6.51 | SD of logged Data | 0.191 |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU10 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 878.8 | 90% Chebyshev (MVUE) UCL | 750.4 |
| 95% Chebyshev (MVUE) UCL | 834.6 | 97.5% Chebyshev (MVUE) UCL | 951.4 |
| 99% Chebyshev (MVUE) UCL | 1181 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 665.8 | 95% Jackknife UCL | 744.2 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 749.1 | 95% Chebyshev(Mean, Sd) UCL | 832.7 |
| 97.5% Chebyshev(Mean, Sd) UCL | 948.7 | 99% Chebyshev(Mean, Sd) UCL | 1177 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 744.2 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU11

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 2:37:27 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 6.9 | Mean | 8.867 |
| Maximum | 10.3 | Median | 9.4 |
| SD | 1.762 | Std. Error of Mean | 1.017 |
| Coefficient of Variation | 0.199 | Skewness | -1.238 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.931 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.286 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 11.84 | 95% Adjusted-CLT UCL (Chen-1995) | 9.763 |
| | | 95% Modified-t UCL (Johnson-1978) | 11.72 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 35.44 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.25 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 212.7 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU11 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.91 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.302 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.932 | Mean of logged Data | 2.168 |
| Maximum of Logged Data | 2.332 | SD of logged Data | 0.21 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 14.72 | 90% Chebyshev (MVUE) UCL | 12.08 |
| 95% Chebyshev (MVUE) UCL | 13.53 | 97.5% Chebyshev (MVUE) UCL | 15.55 |
| 99% Chebyshev (MVUE) UCL | 19.51 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 10.54 | 95% Jackknife UCL | 11.84 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 11.92 | 95% Chebyshev(Mean, Sd) UCL | 13.3 |
| 97.5% Chebyshev(Mean, Sd) UCL | 15.22 | 99% Chebyshev(Mean, Sd) UCL | 18.99 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 11.84 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU11 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 665 | Mean | 935 |
| Maximum | 1100 | Median | 1040 |
| SD | 235.7 | Std. Error of Mean | 136.1 |
| Coefficient of Variation | 0.252 | Skewness | -1.607 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.851 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.339 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 1332 | 95% Adjusted-CLT UCL (Chen-1995) | 1024 |
| | | 95% Modified-t UCL (Johnson-1978) | 1311 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 21.05 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 44.41 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 126.3 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.832 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.348 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 6.5 | Mean of logged Data | 6.817 |
| Maximum of Logged Data | 7.003 | SD of logged Data | 0.276 |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU11 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 2024 | 90% Chebyshev (MVUE) UCL | 1379 |
| 95% Chebyshev (MVUE) UCL | 1580 | 97.5% Chebyshev (MVUE) UCL | 1858 |
| 99% Chebyshev (MVUE) UCL | 2406 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1159 | 95% Jackknife UCL | 1332 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1343 | 95% Chebyshev(Mean, Sd) UCL | 1528 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1785 | 99% Chebyshev(Mean, Sd) UCL | 2289 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1332 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU30

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:27:58 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 3.3 | Mean | 4.667 |
| Maximum | 5.8 | Median | 4.9 |
| SD | 1.266 | Std. Error of Mean | 0.731 |
| Coefficient of Variation | 0.271 | Skewness | -0.801 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.975 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.24 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 6.801 | 95% Adjusted-CLT UCL (Chen-1995) | 5.508 |
| | | 95% Modified-t UCL (Johnson-1978) | 6.745 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 18.84 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.248 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 113 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU30 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.949 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.27 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.194 | Mean of logged Data | 1.514 |
| Maximum of Logged Data | 1.758 | SD of logged Data | 0.289 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 10.77 | 90% Chebyshev (MVUE) UCL | 6.989 |
| 95% Chebyshev (MVUE) UCL | 8.039 | 97.5% Chebyshev (MVUE) UCL | 9.496 |
| 99% Chebyshev (MVUE) UCL | 12.36 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 5.869 | 95% Jackknife UCL | 6.801 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 6.86 | 95% Chebyshev(Mean, Sd) UCL | 7.853 |
| 97.5% Chebyshev(Mean, Sd) UCL | 9.232 | 99% Chebyshev(Mean, Sd) UCL | 11.94 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 6.801 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU30 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 3850 | Mean | 4680 |
| Maximum | 5100 | Median | 5090 |
| SD | 718.8 | Std. Error of Mean | 415 |
| Coefficient of Variation | 0.154 | Skewness | -1.732 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.756 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.382 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Approximate Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 5892 | 95% Adjusted-CLT UCL (Chen-1995) | 4919 |
| | | 95% Modified-t UCL (Johnson-1978) | 5823 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 59.45 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 78.72 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 356.7 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.755 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.383 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Approximate Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 8.256 | Mean of logged Data | 8.443 |
| Maximum of Logged Data | 8.537 | SD of logged Data | 0.162 |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU30 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 6668 | 90% Chebyshev (MVUE) UCL | 5989 |
| 95% Chebyshev (MVUE) UCL | 6581 | 97.5% Chebyshev (MVUE) UCL | 7403 |
| 99% Chebyshev (MVUE) UCL | 9017 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 5363 | 95% Jackknife UCL | 5892 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 5925 | 95% Chebyshev(Mean, Sd) UCL | 6489 |
| 97.5% Chebyshev(Mean, Sd) UCL | 7272 | 99% Chebyshev(Mean, Sd) UCL | 8809 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 5892 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test | | | |
| When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU36

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:28:42 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 3.1 | Mean | 4.167 |
| Maximum | 5.9 | Median | 3.5 |
| SD | 1.514 | Std. Error of Mean | 0.874 |
| Coefficient of Variation | 0.363 | Skewness | 1.597 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.855 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.337 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 6.72 | 95% Adjusted-CLT UCL (Chen-1995) | 6.466 |
| | | 95% Modified-t UCL (Johnson-1978) | 6.854 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 12.44 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.335 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 74.62 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU36 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.885 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.319 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.131 | Mean of logged Data | 1.386 |
| Maximum of Logged Data | 1.775 | SD of logged Data | 0.342 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 12.71 | 90% Chebyshev (MVUE) UCL | 6.585 |
| 95% Chebyshev (MVUE) UCL | 7.684 | 97.5% Chebyshev (MVUE) UCL | 9.21 |
| 99% Chebyshev (MVUE) UCL | 12.21 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 5.605 | 95% Jackknife UCL | 6.72 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 6.79 | 95% Chebyshev(Mean, Sd) UCL | 7.978 |
| 97.5% Chebyshev(Mean, Sd) UCL | 9.627 | 99% Chebyshev(Mean, Sd) UCL | 12.87 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 6.72 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU36 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 418 | Mean | 462 |
| Maximum | 508 | Median | 460 |
| SD | 45.03 | Std. Error of Mean | 26 |
| Coefficient of Variation | 0.0975 | Skewness | 0.199 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.999 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.184 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 537.9 | 95% Adjusted-CLT UCL (Chen-1995) | 508 |
| | | 95% Modified-t UCL (Johnson-1978) | 538.4 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 158 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 2.925 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 947.8 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 1 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.176 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 6.035 | Mean of logged Data | 6.132 |
| Maximum of Logged Data | 6.23 | SD of logged Data | 0.0975 |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU36 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | N/A | 90% Chebyshev (MVUE) UCL | 539.9 |
| 95% Chebyshev (MVUE) UCL | 575.2 | 97.5% Chebyshev (MVUE) UCL | 624.2 |
| 99% Chebyshev (MVUE) UCL | 720.5 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 504.8 | 95% Jackknife UCL | 537.9 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 540 | 95% Chebyshev(Mean, Sd) UCL | 575.3 |
| 97.5% Chebyshev(Mean, Sd) UCL | 624.4 | 99% Chebyshev(Mean, Sd) UCL | 720.7 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 537.9 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU44

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:39:09 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.45 | Mean | 1.017 |
| Maximum | 1.4 | Median | 1.2 |
| SD | 0.501 | Std. Error of Mean | 0.289 |
| Coefficient of Variation | 0.493 | Skewness | -1.427 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.899 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.31 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 1.861 | 95% Adjusted-CLT UCL (Chen-1995) | 1.238 |
| | | 95% Modified-t UCL (Johnson-1978) | 1.821 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.715 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.216 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 28.29 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU44 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.85 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.339 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | -0.799 | Mean of logged Data | -0.0932 |
| Maximum of Logged Data | 0.336 | SD of logged Data | 0.616 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 36.02 | 90% Chebyshev (MVUE) UCL | 2.079 |
| 95% Chebyshev (MVUE) UCL | 2.554 | 97.5% Chebyshev (MVUE) UCL | 3.214 |
| 99% Chebyshev (MVUE) UCL | 4.509 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1.492 | 95% Jackknife UCL | 1.861 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1.884 | 95% Chebyshev(Mean, Sd) UCL | 2.277 |
| 97.5% Chebyshev(Mean, Sd) UCL | 2.822 | 99% Chebyshev(Mean, Sd) UCL | 3.894 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1.861 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU44 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 105 | Mean | 121.7 |
| Maximum | 140 | Median | 120 |
| SD | 17.56 | Std. Error of Mean | 10.14 |
| Coefficient of Variation | 0.144 | Skewness | 0.423 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.993 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.204 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 151.3 | 95% Adjusted-CLT UCL (Chen-1995) | 141 |
| | | 95% Modified-t UCL (Johnson-1978) | 151.7 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 72.42 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 1.68 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 434.5 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.998 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.186 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.654 | Mean of logged Data | 4.794 |
| Maximum of Logged Data | 4.942 | SD of logged Data | 0.144 |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU44 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 165 | 90% Chebyshev (MVUE) UCL | 151.9 |
| 95% Chebyshev (MVUE) UCL | 165.6 | 97.5% Chebyshev (MVUE) UCL | 184.7 |
| 99% Chebyshev (MVUE) UCL | 222 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 138.3 | 95% Jackknife UCL | 151.3 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 152.1 | 95% Chebyshev(Mean, Sd) UCL | 165.9 |
| 97.5% Chebyshev(Mean, Sd) UCL | 185 | 99% Chebyshev(Mean, Sd) UCL | 222.5 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 151.3 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1A-SU51

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:31:04 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 4.6 | Mean | 5.7 |
| Maximum | 7.5 | Median | 5 |
| SD | 1.572 | Std. Error of Mean | 0.907 |
| Coefficient of Variation | 0.276 | Skewness | 1.607 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.851 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.339 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 8.35 | 95% Adjusted-CLT UCL (Chen-1995) | 8.092 |
| | | 95% Modified-t UCL (Johnson-1978) | 8.49 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 21.29 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.268 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 127.8 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU51 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.874 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.326 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.526 | Mean of logged Data | 1.717 |
| Maximum of Logged Data | 2.015 | SD of logged Data | 0.262 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 11.55 | 90% Chebyshev (MVUE) UCL | 8.252 |
| 95% Chebyshev (MVUE) UCL | 9.41 | 97.5% Chebyshev (MVUE) UCL | 11.02 |
| 99% Chebyshev (MVUE) UCL | 14.18 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 7.193 | 95% Jackknife UCL | 8.35 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 8.422 | 95% Chebyshev(Mean, Sd) UCL | 9.655 |
| 97.5% Chebyshev(Mean, Sd) UCL | 11.37 | 99% Chebyshev(Mean, Sd) UCL | 14.73 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 8.35 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU51 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 485 | Mean | 815 |
| Maximum | 1150 | Median | 810 |
| SD | 332.5 | Std. Error of Mean | 192 |
| Coefficient of Variation | 0.408 | Skewness | 0.0676 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 1 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.176 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 1376 | 95% Adjusted-CLT UCL (Chen-1995) | 1139 |
| | | 95% Modified-t UCL (Johnson-1978) | 1377 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 8.457 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 96.37 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 50.74 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.988 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.216 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 6.184 | Mean of logged Data | 6.643 |
| Maximum of Logged Data | 7.048 | SD of logged Data | 0.434 |

| UCL Statistics for Uncensored Full Data Sets - DU 1A-SU51 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 4761 | 90% Chebyshev (MVUE) UCL | 1416 |
| 95% Chebyshev (MVUE) UCL | 1688 | 97.5% Chebyshev (MVUE) UCL | 2065 |
| 99% Chebyshev (MVUE) UCL | 2806 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1131 | 95% Jackknife UCL | 1376 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1391 | 95% Chebyshev(Mean, Sd) UCL | 1652 |
| 97.5% Chebyshev(Mean, Sd) UCL | 2014 | 99% Chebyshev(Mean, Sd) UCL | 2725 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1376 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 2A-SU02

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:23:02 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 13.1 | Mean | 15.2 |
| Maximum | 17 | Median | 15.5 |
| SD | 1.967 | Std. Error of Mean | 1.136 |
| Coefficient of Variation | 0.129 | Skewness | -0.67 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.983 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.227 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 18.52 | 95% Adjusted-CLT UCL (Chen-1995) | 16.6 |
| | | 95% Modified-t UCL (Johnson-1978) | 18.44 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 87.27 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.174 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 523.6 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 2A-SU02 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.973 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.243 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 2.573 | Mean of logged Data | 2.716 |
| Maximum of Logged Data | 2.833 | SD of logged Data | 0.132 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 19.98 | 90% Chebyshev (MVUE) UCL | 18.67 |
| 95% Chebyshev (MVUE) UCL | 20.24 | 97.5% Chebyshev (MVUE) UCL | 22.43 |
| 99% Chebyshev (MVUE) UCL | 26.71 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 17.07 | 95% Jackknife UCL | 18.52 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 18.61 | 95% Chebyshev(Mean, Sd) UCL | 20.15 |
| 97.5% Chebyshev(Mean, Sd) UCL | 22.29 | 99% Chebyshev(Mean, Sd) UCL | 26.5 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 18.52 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2A-SU02 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 254 | Mean | 335.3 |
| Maximum | 473 | Median | 279 |
| SD | 119.9 | Std. Error of Mean | 69.21 |
| Coefficient of Variation | 0.357 | Skewness | 1.648 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.834 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.347 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 537.4 | 95% Adjusted-CLT UCL (Chen-1995) | 519.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 548.4 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 12.91 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 25.98 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 77.43 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.86 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.334 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.537 | Mean of logged Data | 5.776 |
| Maximum of Logged Data | 6.159 | SD of logged Data | 0.335 |

| UCL Statistics for Uncensored Full Data Sets - DU 2A-SU02 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 982.9 | 90% Chebyshev (MVUE) UCL | 526.2 |
| 95% Chebyshev (MVUE) UCL | 613 | 97.5% Chebyshev (MVUE) UCL | 733.4 |
| 99% Chebyshev (MVUE) UCL | 970 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 449.2 | 95% Jackknife UCL | 537.4 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 543 | 95% Chebyshev(Mean, Sd) UCL | 637 |
| 97.5% Chebyshev(Mean, Sd) UCL | 767.6 | 99% Chebyshev(Mean, Sd) UCL | 1024 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 537.4 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 2A-SU07

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:21:12 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 56.1 | Mean | 81.53 |
| Maximum | 96 | Median | 92.5 |
| SD | 22.1 | Std. Error of Mean | 12.76 |
| Coefficient of Variation | 0.271 | Skewness | -1.683 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.815 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.357 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 118.8 | 95% Adjusted-CLT UCL (Chen-1995) | 89.27 |
| | | 95% Modified-t UCL (Johnson-1978) | 116.7 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 17.95 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 4.542 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 107.7 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 2A-SU07 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.802 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.363 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.027 | Mean of logged Data | 4.373 |
| Maximum of Logged Data | 4.564 | SD of logged Data | 0.3 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 198.3 | 90% Chebyshev (MVUE) UCL | 123.6 |
| 95% Chebyshev (MVUE) UCL | 142.6 | 97.5% Chebyshev (MVUE) UCL | 169 |
| 99% Chebyshev (MVUE) UCL | 220.9 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 102.5 | 95% Jackknife UCL | 118.8 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 119.8 | 95% Chebyshev(Mean, Sd) UCL | 137.1 |
| 97.5% Chebyshev(Mean, Sd) UCL | 161.2 | 99% Chebyshev(Mean, Sd) UCL | 208.5 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 118.8 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2A-SU07 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 179 | Mean | 341.3 |
| Maximum | 443 | Median | 402 |
| SD | 142.1 | Std. Error of Mean | 82.03 |
| Coefficient of Variation | 0.416 | Skewness | -1.571 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.863 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.332 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 580.8 | 95% Adjusted-CLT UCL (Chen-1995) | 396.7 |
| | | 95% Modified-t UCL (Johnson-1978) | 568.4 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 6.945 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 49.15 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 41.67 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.829 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.35 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.187 | Mean of logged Data | 5.759 |
| Maximum of Logged Data | 6.094 | SD of logged Data | 0.498 |

| UCL Statistics for Uncensored Full Data Sets - DU 2A-SU07 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3484 | 90% Chebyshev (MVUE) UCL | 631.2 |
| 95% Chebyshev (MVUE) UCL | 761.4 | 97.5% Chebyshev (MVUE) UCL | 942.2 |
| 99% Chebyshev (MVUE) UCL | 1297 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 476.3 | 95% Jackknife UCL | 580.8 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 587.4 | 95% Chebyshev(Mean, Sd) UCL | 698.9 |
| 97.5% Chebyshev(Mean, Sd) UCL | 853.6 | 99% Chebyshev(Mean, Sd) UCL | 1157 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 580.8 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 3A-SU03

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.16/28/2019 3:04:39 PM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 6.7 | Mean | 14.67 |
| Maximum | 28.6 | Median | 8.7 |
| SD | 12.11 | Std. Error of Mean | 6.991 |
| Coefficient of Variation | 0.826 | Skewness | 1.679 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.818 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.356 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 35.08 | 95% Adjusted-CLT UCL (Chen-1995) | 33.41 |
| | | 95% Modified-t UCL (Johnson-1978) | 36.21 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.506 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 5.854 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 15.03 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 3A-SU03 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.88 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.322 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.902 | Mean of logged Data | 2.473 |
| Maximum of Logged Data | 3.353 | SD of logged Data | 0.774 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3978 | 90% Chebyshev (MVUE) UCL | 32.26 |
| 95% Chebyshev (MVUE) UCL | 40.37 | 97.5% Chebyshev (MVUE) UCL | 51.63 |
| 99% Chebyshev (MVUE) UCL | 73.76 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 26.17 | 95% Jackknife UCL | 35.08 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 35.64 | 95% Chebyshev(Mean, Sd) UCL | 45.14 |
| 97.5% Chebyshev(Mean, Sd) UCL | 58.32 | 99% Chebyshev(Mean, Sd) UCL | 84.22 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 35.08 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 3A-SU03 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 1600 | Mean | 10493 |
| Maximum | 23900 | Median | 5980 |
| SD | 11815 | Std. Error of Mean | 6822 |
| Coefficient of Variation | 1.126 | Skewness | 1.468 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.891 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.315 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 30412 | 95% Adjusted-CLT UCL (Chen-1995) | 27892 |
| | | 95% Modified-t UCL (Johnson-1978) | 31376 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 1.062 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 9884 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 6.37 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 1 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.177 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 7.378 | Mean of logged Data | 8.719 |
| Maximum of Logged Data | 10.08 | SD of logged Data | 1.352 |

| UCL Statistics for Uncensored Full Data Sets - DU 3A-SU03 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3.301E+11 | 90% Chebyshev (MVUE) UCL | 30638 |
| 95% Chebyshev (MVUE) UCL | 39783 | 97.5% Chebyshev (MVUE) UCL | 52475 |
| 99% Chebyshev (MVUE) UCL | 77407 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 21714 | 95% Jackknife UCL | 30412 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 30958 | 95% Chebyshev(Mean, Sd) UCL | 40228 |
| 97.5% Chebyshev(Mean, Sd) UCL | 53094 | 99% Chebyshev(Mean, Sd) UCL | 78367 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 30412 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 4A-SU07

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.16/28/2019 1:49:05 PM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 1.5 | Mean | 2.433 |
| Maximum | 3.1 | Median | 2.7 |
| SD | 0.833 | Std. Error of Mean | 0.481 |
| Coefficient of Variation | 0.342 | Skewness | -1.293 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.923 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.292 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 3.837 | 95% Adjusted-CLT UCL (Chen-1995) | 2.841 |
| | | 95% Modified-t UCL (Johnson-1978) | 3.777 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 11.06 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.22 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 66.36 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 4A-SU07 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.887 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.318 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 0.405 | Mean of logged Data | 0.843 |
| Maximum of Logged Data | 1.131 | SD of logged Data | 0.385 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 9.89 | 90% Chebyshev (MVUE) UCL | 4.041 |
| 95% Chebyshev (MVUE) UCL | 4.766 | 97.5% Chebyshev (MVUE) UCL | 5.772 |
| 99% Chebyshev (MVUE) UCL | 7.748 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 3.224 | 95% Jackknife UCL | 3.837 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 3.876 | 95% Chebyshev(Mean, Sd) UCL | 4.529 |
| 97.5% Chebyshev(Mean, Sd) UCL | 5.436 | 99% Chebyshev(Mean, Sd) UCL | 7.217 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 3.837 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 4A-SU07 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 104 | Mean | 112.7 |
| Maximum | 123 | Median | 111 |
| SD | 9.609 | Std. Error of Mean | 5.548 |
| Coefficient of Variation | 0.0853 | Skewness | 0.757 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.977 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.236 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 128.9 | 95% Adjusted-CLT UCL (Chen-1995) | 124.4 |
| | | 95% Modified-t UCL (Johnson-1978) | 129.3 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 208.6 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.54 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 1252 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.984 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.225 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.644 | Mean of logged Data | 4.722 |
| Maximum of Logged Data | 4.812 | SD of logged Data | 0.0846 |

| UCL Statistics for Uncensored Full Data Sets - DU 4A-SU07 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | N/A | 90% Chebyshev (MVUE) UCL | 129.2 |
| 95% Chebyshev (MVUE) UCL | 136.6 | 97.5% Chebyshev (MVUE) UCL | 147 |
| 99% Chebyshev (MVUE) UCL | 167.4 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 121.8 | 95% Jackknife UCL | 128.9 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 129.3 | 95% Chebyshev(Mean, Sd) UCL | 136.8 |
| 97.5% Chebyshev(Mean, Sd) UCL | 147.3 | 99% Chebyshev(Mean, Sd) UCL | 167.9 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 128.9 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU09

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:33:00 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 8.5 | Mean | 10.4 |
| Maximum | 12.3 | Median | 10.4 |
| SD | 1.9 | Std. Error of Mean | 1.097 |
| Coefficient of Variation | 0.183 | Skewness | 0 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 1 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.175 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 13.6 | 95% Adjusted-CLT UCL (Chen-1995) | 12.2 |
| | | 95% Modified-t UCL (Johnson-1978) | 13.6 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 44.35 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.234 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 266.1 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU09 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.997 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.191 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 2.14 | Mean of logged Data | 2.33 |
| Maximum of Logged Data | 2.51 | SD of logged Data | 0.185 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 15.89 | 90% Chebyshev (MVUE) UCL | 13.72 |
| 95% Chebyshev (MVUE) UCL | 15.22 | 97.5% Chebyshev (MVUE) UCL | 17.31 |
| 99% Chebyshev (MVUE) UCL | 21.41 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 12.2 | 95% Jackknife UCL | 13.6 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 13.69 | 95% Chebyshev(Mean, Sd) UCL | 15.18 |
| 97.5% Chebyshev(Mean, Sd) UCL | 17.25 | 99% Chebyshev(Mean, Sd) UCL | 21.31 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 13.6 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU09 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 173 | Mean | 415.7 |
| Maximum | 847 | Median | 227 |
| SD | 374.5 | Std. Error of Mean | 216.2 |
| Coefficient of Variation | 0.901 | Skewness | 1.692 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.81 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.359 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 1047 | 95% Adjusted-CLT UCL (Chen-1995) | 997 |
| | | 95% Modified-t UCL (Johnson-1978) | 1082 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 2.1 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 197.9 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 12.6 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.874 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.326 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.153 | Mean of logged Data | 5.773 |
| Maximum of Logged Data | 6.742 | SD of logged Data | 0.85 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU09 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 358641 | 90% Chebyshev (MVUE) UCL | 950.1 |
| 95% Chebyshev (MVUE) UCL | 1198 | 97.5% Chebyshev (MVUE) UCL | 1541 |
| 99% Chebyshev (MVUE) UCL | 2216 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 771.3 | 95% Jackknife UCL | 1047 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1064 | 95% Chebyshev(Mean, Sd) UCL | 1358 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1766 | 99% Chebyshev(Mean, Sd) UCL | 2567 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1047 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU10

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:33:33 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 6.8 | Mean | 8.2 |
| Maximum | 10.7 | Median | 7.1 |
| SD | 2.17 | Std. Error of Mean | 1.253 |
| Coefficient of Variation | 0.265 | Skewness | 1.695 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.807 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.361 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 11.86 | 95% Adjusted-CLT UCL (Chen-1995) | 11.57 |
| | | 95% Modified-t UCL (Johnson-1978) | 12.06 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 23.19 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.354 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 139.2 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU10 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.821 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.354 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.917 | Mean of logged Data | 2.082 |
| Maximum of Logged Data | 2.37 | SD of logged Data | 0.25 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 15.85 | 90% Chebyshev (MVUE) UCL | 11.71 |
| 95% Chebyshev (MVUE) UCL | 13.31 | 97.5% Chebyshev (MVUE) UCL | 15.53 |
| 99% Chebyshev (MVUE) UCL | 19.88 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 10.26 | 95% Jackknife UCL | 11.86 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 11.96 | 95% Chebyshev(Mean, Sd) UCL | 13.66 |
| 97.5% Chebyshev(Mean, Sd) UCL | 16.02 | 99% Chebyshev(Mean, Sd) UCL | 20.67 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 11.86 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU10 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 363 | Mean | 483.3 |
| Maximum | 574 | Median | 513 |
| SD | 108.6 | Std. Error of Mean | 62.69 |
| Coefficient of Variation | 0.225 | Skewness | -1.138 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.944 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.274 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 666.4 | 95% Adjusted-CLT UCL (Chen-1995) | 542.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 659.5 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 27.53 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 17.56 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 165.2 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.92 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.294 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.894 | Mean of logged Data | 6.162 |
| Maximum of Logged Data | 6.353 | SD of logged Data | 0.239 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU10 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 893.7 | 90% Chebyshev (MVUE) UCL | 682.3 |
| 95% Chebyshev (MVUE) UCL | 772.3 | 97.5% Chebyshev (MVUE) UCL | 897.2 |
| 99% Chebyshev (MVUE) UCL | 1143 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 586.5 | 95% Jackknife UCL | 666.4 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 671.4 | 95% Chebyshev(Mean, Sd) UCL | 756.6 |
| 97.5% Chebyshev(Mean, Sd) UCL | 874.8 | 99% Chebyshev(Mean, Sd) UCL | 1107 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 666.4 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU11

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 3:58:40 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 6.8 | Mean | 9.7 |
| Maximum | 14.3 | Median | 8 |
| SD | 4.029 | Std. Error of Mean | 2.326 |
| Coefficient of Variation | 0.415 | Skewness | 1.561 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.866 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.33 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 16.49 | 95% Adjusted-CLT UCL (Chen-1995) | 15.77 |
| | | 95% Modified-t UCL (Johnson-1978) | 16.84 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 9.553 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 1.015 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 57.32 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU11 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.905 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.306 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.917 | Mean of logged Data | 2.219 |
| Maximum of Logged Data | 2.66 | SD of logged Data | 0.391 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 40.69 | 90% Chebyshev (MVUE) UCL | 16.1 |
| 95% Chebyshev (MVUE) UCL | 19.01 | 97.5% Chebyshev (MVUE) UCL | 23.04 |
| 99% Chebyshev (MVUE) UCL | 30.98 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 13.53 | 95% Jackknife UCL | 16.49 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 16.68 | 95% Chebyshev(Mean, Sd) UCL | 19.84 |
| 97.5% Chebyshev(Mean, Sd) UCL | 24.23 | 99% Chebyshev(Mean, Sd) UCL | 32.84 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 16.49 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU11 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 330 | Mean | 601 |
| Maximum | 944 | Median | 529 |
| SD | 313.3 | Std. Error of Mean | 180.9 |
| Coefficient of Variation | 0.521 | Skewness | 0.98 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.96 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.258 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 1129 | 95% Adjusted-CLT UCL (Chen-1995) | 1008 |
| | | 95% Modified-t UCL (Johnson-1978) | 1146 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 5.604 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 107.2 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 33.63 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.997 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.194 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.799 | Mean of logged Data | 6.307 |
| Maximum of Logged Data | 6.85 | SD of logged Data | 0.526 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU11 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 8028 | 90% Chebyshev (MVUE) UCL | 1129 |
| 95% Chebyshev (MVUE) UCL | 1369 | 97.5% Chebyshev (MVUE) UCL | 1701 |
| 99% Chebyshev (MVUE) UCL | 2355 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 898.5 | 95% Jackknife UCL | 1129 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1144 | 95% Chebyshev(Mean, Sd) UCL | 1389 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1731 | 99% Chebyshev(Mean, Sd) UCL | 2401 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1129 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU30

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:34:34 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.71 | Mean | 0.793 |
| Maximum | 0.91 | Median | 0.76 |
| SD | 0.104 | Std. Error of Mean | 0.0601 |
| Coefficient of Variation | 0.131 | Skewness | 1.293 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.923 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.292 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 0.969 | 95% Adjusted-CLT UCL (Chen-1995) | 0.94 |
| | | 95% Modified-t UCL (Johnson-1978) | 0.976 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 89.97 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.00882 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 539.8 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU30 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.936 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.281 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | -0.342 | Mean of logged Data | -0.237 |
| Maximum of Logged Data | -0.0943 | SD of logged Data | 0.128 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 1.033 | 90% Chebyshev (MVUE) UCL | 0.969 |
| 95% Chebyshev (MVUE) UCL | 1.049 | 97.5% Chebyshev (MVUE) UCL | 1.159 |
| 99% Chebyshev (MVUE) UCL | 1.376 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 0.892 | 95% Jackknife UCL | 0.969 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 0.974 | 95% Chebyshev(Mean, Sd) UCL | 1.055 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1.169 | 99% Chebyshev(Mean, Sd) UCL | 1.391 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 0.969 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU30 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 346 | Mean | 375.3 |
| Maximum | 426 | Median | 354 |
| SD | 44.06 | Std. Error of Mean | 25.44 |
| Coefficient of Variation | 0.117 | Skewness | 1.668 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.824 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.353 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 449.6 | 95% Adjusted-CLT UCL (Chen-1995) | 443.4 |
| | | 95% Modified-t UCL (Johnson-1978) | 453.7 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 113.2 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 3.315 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 679.3 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.831 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.349 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.846 | Mean of logged Data | 5.923 |
| Maximum of Logged Data | 6.054 | SD of logged Data | 0.114 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU30 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 471.8 | 90% Chebyshev (MVUE) UCL | 449.3 |
| 95% Chebyshev (MVUE) UCL | 482.9 | 97.5% Chebyshev (MVUE) UCL | 529.4 |
| 99% Chebyshev (MVUE) UCL | 620.8 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 417.2 | 95% Jackknife UCL | 449.6 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 451.6 | 95% Chebyshev(Mean, Sd) UCL | 486.2 |
| 97.5% Chebyshev(Mean, Sd) UCL | 534.2 | 99% Chebyshev(Mean, Sd) UCL | 628.4 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 449.6 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU36

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:35:34 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 2.9 | Mean | 3.8 |
| Maximum | 5.1 | Median | 3.4 |
| SD | 1.153 | Std. Error of Mean | 0.666 |
| Coefficient of Variation | 0.303 | Skewness | 1.373 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.91 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.302 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 5.744 | 95% Adjusted-CLT UCL (Chen-1995) | 5.459 |
| | | 95% Modified-t UCL (Johnson-1978) | 5.832 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 17.35 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.219 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 104.1 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU36 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.94 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.278 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.065 | Mean of logged Data | 1.306 |
| Maximum of Logged Data | 1.629 | SD of logged Data | 0.291 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 8.819 | 90% Chebyshev (MVUE) UCL | 5.69 |
| 95% Chebyshev (MVUE) UCL | 6.548 | 97.5% Chebyshev (MVUE) UCL | 7.739 |
| 99% Chebyshev (MVUE) UCL | 10.08 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 4.895 | 95% Jackknife UCL | 5.744 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 5.797 | 95% Chebyshev(Mean, Sd) UCL | 6.702 |
| 97.5% Chebyshev(Mean, Sd) UCL | 7.958 | 99% Chebyshev(Mean, Sd) UCL | 10.42 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 5.744 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU36 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 324 | Mean | 350.3 |
| Maximum | 367 | Median | 360 |
| SD | 23.07 | Std. Error of Mean | 13.32 |
| Coefficient of Variation | 0.0659 | Skewness | -1.554 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.868 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.329 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 389.2 | 95% Adjusted-CLT UCL (Chen-1995) | 359.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 387.2 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 337.6 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 1.038 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 2025 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.863 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.332 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.781 | Mean of logged Data | 5.857 |
| Maximum of Logged Data | 5.905 | SD of logged Data | 0.0671 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU36 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | N/A | 90% Chebyshev (MVUE) UCL | 391 |
| 95% Chebyshev (MVUE) UCL | 409.5 | 97.5% Chebyshev (MVUE) UCL | 435 |
| 99% Chebyshev (MVUE) UCL | 485.3 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 372.2 | 95% Jackknife UCL | 389.2 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 390.3 | 95% Chebyshev(Mean, Sd) UCL | 408.4 |
| 97.5% Chebyshev(Mean, Sd) UCL | 433.5 | 99% Chebyshev(Mean, Sd) UCL | 482.9 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 389.2 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU44

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:36:22 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.82 | Mean | 0.973 |
| Maximum | 1.1 | Median | 1 |
| SD | 0.142 | Std. Error of Mean | 0.0819 |
| Coefficient of Variation | 0.146 | Skewness | -0.816 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.973 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.241 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 1.213 | 95% Adjusted-CLT UCL (Chen-1995) | 1.067 |
| | | 95% Modified-t UCL (Johnson-1978) | 1.206 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 68.18 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.0143 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 409.1 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU44 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.961 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.257 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | -0.198 | Mean of logged Data | -0.0344 |
| Maximum of Logged Data | 0.0953 | SD of logged Data | 0.15 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 1.341 | 90% Chebyshev (MVUE) UCL | 1.225 |
| 95% Chebyshev (MVUE) UCL | 1.34 | 97.5% Chebyshev (MVUE) UCL | 1.498 |
| 99% Chebyshev (MVUE) UCL | 1.809 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1.108 | 95% Jackknife UCL | 1.213 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1.219 | 95% Chebyshev(Mean, Sd) UCL | 1.33 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1.485 | 99% Chebyshev(Mean, Sd) UCL | 1.788 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1.213 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU44 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 69.9 | Mean | 86.6 |
| Maximum | 105 | Median | 84.9 |
| SD | 17.61 | Std. Error of Mean | 10.17 |
| Coefficient of Variation | 0.203 | Skewness | 0.43 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.993 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.205 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 116.3 | 95% Adjusted-CLT UCL (Chen-1995) | 106 |
| | | 95% Modified-t UCL (Johnson-1978) | 116.7 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 36.4 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 2.379 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 218.4 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.999 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.178 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.247 | Mean of logged Data | 4.448 |
| Maximum of Logged Data | 4.654 | SD of logged Data | 0.204 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU44 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 140.6 | 90% Chebyshev (MVUE) UCL | 117 |
| 95% Chebyshev (MVUE) UCL | 130.7 | 97.5% Chebyshev (MVUE) UCL | 149.8 |
| 99% Chebyshev (MVUE) UCL | 187.3 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 103.3 | 95% Jackknife UCL | 116.3 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 117.1 | 95% Chebyshev(Mean, Sd) UCL | 130.9 |
| 97.5% Chebyshev(Mean, Sd) UCL | 150.1 | 99% Chebyshev(Mean, Sd) UCL | 187.8 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 116.3 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 1B-SU51

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:36:49 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 3.3 | Mean | 5.167 |
| Maximum | 7.5 | Median | 4.7 |
| SD | 2.139 | Std. Error of Mean | 1.235 |
| Coefficient of Variation | 0.414 | Skewness | 0.935 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.253 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 8.772 | 95% Adjusted-CLT UCL (Chen-1995) | 7.91 |
| | | 95% Modified-t UCL (Johnson-1978) | 8.883 |

### Gamma GOF Test

**Not Enough Data to Perform GOF Test**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 8.972 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.576 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 53.83 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

### Lognormal GOF Test

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU51 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.994 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.203 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.194 | Mean of logged Data | 1.585 |
| Maximum of Logged Data | 2.015 | SD of logged Data | 0.412 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 25.32 | 90% Chebyshev (MVUE) UCL | 8.767 |
| 95% Chebyshev (MVUE) UCL | 10.4 | 97.5% Chebyshev (MVUE) UCL | 12.67 |
| 99% Chebyshev (MVUE) UCL | 17.12 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 7.198 | 95% Jackknife UCL | 8.772 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 8.871 | 95% Chebyshev(Mean, Sd) UCL | 10.55 |
| 97.5% Chebyshev(Mean, Sd) UCL | 12.88 | 99% Chebyshev(Mean, Sd) UCL | 17.45 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 8.772 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU51 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 381 | Mean | 419.3 |
| Maximum | 450 | Median | 427 |
| SD | 35.13 | Std. Error of Mean | 20.28 |
| Coefficient of Variation | 0.0838 | Skewness | -0.935 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.253 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 478.6 | 95% Adjusted-CLT UCL (Chen-1995) | 441 |
| | | 95% Modified-t UCL (Johnson-1978) | 476.7 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 209.4 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 2.002 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 1257 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.956 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.262 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.943 | Mean of logged Data | 6.036 |
| Maximum of Logged Data | 6.109 | SD of logged Data | 0.0851 |

| UCL Statistics for Uncensored Full Data Sets - DU 1B-SU51 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | N/A | 90% Chebyshev (MVUE) UCL | 481.1 |
| 95% Chebyshev (MVUE) UCL | 509.1 | 97.5% Chebyshev (MVUE) UCL | 547.9 |
| 99% Chebyshev (MVUE) UCL | 624.2 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 452.7 | 95% Jackknife UCL | 478.6 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 480.2 | 95% Chebyshev(Mean, Sd) UCL | 507.7 |
| 97.5% Chebyshev(Mean, Sd) UCL | 546 | 99% Chebyshev(Mean, Sd) UCL | 621.2 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 478.6 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 2B-SU02

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:18:20 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 9.8 | Mean | 12.7 |
| Maximum | 14.6 | Median | 13.7 |
| SD | 2.551 | Std. Error of Mean | 1.473 |
| Coefficient of Variation | 0.201 | Skewness | -1.493 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.885 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.319 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 17 | 95% Adjusted-CLT UCL (Chen-1995) | 13.77 |
| | | 95% Modified-t UCL (Johnson-1978) | 16.79 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 34.25 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.371 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 205.5 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 2B-SU02 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.866 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.33 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 2.282 | Mean of logged Data | 2.527 |
| Maximum of Logged Data | 2.681 | SD of logged Data | 0.214 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 21.41 | 90% Chebyshev (MVUE) UCL | 17.39 |
| 95% Chebyshev (MVUE) UCL | 19.52 | 97.5% Chebyshev (MVUE) UCL | 22.46 |
| 99% Chebyshev (MVUE) UCL | 28.25 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 15.12 | 95% Jackknife UCL | 17 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 17.12 | 95% Chebyshev(Mean, Sd) UCL | 19.12 |
| 97.5% Chebyshev(Mean, Sd) UCL | 21.9 | 99% Chebyshev(Mean, Sd) UCL | 27.36 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 17 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2B-SU02 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 90.5 | Mean | 149.2 |
| Maximum | 222 | Median | 135 |
| SD | 66.88 | Std. Error of Mean | 38.62 |
| Coefficient of Variation | 0.448 | Skewness | 0.91 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.966 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.251 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 261.9 | 95% Adjusted-CLT UCL (Chen-1995) | 234.4 |
| | | 95% Modified-t UCL (Johnson-1978) | 265.3 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 7.593 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 19.65 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 45.56 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.996 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.195 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.505 | Mean of logged Data | 4.938 |
| Maximum of Logged Data | 5.403 | SD of logged Data | 0.45 |

| UCL Statistics for Uncensored Full Data Sets - DU 2B-SU02 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 984.8 | 90% Chebyshev (MVUE) UCL | 262.2 |
| 95% Chebyshev (MVUE) UCL | 313.5 | 97.5% Chebyshev (MVUE) UCL | 384.6 |
| 99% Chebyshev (MVUE) UCL | 524.4 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 212.7 | 95% Jackknife UCL | 261.9 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 265 | 95% Chebyshev(Mean, Sd) UCL | 317.5 |
| 97.5% Chebyshev(Mean, Sd) UCL | 390.3 | 99% Chebyshev(Mean, Sd) UCL | 533.4 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 261.9 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 2B-SU07

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:18:58 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 24.3 | Mean | 48.3 |
| Maximum | 67.1 | Median | 53.5 |
| SD | 21.87 | Std. Error of Mean | 12.63 |
| Coefficient of Variation | 0.453 | Skewness | -1.01 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.958 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.261 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 85.17 | 95% Adjusted-CLT UCL (Chen-1995) | 61.2 |
| | | 95% Modified-t UCL (Johnson-1978) | 83.94 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 6.022 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 8.02 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 36.13 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 2B-SU07 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.907 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.304 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 3.19 | Mean of logged Data | 3.792 |
| Maximum of Logged Data | 4.206 | SD of logged Data | 0.533 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 696.3 | 90% Chebyshev (MVUE) UCL | 92.06 |
| 95% Chebyshev (MVUE) UCL | 111.7 | 97.5% Chebyshev (MVUE) UCL | 139 |
| 99% Chebyshev (MVUE) UCL | 192.6 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 69.07 | 95% Jackknife UCL | 85.17 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 86.18 | 95% Chebyshev(Mean, Sd) UCL | 103.3 |
| 97.5% Chebyshev(Mean, Sd) UCL | 127.1 | 99% Chebyshev(Mean, Sd) UCL | 173.9 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 85.17 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2B-SU07 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 183 | Mean | 786.3 |
| Maximum | 1960 | Median | 216 |
| SD | 1017 | Std. Error of Mean | 586.9 |
| Coefficient of Variation | 1.293 | Skewness | 1.73 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.764 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.379 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Approximate Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 2500 | 95% Adjusted-CLT UCL (Chen-1995) | 2378 |
| | | 95% Modified-t UCL (Johnson-1978) | 2598 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 0.949 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 828.8 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 5.692 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.802 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.363 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.209 | Mean of logged Data | 6.055 |
| Maximum of Logged Data | 7.581 | SD of logged Data | 1.324 |

| UCL Statistics for Uncensored Full Data Sets - DU 2B-SU07 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 1.100E+10 | 90% Chebyshev (MVUE) UCL | 2074 |
| 95% Chebyshev (MVUE) UCL | 2690 | 97.5% Chebyshev (MVUE) UCL | 3545 |
| 99% Chebyshev (MVUE) UCL | 5225 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1752 | 95% Jackknife UCL | 2500 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 2547 | 95% Chebyshev(Mean, Sd) UCL | 3345 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4452 | 99% Chebyshev(Mean, Sd) UCL | 6626 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 2500 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test | | | |
| When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 3B-SU03

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:17:41 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 12.1 | Mean | 30.3 |
| Maximum | 66 | Median | 12.8 |
| SD | 30.92 | Std. Error of Mean | 17.85 |
| Coefficient of Variation | 1.02 | Skewness | 1.731 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.76 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.381 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Approximate Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 82.43 | 95% Adjusted-CLT UCL (Chen-1995) | 78.73 |
| | | 95% Modified-t UCL (Johnson-1978) | 85.4 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.645 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 18.42 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 9.871 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 3B-SU03 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.775 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.375 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 2.493 | Mean of logged Data | 3.077 |
| Maximum of Logged Data | 4.19 | SD of logged Data | 0.964 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 181505 | 90% Chebyshev (MVUE) UCL | 72.44 |
| 95% Chebyshev (MVUE) UCL | 92.14 | 97.5% Chebyshev (MVUE) UCL | 119.5 |
| 99% Chebyshev (MVUE) UCL | 173.2 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 59.66 | 95% Jackknife UCL | 82.43 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 83.85 | 95% Chebyshev(Mean, Sd) UCL | 108.1 |
| 97.5% Chebyshev(Mean, Sd) UCL | 141.8 | 99% Chebyshev(Mean, Sd) UCL | 207.9 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 82.43 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test | | | |
| When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 3B-SU03 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 432 | Mean | 2941 |
| Maximum | 5910 | Median | 2480 |
| SD | 2768 | Std. Error of Mean | 1598 |
| Coefficient of Variation | 0.941 | Skewness | 0.728 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.979 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.233 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 7607 | 95% Adjusted-CLT UCL (Chen-1995) | 6287 |
| | | 95% Modified-t UCL (Johnson-1978) | 7719 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 1.219 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 2413 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 7.311 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.254 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 6.068 | Mean of logged Data | 7.523 |
| Maximum of Logged Data | 8.684 | SD of logged Data | 1.332 |

| UCL Statistics for Uncensored Full Data Sets - DU 3B-SU03 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 5.966E+10 | 90% Chebyshev (MVUE) UCL | 9082 |
| 95% Chebyshev (MVUE) UCL | 11784 | 97.5% Chebyshev (MVUE) UCL | 15533 |
| 99% Chebyshev (MVUE) UCL | 22899 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 5569 | 95% Jackknife UCL | 7607 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 7735 | 95% Chebyshev(Mean, Sd) UCL | 9906 |
| 97.5% Chebyshev(Mean, Sd) UCL | 12920 | 99% Chebyshev(Mean, Sd) UCL | 18841 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 7607 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 4B-SU07

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 11:13:10 AM |
| From File | Replicates.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 3 | Number of Distinct Observations | 2 |
| | | Number of Missing Observations | 0 |
| Minimum | 1.3 | Mean | 1.5 |
| Maximum | 1.6 | Median | 1.6 |
| SD | 0.173 | Std. Error of Mean | 0.1 |
| Coefficient of Variation | 0.115 | Skewness | -1.732 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.75 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.385 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level |

**Data appear Approximate Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 1.792 | 95% Adjusted-CLT UCL (Chen-1995) | 1.558 |
| | | 95% Modified-t UCL (Johnson-1978) | 1.775 |

**Gamma GOF Test**

**Not Enough Data to Perform GOF Test**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 107.1 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.014 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 642.8 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |

**Lognormal GOF Test**

| UCL Statistics for Uncensored Full Data Sets - DU 4B-SU07 | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.75 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.385 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Approximate Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 0.262 | Mean of logged Data | 0.401 |
| Maximum of Logged Data | 0.47 | SD of logged Data | 0.12 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 1.913 | 90% Chebyshev (MVUE) UCL | 1.811 |
| 95% Chebyshev (MVUE) UCL | 1.952 | 97.5% Chebyshev (MVUE) UCL | 2.147 |
| 99% Chebyshev (MVUE) UCL | 2.531 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1.664 | 95% Jackknife UCL | N/A |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 1.8 | 95% Chebyshev(Mean, Sd) UCL | 1.936 |
| 97.5% Chebyshev(Mean, Sd) UCL | 2.124 | 99% Chebyshev(Mean, Sd) UCL | 2.495 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 1.792 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test | | | |
| When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be** | | | |
| **reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 4B-SU07 | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 3 | Number of Distinct Observations | 3 |
| | | Number of Missing Observations | 0 |
| Minimum | 76.9 | Mean | 78.17 |
| Maximum | 80.3 | Median | 77.3 |
| SD | 1.858 | Std. Error of Mean | 1.073 |
| Coefficient of Variation | 0.0238 | Skewness | 1.642 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.837 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.346 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 81.3 | 95% Adjusted-CLT UCL (Chen-1995) | 81.02 |
| | | 95% Modified-t UCL (Johnson-1978) | 81.47 |
| | | | |
| **Gamma GOF Test** | | | |
| **Not Enough Data to Perform GOF Test** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 2677 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.0292 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 16060 | nu star (bias corrected) | N/A |
| MLE Mean (bias corrected) | N/A | MLE Sd (bias corrected) | N/A |
| | | Approximate Chi Square Value (0.05) | N/A |
| Adjusted Level of Significance | N/A | Adjusted Chi Square Value | N/A |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | N/A | 95% Adjusted Gamma UCL (use when n<50) | N/A |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.838 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.767 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.345 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.425 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.343 | Mean of logged Data | 4.359 |
| Maximum of Logged Data | 4.386 | SD of logged Data | 0.0236 |

| UCL Statistics for Uncensored Full Data Sets - DU 4B-SU07 | | | |
|---|---|---|---|
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | N/A | 90% Chebyshev (MVUE) UCL | 81.36 |
| 95% Chebyshev (MVUE) UCL | 82.81 | 97.5% Chebyshev (MVUE) UCL | 84.82 |
| 99% Chebyshev (MVUE) UCL | 88.77 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 79.93 | 95% Jackknife UCL | 81.3 |
| 95% Standard Bootstrap UCL | N/A | 95% Bootstrap-t UCL | N/A |
| 95% Hall's Bootstrap UCL | N/A | 95% Percentile Bootstrap UCL | N/A |
| 95% BCA Bootstrap UCL | N/A | | |
| 90% Chebyshev(Mean, Sd) UCL | 81.39 | 95% Chebyshev(Mean, Sd) UCL | 82.84 |
| 97.5% Chebyshev(Mean, Sd) UCL | 84.87 | 99% Chebyshev(Mean, Sd) UCL | 88.84 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 81.3 | | |
| | | | |
| **Recommended UCL exceeds the maximum observation** | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

**ATTACHMENT F**

**ProUCL Analyses and 95% UCLs for Arsenic and Manganese in Surface and Subsurface Soil Collected from DU 1, DU 2, DU 3, and DU 4**

(Page intentionally left blank)

## UCL Statistics for Uncensored Full Data Sets - DU 1 Surface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 2:51:45 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 56 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.91 | Mean | 15.49 |
| Maximum | 55.1 | Median | 12.3 |
| SD | 12.8 | Std. Error of Mean | 1.666 |
| Coefficient of Variation | 0.826 | Skewness | 1.307 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.855 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.4694E-7 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.17 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.115 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 18.28 | 95% Adjusted-CLT UCL (Chen-1995) | 18.54 |
| | | 95% Modified-t UCL (Johnson-1978) | 18.33 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.378 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.768 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0804 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.118 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.571 | k star (bias corrected MLE) | 1.503 |
| Theta hat (MLE) | 9.862 | Theta star (bias corrected MLE) | 10.31 |
| nu hat (MLE) | 185.4 | nu star (bias corrected) | 177.3 |
| MLE Mean (bias corrected) | 15.49 | MLE Sd (bias corrected) | 12.64 |
| | | Approximate Chi Square Value (0.05) | 147.5 |
| Adjusted Level of Significance | 0.0459 | Adjusted Chi Square Value | 146.8 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 18.62 | 95% Adjusted Gamma UCL (use when n<50) | 18.71 |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| | | | |
| User Selected Options | | | |
| Date/Time of Computation | ProUCL 5.18/8/2019 4:30:10 PM | | |
| From File | UCL Input.xls | | |
| Full Precision | OFF | | |
| Confidence Coefficient | 95% | | |
| Number of Bootstrap Operations | 2000 | | |
| | | | |
| | | | |
| **Arsenic** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 118 | Number of Distinct Observations | 103 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.91 | Mean | 13.22 |
| Maximum | 55.1 | Median | 9.9 |
| SD | 10.9 | Std. Error of Mean | 1.004 |
| Coefficient of Variation | 0.825 | Skewness | 1.601 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.835 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.164 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0819 | Data Not Normal at 5% Significance Level | |
| **Data Not Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 14.88 | 95% Adjusted-CLT UCL (Chen-1995) | 15.03 |
| | | 95% Modified-t UCL (Johnson-1978) | 14.91 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.559 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.768 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.0612 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.0862 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data appear Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 1.671 | k star (bias corrected MLE) | 1.634 |
| Theta hat (MLE) | 7.91 | Theta star (bias corrected MLE) | 8.088 |
| nu hat (MLE) | 394.4 | nu star (bias corrected) | 385.7 |
| MLE Mean (bias corrected) | 13.22 | MLE Sd (bias corrected) | 10.34 |
| | | Approximate Chi Square Value (0.05) | 341.2 |
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 340.6 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50) | 14.94 | 95% Adjusted Gamma UCL (use when n<50) | 14.97 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.966 | **Shapiro Wilk Lognormal GOF Test** | |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| 5% Shapiro Wilk P Value | 0.047 | Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0777 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.0819 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Approximate Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | -0.0943 | Mean of logged Data | 2.253 |
| Maximum of Logged Data | 4.009 | SD of logged Data | 0.864 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 16.35 | 90% Chebyshev (MVUE) UCL | 17.56 |
| 95% Chebyshev (MVUE) UCL | 19.28 | 97.5% Chebyshev (MVUE) UCL | 21.67 |
| 99% Chebyshev (MVUE) UCL | 26.35 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 14.87 | 95% Jackknife UCL | 14.88 |
| 95% Standard Bootstrap UCL | 14.86 | 95% Bootstrap-t UCL | 15.08 |
| 95% Hall's Bootstrap UCL | 15.02 | 95% Percentile Bootstrap UCL | 14.85 |
| 95% BCA Bootstrap UCL | 15.06 | | |
| 90% Chebyshev(Mean, Sd) UCL | 16.23 | 95% Chebyshev(Mean, Sd) UCL | 17.59 |
| 97.5% Chebyshev(Mean, Sd) UCL | 19.49 | 99% Chebyshev(Mean, Sd) UCL | 23.2 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Approximate Gamma UCL | 14.94 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 118 | Number of Distinct Observations | 115 |
| | | Number of Missing Observations | 0 |
| Minimum | 57.6 | Mean | 1885 |
| Maximum | 27700 | Median | 421.5 |
| SD | 4720 | Std. Error of Mean | 434.6 |
| Coefficient of Variation | 2.504 | Skewness | 3.726 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.408 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.39 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0819 | Data Not Normal at 5% Significance Level | |
| **Data Not Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 2606 | 95% Adjusted-CLT UCL (Chen-1995) | 2760 |
| | | 95% Modified-t UCL (Johnson-1978) | 2631 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 13.58 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.818 | Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.267 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.0897 | Data Not Gamma Distributed at 5% Significance Level | |
| **Data Not Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 0.505 | k star (bias corrected MLE) | 0.498 |
| Theta hat (MLE) | 3733 | Theta star (bias corrected MLE) | 3787 |
| nu hat (MLE) | 119.2 | nu star (bias corrected) | 117.5 |
| MLE Mean (bias corrected) | 1885 | MLE Sd (bias corrected) | 2672 |
| | | Approximate Chi Square Value (0.05) | 93.47 |
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 93.21 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | 2370 | 95% Adjusted Gamma UCL (use when n<50) | 2377 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.888 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk P Value | 1.058E-12 | Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.128 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.0819 | Data Not Lognormal at 5% Significance Level | |
| **Data Not Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.054 | Mean of logged Data | 6.286 |
| Maximum of Logged Data | 10.23 | SD of logged Data | 1.311 |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 1726 | 90% Chebyshev (MVUE) UCL | 1852 |
| 95% Chebyshev (MVUE) UCL | 2123 | 97.5% Chebyshev (MVUE) UCL | 2500 |
| 99% Chebyshev (MVUE) UCL | 3239 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data do not follow a Discernible Distribution (0.05)** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 2600 | 95% Jackknife UCL | 2606 |
| 95% Standard Bootstrap UCL | 2587 | 95% Bootstrap-t UCL | 2860 |
| 95% Hall's Bootstrap UCL | 2736 | 95% Percentile Bootstrap UCL | 2582 |
| 95% BCA Bootstrap UCL | 2838 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3189 | 95% Chebyshev(Mean, Sd) UCL | 3780 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4599 | 99% Chebyshev(Mean, Sd) UCL | 6209 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Chebyshev (Mean, Sd) UCL | 3780 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 2 Combined Surface/Subsurface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 4:32:34 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 36 | Number of Distinct Observations | 35 |
| | | Number of Missing Observations | 0 |
| Minimum | 2.1 | Mean | 30.48 |
| Maximum | 137.1 | Median | 15.7 |
| SD | 35.41 | Std. Error of Mean | 5.901 |
| Coefficient of Variation | 1.162 | Skewness | 1.685 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.746 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.935 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.277 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.145 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 40.45 | 95% Adjusted-CLT UCL (Chen-1995) | 41.96 |
| | | 95% Modified-t UCL (Johnson-1978) | 40.73 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.853 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.778 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.158 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.151 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.956 | k star (bias corrected MLE) | 0.894 |
| Theta hat (MLE) | 31.9 | Theta star (bias corrected MLE) | 34.08 |
| nu hat (MLE) | 68.8 | nu star (bias corrected) | 64.4 |
| MLE Mean (bias corrected) | 30.48 | MLE Sd (bias corrected) | 32.23 |
| | | Approximate Chi Square Value (0.05) | 46.93 |
| Adjusted Level of Significance | 0.0428 | Adjusted Chi Square Value | 46.26 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 41.82 | 95% Adjusted Gamma UCL (use when n<50) | 42.44 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.966 | **Shapiro Wilk Lognormal GOF Test** |

| UCL Statistics for Uncensored Full Data Sets - DU 2 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| 5% Shapiro Wilk Critical Value | 0.935 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.081 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.145 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 0.742 | Mean of logged Data | 2.81 |
| Maximum of Logged Data | 4.921 | SD of logged Data | 1.145 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 52.45 | 90% Chebyshev (MVUE) UCL | 52.41 |
| 95% Chebyshev (MVUE) UCL | 62.07 | 97.5% Chebyshev (MVUE) UCL | 75.48 |
| 99% Chebyshev (MVUE) UCL | 101.8 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 40.19 | 95% Jackknife UCL | 40.45 |
| 95% Standard Bootstrap UCL | 39.92 | 95% Bootstrap-t UCL | 42.62 |
| 95% Hall's Bootstrap UCL | 41.84 | 95% Percentile Bootstrap UCL | 40.27 |
| 95% BCA Bootstrap UCL | 40.98 | | |
| 90% Chebyshev(Mean, Sd) UCL | 48.18 | 95% Chebyshev(Mean, Sd) UCL | 56.2 |
| 97.5% Chebyshev(Mean, Sd) UCL | 67.33 | 99% Chebyshev(Mean, Sd) UCL | 89.19 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% H-UCL | 52.45 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **ProUCL computes and outputs H-statistic based UCLs for historical reasons only.** | | | |
| **H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.** | | | |
| **It is therefore recommended to avoid the use of H-statistic based 95% UCLs.** | | | |
| **Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 36 | Number of Distinct Observations | 36 |
| | | Number of Missing Observations | 0 |
| Minimum | 106 | Mean | 1262 |
| Maximum | 7010 | Median | 741.5 |
| SD | 1473 | Std. Error of Mean | 245.5 |
| Coefficient of Variation | 1.167 | Skewness | 2.739 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.664 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.935 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.233 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.145 | Data Not Normal at 5% Significance Level | |
| **Data Not Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 1677 | 95% Adjusted-CLT UCL (Chen-1995) | 1785 |
| | | 95% Modified-t UCL (Johnson-1978) | 1695 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.951 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.771 | Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.15 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.15 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data follow Appr. Gamma Distribution at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 1.277 | k star (bias corrected MLE) | 1.189 |
| Theta hat (MLE) | 987.9 | Theta star (bias corrected MLE) | 1061 |
| nu hat (MLE) | 91.97 | nu star (bias corrected) | 85.64 |
| MLE Mean (bias corrected) | 1262 | MLE Sd (bias corrected) | 1157 |
| | | Approximate Chi Square Value (0.05) | 65.31 |
| Adjusted Level of Significance | 0.0428 | Adjusted Chi Square Value | 64.5 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50) | 1655 | 95% Adjusted Gamma UCL (use when n<50) | 1675 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.98 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.935 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0825 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.145 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.663 | Mean of logged Data | 6.7 |
| Maximum of Logged Data | 8.855 | SD of logged Data | 0.92 |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 1774 | 90% Chebyshev (MVUE) UCL | 1861 |
| 95% Chebyshev (MVUE) UCL | 2152 | 97.5% Chebyshev (MVUE) UCL | 2554 |
| 99% Chebyshev (MVUE) UCL | 3345 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 1666 | 95% Jackknife UCL | 1677 |
| 95% Standard Bootstrap UCL | 1657 | 95% Bootstrap-t UCL | 1937 |
| 95% Hall's Bootstrap UCL | 3446 | 95% Percentile Bootstrap UCL | 1700 |
| 95% BCA Bootstrap UCL | 1823 | | |
| 90% Chebyshev(Mean, Sd) UCL | 1998 | 95% Chebyshev(Mean, Sd) UCL | 2332 |
| 97.5% Chebyshev(Mean, Sd) UCL | 2795 | 99% Chebyshev(Mean, Sd) UCL | 3704 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Adjusted Gamma UCL | 1675 | | |
| | | | |
| When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test | | | |
| When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 3 Combined Surface/Subsurface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 1:46:32 PM |
| From File | DU UCL.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 20 | Number of Distinct Observations | 20 |
| | | Number of Missing Observations | 0 |
| Minimum | 1.5 | Mean | 15.92 |
| Maximum | 108.1 | Median | 8.35 |
| SD | 23.74 | Std. Error of Mean | 5.308 |
| Coefficient of Variation | 1.491 | Skewness | 3.474 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.53 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.905 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.318 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.192 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 25.1 | 95% Adjusted-CLT UCL (Chen-1995) | 29.06 |
| | | 95% Modified-t UCL (Johnson-1978) | 25.79 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.201 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.766 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.213 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.199 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.101 | k star (bias corrected MLE) | 0.969 |
| Theta hat (MLE) | 14.47 | Theta star (bias corrected MLE) | 16.43 |
| nu hat (MLE) | 44.03 | nu star (bias corrected) | 38.76 |
| MLE Mean (bias corrected) | 15.92 | MLE Sd (bias corrected) | 16.18 |
| | | Approximate Chi Square Value (0.05) | 25.5 |
| Adjusted Level of Significance | 0.038 | Adjusted Chi Square Value | 24.65 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 24.2 | 95% Adjusted Gamma UCL (use when n<50) | 25.04 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.956 | **Shapiro Wilk Lognormal GOF Test** |

| UCL Statistics for Uncensored Full Data Sets - DU 3 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| 5% Shapiro Wilk Critical Value | 0.905 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.145 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.192 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 0.405 | Mean of logged Data | 2.249 |
| Maximum of Logged Data | 4.683 | SD of logged Data | 0.944 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 25.73 | 90% Chebyshev (MVUE) UCL | 24.44 |
| 95% Chebyshev (MVUE) UCL | 29.01 | 97.5% Chebyshev (MVUE) UCL | 35.35 |
| 99% Chebyshev (MVUE) UCL | 47.8 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 24.65 | 95% Jackknife UCL | 25.1 |
| 95% Standard Bootstrap UCL | 24.49 | 95% Bootstrap-t UCL | 48.61 |
| 95% Hall's Bootstrap UCL | 61.25 | 95% Percentile Bootstrap UCL | 25.11 |
| 95% BCA Bootstrap UCL | 30.03 | | |
| 90% Chebyshev(Mean, Sd) UCL | 31.85 | 95% Chebyshev(Mean, Sd) UCL | 39.06 |
| 97.5% Chebyshev(Mean, Sd) UCL | 49.07 | 99% Chebyshev(Mean, Sd) UCL | 68.74 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% H-UCL | 25.73 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| **ProUCL computes and outputs H-statistic based UCLs for historical reasons only.** | | | |
| **H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.** | | | |
| **It is therefore recommended to avoid the use of H-statistic based 95% UCLs.** | | | |
| **Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.** | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 3 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 20 | Number of Distinct Observations | 20 |
| | | Number of Missing Observations | 0 |
| Minimum | 89 | Mean | 11851 |
| Maximum | 48800 | Median | 5005 |
| SD | 15677 | Std. Error of Mean | 3505 |
| Coefficient of Variation | 1.323 | Skewness | 1.539 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.74 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.905 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.261 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.192 | Data Not Normal at 5% Significance Level | |
| **Data Not Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 17913 | 95% Adjusted-CLT UCL (Chen-1995) | 18906 |
| | | 95% Modified-t UCL (Johnson-1978) | 18114 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.257 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.798 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.093 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.204 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data appear Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 0.55 | k star (bias corrected MLE) | 0.501 |
| Theta hat (MLE) | 21529 | Theta star (bias corrected MLE) | 23643 |
| nu hat (MLE) | 22.02 | nu star (bias corrected) | 20.05 |
| MLE Mean (bias corrected) | 11851 | MLE Sd (bias corrected) | 16739 |
| | | Approximate Chi Square Value (0.05) | 10.89 |
| Adjusted Level of Significance | 0.038 | Adjusted Chi Square Value | 10.36 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50) | 21824 | 95% Adjusted Gamma UCL (use when n<50) | 22945 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.957 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.905 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.103 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.192 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.489 | Mean of logged Data | 8.243 |
| Maximum of Logged Data | 10.8 | SD of logged Data | 1.847 |

| UCL Statistics for Uncensored Full Data Sets - DU 3 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 115481 | 90% Chebyshev (MVUE) UCL | 43566 |
| 95% Chebyshev (MVUE) UCL | 55471 | 97.5% Chebyshev (MVUE) UCL | 71994 |
| 99% Chebyshev (MVUE) UCL | 104449 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 17617 | 95% Jackknife UCL | 17913 |
| 95% Standard Bootstrap UCL | 17482 | 95% Bootstrap-t UCL | 19980 |
| 95% Hall's Bootstrap UCL | 17394 | 95% Percentile Bootstrap UCL | 17521 |
| 95% BCA Bootstrap UCL | 18930 | | |
| 90% Chebyshev(Mean, Sd) UCL | 22367 | 95% Chebyshev(Mean, Sd) UCL | 27131 |
| 97.5% Chebyshev(Mean, Sd) UCL | 33742 | 99% Chebyshev(Mean, Sd) UCL | 46730 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Adjusted Gamma UCL | 22945 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 4 Combined Surface/Subsurface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 4:35:59 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 12 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.81 | Mean | 2.421 |
| Maximum | 7.2 | Median | 1.795 |
| SD | 1.706 | Std. Error of Mean | 0.456 |
| Coefficient of Variation | 0.705 | Skewness | 1.961 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.788 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.243 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 3.229 | 95% Adjusted-CLT UCL (Chen-1995) | 3.427 |
| | | 95% Modified-t UCL (Johnson-1978) | 3.269 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.501 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.743 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.186 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.231 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.998 | k star (bias corrected MLE) | 2.403 |
| Theta hat (MLE) | 0.808 | Theta star (bias corrected MLE) | 1.008 |
| nu hat (MLE) | 83.95 | nu star (bias corrected) | 67.29 |
| MLE Mean (bias corrected) | 2.421 | MLE Sd (bias corrected) | 1.562 |
| | | Approximate Chi Square Value (0.05) | 49.41 |
| Adjusted Level of Significance | 0.0312 | Adjusted Chi Square Value | 47.38 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 3.298 | 95% Adjusted Gamma UCL (use when n<50) | 3.439 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.96 | **Shapiro Wilk Lognormal GOF Test** |

| UCL Statistics for Uncensored Full Data Sets - DU 4 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.153 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.226 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | -0.211 | Mean of logged Data | 0.708 |
| Maximum of Logged Data | 1.974 | SD of logged Data | 0.586 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3.431 | 90% Chebyshev (MVUE) UCL | 3.538 |
| 95% Chebyshev (MVUE) UCL | 4.063 | 97.5% Chebyshev (MVUE) UCL | 4.792 |
| 99% Chebyshev (MVUE) UCL | 6.224 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 3.171 | 95% Jackknife UCL | 3.229 |
| 95% Standard Bootstrap UCL | 3.133 | 95% Bootstrap-t UCL | 3.863 |
| 95% Hall's Bootstrap UCL | 6.597 | 95% Percentile Bootstrap UCL | 3.229 |
| 95% BCA Bootstrap UCL | 3.386 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3.789 | 95% Chebyshev(Mean, Sd) UCL | 4.409 |
| 97.5% Chebyshev(Mean, Sd) UCL | 5.269 | 99% Chebyshev(Mean, Sd) UCL | 6.959 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Adjusted Gamma UCL | 3.44 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 4 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 14 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 0 |
| Minimum | 72.3 | Mean | 201 |
| Maximum | 334 | Median | 199 |
| SD | 99.06 | Std. Error of Mean | 26.48 |
| Coefficient of Variation | 0.493 | Skewness | 0.0733 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.896 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.154 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.226 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 247.9 | 95% Adjusted-CLT UCL (Chen-1995) | 245.1 |
| | | 95% Modified-t UCL (Johnson-1978) | 248 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.55 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.74 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.173 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.23 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data appear Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 3.854 | k star (bias corrected MLE) | 3.076 |
| Theta hat (MLE) | 52.16 | Theta star (bias corrected MLE) | 65.36 |
| nu hat (MLE) | 107.9 | nu star (bias corrected) | 86.12 |
| MLE Mean (bias corrected) | 201 | MLE Sd (bias corrected) | 114.6 |
| | | Approximate Chi Square Value (0.05) | 65.73 |
| Adjusted Level of Significance | 0.0312 | Adjusted Chi Square Value | 63.37 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | 263.4 | 95% Adjusted Gamma UCL (use when n<50) | 273.2 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.886 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.166 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.226 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.281 | Mean of logged Data | 5.168 |
| Maximum of Logged Data | 5.811 | SD of logged Data | 0.566 |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 4 Combined Surface/Subsurface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 287.6 | 90% Chebyshev (MVUE) UCL | 299.1 |
| 95% Chebyshev (MVUE) UCL | 342.5 | 97.5% Chebyshev (MVUE) UCL | 402.6 |
| 99% Chebyshev (MVUE) UCL | 520.7 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 244.6 | 95% Jackknife UCL | 247.9 |
| 95% Standard Bootstrap UCL | 242.9 | 95% Bootstrap-t UCL | 249 |
| 95% Hall's Bootstrap UCL | 241.2 | 95% Percentile Bootstrap UCL | 244.3 |
| 95% BCA Bootstrap UCL | 243.3 | | |
| 90% Chebyshev(Mean, Sd) UCL | 280.5 | 95% Chebyshev(Mean, Sd) UCL | 316.4 |
| 97.5% Chebyshev(Mean, Sd) UCL | 366.4 | 99% Chebyshev(Mean, Sd) UCL | 464.5 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 247.9 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Surface Soil | | | |
|---|---|---|---|
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.972 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk P Value | 0.363 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0773 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.115 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | -0.0943 | Mean of logged Data | 2.39 |
| Maximum of Logged Data | 4.009 | SD of logged Data | 0.902 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 21.33 | 90% Chebyshev (MVUE) UCL | 22.82 |
| 95% Chebyshev (MVUE) UCL | 25.81 | 97.5% Chebyshev (MVUE) UCL | 29.95 |
| 99% Chebyshev (MVUE) UCL | 38.09 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 18.23 | 95% Jackknife UCL | 18.28 |
| 95% Standard Bootstrap UCL | 18.25 | 95% Bootstrap-t UCL | 18.72 |
| 95% Hall's Bootstrap UCL | 18.51 | 95% Percentile Bootstrap UCL | 18.35 |
| 95% BCA Bootstrap UCL | 18.28 | | |
| 90% Chebyshev(Mean, Sd) UCL | 20.49 | 95% Chebyshev(Mean, Sd) UCL | 22.76 |
| 97.5% Chebyshev(Mean, Sd) UCL | 25.9 | 99% Chebyshev(Mean, Sd) UCL | 32.07 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Approximate Gamma UCL | 18.62 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Surface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 59 | Number of Distinct Observations | 59 |
| | | Number of Missing Observations | 0 |
| Minimum | 107 | Mean | 2746 |
| Maximum | 27700 | Median | 558 |
| SD | 6003 | Std. Error of Mean | 781.6 |
| Coefficient of Variation | 2.186 | Skewness | 2.864 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.478 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.416 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.115 | Data Not Normal at 5% Significance Level | |
| **Data Not Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 4052 | 95% Adjusted-CLT UCL (Chen-1995) | 4343 |
| | | 95% Modified-t UCL (Johnson-1978) | 4101 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 6.835 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.82 | Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.272 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.123 | Data Not Gamma Distributed at 5% Significance Level | |
| **Data Not Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 0.483 | k star (bias corrected MLE) | 0.47 |
| Theta hat (MLE) | 5686 | Theta star (bias corrected MLE) | 5846 |
| nu hat (MLE) | 56.99 | nu star (bias corrected) | 55.42 |
| MLE Mean (bias corrected) | 2746 | MLE Sd (bias corrected) | 4007 |
| | | Approximate Chi Square Value (0.05) | 39.31 |
| Adjusted Level of Significance | 0.0459 | Adjusted Chi Square Value | 38.97 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | 3871 | 95% Adjusted Gamma UCL (use when n<50) | 3905 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.866 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk P Value | 5.4476E-7 | Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.161 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.115 | Data Not Lognormal at 5% Significance Level | |
| **Data Not Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.673 | Mean of logged Data | 6.595 |
| Maximum of Logged Data | 10.23 | SD of logged Data | 1.413 |

| UCL Statistics for Uncensored Full Data Sets - DU 1 Surface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3504 | 90% Chebyshev (MVUE) UCL | 3322 |
| 95% Chebyshev (MVUE) UCL | 3955 | 97.5% Chebyshev (MVUE) UCL | 4833 |
| 99% Chebyshev (MVUE) UCL | 6560 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data do not follow a Discernible Distribution (0.05)** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 4031 | 95% Jackknife UCL | 4052 |
| 95% Standard Bootstrap UCL | 4021 | 95% Bootstrap-t UCL | 4697 |
| 95% Hall's Bootstrap UCL | 4144 | 95% Percentile Bootstrap UCL | 4070 |
| 95% BCA Bootstrap UCL | 4433 | | |
| 90% Chebyshev(Mean, Sd) UCL | 5091 | 95% Chebyshev(Mean, Sd) UCL | 6153 |
| 97.5% Chebyshev(Mean, Sd) UCL | 7627 | 99% Chebyshev(Mean, Sd) UCL | 10522 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Chebyshev (Mean, Sd) UCL | 6153 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 2 Surface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 3:10:37 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 18 | Number of Distinct Observations | 18 |
| | | Number of Missing Observations | 0 |
| Minimum | 4.1 | Mean | 35.38 |
| Maximum | 118.8 | Median | 21.35 |
| SD | 34.35 | Std. Error of Mean | 8.096 |
| Coefficient of Variation | 0.971 | Skewness | 1.365 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.897 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.251 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.202 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 49.47 | 95% Adjusted-CLT UCL (Chen-1995) | 51.48 |
| | | 95% Modified-t UCL (Johnson-1978) | 49.9 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.492 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.761 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.17 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.208 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.292 | k star (bias corrected MLE) | 1.114 |
| Theta hat (MLE) | 27.39 | Theta star (bias corrected MLE) | 31.77 |
| nu hat (MLE) | 46.51 | nu star (bias corrected) | 40.09 |
| MLE Mean (bias corrected) | 35.38 | MLE Sd (bias corrected) | 33.53 |
| | | Approximate Chi Square Value (0.05) | 26.59 |
| Adjusted Level of Significance | 0.0357 | Adjusted Chi Square Value | 25.53 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 53.36 | 95% Adjusted Gamma UCL (use when n<50) | 55.57 |

| UCL Statistics for Uncensored Full Data Sets - DU 2 Surface Soil | | | |
|---|---|---|---|
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.897 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.108 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.202 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.411 | Mean of logged Data | 3.132 |
| Maximum of Logged Data | 4.777 | SD of logged Data | 0.983 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 69.2 | 90% Chebyshev (MVUE) UCL | 63.29 |
| 95% Chebyshev (MVUE) UCL | 75.76 | 97.5% Chebyshev (MVUE) UCL | 93.06 |
| 99% Chebyshev (MVUE) UCL | 127 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 48.7 | 95% Jackknife UCL | 49.47 |
| 95% Standard Bootstrap UCL | 47.85 | 95% Bootstrap-t UCL | 55.29 |
| 95% Hall's Bootstrap UCL | 49.42 | 95% Percentile Bootstrap UCL | 49.39 |
| 95% BCA Bootstrap UCL | 51.48 | | |
| 90% Chebyshev(Mean, Sd) UCL | 59.67 | 95% Chebyshev(Mean, Sd) UCL | 70.67 |
| 97.5% Chebyshev(Mean, Sd) UCL | 85.94 | 99% Chebyshev(Mean, Sd) UCL | 115.9 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Adjusted Gamma UCL | 55.57 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2 Surface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 18 | Number of Distinct Observations | 18 |
| | | Number of Missing Observations | 0 |
| Minimum | 186 | Mean | 1851 |
| Maximum | 7010 | Median | 1495 |
| SD | 1794 | Std. Error of Mean | 422.9 |
| Coefficient of Variation | 0.969 | Skewness | 2.171 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.71 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.897 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.278 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.202 | Data Not Normal at 5% Significance Level | |
| **Data Not Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 2586 | 95% Adjusted-CLT UCL (Chen-1995) | 2778 |
| | | 95% Modified-t UCL (Johnson-1978) | 2622 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.637 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.755 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.168 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.207 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data appear Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 1.609 | k star (bias corrected MLE) | 1.378 |
| Theta hat (MLE) | 1150 | Theta star (bias corrected MLE) | 1343 |
| nu hat (MLE) | 57.91 | nu star (bias corrected) | 49.59 |
| MLE Mean (bias corrected) | 1851 | MLE Sd (bias corrected) | 1577 |
| | | Approximate Chi Square Value (0.05) | 34.43 |
| Adjusted Level of Significance | 0.0357 | Adjusted Chi Square Value | 33.21 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50) | 2666 | 95% Adjusted Gamma UCL (use when n<50) | 2764 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.955 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.897 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.125 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.202 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 5.226 | Mean of logged Data | 7.181 |
| Maximum of Logged Data | 8.855 | SD of logged Data | 0.852 |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 2 Surface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3124 | 90% Chebyshev (MVUE) UCL | 3047 |
| 95% Chebyshev (MVUE) UCL | 3594 | 97.5% Chebyshev (MVUE) UCL | 4352 |
| 99% Chebyshev (MVUE) UCL | 5840 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 2546 | 95% Jackknife UCL | 2586 |
| 95% Standard Bootstrap UCL | 2523 | 95% Bootstrap-t UCL | 3581 |
| 95% Hall's Bootstrap UCL | 6694 | 95% Percentile Bootstrap UCL | 2579 |
| 95% BCA Bootstrap UCL | 2795 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3119 | 95% Chebyshev(Mean, Sd) UCL | 3694 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4492 | 99% Chebyshev(Mean, Sd) UCL | 6058 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Adjusted Gamma UCL | 2764 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 3 Surface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.17/1/2019 9:47:44 AM |
| From File | DU UCL.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 10 | Number of Distinct Observations | 10 |
| | | Number of Missing Observations | 0 |
| Minimum | 6.3 | Mean | 15.03 |
| Maximum | 45.14 | Median | 10.85 |
| SD | 11.76 | Std. Error of Mean | 3.72 |
| Coefficient of Variation | 0.782 | Skewness | 2.21 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.726 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.842 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.275 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.262 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 21.85 | 95% Adjusted-CLT UCL (Chen-1995) | 23.93 |
| | | 95% Modified-t UCL (Johnson-1978) | 22.29 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.611 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.733 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.222 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.269 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.752 | k star (bias corrected MLE) | 1.993 |
| Theta hat (MLE) | 5.464 | Theta star (bias corrected MLE) | 7.544 |
| nu hat (MLE) | 55.03 | nu star (bias corrected) | 39.86 |
| MLE Mean (bias corrected) | 15.03 | MLE Sd (bias corrected) | 10.65 |
| | | Approximate Chi Square Value (0.05) | 26.39 |
| Adjusted Level of Significance | 0.0267 | Adjusted Chi Square Value | 24.5 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 22.7 | 95% Adjusted Gamma UCL (use when n<50) | 24.45 |

| UCL Statistics for Uncensored Full Data Sets - DU 3 Surface Soil | | | |
|---|---|---|---|
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.909 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.842 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.179 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.262 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 1.841 | Mean of logged Data | 2.518 |
| Maximum of Logged Data | 3.81 | SD of logged Data | 0.604 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 24.02 | 90% Chebyshev (MVUE) UCL | 23.15 |
| 95% Chebyshev (MVUE) UCL | 27.03 | 97.5% Chebyshev (MVUE) UCL | 32.41 |
| 99% Chebyshev (MVUE) UCL | 42.99 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 21.15 | 95% Jackknife UCL | 21.85 |
| 95% Standard Bootstrap UCL | 20.78 | 95% Bootstrap-t UCL | 31.78 |
| 95% Hall's Bootstrap UCL | 45.92 | 95% Percentile Bootstrap UCL | 21.31 |
| 95% BCA Bootstrap UCL | 24.05 | | |
| 90% Chebyshev(Mean, Sd) UCL | 26.19 | 95% Chebyshev(Mean, Sd) UCL | 31.25 |
| 97.5% Chebyshev(Mean, Sd) UCL | 38.26 | 99% Chebyshev(Mean, Sd) UCL | 52.04 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Adjusted Gamma UCL | 24.45 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 3 Surface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 10 | Number of Distinct Observations | 10 |
| | | Number of Missing Observations | 0 |
| Minimum | 867 | Mean | 18580 |
| Maximum | 48800 | Median | 10920 |
| SD | 18983 | Std. Error of Mean | 6003 |
| Coefficient of Variation | 1.022 | Skewness | 0.801 |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.816 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.842 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.242 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.262 | Data appear Normal at 5% Significance Level | |
| **Data appear Approximate Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 29584 | 95% Adjusted-CLT UCL (Chen-1995) | 30078 |
| | | 95% Modified-t UCL (Johnson-1978) | 29837 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.375 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.754 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.177 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.275 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data appear Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 0.84 | k star (bias corrected MLE) | 0.655 |
| Theta hat (MLE) | 22106 | Theta star (bias corrected MLE) | 28366 |
| nu hat (MLE) | 16.81 | nu star (bias corrected) | 13.1 |
| MLE Mean (bias corrected) | 18580 | MLE Sd (bias corrected) | 22957 |
| | | Approximate Chi Square Value (0.05) | 5.96 |
| Adjusted Level of Significance | 0.0267 | Adjusted Chi Square Value | 5.147 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | 40838 | 95% Adjusted Gamma UCL (use when n<50) | 47287 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.92 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.842 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.149 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.262 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 6.765 | Mean of logged Data | 9.128 |
| Maximum of Logged Data | 10.8 | SD of logged Data | 1.428 |

| UCL Statistics for Uncensored Full Data Sets - DU 3 Surface Soil | | | |
|---|---|---|---|
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 174439 | 90% Chebyshev (MVUE) UCL | 52529 |
| 95% Chebyshev (MVUE) UCL | 66538 | 97.5% Chebyshev (MVUE) UCL | 85982 |
| 99% Chebyshev (MVUE) UCL | 124176 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 28454 | 95% Jackknife UCL | 29584 |
| 95% Standard Bootstrap UCL | 28055 | 95% Bootstrap-t UCL | 32085 |
| 95% Hall's Bootstrap UCL | 27057 | 95% Percentile Bootstrap UCL | 28542 |
| 95% BCA Bootstrap UCL | 29224 | | |
| 90% Chebyshev(Mean, Sd) UCL | 36588 | 95% Chebyshev(Mean, Sd) UCL | 44746 |
| 97.5% Chebyshev(Mean, Sd) UCL | 56068 | 99% Chebyshev(Mean, Sd) UCL | 78308 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 29584 | | |
| | | | |
| When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test | | | |
| When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL | | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

## UCL Statistics for Uncensored Full Data Sets - DU 4 Surface Soil

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.18/8/2019 3:20:49 PM |
| From File | UCL Input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**Arsenic**

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 7 | Number of Distinct Observations | 6 |
| | | Number of Missing Observations | 0 |
| Minimum | 1.2 | Mean | 2.261 |
| Maximum | 4.53 | Median | 1.6 |
| SD | 1.274 | Std. Error of Mean | 0.481 |
| Coefficient of Variation | 0.563 | Skewness | 1.221 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.82 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.27 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Data appear Normal at 5% Significance Level |

**Data appear Normal at 5% Significance Level**

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 3.197 | 95% Adjusted-CLT UCL (Chen-1995) | 3.291 |
| | | 95% Modified-t UCL (Johnson-1978) | 3.234 |

### Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 0.55 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.71 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.269 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.313 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.353 | k star (bias corrected MLE) | 2.582 |
| Theta hat (MLE) | 0.52 | Theta star (bias corrected MLE) | 0.876 |
| nu hat (MLE) | 60.94 | nu star (bias corrected) | 36.15 |
| MLE Mean (bias corrected) | 2.261 | MLE Sd (bias corrected) | 1.407 |
| | | Approximate Chi Square Value (0.05) | 23.39 |
| Adjusted Level of Significance | 0.0158 | Adjusted Chi Square Value | 20.35 |

| UCL Statistics for Uncensored Full Data Sets - DU 4 Surface Soil | | | |
|---|---|---|---|
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | 3.495 | 95% Adjusted Gamma UCL (use when n<50) | 4.018 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.878 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.803 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.243 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.304 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 0.182 | Mean of logged Data | 0.697 |
| Maximum of Logged Data | 1.511 | SD of logged Data | 0.509 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 3.829 | 90% Chebyshev (MVUE) UCL | 3.539 |
| 95% Chebyshev (MVUE) UCL | 4.128 | 97.5% Chebyshev (MVUE) UCL | 4.945 |
| 99% Chebyshev (MVUE) UCL | 6.55 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 3.053 | 95% Jackknife UCL | 3.197 |
| 95% Standard Bootstrap UCL | 3.025 | 95% Bootstrap-t UCL | 5.136 |
| 95% Hall's Bootstrap UCL | 7.216 | 95% Percentile Bootstrap UCL | 3.013 |
| 95% BCA Bootstrap UCL | 3.184 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3.706 | 95% Chebyshev(Mean, Sd) UCL | 4.36 |
| 97.5% Chebyshev(Mean, Sd) UCL | 5.268 | 99% Chebyshev(Mean, Sd) UCL | 7.051 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 3.197 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |
| | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 4 Surface Soil | | | |
|---|---|---|---|
| **Manganese** | | | |
| | | | |
| **General Statistics** | | | |
| Total Number of Observations | 7 | Number of Distinct Observations | 7 |
| | | Number of Missing Observations | 0 |
| Minimum | 85.9 | Mean | 212.1 |
| Maximum | 334 | Median | 180 |
| SD | 96.96 | Std. Error of Mean | 36.65 |
| Coefficient of Variation | 0.457 | Skewness | 0.197 |
| | | | |
| **Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use** | | | |
| **guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.** | | | |
| **For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).** | | | |
| **Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1** | | | |
| | | | |
| **Normal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.921 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.803 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.201 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.304 | Data appear Normal at 5% Significance Level | |
| **Data appear Normal at 5% Significance Level** | | | |
| | | | |
| **Assuming Normal Distribution** | | | |
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 283.3 | 95% Adjusted-CLT UCL (Chen-1995) | 275.3 |
| | | 95% Modified-t UCL (Johnson-1978) | 283.8 |
| | | | |
| **Gamma GOF Test** | | | |
| A-D Test Statistic | 0.275 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.71 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.172 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.313 | Detected data appear Gamma Distributed at 5% Significance Level | |
| **Detected data appear Gamma Distributed at 5% Significance Level** | | | |
| | | | |
| **Gamma Statistics** | | | |
| k hat (MLE) | 5.119 | k star (bias corrected MLE) | 3.02 |
| Theta hat (MLE) | 41.44 | Theta star (bias corrected MLE) | 70.23 |
| nu hat (MLE) | 71.67 | nu star (bias corrected) | 42.29 |
| MLE Mean (bias corrected) | 212.1 | MLE Sd (bias corrected) | 122 |
| | | Approximate Chi Square Value (0.05) | 28.38 |
| Adjusted Level of Significance | 0.0158 | Adjusted Chi Square Value | 24.99 |
| | | | |
| **Assuming Gamma Distribution** | | | |
| 95% Approximate Gamma UCL (use when n>=50)) | 316.1 | 95% Adjusted Gamma UCL (use when n<50) | 358.9 |
| | | | |
| **Lognormal GOF Test** | | | |
| Shapiro Wilk Test Statistic | 0.937 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.803 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.156 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.304 | Data appear Lognormal at 5% Significance Level | |
| **Data appear Lognormal at 5% Significance Level** | | | |

| UCL Statistics for Uncensored Full Data Sets - DU 4 Surface Soil | | | |
|---|---|---|---|
| | | | |
| **Lognormal Statistics** | | | |
| Minimum of Logged Data | 4.453 | Mean of logged Data | 5.256 |
| Maximum of Logged Data | 5.811 | SD of logged Data | 0.502 |
| | | | |
| **Assuming Lognormal Distribution** | | | |
| 95% H-UCL | 360.9 | 90% Chebyshev (MVUE) UCL | 335.4 |
| 95% Chebyshev (MVUE) UCL | 390.7 | 97.5% Chebyshev (MVUE) UCL | 467.5 |
| 99% Chebyshev (MVUE) UCL | 618.2 | | |
| | | | |
| **Nonparametric Distribution Free UCL Statistics** | | | |
| **Data appear to follow a Discernible Distribution at 5% Significance Level** | | | |
| | | | |
| **Nonparametric Distribution Free UCLs** | | | |
| 95% CLT UCL | 272.4 | 95% Jackknife UCL | 283.3 |
| 95% Standard Bootstrap UCL | 267.6 | 95% Bootstrap-t UCL | 291 |
| 95% Hall's Bootstrap UCL | 272 | 95% Percentile Bootstrap UCL | 266 |
| 95% BCA Bootstrap UCL | 267.1 | | |
| 90% Chebyshev(Mean, Sd) UCL | 322.1 | 95% Chebyshev(Mean, Sd) UCL | 371.9 |
| 97.5% Chebyshev(Mean, Sd) UCL | 441 | 99% Chebyshev(Mean, Sd) UCL | 576.8 |
| | | | |
| **Suggested UCL to Use** | | | |
| 95% Student's-t UCL | 283.3 | | |
| | | | |
| Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | |
| Recommendations are based upon data size, data distribution, and skewness. | | | |
| These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | |
| However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician. | | | |
| | | | |

**Attachment G**

**18 July 2019 Ecological Site Visit Memorandum**

(Page intentionally left blank)

# MEMORANDUM

**Date:** July 30, 2019
**To:** ERT, Inc.
**From:** [redacted] Ph.D., HSW Engineering, Inc. (HSW)
**RE:** Former Curtis Bay Depot
**Project Title**: Ecological Site Visit Conducted July 18, 2019
**HSW Project No.:** [redacted]

An ecological site visit was conducted on July 18, 2019, by Ms. [redacted] (ERT, Inc.), Ms. [redacted] (HSW), and Dr. [redacted] (HSW). The primary objective of this field reconnaissance was to provide updated information to confirm or supplement more detailed field work conducted in 2005 by Parsons, Inc. The reconnaissance team spent approximately five hours on-site.

Each of three Decision Units (DU 1, DU 2, and DU 3) were visited, during which a plant and animal species list was compiled (Table 1). Animal species were identified by tracks observed on the ground and by characteristic calls or songs.

Notable observations from the site visit are as follows.

1. Bradford pear trees were extremely common throughout all three DUs. This appears to be the single largest change in vegetation patterns from 2005 to 2019. Bradford pear is not a native species of tree. It has been spreading prolifically within the region.
2. Old field habitat is gradually being replaced with shrub/forested systems.
3. Overall, vegetation within DU 1 and DU 2 appeared normal. Likewise, no obvious signs of leaf [redacted] were observed within DU 3; however, woody vegetation within DU 3 appeared somewhat stunted in comparison with surrounding areas.
4. Deer were observed frequently.
5. Three active osprey nests were noted.
6. While most or all the site has been altered from its original state, much of the site is undergoing a gradual successional trend away from open field toward wooded habitat types.
7. The entire area comprised 435 acres. This acreage is the largest “undeveloped” acreage within a wide radius.
8. The potential for habitat restoration appears high.
9. As is the case with many secondary succession sites, the influx of invasive exotic species is an issue.

**Table 1: Species Observed during July 18, 2019 Field Visit to the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland**

| Species Observed | | Terrestrial System | |
|---|---|---|---|
| | | Open Uplands | Forested Uplands |
| Common Name | Scientific Name | Successional Old Field | Successional Hardwoods |
| Red maple | *Acer rebrum* | Y | Y |
| Silver maple | *Acer saccarum* | Y | Y |
| Tree-of-heaven | *Ailanthes altissima* | Y | Y |
| Sweet gum | *Liquidambar styraciflua* | Y | Y |
| Tulip tree | *Liriodendron tulipifera* | | Y |
| Eastern cottonwood | *Populus deltoides* | | Y |
| White oak | *Quercus alba* | | Y |
| Water oak | *Quercus nigra* | | Y |
| Black locust | *Robinia pseudo-acacia* | Y | Y |
| Bradford pear | *Pyrus calleryana* | Y | Y |
| Salt bush | *Baccharis halimifolia* | Y | |
| Red-osier dogwood | *Cornus stolonifera* | | Y |
| Common persimmon | *Diospyros virginiana* | Y | |
| White mulberry | *Morus alba* | | Y |
| Black cherry | *Prunus serotina* | Y | |
| Red raspberry | *Rubus idacus* | Y | Y |
| Sassafras | *Sassafras albidum* | Y | Y |
| Butter and Eggs | *Linaria vulgaris* | Y | |
| Common ragweed | *Ambrosia artimisiifolia* | Y | |
| Broom sedge | *Andropogon virginicus* | Y | |
| Shattercane | *Sorghum bicolor* | Y | |
| Common mugwort | *Artemesia vulgaris* | Y | |
| Common milkweed | *Asclepias syriaca* | Y | |
| Calico aster | *Aster lateriflorus* | Y | |
| Common chickweed | *Cerastium sp.* | Y | |
| Chicory | *Cichorium intybus* | Y | |
| Bull thistle | *Cirsium vulgare* | Y | |
| Devil's tear thumb | *Persicaria perfoliata* | Y | |
| Orchard grass | *Dactylis glomerata* | Y | |
| Queen Anne's lace | *Daucus carota* | Y | |
| Goldenrod | *Solidago sp.* | Y | |
| Common strawberry | *Fragaria virginiana* | Y | |
| Common morning glory | *Ipomoea sp.* | Y | |
| Honeysuckle vine | *Lonicera japonica* | Y | |
| Catbriar | *Smilax sp.* | Y | |
| White sweet clover | *Melilotus alba* | Y | |
| Sensitive fern | *Onoclea sensibilis* | Y | |
| Panic grass | *Panicum spp.* | Y | Y |
| Switchgrass | *Panicum virgatum* | Y | |
| Virginia creeper | *Parthenocissus quinquefolia* | Y | Y |
| Bracken fern | *Pteridium latiusculum* | Y | |
| Wild rose | *Rosa carolina* | Y | |
| Blackberry | *Rubus sp.* | Y | |
| Little bluestem | *Schizachyrium scoparium* | Y | |
| Blue-eyed grass | *Sisyrinchium graminoides* | Y | |
| Dandelion | *Taraxacum officinale* | Y | |
| Poison ivy | *Toxicodendron radicans* | Y | Y |

| Species Observed | | Terrestrial System | |
|---|---|---|---|
| | | Open Uplands | Forested Uplands |
| **Common Name** | **Scientific Name** | **Successional Old Field** | **Successional Hardwoods** |
| White clover | *Trifolium repens* | Y | |
| Virginia chain fern | *Woodwardia virginica* | | Y |
| Wild grape | *Vitis sp.* | Y | Y |
| Canada goose | *Branta canadensis* | Y | |
| Northern cardinal | *Cardinalis* | Y | Y |
| Killdeer | *Charadrius vociferius* | Y | |
| Common ground dove | *Columbina passerina* | Y | |
| Black vulture | *Coragyps atratus* | Y | |
| American crow | *Corvus brachyrhynchos* | Y | Y |
| Blue jay | *Cyanocitta cristata* | | Y |
| Barn swallow | *Hirundo rustica* | Y | |
| Mockingbird | *Mimus polyglottos* | Y | |
| Great crested flycatcher | *Myiarchus crinitus* | | Y |
| Osprey | *Pandion haliaetus* | Y | |
| European starling | *Sturnus vulgaris* | Y | |
| Tree swallow | *Tachycineta bicolor* | Y | |
| Eastern kingbird | *Tyrannus tyrannus* | Y | |
| Mourning dove | *Zenaida macroura* | Y | |
| American toad | *Bufo americana* | Y | |
| White-tailed deer | *Odocoileus virginianus* | Y | Y |
| Eastern cottontail rabbit | *Sylvilagus floridanus* | Y | |

All species listed in the table were observed in successional old field or successional hardwoods systems. Species observed on July 18, 2019, are indicated with "Y".

(Page intentionally left blank)

# APPENDIX C: TPP MEETING MINUTES AND CORRESPONDENSES

**This Page Intentionally Left Blank**

**Curtis Bay Site Wide Arsenic/Manganese RI/FS**

**TPP Meeting #1 – February 15, 2018**

**Final Meeting Summary**

**Meeting Attendees:**

[redacted] – USACE
[redacted] – GSA
[redacted] DLA
[redacted] – MDE
[redacted] - ERT

**Meeting Summary:**

After introductions, Mr. [redacted] thanked everyone for coming and stated that there is a lot going on a Curtis Bay, things are starting to come together, and he believes that we have a good plan for moving forward, and addressing any concerns so we can fill data gaps and achieve the property goals. The goals are to investigate and remediate, as needed, all environmental issues at the Former Curtis Bay Depot and divest the property so that is can be utilized for useful purposes.

Ms. [redacted] began the presentation with a review of the agenda. Ms. [redacted] presented the important terminology starting with USEPA technical project planning (TPP) process adopted by USACE. The TPP process ensures that the stakeholders agree on the proposed project processes and goals prior to work plan development. This is TPP meeting #1. There will be additional TPP meetings for this project.

This project is a Remedial Investigation (RI)/Feasibility Study (FS) for determining potential arsenic and manganese impacts to soil at the Former Curtis Bay Depot. The goal is to determine if there are potential unacceptable human health and/or ecological risks due to arsenic and/or manganese at the site and to conduct a feasibility study if potential unacceptable risks are identified to determine potential remedial actions. For this project, we are using the Visual Sample Plan (VSP) program to support determination of the number and location of the random samples. The number of random samples identified by VSP is based on percent confidence required in the data quality objectives (DQOs). Additionally, on this project we will use the incremental sampling methodology (ISM) for collecting soil samples (surface and subsurface). Mr. [redacted] added that because we are conducting sampling using ISM and using the statistical tool VSP there is a larger number of proposed sampling locations for this project than would normally be collected during an RI using discrete methods.

Ms. [redacted] asked if VSP helps to develop the size of the ISM decision units (DUs) in terms of how many there are. Ms. [redacted] responded that VSP does not determine the size or number of DUs. There is a large area of the Former Curtis Bay Depot about which we have very little information, and which likely has the same conceptual site model (CSM). Therefore, we classified that as one decision unit (DU-1). There are two areas, the IRP Shop Area and the EC-57D area where there are several historical discrete sampling data that indicate areas of known impacts. One DU (DU-2 and DU-3) was established for each of these areas based on the historical data. The size of each sampling unit (SU) is based on the current land use – the Depot is an industrial site. We use the DU-1 area, the size of the SU (150 ft by 150 ft), and the required confidence interval (95%) as inputs into VSP. The number of SUs selected by VSP is determined by the confidence interval and VSP randomly selects the SUs.

Ms. [redacted] reviewed the CERCLA process (Slide 6) and identified the process step for this project - the RI phase. Ms. [redacted] also noted that this RI is focused on potential site-wide arsenic and manganese impacts to soil. Additionally, as part of this project, ERT will perform a FS should sampling results and the human

health risk assessment (HHRA)/screening-level ecological risk assessment (SLERA) indicate potential unacceptable human health or environmental risks from arsenic and/or manganese. Mr. [redacted] added that it is important to remember where we are in the CERCLA process as far as cleanup. He noted that the reason that we're doing this project was that as we completed the RI at the environmental concern (EC) sites we were having problems identifying the source of the arsenic. Based on the previously collected data, it became clear that the arsenic and manganese were potentially due to non-point sources. This indicated that the release mechanism was likely wide-spread (as with pesticide use or shifting ore stockpiles), and our sampling methodology was not appropriate for non-point sources. Therefore, the previous RI concluded that arsenic and manganese needed to be evaluated separately from the evaluation of the ECs.

Ms. [redacted] stated that the goal of the RI is to determine if arsenic or manganese have been released to the environment and if there is a complete exposure pathway. A revised CSM will be developed based on data collected during this RI and used in the risk assessment and RI Report. The RI Report will then recommend no further action, a removal action, or a remedial action. Remedial alternatives will be evaluated in the FS. The goals of the TPP are to determine our data needs and data quality, as well as make sure everyone agrees on how and where we are collecting the data.

After TPP #1, we will develop and submit the work plan. After receiving MDE's comments on the work plan, USACE and ERT will schedule TPP #2 to discuss the significant comments and responses before finalizing the work plan. ERT will then conduct the field investigation. Additional TPP meetings may be held to discuss the MDE comments on the Draft Final RI Report and/or the Draft Final FS.

Ms. [redacted] noted that large copies of the TPP presentation figures are provided along with a copy of the TPP presentation. Ms. [redacted] noted that we are all familiar with the location of the Curtis Bay Depot and reviewed the Depot history and previous investigations. The Depot was used between 1918-1950s for the storage, maintenance, and demilitarization of ordinance. In the 1950s the Defense National Stockpile Center started storing ores there as well. These were large stockpiles that were moved around the site frequently. GSA currently owns the Depot. Previous investigations include a preliminary assessment, a focused site investigation (FSI) and an expanded site investigation (ESI) that focused on the ore stockpiles. The Environmental Survey and Analysis Report (ESAR) was published in 2011 that documented the EC sites. The ECs were areas where there was a potential for contamination from munitions and explosives of concern (MEC) or hazardous, toxic, or radioactive waste (HTRW). ERT conducted the field investigations and drafted the Draft Final RI/FS report (which EA is finalizing). Ms. [redacted] added, as Mr. [redacted] previously noted, that the arsenic and manganese data did not conform to the CSM for the EC sites.

Ms. [redacted] noted Slide 11 shows the previous arsenic and manganese results and also shows that some areas have not been sampled previously. The data shown are from the EC RI (ERT) and the ore stockpile FSI and ESI (Parson). Ms. [redacted] clarified that anything red exceeded the screening levels; the red squares are the manganese exceedances (concentrations greater than the USEPA Industrial Soil RSL), and the red dots are the arsenic exceedances (concentrations greater than background level). Mr. [redacted] asked if this was all discrete data and Ms. [redacted] replied that all samples were collected using discrete methods, including the background locations. Ms. [redacted] noted that the purple blocks on Slide 11 are locations of the historical ore stockpiles based on the 1963 aerial photo.

Slide 12 shows the study area which includes the IRP Shop Area (blue outline) and EC-57D (red outline). Ms. [redacted] noted that one area is excluded from this investigation; this is the area where USACE is conducting a non-time critical removal action (NTCRA). Mr. [redacted] noted the goal at EC-25 and EC-49 is to complete the NTRCA and then perform an RI. Ms. [redacted] asked if additional sampling was done for the NTRCA and if arsenic and manganese were identified. Mr. [redacted] replied yes and noted that

everything that was greater than the remedial action goals was removed. Initially, USACE planned to address the material potentially presenting an explosive hazard (MPPEH) and the munitions constituent (MC) contamination. Arsenic was not originally included in the COPCs, but during the development of the work plan arsenic was included as it became apparent arsenic is a potential issue at the Depot. Arsenic contamination is being addressed during the NTRCA and USACE developed a removal goal for arsenic as part of the NTRCA. Anything greater than the removal goal will have been removed at the NTCRA completion. Mr. [redacted] and Mr. [redacted] clarified that the removal action goals were tied to the industrial screening levels.

Ms. [redacted] stated that the objectives of this project are to delineate the arsenic and manganese impacts within the study area, perform a human health risk assessment if the soil sampling results are greater than the RSLs for industrial soil and background soil sampling results. For the HHRA, potential carcinogenic risks will be evaluated using the MDE standard ($1x10^{-5}$), and non-carcinogenic hazards will be evaluated using a hazard index of 0.5 because we only have two analytes. ERT will also perform a SLERA, and then perform a FS, if potential unacceptable risks are identified, to determine appropriate remedial alternatives.

Ms. [redacted] discussed the CSM (Slides 14 and 15). The current investigation area is approximately 425 acres. As discussed, the investigation area does not include the NTCRA area (EC-25 and EC-49). The Depot is located on a peninsula and is partially bounded by Back Creek (west), Furnace Creek (south), and Curtis Creek (east). The Depot is mostly grass with trees, shrubs, and a few small wetland areas dominated by *Phragmites*. An unnamed tributary runs through the Depot. GSA owns the Depot. Currently, the Depot is zoned for industrial use. The future use is anticipated to remain industrial. Site receptors include site workers, construction workers, and trespassers. Ecological receptors include plants, soil, invertebrates, reptiles, amphibians, birds, and mammals.

Potential sources of arsenic include herbicide and pesticide use and the ore stockpiles. The potential source of manganese is the manganese ore that was stored in stockpiles at the Depot. Since these are not point-sources, it is likely that any contamination is due to activities performed throughout the Depot. Additionally, arsenic and manganese could have come from another nearby location. Mr. [redacted] noted that prior to being a depot, there were portions of the Depot that were reportedly apple orchards and pesticides containing arsenic may have been used during that timeframe.

Mr. [redacted] asked about lumber storage as a potential source of arsenic. Ms. [redacted] noted that treated lumber was evaluated as part of the EC investigations. In sampling locations with reported detections of arsenic greater than background, the other metals that are associated with treated lumber, copper and chromium, were not reported at concentrations greater than background. Therefore, treated lumber is not the likely source of arsenic. Mr. [redacted] added that sampling should have resulted in elevated levels of arsenic, copper, and chromium if treated lumber was the source and the lack of elevated copper and chromium indicates an alternative source for the arsenic.

Ms. [redacted] went over the seven steps to develop DQOs, which will be detailed in the work plan.

The problem associated with the site is that previous data indicate that some locations have surface soil arsenic concentrations that are greater than the site background levels, and some areas contain manganese surface soil concentrations that are greater than the RSL. Our goal is to determine the horizontal and vertical extent of any contamination and then determine if any of those areas pose a potential unacceptable risk to human health and/or the environment.

Inputs to the decision include historical arsenic and manganese data. Although these data are from discrete sampling, they were used to guide selection of DUs for ISM sampling. Because site data will be collected using ISM, ERT will conduct an additional background analysis also using ISM. To determine the next

step (no further action, removal action, or remedial action), sampling results will be compared to the larger of the USEPA RSLs for industrial soil and the new site-specific background sampling results. The study area boundary is shown in Slide 12. Surface soil will be collected in the 0 - 1 foot (ft) below ground surface (bgs) interval and subsurface soil will be collected from the 1 – 2 ft bgs interval. Mr. [redacted] asked how far below ground surface groundwater was found. Although this varies across the study area, the average depth is approximately 15 ft bgs.

To make project decisions, ERT will calculate the 95 percent (%) upper confidence limit of the mean (UCL) of the background soil sampling data and compare that to the USEPA RSLs, the project screening level (PSL) will be the greater of these values for each analyte. ERT will calculate the 95% UCL for each DU (using all SU data for that DU). If the DU 95% UCLs are less than the PSL, then no further action will be recommended. If the either of DU 95% UCLs are greater than PSLs, then ERT will conduct an HHRA/SLERA. If potential unacceptable risks to human health and/or the environment are identified, then ERT will conduct an FS.

Ms. [redacted] asked in terms of delineating vertical extent will there be a contingency to go deeper should we find something deeper than the planned sampling intervals. Ms. [redacted] replied yes. During the prior investigation, samples were collected from as deep as five or six feet below ground surface in some areas. However, most of the data show that arsenic and manganese contamination is in the top foot of soil. Ms. [redacted] added that at the IRP Shop Area there were two locations in subsurface soil where arsenic concentrations were greater than the background concentration and we took approximately 20-25 samples in that area.

Ms. [redacted] reviewed the 3 DUs that will be investigated; the study area was separated into these DUs as the CSMs differ for each DU. These areas were determined using the previous sampling results. The IRP Shop Area is DU-2 due to numerous sampling locations where reported results for arsenic were greater than background. The EC-57D area is DU-3, due to sampling locations where reported results for manganese were greater than the USEPA RSL. The rest of the site is DU-1, where there were no clearly impacted areas (as with DU-2 and DU-3).

The overall soil sampling approach is to use the ISM. SUs will be 150 ft by 150 ft and 30 increments will be collected per horizon (surface and subsurface) per SU. Subsurface soil samples will be collected from DU-2 and DU-3. Additional subsurface sampling may be conducted from SUs in DU-1 during a separate mobilization based on surface soil sampling results. All samples will be analyzed for arsenic and manganese.

Soil sampling in DU-2 (IRP Shop Area) will include surface and subsurface soil. Slide 25 shows the IRP Shop Area and the SUs are outlined with a yellow border. Ms. [redacted] asked if the smaller SUs that are on the eastern side of the DU (trapezoid shapes) would be prorated. Ms. [redacted] responded that they will have 30 increments each and Mr. [redacted] added that no matter the size of the SU, the number of increments must be statistically relevant. He noted that in each 150 ft by 150 ft SU, the horizon is 0-1, so the ISM sample will be collected within that interval using 30 increments. Ms. [redacted] added that DU-2 will have subsurface samples collected from the 1-2 ft interval as well. Mr. [redacted] asked if this would be done by hand or with a geoprobe and Mr. [redacted] responded with a geoprobe. Ms. [redacted] asked if we're doing triplicate sampling and Ms. [redacted] responded, yes, at a rate of 10% of the SUs. [redacted] clarified the correct term is replicate and we would be doing 3 replicates at the required frequency.

Ms. [redacted] asked if we were thinking of combining the two partial into a single SU, as the combined SU would be closer to the area of the full-sized SUs. Ms. [redacted] noted we would look at that when preparing the work plan figures. Ms. [redacted] asked about the hatched area and if there was a fence there.

Ms. [redacted] replied that there is a fence there and this is the Army Reserve property, so it's not part of the Curtis Bay Depot. No one knew when it had been separated from the Depot, but it was likely before the ore was stored at the Depot.

Ms. [redacted] started reviewing the plan for DU-3, which is the outline of EC-57D as it was defined in the prior investigation. She noted that during the prior investigation as we went farther north we were getting higher concentrations, rather than lower ones, which would have been the case if the potential contamination was related to the activities in EC-57D. DU-3 is outside of the EC-57D boundary and there were large manganese ore piles stored in this area historically. For DU-3 we are proposing to do both surface and subsurface soil sampling because we did have manganese concentrations in a few subsurface samples that exceeded the screening criteria. The figure shows blue squares for the sampling units, which are 150 by 150 ft, n=30, surface is 0 to 1 foot, and subsurface is one to two feet. If we were to see anything in the subsurface we would conduct additional sampling. Mr. [redacted] asked if the site was being sampled for both arsenic and manganese or just manganese. Ms. [redacted] replied we are doing both, although the release mechanism at this DU is associated with manganese, but this will help us with the Depot-wide arsenic CSM as well.

Ms. [redacted] noted that while the previous investigation used a hazard quotient of 0.1 because of the large number of potential constituents of concern at the time, for this project we are only looking at two potential constituents of concern and are using a 0.5 hazard quotient. Therefore, all figures for this presentation show locations that exceeded the 0.5 screening level. The team agreed to combine a few of the truncated grids.

Ms. [redacted] noted that DU-1 is the rest of the site. On the DU-1 figure, the black squares are the ones that VSP selected as SUs. Mr. [redacted] added that the selected sampling locations have to be random because the model is statistics driven. Ms. [redacted] noted that when you conduct random sampling it means that any sampling grid is equally likely to be selected.

Ms. [redacted] asked if for any of the exceedances that are not in the proposed SUs, if that means that there is not going to be any additional investigation of those locations. Ms. [redacted] replied yes, as VSP did not select those locations for the random, statistically supported SUs. Mr. [redacted] noted that one of our concerns early on with developing the sampling plan was how do we use existing data in a final assessment. Unfortunately, the answer is we can't because it's discrete data and discrete data is notorious for being all over the place. Therefore, we developed a plan that uses sound statistical methods, using ISM methodology, and an adequate number of samples that will more than address the issue. We were able to use the discrete data to help point to where the real problems were, and it allowed us to come up with a plan of how to address the site and if any areas were “different” from the other areas.

Ms. [redacted] added that the one difference for DU-1 is that for all of the SUs we are conducting surface (0-1 foot) soil sampling. Our CSM shows us that if we are going to see contamination it's mainly going to be in the surface soil. However, if any of those surface soil sampling units come back with a potential unacceptable risk in the surface soil then we'll sample and analyze the subsurface soil. This could be done through a second mobilization or the subsurface samples can be collected at the same time and held at the laboratory until it is determined if the samples should be analyzed.

Mr. [redacted] noted that once we get this data, then we have to determine what we are going to do with it. The goal is that the risk assessment will be for the entire DU. Mr. [redacted] added that this is an important point because we are not doing a risk assessment for just one SU, but are generating a potential risk for the entire DU. All SUs will be pooled and the potential risk run on the entire data set. Mr. [redacted] added that discrete data can be misleading and that it depends on how you use it. For IS, from a statistical standpoint each SU result on its own is not relevant because we have established a specific DU, which for this project

are DU-1, DU-2, and DU-3. Again, this is a statistical design, but everyone needs to understand what the outputs are going to be, how we're using the input data, and how we establish the confidence that this approach is going to get us an answer to the question we are asking.

Mr. [redacted] added that the assumption is that our receptors are going to be traversing the whole area, and we have no reason to believe that any one area should be singled out over any other area within DU-1. The good thing about this design is that the aerial extent over which we are sampling (areal coverage) is vastly larger than if we were taking individual grabs, which is the power of ISM versus individual grabs/discrete sampling. If we find a hot spot it's going to be over that 150x150' grid, and the same for vertical extent. If we find it to be hot at one spot then we go down as well, and that fulfills the conditions of the RI for nature and extent.

Ms. [redacted] noted that she was not sure that she concurs with the size of DU-1. She thinks DU-2 and DU-3 make sense, but DU-1 is awfully large and she needs to think about it. Mr. [redacted] noted that the team looked at a bunch of different scenarios and asked how do you put this together. The conclusion was that there are a lot of ways, but they all get to the same end result. Mr. [redacted] added that one of the things to be aware of is the cost consideration. He noted that this is a lot of sampling and is a much greater effort than going to collect the same coverage with grabs. He added that you could theoretically carve DU-1 into 10 DUs and then run 10 risk assessments, but that would cost a lot more money, which is a very practical consideration. Plus, he added, we are looking at industrial receptors, not residential and that went into our planning as well.

Ms. [redacted] added that the samples that were used to develop the sampling approach are not just based on the EC RI; they include the Parsons RI where they evaluated the stockpiles but did not have any large areas of exceedances that were found during their field effort. Mr. [redacted] noted that this map really informed how we did this because we had no reason to believe like we do at the IRP Shop Area and EC-57D that we needed to single out any other given area within DU-1. Specifically, we asked ourselves if anything else jumped out at us, and the answer was no.

Mr. [redacted] stated that we are putting this back into perspective and he is glad we are talking about this because all of the little red dots on the figure are a little misleading. He added that you really have to understand where that data came from; it was discrete metals data in soil, which is notoriously inaccurate, and the sampling was done back in the 90s and 2000s, along with some current data. The whole reason we designed the sampling was that the data showed us that the problem was diffuse. The data that we get from this project will give us normalized data, which will be representative of the DU that we chose. But again, the statistics are telling us that if you do this level of sampling your decision for that area will be a proper evaluation, and there will be a lot of confidence in that. Therefore, you cannot really look at the little red dots and try to say what they mean about where the contamination is because if we could have done that we would have. What this evaluation does say is those little red dots convey that there's a diffuse problem, and it's bigger than this little spot and it's not consistent.

Ms. [redacted] appreciated the explanation and noted that she wants to bring this information back to her counterparts at MDE. Mr. [redacted] agreed with that approach but wanted to make sure that in addition to the map, they need to understand the background of how we got to these DUs and the why of the process. He added it might be best to wait to have those discussions until MDE receives and reviews the work plan, as it will lay out how we got to the 3 different DUs but will not have the old data overlaying the DUs, since as we discussed that is misleading. The plan will discuss how the old data was used and the rationale that went into developing the RI approach.

Mr. [redacted] noted that this is his third time seeing the information, which was hard to digest the first time due to all the data and the size of the Depot. But he feels this gives you the most bang for your buck and a very high confidence level in the data that you're using which is key to whatever we do out there.

Ms. [redacted] asked if the VSP inputs were taking into account where the EC's are. Ms. [redacted] responded no, as we are no longer looking at the Site as EC biased. We are looking at the site as a whole, using random methodology. The team discussed what would happen if you were to move one of the random grids to cover a prior discrete sampled exceedance. While you don't make the data irrelevant by doing that, you do bias the data. Mr. [redacted] noted that he talked to the CX (Tom Georgian) who suggested you could bias one or two of the SUs, but you have to acknowledge that as part of your sampling design and it has to be less than 5% of the SUs. However, Mr. [redacted] asked what does biasing really mean because the idea here is that a random person is going to be walking randomly over this area and ingesting and being exposed to whatever is there, because that's what the risk assessment assumes. Therefore, it is a potential risk over that entire area whatever area you choose. So if it's random, it should be the same no matter what squares you choose to sample from and it should give you the same answers. That's the idea of the process. Mr. [redacted] added that theoretically we do not have any prior knowledge that's going to bias a receptor one way or the other. We do have some knowledge that would bias us, which is why we've carved out EC-57D and the ICP Shop Area, rather than use the whole site as our random area over which we're sampling. We did consider just doing the whole site but based on this data knew we couldn't because of those two areas, so this is what made the most sense to the team.

Mr. [redacted] noted that you have to remember that the data that was collected was hit or miss and the laboratory didn't use grinding methods. There is no confidence in the repeatability of the data, but it can be used to look at the distribution and based on this it appears to be randomly dispersed across the whole site. This again reinforces the concept that there is a nonpoint source issue that we feel supports having a DU of that size.

Ms. [redacted] added that some of the historical data used is from Parsons, and when Parsons did their RI even though a couple of these spots may show as exceedances, they determined there was no potential unacceptable risk to human health or the environment based on those results. You can look at an individual data point that might be an exceedance but when you look at the overall RI, it showed that there was not any potential unacceptable risk. Therefore, it's important to realize that some of those areas have already had a risk assessment. Mr. [redacted] added that this is a really good point and we should make sure that the up-front section of the work plan details what was done and that there was not a potential unacceptable risk in many of these areas previously investigated.

Ms. [redacted] reviewed Slide 23, which summarizes that we are going to: collect sufficient high-quality data to calculate our exposure concentrations for each DU for the HHRA; use the MDE standard of $10^{-5}$; use the non-cancer hazard of 0.5; and perform a SLERA using the toxicity reference values. We will perform an FS if potential risks are considered unacceptable and identify the remediation alternatives. We will also be taking new background samples, from the same area we used during the prior investigation.

The team clarified that there are 3 separate RIs currently undergoing. There is the site-wide RI for arsenic and manganese (this project), there is the finalization of the RI that addressed all of the ECs at the Depot, which is in draft final form and MDE has reviewed, and then there will be a third RI for ECs -25 and -49 once the NTRCA is completed. Mr. [redacted] added that the Army is trying to close out sites where we have determined there is no issue. We can then set those aside, so the conversation is less complicated.

The meeting adjourned.

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

September 4, 2018

Ms [redacted]
Defense Logistics Agency, DS-E
8725 John J. Kingman Road
Suite 2639
Fort Belvoir, VA 22060

RE: Draft Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland – July 2018

Dear Ms [redacted]

The Federal Facilities Installation Restoration Program of the Maryland Department of the Environment has reviewed the above referenced document and has enclosed comments for the Defense Logistic Agency's consideration.

If you have any questions, please contact me at [redacted]

Sincerely,

[redacted]
Remedial Project Manager
Federal Facilities Installation Restoration Program

LG:lg

Enclosure

c: Ms. [redacted]
Mr.

**Maryland Department of the Environment**
**Land Restoration Program**
**Federal Facilities Installation Restoration Program**

RE: Draft Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland – July 2018

Specific Comments:

1. Page 6, Lines 3-5
   The text states "Based on the sampling, sediment, surface water, surface soil, and subsurface soil samples had results for some metals that were above either the background values or 2008 Maryland Department of the Environment non-residential soil cleanup standard (Parsons, 2003)."
   While the Federal Facilities Installation Restoration Program (FFIRP) understands that this statement references a past document, it bears repeating that the document references the Maryland Cleanup Standards for non-residential soils. The Maryland Department of the Environment's "Cleanup Standards for Soil and Groundwater" were specifically developed to support the Voluntary Cleanup Program and were to be used in lieu of a risk assessment. The guidance specifically states on Page 4 which State of Maryland programs the guidance was intended. The guidance was not intended for use at sites complying with the Comprehensive Environmental Response, Compensation and Liability Act.

   The "Cleanup Standards for Soil and Groundwater" are based on a snapshot in time calculation representing a cancer risk of $1x10^{-5}$. Consequently, when used for screening the "Cleanup Standards for Soil and Groundwater" are less stringent than the Risk Screening Level (RSL) tables prepared by the United States Environmental Protection Agency (USEPA) Region III, which are regularly updated and are based on a more conservative theoretical cancer risk of $1x10^{-6}$. Bearing this in mind, please make note to avoid reference and use of the Maryland Department of the Environment's "Cleanup Standards for Soil and Groundwater" from future documents.

2. Page 25, Lines 1-21
   The text states "Decision rules for Decision Unit (DU) 2A/2B and DU 3A/3B sampling results are:
   - Compare surface soil sampling results to background surface soil sampling results. If surface soil results are greater than background, then compare the 95% upper confidence limit of the mean (UCL) result to USEPA RSLs for industrial soil. If the 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no further action (NFA) for arsenic and/or manganese.
   - If the 95% UCL result for surface soil is greater than or equal to the larger of the background surface soil results and USEPA RSLs for industrial soil, then conduct a Human Health Risk Assessment (HHRA) and Screening Level Environmental Risk Assessment (SLERA). Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.
   - Compare subsurface soil sampling results to background subsurface soil sampling results. If subsurface soil results are greater than background subsurface soil results,

then compare the subsurface soil 95% upper confidence limit of the mean (UCL) result of USEPA RSLs for industrial soil. If the subsurface soil 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no NFA for arsenic and/or manganese.

- If the 95% UCL result for subsurface soil is greater than or equal to the larger of background subsurface soil results and USEPA RSLs for industrial soil, then conduct an HHRA and SLERA. Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.
- If risks are identified in the HHRA or SLERA then conduct an FS."

The FFIRP does not concur with this approach. The "*Role of Background in the CERCLA Cleanup Program*" (OSWER 9285.6-07P) states on Page 6 that "the EPA's 1989 *Risk Assessment Guidance for Superfund* (RAGS) provides general guidance for selecting contaminants of potential concern (COPCs), and considering background concentrations. In RAGS, the EPA cautioned that eliminating COPCs based on background (either because concentrations are below background levels or attributable to background sources) could result in the loss of important risk information for those potentially exposed, even though cleanup may or may not eliminate a source of risks caused by background levels. In light of more recent guidance for risk-based screening and risk characterization, this policy recommends a baseline risk assessment approach that retains constituents that exceed risk-based screening concentrations. This approach involves addressing site-specific background issues at the end of the risk assessment, in the risk characterization. Specifically, the COPCs with high background concentrations should be discussed in the risk characterization, and if data are available, the contribution of background to site concentrations should be distinguished. COPCs that have both release-related and background-related sources should be included in the risk assessment. When concentrations of naturally occurring elements at a site exceed risk-based screening levels, that information should be discussed qualitatively in the risk characterization." In this case, arsenic and manganese concentrations should first be compared to USEPA RSLs, risk calculations should be made, and then a comparison of sample concentrations to site background concentrations should be made. Additionally, a future hypothetical resident should be included in the assessment to conservatively evaluate unlimited use/unrestricted exposure (UU/UE) land use. If the risk evaluation shows that sample concentrations exceed acceptable residential risk, then an FS is required in which "Land Use Controls" can be presented as an alternative, with the stipulation that any contamination exceeding risk to receptors under the industrial risk scenario would need to be addressed/remediated.

3. Page 25, Lines 22-31
   The text states "Decision Rules for DU 1A sampling results are:
   - Compare surface soil sampling results to background surface soil sampling results. If surface soil results are greater than background, then compare the 95% UCL result to USEPA RSLs for industrial soil. If the 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no further action (NFA) for arsenic and/or manganese.
   - If the 95% UCL result for surface soil is greater than or equal to the larger of the background surface soil results and USEPA RSLs for industrial soil, then conduct an

HHRA and SLERA. Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.

Please see Specific Response #2.

4. Page 25, Lines 32-36
   The text states "If unacceptable risks are identified in the HHRA and/or SLERA, then subsurface soil samples will be analyzed for arsenic and manganese (as identified in Step 5) for all surface SUs where results were greater than background surface soil results and USEPA RSLs for industrial soil. Additional sampling may be required to delineate the horizontal or vertical extent of arsenic and/or manganese concentrations in these areas."
   a) Please see Specific Response #2.
   b) The FFIRP does not concur that analysis of the subsurface soil samples for DU 1B should be contingent upon the results for DU 1A – there is always the possibility that surface samples will not be contaminated but subsurface samples would be. Random sampling of this large decision unit is already taking place, which already introduces a considerable degree of uncertainty. Please amend the work plan to include analysis of all samples collected for DU 1B, and carry this change throughout the document.

5. Page 26, Lines 1-2
   The text states "Site sample results will be compared to the larger of the background sampling results and the USEPA industrial soil RSLs."
   Please see Specific Comment #2.

6. Page 26, Lines 2-3
   The text states "Note that due to the variable sizes of the SUs, ERT will calculate the mean concentration over a DU using a weighted mean and weighted standard error."
   Please edit the text to further clarify this sentence.

7. Page 28, Table 7
   a) The measurement performance criterion for "precision" of the Incremental Sample (IS) Replicate percentage of relative standard deviation (%RSD) is listed as 35%. However, review of *Implementation of Incremental Sampling (IS) of Soil for the Military Munitions Response Program, Environmental and Munitions Center of Expertise Interim Guidance Document 09-02*, Page 10, 3rd Paragraph, 1st Sentence states "If the total %RSD (total error) between three to five field replicates from the same Sampling Unit is less than 30%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal." Please change the %RSD for IS replicates to 30% here and as it appears elsewhere in the document.
   b) In the document referenced in a), the text from Page 10, 5th Paragraph states "It is important to understand that the above discussion suggests general guidelines for acceptable %RSDs. They are merely suggestions to evaluate whether or not IS results can be assumed to be reasonably representative estimates of mean analyte concentrations in a Sampling Unit, and whether or not indications of non-normal distribution are evident in a IS data set. If IS gives an estimated mean concentration that is many times greater than or less than an action level or screening value, a much larger %RSD and high degree of

uncertainty may not affect data usability. But by the same reasoning, if an estimated mean concentration is close to an action level, a greater degree of precision may be desirable."
Please edit this document to provide a contingency which covers a situation where the mean concentrations of the SUs/DUs are close to the designated action level, including a definition of "close", as there is the possibility that even a %RSD of 30% may, for this particular site/these DUs, be too high to allow a good decision to be made regarding the path forward.

8. Page 37, Line 5
   The text states "A total of 36 soil samples will be collected from DU2."
   Is this to say that there are 36 soil sample increments in DU2? Are triplicate samples planned for surface and subsurface soil for DU2 and DU3? If not, please revise the sampling plan to include them.

9. Page 40, Lines 25-27
   The text states "After sample receipt by the laboratory, each sample will be air-dried and sieved through a #10 screen to remove particles that are greater than 2 millimeters and the samples will be ground using a teflon-coated ball mill."
   Will the larger material be discarded, or ground separately to be re-added to the sample? If not, please edit the text to include the basis for decision regarding the size of particle which will be excluded from further analysis.

10. Page 40, Lines 37-39
    The text states "If the total percentage of relative standard deviation (%RSD) (total error) replicates from the same SU is less than 30-35%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal (USACE, 2009)"
    a) Please see Specific Comment #7.
    b) Please add "of" after (total error) in this sentence.
    c) For SUs which have replicate samples collected, what method will be used to calculate the representative value for the SU? Will the two replicate results simply be averaged with the sample result, or will another method be used?

11. Page 48, Lines 8-10
    The text states "If the total %RSD (total error) replicates from the same SU is less than 30%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal (USACE, 2009).
    a) Please see Specific Comment #7.
    b) Please see Specific Comment #10b.

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

January 18, 2019

Ms. [redacted]
Defense Logistics Agency, DS-E
8725 John J. Kingman Road
Suite 2639
Fort Belvoir, VA 22060

RE: Response to Comments on the Draft Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland – received November 9, 2018

Dear Ms. [redacted]

The Federal Facilities Installation Restoration Program of the Maryland Department of the Environment has reviewed the above referenced documents and has enclosed comments for the Defense Logistic Agency's consideration.

If you have any questions, please contact me at [redacted]

Sincerely,

[redacted]

Remedial Project Manager
Federal Facilities Installation Restoration Program

LG:lg

Enclosure

cc: Ms. [redacted]
Mr. [redacted]

**Maryland Department of the Environment**
**Land Restoration Program**
**Federal Facilities Installation Restoration Program**

RE: Response to Comments on the Draft Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland – July 2018, dated November 9, 2018

Specific Comments:

1. Page 6, Section 2.1, Lines 3-5
   The text states "Based on the sampling, sediment, surface water, surface soil, and subsurface soil samples had results for some metals that were above either the background values or 2008 Maryland Department of the Environment non-residential soil cleanup standard (Parsons, 2003)."
   While the Federal Facilities Installation Restoration Program (FFIRP) understands that this statement references a past document, it bears repeating that the document references the Maryland Cleanup Standards for non-residential soils. The Maryland Department of the Environment's "Cleanup Standards for Soil and Groundwater" were specifically developed to support the Voluntary Cleanup Program and were to be used in lieu of a risk assessment. The guidance specifically states on Page 4 which State of Maryland programs the guidance was intended. The guidance was not intended for use at sites complying with the Comprehensive Environmental Response, Compensation and Liability Act.
   The "Cleanup Standards for Soil and Groundwater" are based on a snapshot in time calculation representing a cancer risk of $1x10^{-5}$. Consequently, when used for screening the "Cleanup Standards for Soil and Groundwater" are less stringent than the Risk Screening Level (RSL) tables prepared by the United States Environmental Protection Agency (USEPA) Region III, which are regularly updated and are based on a more conservative theoretical cancer risk of $1x10^{-6}$. Bearing this in mind, please make note to avoid reference and use of the Maryland Department of the Environment's "Cleanup Standards for Soil and Groundwater" from future documents.

   The response states "Comment noted."
   Response accepted.

2. Page 25, Lines 1-21
   The text states "Decision rules for Decision Unit (DU) 2A/2B and DU 3A/3B sampling results are:
   - Compare surface soil sampling results to background surface soil sampling results. If surface soil results are greater than background, then compare the 95% upper confidence limit of the mean (UCL) result to USEPA RSLs for industrial soil. If the 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no further action (NFA) for arsenic and/or manganese.
   - If the 95% UCL result for surface soil is greater than or equal to the larger of the background surface soil results and USEPA RSLs for industrial soil, then conduct a Human Health Risk Assessment (HHRA) and Screening Level Environmental Risk

Assessment (SLERA). Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.

- Compare subsurface soil sampling results to background subsurface soil sampling results. If subsurface soil results are greater than background subsurface soil results, then compare the subsurface soil 95% upper confidence limit of the mean (UCL) result of USEPA RSLs for industrial soil. If the subsurface soil 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no NFA for arsenic and/or manganese.
- If the 95% UCL result for subsurface soil is greater than or equal to the larger of background subsurface soil results and USEPA RSLs for industrial soil, then conduct an HHRA and SLERA. Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.
- If risks are identified in the HHRA or SLERA then conduct an FS."

The FFIRP does not concur with this approach. The "*Role of Background in the CERCLA Cleanup Program*" (OSWER 9285.6-07P) states on Page 6 that "the EPA's 1989 *Risk Assessment Guidance for Superfund* (RAGS) provides general guidance for selecting contaminants of potential concern (COPCs), and considering background concentrations. In RAGS, the EPA cautioned that eliminating COPCs based on background (either because concentrations are below background levels or attributable to background sources) could result in the loss of important risk information for those potentially exposed, even though cleanup may or may not eliminate a source of risks caused by background levels. In light of more recent guidance for risk-based screening and risk characterization, this policy recommends a baseline risk assessment approach that retains constituents that exceed risk-based screening concentrations. This approach involves addressing site-specific background issues at the end of the risk assessment, in the risk characterization. Specifically, the COPCs with high background concentrations should be discussed in the risk characterization, and if data are available, the contribution of background to site concentrations should be distinguished. COPCs that have both release-related and background-related sources should be included in the risk assessment. When concentrations of naturally occurring elements at a site exceed risk-based screening levels, that information should be discussed qualitatively in the risk characterization." In this case, arsenic and manganese concentrations should first be compared to USEPA RSLs, risk calculations should be made, and then a comparison of sample concentrations to site background concentrations should be made. Additionally, a future hypothetical resident should be included in the assessment to conservatively evaluate unlimited use/unrestricted exposure (UU/UE) land use. If the risk evaluation shows that sample concentrations exceed acceptable residential risk, then an FS is required in which "Land Use Controls" can be presented as an alternative, with the stipulation that any contamination exceeding risk to receptors under the industrial risk scenario would need to be addressed/remediated.

The response states "The current approach in which the background concentrations are compared to the site sampling data at the same time the site data are compared to industrial soil RSLs is consistent with DERP guidance and with the MDE approved work plans for the previously conducted remedial investigations. In the Draft Final Curtis Bay RI/FS, October, 2016, a detected constituent had to exceed both the industrial soil RSL and background

concentration to be carried through the risk assessment, and this approach was accepted by MDE. In order to maintain consistency between the two remedial investigations, and to avoid confusion, we believe the screening of detected site soil concentrations should be conducted as outlined in the UFP-QAPP.
Finally, the GSA, the landholding agency, on behalf of the United States of America (the owner), agree that future use of the property will be restricted to industrial use by the application of land use controls. The use of land use controls will be included as an alternative in the FS with other potential remedial options evaluated, as required by CERCLA, based on the outcome of the arsenic and manganese sampling."
The FFIRP does not concur with this response. Adherence to an incorrect procedure in order to maintain consistency with previous incorrect procedures is not justifiable. Please revise the approach to adhere to the previously-cited USEPA guidance.

3. Page 25, Lines 22-31
The text states "Decision Rules for DU 1A sampling results are:
    - Compare surface soil sampling results to background surface soil sampling results. If surface soil results are greater than background, then compare the 95% UCL result to USEPA RSLs for industrial soil. If the 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no further action (NFA) for arsenic and/or manganese.
    - If the 95% UCL result for surface soil is greater than or equal to the larger of the background surface soil results and USEPA RSLs for industrial soil, then conduct an HHRA and SLERA. Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.

Please see Specific Response #2.

The response states "See Response to comment #2."
Please see the FFIRP response to response #2.

4. Page 25, Lines 32-36
The text states "If unacceptable risks are identified in the HHRA and/or SLERA, then subsurface soil samples will be analyzed for arsenic and manganese (as identified in Step 5) for all surface SUs where results were greater than background surface soil results and USEPA RSLs for industrial soil. Additional sampling may be required to delineate the horizontal or vertical extent of arsenic and/or manganese concentrations in these areas."
    a) Please see Specific Response #2.
    b) The FFIRP does not concur that analysis of the subsurface soil samples for DU 1B should be contingent upon the results for DU 1A – there is always the possibility that surface samples will not be contaminated but subsurface samples would be. Random sampling of this large decision unit is already taking place, which already introduces a considerable degree of uncertainty. Please amend the work plan to include analysis of all samples collected for DU 1B, and carry this change throughout the document.

The response states:
a) "See response to comment #2."
Please see the FFIRP response to response #2.

b) "Concur. All subsurface samples collected and analyzed, as requested, and the text will be revised accordingly. In addition, the CSM for DU1 (Figure 3b)will be updated to include a potentially complete pathway for subsurface soil."
Response accepted.

5. Page 26, Lines 1-2
The text states "Site sample results will be compared to the larger of the background sampling results and the USEPA industrial soil RSLs."
Please see Specific Comment #2.

The response states "See Response to comment #2."
Please see the FFIRP response to response #2.

6. Page 26, Lines 2-3
The text states "Note that due to the variable sizes of the SUs, ERT will calculate the mean concentration over a DU using a weighted mean and weighted standard error."
Please edit the text to further clarify this sentence.

The response states "Concur. Additional text will be added to WS#11 to describe the weighted mean and standard error. **See the separate attached Word document for the additional text.**
Response accepted.

7. Page 28, Table 7
   a) The measurement performance criterion for "precision" of the Incremental Sample (IS) Replicate percentage of relative standard deviation (%RSD) is listed as 35%. However, review of *Implementation of Incremental Sampling (IS) of Soil for the Military Munitions Response Program, Environmental and Munitions Center of Expertise Interim Guidance Document 09-02*, Page 10, 3rd Paragraph, 1st Sentence states "If the total %RSD (total error) between three to five field replicates from the same Sampling Unit is less than 30%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal." Please change the %RSD for IS replicates to 30% here and as it appears elsewhere in the document.
   b) In the document referenced in a), the text from Page 10, 5th Paragraph states "It is important to understand that the above discussion suggests general guidelines for acceptable %RSDs. They are merely suggestions to evaluate whether or not IS results can be assumed to be reasonably representative estimates of mean analyte concentrations in a Sampling Unit, and whether or not indications of non-normal distribution are evident in a IS data set. If IS gives an estimated mean concentration that is many times greater than or less than an action level or screening value, a much larger %RSD and high degree of uncertainty may not affect data usability. But by the same reasoning, if an estimated mean concentration is close to an action level, a greater degree of precision may be desirable."
   Please edit this document to provide a contingency which covers a situation where the mean concentrations of the SUs/DUs are close to the designated action level, including a

definition of "close", as there is the possibility that even a %RSD of 30% may, for this particular site/these DUs, be too high to allow a good decision to be made regarding the path forward.

The response states:

a) Concur. The document will be revised to use a DQO of 30% for the %RSD goal.

Response accepted.

b) The RSD percentage will be used to determine the sampling statistic (e.g., mean or 95% UCL [student's-t or Chebychev]) to use for comparison of site sampling data to screening levels. In further support of the sample approach rationale and to present a contingency plan for high % RSD, DLA has prepared an expanded discussion of % RSD and all procedures to be followed should the criteria not be achieved for the planned sampling (**see separate attached Word document**). This discussion will be added to the PARCSS discussion in Worksheet #37.

Response accepted.

8. Page 37, Line 5

The text states "A total of 36 soil samples will be collected from DU2."

Is this to say that there are 36 soil sample increments in DU2? Are triplicate samples planned for surface and subsurface soil for DU2 and DU3? If not, please revise the sampling plan to include them.

The response states "Clarification. For the ISM, each sample collected will consist of 30 increments. The number of SUs from which replicate (triplicate) samples will be collected is described in WS#20. The current sampling protocol includes surface and subsurface replicate (triplicate) sampling from one background, six DU1, two DU2, and one DU3 SUs. The sentence will be revised as, "*A total of 36 soil samples (plus QC replicates), each consisting of 30 increments, will be collected from the 18 SUs in DU 2.* "

Response accepted.

9. Page 40, Lines 25-27

The text states "After sample receipt by the laboratory, each sample will be air-dried and sieved through a #10 screen to remove particles that are greater than 2 millimeters and the samples will be ground using a teflon-coated ball mill."

Will the larger material be discarded, or ground separately to be re-added to the sample? If not, please edit the text to include the basis for decision regarding the size of particle which will be excluded from further analysis.

The response states "Concur. The following will be added to the text, '*The protocols associated with ISM sampling and analysis include the steps of airdrying and sieving. These steps, along with milling, help to control compositional and distributional heterogeneity leading to results that exhibit higher repeatability and lower variability. The sample material that is greater than 2 mm will be weighed and discarded in accordance with the ISM laboratory sample preparation guidance.* "

Response accepted.

10. Page 40, Lines 37-39

The text states "If the total percentage of relative standard deviation (%RSD) (total error) replicates from the same SU is less than 30-35%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal (USACE, 2009)"

a) Please see Specific Comment #7.
b) Please add "of" after (total error) in this sentence.
c) For SUs which have replicate samples collected, what method will be used to calculate the representative value for the SU? Will the two replicate results simply be averaged with the sample result, or will another method be used?

The response states:

a) "See response to comment #7."

Response accepted.

b) "Concur. The sentence will be revised as requested."

Response accepted.

c) "See the expanded response text included in the response to comment #7."

Response accepted.

11. Page 48, Lines 8-10

The text states "If the total %RSD (total error) replicates from the same SU is less than 30%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal (USACE, 2009).

a) Please see Specific Comment #7.

Response accepted.

b) Please see Specific Comment #10b.

Response accepted.

The response states

a) "See response to comment #7."

Response accepted.

b) "Concur. The sentence will be revised as requested."

Response accepted.

| DEPOT-WIDE REMEDIAL INVESTIGATION/FEASIBILITY STUDY FOR ARSENIC AND MANGANESE IN SOIL MDE Comments and USACE Responses | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Location: FORMER CURTIS BAY ORDNANCE DEPOT | | | | | | | |
| Contract No.: [redacted] Delivery Order [redacted] | | | | | | | |
| **Comment Number** | **Page(s)** | **Section** | **Line(s)** | **Comment** | **Response/Resolution** | **MDE Backcheck** | **Backcheck Response/Resolution** |
| **COMMENTS** | | | | | | | |
| 1 | 6 | 2.1 | 3-5 | The text states "Based on the sampling, sediment, surface water, surface soil, and subsurface soil samples had results for some metals that were above either the background values or 2008 Maryland Department of the Environment non-residential soil cleanup standard (Parsons, 2003 )." While the Federal Facilities Installation Restoration Program (FFIRP) understands that this statement references a past document, it bears repeating that the document references the Maryland Cleanup Standards for non-residential soils. The Maryland Department of the Environment's "Cleanup Standards for Soil and Groundwater" were specifically developed to support the Voluntary Cleanup Program and were to be used in lieu of a risk assessment. The guidance specifically states on Page 4 which State of Maryland programs the guidance was intended. The guidance was not intended for use at sites complying with the Comprehensive Environmental Response, Compensation and Liability Act. The "Cleanup Standards for Soil and Groundwater" are based on a snapshot in time calculation representing a cancer risk of $1x10^{5}$ Consequently, when used for screening the "Cleanup Standards for Soil and Groundwater" are less stringent than the Risk Screening Level (RSL) tables prepared by the United States Environmental Protection Agency (USEPA) Region III, which are regularly updated and are based on a more conservative theoretical cancer risk of 1 $x10^{6}$ .Bearing this in mind, please make note to avoid reference and use of the Maryland Department of the Environment's "Cleanup Standards for Soil and Groundwater" from future documents. | Comment noted. | Response accepted. | |
| 2 | 25 | WS#11 | 22-31 | The text states "Decision rules for Decision Unit (DU) 2A/2B and DU 3A/3B sampling results are:<br>• Compare surface soil sampling results to background surface soil sampling results. If surface soil results are greater than background, then compare the 95% upper confidence limit of the mean (UCL) result to USEPA RSLs for industrial soil. If the 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no further action (NFA) for arsenic and/or manganese.<br>• If the 95% UCL result for surface soil is greater than or equal to the larger of the background surface soil results and USEPA RSLs for industrial soil, then conduct a Human Health Risk Assessment (HHRA) and Screening Level Environmental Risk Assessment (SLERA). Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.<br>• Compare subsurface soil sampling results to background subsurface soil sampling results. If subsurface soil results are greater than background subsurface soil results, then compare the subsurface soil 95% upper confidence limit of the mean (UCL) result of USEPA RSLs for industrial soil. If the subsurface soil 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no NFA for arsenic and/or manganese.<br>• If the 95% UCL resull for subsurface soil is greater than or equal to the larger of background subsurface soil results and USEPA RSLs for industrial soil, then conduct an HHRA and SLERA. Details outlining the procedures for the HHRA/SLERA are provided in Appendix D.<br>• If risks are identified in the HHRA or SLERA then conduct an FS."<br>The FFIRP does not concur with this approach. The "Role of Background in the CERCLA Cleanup Program" (OSWER 9285.6-07P) states on Page 6 that "the EPA's 1989 Risk Assessment Guidance for Superfund (RAGS) provides general guidance for selecting contaminants of potential concern (COPCs), and considering background concentrations. In RAGS, the EPA cautioned that eliminating COPCs based on background (either because concentrations are below background levels or attributable to background sources) could result in the loss of important risk information for those potentially exposed, even though cleanup may or may not eliminate a source of risks caused by background levels. In light of more recent guidance for risk-based screening and risk characterization, this policy recommends a baseline risk assessment approach that retains constituents that exceed risk-based screening concentrations. This approach involves addressing site-specific background issues at the end of the risk assessment, in the risk characterization. Specifically, the COPCs with high background concentrations should be discussed in the risk characterization, and if data are available, the contribution of background to site concentrations should be distinguished. COPCs that have both release-related and background-related sources should be included in the risk assessment. When concentrations of naturally occurring elements at a site exceed risk-based screening levels, that information should be discussed qualitatively in the risk characterization." In this case, arsenic and manganese concentrations should first be compared to USEPA RSLs, risk calculations should be made, and then a comparison of sample concentrations to site background concentrations should be made Additionally, a future hypothetical resident should be included in the assessment to conservatively evaluate unlimited use/unrestricted exposure (UU/UE) land use. If the risk evaluation shows that sample concentrations exceed acceptable residential risk, then an FS is required in which "Land Use Controls" can be presented as an alternative, with the stipulation that any contamination exceeding risk to receptors under the industrial risk scenario would need to be addressed/remediated. | The current approach in which the background concentrations are compared to the site sampling data at the same time the site data are compared to industrial soil RSLs is consistent with DERP guidance and with the MDE approved work plans for the previously conducted remedial investigations. In the Draft Final Curtis Bay RI/FS, October, 2016, a detected constituent had to exceed both the industrial soil RSL and background concentration to be carried through the risk assessment, and this approach was accepted by MDE. In order to maintain consistency between the two remedial investigations, and to avoid confusion, we believe the screening of detected site soil concentrations should be conducted as outlined in the UFP-QAPP. Finally, the GSA, the landholding agency, on behalf of the United States of America (the owner), agree that future use of the property will be restricted to industrial use by the application of land use controls. The use of land use controls will be included as an alternative in the FS with other potential remedial options evaluated, as required by CERCLA, based on the outcome of the arsenic and manganese sampling. | The FFIRP does not concur with this response. Adherence to an incorrect procedure in order to maintain consistency with previous incorrect procedures in not justifiable. Please revise the approach to adhere to the previously-cited USEPA guidance. | Concur, DLA will adhere to the USEPA guidance, with the understanding that this concurence will be in effect for all work going forward and will not affect previous or ongoing Remedial Investigations. |

| Project Location: FORMER CURTIS BAY ORDNANCE DEPOT | | | | | | | |
|---|---|---|---|---|---|---|---|
| Contract No.: [redacted] Delivery Order [redacted] | | | | | | | |
| **Comment Number** | **Page(s)** | **Section** | **Line(s)** | **Comment** | **Response/Resolution** | **MDE Backcheck** | **Backcheck Response/Resolution** |
| **COMMENTS** | | | | | | | |
| 3 | 25 | WS#11 | 22-31 | Page 25, Lines 22-31<br>The text states "Decision Rules for DU 1 A sampling results are:<br>• Compare surface soil sampling results to background surface soil sampling results. If surface soil results are greater than background, then compare the 95% UCL result to USEPA RSLs for industrial soil. If the 95% UCL results are less than the USEPA RSLs for industrial soil, then recommend no further action (NFA) for arsenic and/or manganese.<br>• If the 95% UCL result for surface soil is greater than or equal to the larger of the background surface soil results and USEPA RSLs for industrial soil, then conduct an HHRA and SLERA. Details outlining Lhc procedures for the HHRA/SLERA are provided in Appendix D. Please see Specific Response #2. | See response to comment #2. | Please see FFIRP response to response #2. | Please see backcheck response #2. |
| 4 | 25 | WS#11 | 32-36 | The text states "If unacceptable risks are identified in the HHRA and/or SLERA, then subsurface soil samples will be analyzed for arsenic and manganese (as identified in Step 5) for all surface SUs where results were greater than background surface soil results and USEPA RSLs for industrial soil. Additional sampling may be required to delineate the horizontal or vertical extent of arsenic and/or manganese concentrations in these areas."<br>a) Please see Specific Response #2.<br>b) The FFIRP does not concur that analysis of the subsurface soil samples for DU 1B should be contingent upon the results for DU I A - there is always the possibility that surface samples will not be contaminated but subsurface samples would be. Random sampling of this large decision unit is already taking place, which already introduces a considerable degree of uncertainty. Please amend the work plan to include analysis of all samples collected for DU 1 B, and carry this change throughout the document. | a) See response to comment #2.<br>b) Concur. All subsurface samples collected and analyzed, as requested, and the text will be revised accordingly. In addition, the CSM for DU1 (Figure 3b) will be updated to include a potentially complete pathway for subsurface soil. | a) Please see FFIRP response to response #2.<br><br>b) Response accepted. | a) Please see backcheck response #2. |
| 5 | 26 | WS#11 | 1-2 | The text states "Site sample results will be compared to the larger of the background sampling results and the USEPA industrial soil RSLs." Please see Specific Comment #2. | See response to comment #2. | Please see FFIRP response to response #2. | Please see backcheck response #2. |
| 6 | 26 | WS#11 | 2-3 | The text states "Note that due to the variable sizes of the SUs, ERT will calculate the mean concentration over a DU using a weighted mean and weighted standard error." Please edit the text to further clarify this sentence. | Concur. Additional text will be added to WS#11 to describe the weighted mean and standard error. **See the separate attached Word document for the additional text.** | Response accepted | |
| 7 | 28 | WS#12 | Table 7 | a) The measurement performance criterion for "precision" of the Incremental Sample (IS) Replicate percentage of relative standard deviation (%RSD) is listed as 35%. However, review of Implementation of Incremental Sampling (IS) of Soil for the Military Munitions Response Program, Environmental and Munitions Center of Expertise Interim Guidance Document 09-02, Page 10, 3rd Paragraph, 1st Sentence states "If the total %RSD (total error) between three to five field replicates from the same Sampling Unit is less than 30%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal." Please change the %RSD for IS replicates to 30% here and as it appears elsewhere in the document.<br>b) In the document referenced in a), the text from Page 10, 5th Paragraph states "It is important to understand that the above discussion suggests general guidelines for acceptable %RSDs. They are merely suggestions to evaluate whether or not IS results can he assumed to be reasonably representative estimates of mean analyte concentrations in a Sampling Unit, and whether or not indications of non-normal distribution are evident in a IS data set. If IS gives an estimated mean concentration that is many times greater than or less than an action level or screening value, a much larger %RSD and high degree of uncertainty may not affect data usability. But by the same reasoning, if an estimated mean concentration is close to an action level, a greater degree of precision may be<br>desirable." Please edit this document to provide a contingency which covers a situation where the mean concentrations of the SUs/DUs are close to the designated action level, including a definition of "close", as there is the possibility that even a %RSD of 30% may, for this particular site/these DUs, be too high to allow a good decision lo be made regarding the path forward. | a) Concur. The document will be revised to use a DQO of 30% for the %RSD goal.<br>b) The RSD percentage will be used to determine the sampling statistic (e.g., mean or 95% UCL [student's-t or Chebychev]) to use for comparison of site sampling data to screening levels. In further support of the sample approach rationale and to present a contingency plan for high % RSD, DLA has prepared an expanded discussion of % RSD and all procedures to be followed should the criteria not be achieved for the planned sampling (**see separate attached Word document**). This discussion will be added to the PARCSS discussion in Worksheet #37. | a) Response accepted.<br><br>b) Response accepted. | |
| 8 | 37 | WS#17 | 5 | The text states "A total of 36 soil samples will be collected from DU2." Is this to say that there are 36 soil sample increments in DU2? Are triplicate samples planned for surface and subsurface soil for DU2 and DU3? If not, please revise the sampling plan to include them. | Clarification. For the ISM, each sample collected will consist of 30 increments. The number of SUs from which replicate (triplicate) samples will be collected is described in WS#20. The current sampling protocol includes surface and subsurface replicate (triplicate) sampling from one background, six DU1, two DU2, and one DU3 SUs.<br>The sentence will be revised as, "*A total of 36 soil samples (plus QC replicates), each consisting of 30 increments, will be collected from the 18 SUs in DU 2.*" | Response accepted. | |

| Project Location: FORMER CURTIS BAY ORDNANCE DEPOT | | | | | | | |
|---|---|---|---|---|---|---|---|
| Contract No.: [redacted] Delivery Order [redacted] | | | | | | | |
| **Comment Number** | **Page(s)** | **Section** | **Line(s)** | **Comment** | **Response/Resolution** | **MDE Backcheck** | **Backcheck Response/Resolution** |
| **COMMENTS** | | | | | | | |
| 9 | 40 | WS#17 | 25-27 | The text states "After sample receipt by the laboratory, each sample will be air-dried and sieved through a #10 screen to remove particles that are greater than 2 millimeters and the samples will be ground using a teflon-coated ball mill." Will the larger material be discarded, or ground separately to be re-added to the sample? If not, please edit the text to include the basis for decision regarding the size of particle which will be excluded from further analysis. | Concur. The following will be added to the text, *'The protocols associated with ISM sampling and analysis include the steps of air-drying and sieving. These steps, along with milling, help to control compositional and distributional heterogeneity leading to results that exhibit higher repeatability and lower variability. The sample material that is greater than 2 mm will be weighed and discarded in accordance with the ISM laboratory sample preparation guidance.* " | Response accepted. | |
| 10 | 40 | WS#17 | 37-39 | The text states "If the total percentage of relative standard deviation (%RSD) (total error) replicates from the same SU is less than 30-35%, then the sampling design and execution are likely to be adequate, and the distribution of replicate results can be assumed to be approximately normal (USACE, 2009)"<br>a) Please see Specific Comment #7.<br>b) Please add "of' after (total error) in this sentence.<br>c) For SUs which have replicate samples collected, what method will be used to calculate the representative value for the SU? Will the two replicate results simply be averaged with the sample result, or will another method be used? | a) See response to comment #7.<br>b) Concur. The sentence will be revised as requested.<br>c) See the expanded response text included in the response to comment #7. | a) Response accepted.<br>b) Response accepted. | |
| 11 | 48 | WS#20 | 8-10 | The text states "If the total %RSD (total error) replicates from the same SU is less than 30%, replicate results can be assumed to be approximately normal (USACE, 2009).<br>a) Please see Specific Comment #7.<br>b) Please see Specific Comment #10b. | a) See response to comment #7.<br>b) Concur. The sentence will be revised as requested. | a) Response accepted.<br>b) Response accepted. | |

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

March 1, 2019

Ms. [redacted]
Defense Logistics Agency, DS-E
8725 John J. Kingman Road
Suite 2639
Fort Belvoir, VA 22060

RE: Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland – February 2019

Dear [redacted]:

The Federal Facilities Installation Restoration Program of the Maryland Department of the Environment has reviewed the above referenced document and has no additional comments. The document is considered to be final and will be placed in the site file.

If you have any questions, please contact me at [redacted]

Sincerely,

[redacted]
Remedial Project Manager
Federal Facilities Installation Restoration Program

LG:lg

cc: Ms. [redacted]
Mr.

12 March 2019

Memorandum for Record

Subject: Response to Email Message, sent 11 March 2019 from ERT on Sample Preparation on the Curtis Bay Depot RI/FS Project for Mn and As to change from processing of ISM Soil Samples from using a Teflon-Coated Ball Mill to a Puck Mill

Your request to use the puck mill for soil sample grinding in order to more efficiently process the large volume and quantities of soil samples consisting of a clay and sand mix is acceptable based on the method QC data provide for the 10 replicate method blanks and the LCS samples processed using the puck mill and analyzed for arsenic and manganese.

Based on an evaluation of the listed Measurement Performance Criteria (MPC) for the two metals in QAPP Worksheet #12, the method blank result for manganese needs to be < 1/10 the regulatory limit (or < 1/10$^{th}$ the amount measure in any sample [whichever is greater] per the DoD QSM). Between the writing of the Draft QAPP and then the Final version of the QAPP, two additional regulatory criteria were added to Worksheet #15: the USEPA Residential and the USEPA BTAG, with the BTAG regulatory value for Mn being the lowest at 330 mg/kg. A tenth of that value is 33 mg/kg, therefore any Method Blank analysis needs to be < 33 mg/kg for Mn. The Method Blank results presented for Mn range from 2.8 to 4.5 mg/kg which is a factor of 7x below 1/10$^{th}$ the Regulatory Limit. Also 9 of the 10 LCS samples spiked for Mn were within acceptable percent recovery limits with the one falling outside the QC limit at 80% which was slightly below the 85% Lower Limit.

For the Arsenic analysis, using the puck mill with a limit of a one-minute grind cycle is acceptable to prevent the puck mill from getting too hot. If another grinding cycle will be done, several minutes should be allowed for the puck mill to cool down. The puck mill should not contain arsenic as part of its elemental makeup, so that shouldn't be a contributing factor in the method blank analysis. The lowest regulatory action level listed for Arsenic in QAPP Worksheet #15 is 0.68 mg/kg, the EPA Residential value. Based on the reported method blank results, the values for arsenic are below the EPA Residential Action Limit or are non-detect.

[redacted]

USACE, Baltimore District

[redacted]ertcorp.com>

# RE: [Non-DoD Source] Curtis Bay Depot Arsenic and Manganese RI Analytical Method (UNCLASSIFIED)

1 message

[redacted]CIV USARMY CENAB (US)[redacted]@usace.army.mil> Thu, Apr 11, 2019 at 11:23 AM
To: [redacted]@ertcorp.com>

CLASSIFICATION: UNCLASSIFIED

Okay, sounds good. Thanks, Kim-

[redacted] PMP
Project Manager
USACE Baltimore District
[redacted]
Baltimore, MD 21201
W [redacted]

-----Original Message-----
From [redacted]mailto:[redacted]@ertcorp.com]
Sent: Thursday, April 11, 2019 9:55 AM
To: [redacted]CIV USARMY CENAB (US) [redacted]s@usace.army.mil>
Subject: Re: [Non-DoD Source] Curtis Bay Depot Arsenic and Manganese RI Analytical Method (UNCLASSIFIED)

[redacted]

About half of the samples have been analyzed. I talked with the lab yesterday and the lowest reported concentration thus far was 3.3 mg/kg. If we have reported results for arsenic that are less than the LOQ for the 6010 method, the lab suggested that those samples could be analyzed using method 7010. 7010 has and LOQ 0f 0.16 mg/kg which is less than the USEPA residential soil RSL of 0.68 mg/kg.
Thanks,
[redacted]

On Thu, Apr 11, 2019 at 9:32 AM [redacted]U CIV USARMY CENAB (US) [redacted]@usace.army.mil <mailto[redacted]@usace.army.mil> > wrote:

CLASSIFICATION: UNCLASSIFIED

Have the samples already been analyzed?

[redacted] PMP
Project Manager
USACE Baltimore District
[redacted]
Baltimore, MD 21201
[redacted]

-----Original Message-----
From [redacted]
Sent: Wednesday, April 10, 2019 12:49 PM
To: [redacted]
usace.army.mil> >
Subject: Re: [Non-DoD Source] Curtis Bay Depot Arsenic and Manganese RI Analytical Method

[redacted]

The project laboratory is not DoD certified for method 6020. Truthfully, the use of 6020 in the UFP-QAPP was my mistake when writing the UFP-QAPP and the inconsistency (between the UFP-QAPP and laboratory SOPs) was not caught during any of the review processes.

I am truly sorry for the inconvenience this has caused.

[redacted]

On Wed, Apr 10, 2019 at 12:29 PM [redacted] mil <mailto[redacted]@usace.army.mil> > > wrote:

[redacted] Why wasn't method 6020A used per the UFP-QAPP? [redacted]

Sent with BlackBerry Work
(BlockedBlockedwww.blackberry.com <Blockedhttp://Blockedwww.blackberry.com> <Blockedhttp://Blockedwww.blackberry.com <Blockedhttp://www.blackberry.com> > )

From: [redacted]@ertcorp.com <mailto:[redacted]ertcorp.com> <mailto[redacted]@ertcorp.com <mailto[redacted]@ertcorp.com> > >
Date: Monday, Apr 08, 2019, 12:31 PM
To[redacted] CIV USARMY CENAB (US) <Kimberly.U.Gross@usace.army.mil <mailto:Kimberly.U.Gross@usace.army.mil> <mailto[redacted]@usace.army.mil <mailto:[redacted]@usace.army.mil> > > <mailto:[redacted]@dla.mil <mailto:[redacted]@dla.mil> > >
Subject: [Non-DoD Source] Curtis Bay Depot Arsenic and Manganese RI Analytical Method

[redacted]

I received a call from the lab this morning concerning the analytical method listed in the UFP-QAPP and the analytical method that CT performs. We have method 6020A listed in the UFP-QAPP, but the laboratory does not perform this method. CT performs metals analysis via method 6010C. Note that the laboratory SOPs in the UFP-QAPP are for method 6010C.

All samples will be analyzed via method 6010C. The LOQs, LODs, and DLs are:
Arsenic - LOQ = 0.80 mg/kg, LOD = 0.40, DL = 0.13
Manganese - LOQ = 0.15, LOD = 0.075, DL = 0.025

The only screening level that won't be achieved by the LOQ is the USEPA RSL for residential soil for arsenic (0.68 mg/kg). However, the anticipated typical concentration (ATC) of arsenic in eastern Maryland soils (3.6 mg/kg) is also greater than the residential soil RSL for arsenic (State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater Interim Final Guidance [update No. 3], October, 2018) and the previously derived background concentrations for surface (9.09 mg/kg) and subsurface (9.26 mg/kg) soil (Draft Final MMRP and IRP RI Report, ERT, October 2016). Therefore, it is unlikely that the analytical results for arsenic in the samples collected from the Curtis Bay Depot for the arsenic and manganese RI will be less than the ATC and the LOQ limit for arsenic is not likely to introduce any additional uncertainties into the analytical results reported for arsenic.

thank you,
--
[redacted] | ERT, Inc.
[redacted] | Laurel, MD 20707
[redacted]ertcorp.com <mailto[redacted]@ertcorp.com> <mailto[redacted]@ertcorp.com <mailt[redacted]@ertcorp.com> >

--

[redacted] | ERT, Inc.

Environmental Scientist

[redacted] Laurel, MD 20707

[redacted]

CLASSIFICATION: UNCLASSIFIED

--

[redacted] | ERT, Inc.

Environmental Scientist

[redacted] | Laurel, MD 20707

[redacted]

CLASSIFICATION: UNCLASSIFIED

**Response to MDE Comments on the Draft Final Remedial Investigation Report for the Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil (November 2019)**

| General | Comment | Response | Backcheck Comment | Final Resolution |
|---|---|---|---|---|
| 1 | The United States Environmental Protection Agency (USEPA) does not accept upfront background comparison and elimination of contaminants of potential concern (COPCs) during the first step of the risk assessment process; the Federal Facilities Installation Restoration Program (FFIRP) concurs with the USEPA' s position regarding this matter. Therefore, elimination of COPCs during Step 1 is not acceptable. All contaminants that exceed USEPA Regional Screening levels should be carried forward to Step 2 of the risk assessment process. Please revise relevant text and tables pertaining to the human health risk assessment (HHRA) and screening level ecological risk assessment accordingly. | This comment does not apply to the Depot-wide arsenic and manganese RI. This RI did not use upfront background comparisons to eliminate COCs or COPECs. The background data were not introduced into the HHRA until Section 7.1.4.4, after the evaluation of site data for risk, and the SLERA did not use the background data to eliminate any COPECs. | On page 44, Lines 14-19, the text states "The maximum concentrations were used as screening values and compared to both the RSL screening values and background concentrations. As the maximum concentrations of arsenic (As) and manganese (Mn) at each of the three DUs exceeded both the residential RSLs and background concentrations, both metals were identified as COPCs (USEPA, 2018). As such, both arsenic and manganese were carried through the quantitative baseline HHRA for each of the three DUs (Attachments A, B, and C)." The above-stated text states that sample concentrations are being compared to site background concentrations in the first step - and only when background concentrations are exceeded, are COPC designations given and subsequently carried through the baseline HHRA process. If this is not the case, please revise the text to clarify this point. | Concur. ERT will carry forward all concentrations of As and Mn that exceed USEPA Regional Screening levels (RSLs) to Step 2 of the risk assessment process. ERT will revise the text and tables accordingly. |
| 2 | The FFIRP does not accept the assumption of 63 days per year for site workers and construction workers. Please use the standard 250 days per year when revising HHRAs (USEPA, 1993,<br>Superfund's Standard Default Exposure Factors For The Central Tendency And Reasonable<br>Maximum Exposure). Additionally, the FFIRP does not accept the assumption of 8 hours per day/350 days per year for residential adult and child. The appropriate assumption for residential receptors is 24 hours per day (USEPA, 1993,<br>Superfund's Standard Default Exposure Factors For The Central Tendency And Reasonable Maximum Exposure). Please update the HHRAs accordingly. | The HHRA was conducted in accordance with the MDE approved UFP-QAPP. Appendix D of the MDE approved Final UFP-QAPP clearly outlined the exposure assumptions used to evaluate the risks. | Response not accepted. The original comment stands. | Concur. ERT will use the standard 250 days per year. Additionally, ERT will use 24 hours per day/350 days per year for residential adult and child. EA will update the EC HHRAs accordingly. |
| 3 | Please remove from this document references to degraded ecological habitat as justification for no further action despite the existence of risk to ecological receptors, as it constitutes inappropriate<br>circular logic. Unless an installation is managed to actively prevent habitation by ecological receptors (which is not the case at the installation being investigated in this document), resident ecological receptors should be shielded from inappropriate risk due to contamination of site media as a result of historical site activities. | The conclusions of the SLERA are not based on the condition of the ecological habitat. Rather, they are based on the concentrations of manganese and arsenic as measured for this RI. The weight of evidence conclusion for DU 3 (likely ecological impacts due to manganese) do include the observation that vegetation is less vigorous than in other areas of the Depot. This is an appropriate use of the "quality of habitat". | Accepted. | |
| 4 | The results from the risk analysis for human and ecological receptors from this investigation should be combined with that from the basewide investigation as appropriate to ensure that cumulative risk to human and ecological receptors from multiple contaminants of concern is accurately assessed. | The protocol and procedures for conducting the HHRA and SLERA were outlined in the MDE approved UFP-QAPP and did not include combining the sampling results from the IRP/MMRP EC RI. | The original comment stands. For sites in the Basewide RI which deferred examination of As and Mn, especially those which lie within DU-1 (DU-2 is specific to As and DU-3, to Mn) the DU-1 risks from As and Mn should be added to relevant ECs in Basewide RI. | Per the partnering meeting held on May 19, 2020, MDE agreed to not require risks from As and Mn to be added to any relevant ECs in the Basewide RI. |

**Response to MDE Comments on the Draft Final Remedial Investigation Report for the Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil (November 2019)**

| Specific | Comment | Response | Backcheck Comment | |
|---|---|---|---|---|
| 1 | Page 18, Section 3.2.3.4, Lines 13-14<br>The text states "ERT conducted background surface and subsurface soil sampling in the U. S. Army Reserve Property." Per the historical information provided on Page ES-1, "Approximately 37 acres were reassigned to the U.S. Army Reserve in 1958 and 1966."<br>The background samples were collected in an area which was originally part of the Curtis Bay installation. Please provide more information about the locations in which background samples were collected to ensure that the locations were not impacted by historical site activities or significant anthropomorphic (*sic* ) activities. | To clarify, the following text has been included in Section 3.2.3.4. *"The background area was selected based on a review of historical records for the Former Curtis Bay Depot. During the use of the background area for the Depot, the area selected for the background sampling contained administrative and housing for base personnel and was not used for other mission support activities. Therefore, this area is not likely to be impacted by the ore pile storage and related activities associated with the potential arsenic and manganese impacts to site soil.* "<br><br>Note that, the background sampling area (DU 4), sampling locations (with minor modifications due to field conditions), and sampling procedures were provided in the MDE approved UFP-QAPP (sampling units depicted on Figure 8 of the UFP-QAPP). In addition, the sampling results for arsenic and manganese are generally within the range of the background metals values presented in Attachment 1 of Appendix 2 of the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater, October 2018. This would indicate that the area selected for background sampling is appropriate for this investigation. The goal of the background sampling was to determine arsenic and manganese concentrations that are naturally occurring and/or anthropogenic causes unrelated to the site. Given the location of the Former Curtis Bay Depot in an industrial developed area, this location likely is the least impacted available and representative of the current background conditions for the Depot. | Accepted. | |
| 2 | Page 22, Section 4.1, Lines 7-9<br>The text states "Of the 47 calculated Relative Standard Deviation s (RSDs) for field replicate samples, 49% (23) were within project Data Quality Objectives (DQOs), 33% (14) were greater than 30% but<br>less than 50 %, 15% (7) were greater than 50 % but less than 100%, and 0.6% (3) were greater than 100%."<br>Please correct the 33% to 30% and the 0.6% to 6.0% here and where this text appears on Page 23, Section 4.2, Lines 6-7. Less than 50% of the RSDs met DQOs (less than 30% error), and 21% of the RSDs exceeded 50% error. How much of an issue does this present when it comes to making decisions based on this data? Please add text to address the increased level of uncertainty associated with this high incidence of DQO exceedances. | Agree. The typographical errors have been corrected.<br>Although typically shown as a DQO, statistically, the RSD is a data descriptor that provides an indication of the likely underlying distribution of the sample population. Large RSD likely indicate that the underlying data population is not normally distributed. The evaluation of the upper confidence limit of the mean (UCL) used the non-parametric Chebyshev equation. As indicated in the report, use of the non-parametric equation for evaluation of the UCL reduces the false negative decision errors. To clarify this in the report, the last two sentences of this paragraph have been revised as, *"The presence of RSDs greater than project DQOs may increase the level of uncertainty with respect to the decisions made based on these data. To address the increased level of uncertainty and to minimize the false negative decision errors that might be associated with high RSDs, ERT used the non-parametric (Chebyshev) equation for calculating the 95% upper confidence limit of the mean (95% UCL) for arsenic and/or manganese for all replicate samples for which the RSD was greater than project DQOs for comparison to the project screening levels* ." | Accepted. | |
| 3 | Page 59, Section 7.2.1.2, Lines 15-16<br>The text states "The Depot has been filled, drained, graded, and otherwise altered to the point that there are no undisturbed areas remaining. "<br>During site visits, significant portions of EC-21 (which comprises approximately 10 acres) were observed to be heavily forested. While most of the Depot has been considerably altered to facilitate historical site activities, the above statement should be edited to more accurately describe the range of site conditions present at the Depot. | Agree. For clarity, the sentence has been revised as, "*The Depot has been filled, drained, graded and otherwise altered to the point that there are no natural areas remaining, although there are areas of the Depot now covered by successional fields and successional hardwood forests* ." | Accepted. | |
| 4 | Page 65, Section 7.2.1.3, Lines 8-11<br>The text states "The assessment endpoints provide a transition between broad management, or policy goals, and the specific measures used in the assessment, supported by numerically-defined decision rules (Error! Reference source not found.)."<br>Please provide the correct source reference for this material, if a citation is necessary; otherwise, please remove the parenthetical error message from the text. | Agree. The table number reference has been added. | Accepted. | |
| 5 | Page 71, Section 7.2.2.4, Line 19<br>The text states "quality of habitat for receptors".<br>Please see General Comment #3 and remove this bullet from the text. | While this bullet can be removed, the quality of habitat was used to argue that manganese impacts were evident at DU 3. | Accepted. | |

**Response to MDE Comments on the Draft Final Remedial Investigation Report for the Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil (November 2019)**

| Specific | Comment | Response | Backcheck Comment | |
|---|---|---|---|---|
| 6 | Page 73, Section 7.2.2.4, Lines 14-19<br>The text states "For this assessment, it was assumed that the potential toxic effects of the contaminants of potential ecological concern (COPECs) (i.e., arsenic and manganese) were non-additive. This assumption may result in the underestimation of risk as concurrent exposure to several contaminants could have synergistic toxic effects. The risk characterization of metals does not include additive effects as there is no evidence of clearly additive effects in ecological systems."<br>Please provide additional information including source citations to support the assumption that potential toxic effects of COPECs are non-additive. Additionally, see General Comment #4 - how is the decision-making team taking into account the cumulative risk potential to human and ecological receptors from the Curtis Bay Depot site as a whole? | SLERA analyses assume worst-case conditions with respect to such factors as chemical concentrations and area use factors. SLERA analyses do not examine possible additive or synergistic effects from different COPECs as the factors contributing to these effects are many, varied, and complex. With respect to the influence of arsenic and manganese on mammals and birds, research indicates that arsenic affects the peripheral nervous system, while manganese affects the central nervous system. Both may affect organs such as the liver and kidney, but, at least for manganese, these effects are associated with acute concentration levels.<br>In USEPA's guidance document titled "Framework for Metals Risk Assessment" (March 2007), the agency states that, with the exception of a few hyperaccumulator species, the risk assessor "can reasonably assume that most plant species do not bioconcentrate metals" and that arsenic and other heavy metals "are not taken up by plants in measurable quantities" and that "the small amount that is taken up is mostly confined to root tissues (Chaney et al., 2000; McGrath, 1995; Chaney and Ryan, 1994; Xu and Thornton, 1985)." In this guidance document, USEPA also states that many plants are sensitive to otherwise-essential metals, including manganese, and that "the risk assessor should be aware that plants frequently die before achieving high metal concentration levels that pose a threat to animals via food chain transfer (with the exception of the hyperaccumulator species, as noted above)." Furthermore, the agency states that, at present, the possibilities of modeling mixtures of metals remain theoretical and that "the accurate prediction of joint toxicity of metal mixtures to terrestrial organisms remains a significant challenge."<br><br>See response to General Comment #4.. | Accepted re: cumulative effects for ecological receptors. See the reply to the response to General Comment #4. | Per the partnering meeting held on May 19, 2020, MDE agreed to not require risks from As and Mn to be added to any relevant ECs in the Basewide RI. |
| 7 | Appendix C, "Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil- MDE Comments and USACE Responses", Page 1, Comment 2, Backcheck Response/Resolution<br>The text states "Concur, DLA will adhere to USEPA guidance, with the understanding that this concurrence will be in effect for all work going forward and will not affect previous or ongoing Remedial Investigations."<br>The FFIRP does not accept this statement applying to ongoing Remedial Investigations. Please see General Comment #1. | The RTCs and backcheck comments provided in Appendix C are on the UFP-QAPP and were provided to MDE prior to receiving the MDE letter dated 1 March 2019 accepting the Final UFP-QAPP.<br>Also, note that the HHRA and SLERA conducted for this RI did not use background data to eliminate COCs or COPECs prior to performance of the risk assessments. See response to General Comment #1. | Accepted. Please see response to General Comment #1. | Concur. ERT will carry forward all concentrations of As and Mn that exceed USEPA Regional Screening levels (RSLs) to Step 2 of the risk assessment process. ERT will revise the text and tables accordingly. |

# APPENDIX D: ANALYTICAL DATA

**This Page Intentionally Left Blank**

# APPENDIX D.1: STATISTICAL ANALYSIS

**This Page Intentionally Left Blank**

# Appendix D.1

# Statistical Analysis of Background and Site Soil Sampling Data for the Former Curtis Bay Ordnance Depot Site-wide Arsenic and Manganese Remedial Investigation Report

Anne Arundel County, Maryland

**This Page Intentionally Left Blank**

# TABLE OF CONTENTS

**TABLE OF CONTENTS** ..... **i**
**1.0 Introduction** ..... **1**
**2.0 Analysis of Background Data** ..... **1**
2.1 Outliers by Horizon (Surface/Subsurface Soil) ..... 1
2.2 Goodness of Fit by Horizon (Surface/Subsurface Soil) ..... 1
2.3 Analysis of Variance (ANOVA) ..... 2
2.4 Outliers in Combined Data Sets ..... 2
2.5 GOF in Combined Data Sets ..... 2
2.6 Removal of Outliers ..... 2
2.7 Background Threshold Values ..... 2
**3.0 Analysis of Relative Standard Deviation and 95% Upper Confidence Limit of the Mean 3**
3.1 RSD Calculations and Results ..... 3
*3.1.1 Field Replicate RSDs* ..... *4*
*3.1.2 Laboratory Replicate RSDs* ..... *5*
3.2 95% Upper Confidence Limit of the Mean ..... 5
**4.0 REFERENCES** ..... **6**

## List of Attachments

Attachment A: ProUCL Input Data

## List of Tables


Table D.1-1. Outlier Tests by Horizon for Selected Uncensored Variables - All Site Data

Table D.1-2. Goodness-of-Fit Test Statistics by Horizon for Full Site Data Sets

Table D.1-3. Classical Oneway ANOVA Complete Site Data

Table D.1-4. Outlier Tests for Selected Uncensored Variables Combined Surface and Subsurface Sampling Results

Table D.1-5. Goodness-of-Fit Test Statistics for Uncensored Combined Data Sets

Table D.1-6. Background Statistics for Uncensored Combined Data Sets

Table D.1-7. Summary of Field Replicate and Field Split RSD Results

Table D.1-8. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 1

Table D.1-9. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 2

Table D.1-10. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 3

Table D.1-11. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 4

Table D.1-12. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 1

Table D.1-13. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 2

Table D.1-14. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 2

Table D.1-15. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 4

Table D.1-16. Summary of Laboratory Replicate RSD Results

Table D.1-17. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 1

Table D.1-18. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 2

Table D.1-19. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 3

Table D.1-20. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 4

Table D.1-21. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 1

Table D.1-22. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 2

Table D.1-23. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 3

Table D.1-24. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 4

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ANOVA | Analysis of Variance |
| BTV | Background Threshold Value |
| DoD | Department of Defense |
| DU | Decision Unit |
| ERT | Earth Resources Technology, Inc. |
| GOF | Goodness of Fit |
| ISM | Incremental Sampling Method |
| ITRC | Interstate Technology & Regulatory Council |
| kg | Kilogram |
| mg | Milligram |
| PSL | Project Screening Level |
| RI | Remedial Investigation |
| RSD | Relative Standard Deviation |
| SU | Sampling Unit |
| UCL | Upper Confidence Limit |
| UTL | Upper Threshold Limit |
| UFP-QAPP | Uniform Federal Policy Quality Assurance Project Plan |
| USEPA | U.S. Environmental Protection Agency |

# 1.0 Introduction

ERT, Inc. (ERT) performed a statistical analysis of the site and background surface and subsurface soil samples collected for the Former Curtis Bay Ordnance Depot Arsenic (As) and Manganese (Mn) Remedial Investigation (RI). Background and site soil samples were collected using the Incremental Sampling Methodology (ISM). Section 2 documents the development of the background threshold values (BTVs), used for screening site soil sampling results. Section 3 documents the relative standard deviation (RSD) and relative percent difference (RPD) calculations for the site and background soil sampling results and 95 percent (%) Upper Confidence Limit calculations for the site soil sampling results. Details of the sampling and analysis can be found in the RI Report.

# 2.0 Analysis of Background Data

ERT conducted background soil sampling to determine the concentrations of As and Mn due to naturally occurring and anthropogenic (non-Department of Defense [DoD]) sources. As and Mn were detected in every background soil sample collected (uncensored data). Note that ERT used the arithmetic mean of the results for the replicates collected for sampling units (SUs) DU4A-SU07 and DU4B-S07 for the background data statistical analysis. ERT performed the statistical analysis using ProUCL version 5.1 software and technical guidance (USEPA, 2015). This section presents the results of the statistical analysis for the development of the BTVs. ProUCL output and other summary tables are provided in the tables at the end of this report.

ERT used the following steps in the statistical analysis of metals in background soil:

1. Evaluate outliers for each analyte grouped by horizon (surface soil and subsurface soil),
2. Evaluate goodness of fit (GOF) for each analyte grouped by horizon,
3. Evaluate the Analysis of Variance (ANOVA) to compare surface soil to subsurface soil,
4. Combine surface and subsurface sampling results based on ANOVA results,
5. Evaluate outliers in combined data sets,
6. Evaluate GOF in combined data sets,
7. Remove outliers from grouped (step 2) and combined (step5) if GOF shows data are non-parametric (no discernable distribution) and the outlier likely represents a data point that is not representative of background.
8. Calculate the grouped or combined data set BTVs using the revised data set.

Each of the steps is discussed below.

## 2.1 Outliers by Horizon (Surface/Subsurface Soil)

ERT analyzed the background As and Mn data to determine potential outliers in the background data set using the "Outlier Tests, Full (w/o NDs)" tool in ProUCL. During the initial outlier evaluation, data were grouped by horizon; each data set had seven measurements for each metal. The results of the outlier tests showed a potential upper tail outlier (7.2 mg/kg in DU4B-SU01) at all significance levels for arsenic in subsurface soil. The ProUCL output of the outlier evaluations is provided in Table D.1-1.

## 2.2 Goodness of Fit by Horizon (Surface/Subsurface Soil)

After analyzing the outliers in the background arsenic and manganese data, ERT ran the "Goodness-of-Fit Tests, Full (w/o NDs), G.O.F. Statistics" to evaluate the potential data distribution(s) for each analyte and each horizon. All data appeared normal, gamma, and/or

lognormal at the 0.05 significance level. The ProUCL output of the GOF tests is provided in Table D.1-2.

### 2.3 Analysis of Variance (ANOVA)

In accordance with the Uniform Federal Policy – Quality Assurance Project Plan (UFP-QAPP) (ERT, 2019), ERT performed a statistical comparison (ANOVA at p=0.05) of the background surface soil ISM samples to the background subsurface soil ISM samples to determine if the if the background surface soil and background subsurface soil are likely from the same population. Using the GOF results from step 2 to evaluate the distributions of each metal, ERT performed "Oneway ANOVA, Classical".

A p-value less than or equal to 0.05 (or alternative selected level) suggests that there are differences in the mean characteristics of the surface and subsurface soil for arsenic and/or manganese. A p-value greater than 0.05 suggests that the mean characteristics are comparable. The p-value for the surface and subsurface soil ANOVA for arsenic was 0.651 and for manganese was 0.679. The results of the ANOVA indicated that the mean/median characteristics of the surface and subsurface data are comparable for arsenic and manganese. Therefore, the data for surface and subsurface soil for will be combined for further analysis (step 4). The ProUCL output of the ANOVA is provided in Table D.1-3 (Classical One-Way ANOVA).

### 2.4 Outliers in Combined Data Sets

Based on the results of the ANOVA, ERT performed an examination of the combined arsenic and the combined manganese data set to evaluate potential outliers within the combined data sets. The results of the outlier tests showed a potential upper tail outlier at the 0.10 and 0.05 significance levels, but not at the 0.01 significance level for arsenic in the combined surface/subsurface soil. No outliers were identified in the combined surface and subsurface soil manganese data set.The ProUCL output of the outlier evaluations is provided in Table D.1-4.

### 2.5 GOF in Combined Data Sets

Based on the results of the ANOVA, ERT performed an analysis of the GOF for the combined arsenic and combined manganese data sets. The arsenic combined data set appeared either gamma or lognormal at the 0.05 significance level. The manganese combined data set appeared either normal, gamma, or lognormal at the 0.05 significance level. The ProUCL output of the GOF evaluations is provided in Table D.1-5.

### 2.6 Removal of Outliers

Although the combined arsenic results exhibited a potential outlier, there is no reason to suspect that the potential arsenic outlier is inconsistent with the background population for arsenic in eastern Maryland background soil as the value of the potential arsenic outlier (7.2 mg/kg) is equal to the USGS average concentration cited in Appendix 2 of the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (MDE, 2018). Therefore, the potential outlier was not removed from the combined arsenic data set.

### 2.7 Background Threshold Values

To determine the background soil concentrations for comparison to site soil sampling results, ERT calculated the BTVs using the ProUCL, version 5.1, software. ERT used the combined surface

and subsurface soil data sets from steps 1 through 7, as described above, for the BTV data set. The ProUCL BTV output is provided in Table D.1-6.

While the combined surface and subsurface soil arsenic data exhibit either lognormal distribution or a gamma distribution, because the combined arsenic data contain a potential outlier, ERT selected the BTV for arsenic using the gamma distribution statistic "95% HW Approx. Gamma Upper Threshold Limit (UTL) with 95% Coverage". Use of a BTV from the lognormal distribution in a dataset that contains a potential outlier would likely overestimate the BTV. The BTV for arsenic in surface and subsurface soil is 7.8 mg/kg

The combined surface and subsurface soil manganese data exhibited either normal, gamma, or lognormal distributions. ERT selected the BTV for manganese using the normal distribution statistic "95% UTL with 95% Coverage". The BTV for manganese in surface and subsurface soil is 460.5 mg/kg.

It should be noted that other data distributions and/or alternate upper limit statistics could have been selected for this analysis. However, ERT selected each of the BTVs (using UTL statistics) so that the background population for each metal is likely to be covered by the selected BTV.

## 3.0 Analysis of Relative Standard Deviation and 95% Upper Confidence Limit of the Mean

ERT calculated the ISM replicate sample RSDs as part of the evaluation of data representativeness. Representativeness is the extent to which measurements represent the true environmental condition or population at the time of sample collection.

ERT also calculated the 95% Upper Confidence Limit of the Mean (UCL) for ISM replicate samples. In accordance with the UFP-QAPP (ERT, 2019), the method for calculating the UCL (Student's t or Chebyshev) is based on the calculated RSD.

This section presents the results of the RSD, RPD, and UCL calculations.

### 3.1 RSD Calculations and Results

ERT calculated the RSD for the field and laboratory replicate ISM soil samples collected at the Former Curtis Bay Ordnance Depot in accordance with the Interstate Technology Regulatory Council (ITRC) Incremental Sampling Methodology Technical and Regulatory Guidance (ITRC, 2012). The RSD reflects the total sum of field and laboratory error in the data (i.e., field sampling error, lab processing/subsampling error, and lab analysis error). The standard deviation is a well-known measure of the variation from the mean among a group of samples. The lower the standard deviation (i.e., the closer the replicate data are to the mean) the more precise the site data are as an estimate of average contaminant concentration in the SU under investigation. When the mean concentration of a contaminant reported for a set of ISM replicate samples is close to the PSLs, a lower standard deviation for the replicates provides stronger evidence that the true SU mean is less than the action level. A low standard deviation for soil sample data is achieved by minimizing error in sample collection, processing, and analysis to the extent feasible. The RSD represents the ratio of the standard deviation of the replicate set over the mean of the replicate set, expressed as a percentage:

$$RSD\ (\%) = \frac{replicate\ standard\ deviation}{replicate\ mean} * 100\%$$

### 3.1.1 Field Replicate RSDs

The project goal for RSDs was 30 percent (%). An RSD less than 30% is considered to reflect good precision for estimates of the average (ITRC 2012). Good precision implies that the sampling method used, including the SU size, number, spacing, and size/shape of increments collected were adequate to capture and reflect small-scale heterogeneity of contaminant distribution within the SU and that error in the laboratory processing and analysis methods was low.

In additional to field replicate (triplicate) samples, ERT collected field split samples to validate the use of coring for samples collected using direct push technology (DPT) where the step probe could not be used to collect the sample. ERT used coring, as outlined in the ITRC guidance (ITRC, 2012) to reduce the mass of the samples collected and submitted to the laboratory.

A summary of the RSD calculations for each DU, each analysis, and each interval is presented in Table D.1-7, below.

**Table D.1-7. Summary of Field Replicate and Field Split RSD Results**

| Decision Unit | Interval | Field Replicates | Field Splits | RSD ≤ 30% | 30% < RSD ≤ 50% | 50% < RSD ≤ 100% | RSD > 100% |
|---|---|---|---|---|---|---|---|
| DU 1 | Surface | 6 | 1 | 9 | 5 | 1 | 0 |
| | Subsurface | 6 | 1 | 9 | 4 | 3 | 0 |
| DU 2 | Surface | 2 | 0 | 2 | 2 | 0 | 0 |
| | Subsurface | 2 | 0 | 1 | 2 | 1 | 1 |
| DU 3 | Surface | 1 | 0 | 0 | 0 | 1 | 1 |
| | Subsurface | 1 | 0 | 0 | 0 | 1 | 1 |
| DU 4 (Background) | Surface | 1 | 0 | 1 | 1 | 0 | 0 |
| | Subsurface | 1 | 0 | 2 | 0 | 0 | 0 |

Of the 47 calculate RSDs, 49% (23) were within project DQOs, 33% (14) were greater than 30% but less than 50%, 15% (7) were greater than 50% but less than 100%, and 0.6% (3) were greater than 100%. Note that the calculated RSDs for the field split sample were within the project DQO indicating that the coring method used to reduce the sample mass sent to the laboratory did not adversely affect the sampling results. The calculated RSDs for site replicate and field split samples are provided in Tables D.1-8 through D.1-15.

Based on the evaluation of the field replicate samples and field split sample RSDs, it does not appear that there is a systematic field error associated with the field sampling protocol. The sample support (mass of each ISM sample) provided to the laboratory exceeded the recommended 1-2 kgs for all samples collected. Therefore, it is likely that the RSDs outside of QC limits indicate that arsenic and/or manganese concentrations in the site soil are not normally distributed over the SU areas. If additional soil sampling at the Depot is conducted, reducing the size of the sampling units, either by increasing the number of replicates, reducing the dimensions to less than 0.5 acres or limiting the sampling interval to less than 12 inches, or a combination of these, to capture and reflect small-scale heterogeneity of contaminant distribution is recommended.

### 3.1.2 Laboratory Replicate RSDs

The project goal for laboratory replicate RSDs was 15%. The laboratory replicate RSDs are used to evaluate contribution of the laboratory processing and analysis methods to the (statistical) errors associated with the sampling results. A summary of the RSD calculations for the laboratory replicate samples is provided in Table D.1-16, below.

**Table D.1-16. Summary of Laboratory Replicate RSD Results**

| Decision Unit | Interval | Replicate Samples | RSD ≤ 15% | RSD > 15% |
|---|---|---|---|---|
| DU 1 | Surface | 10 | 14 | 5 |
| | Subsurface | 8 | 10 | 5 |
| DU 2 | Surface | 1 | 2 | 0 |
| | Subsurface | 1 | 2 | 0 |
| DU 3 | Surface | 1 | 2 | 0 |
| | Subsurface | 1 | 1 | 1 |
| DU 4 (Background) | Surface | 1 | 1 | 1 |
| | Subsurface | 1 | 2 | 0 |

Of the 46 calculated laboratory replicate RSDs, 74% (34) were within the project DQOs and 26% were greater than the project DQOs. The calculated laboratory replicate RSDs are provided in Tables D.1-17 through D.1-24.

Given that the majority of the laboratory replicate RSDs were within the project DQOs, it does not appear that there were any systematic errors in the sample processing or analysis. It is likely that field errors (i.e., distribution of contaminants in soil) contributed to the laboratory replicate RSDs that were greater than the project DQOs.

## 3.2 95% Upper Confidence Limit of the Mean

To compare the site sampling results to the PSLs, ERT calculated the 95% UCL using the ITRC "ISM Calculator for 1-sided Upper Confidence Limit (UCL) for the Mean" for each replicate sample data set. Each replicate data set was entered into the ISM calculator with alpha = 0.05 and the calculated UCL was recorded in Tables D.1-8 through D.1-15. Details on calculation of the UCLs are provided in the UFP-QAPP (ERT, 2019).

ERT selected the student's t or Chebyshev UCL for all replicates based on the calculated RSD for each of the replicate samples. The student's t UCL was used for comparison to criteria and in the risk assessments for all replicate results where the RSD was less than or equal to 30% and the Chebyshev UCL was used for comparison to criteria and in the risk assessments for all replicate results where the RSD greater than 30%.

## 4.0 REFERENCES

ERT, Inc. (ERT), 2019. *Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-Wide Remedial Investigation/Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland*. February.

Interstate Technology & Regulatory Council (ITRC), 2012. *Technical and Regulatory Guidance Incremental Sampling Methodology*. February.

State of Maryland Department of the Environment (MDE), 2018. C*leanup Standards for Soil and Groundwater, Interim Final Guidance (Update No. 3)*. October.

United States Environmental Protection Agency (USEPA), Office of Research and Development, 2015. *ProUCL Version 5.1.002 Technical Guide Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations*. October.

# Tables

This Page Intentionally Left Blank

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | **Table D.1-1.** | **Outlier Tests by Horizon for Selected Uncensored Variables** | | | | | |
| 2 | | | | **User Selected Options** | **All Site Background Data** | | | | | |
| 3 | | | Date/Time of Computation | ProUCL 5.17/18/2019 7:09:33 AM | | | | | | |
| 4 | | | | From File | Background ProUCL Data.xls | | | | | |
| 5 | | | | Full Precision | OFF | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | **Dixon's Outlier Test for Arsenic (subsurface)** | | | | | | |
| 9 | | | | | | | | | | |
| 10 | Number of Observations = 7 | | | | | | | | | |
| 11 | 10% critical value: 0.434 | | | | | | | | | |
| 12 | 5% critical value: 0.507 | | | | | | | | | |
| 13 | 1% critical value: 0.637 | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | **1. Observation Value 7.2 is a Potential Outlier (Upper Tail)?** | | | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | Test Statistic: 0.657 | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | For 10% significance level, 7.2 is an outlier. | | | | | | | | | |
| 20 | For 5% significance level, 7.2 is an outlier. | | | | | | | | | |
| 21 | For 1% significance level, 7.2 is an outlier. | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | **2. Observation Value 0.81 is a Potential Outlier (Lower Tail)?** | | | | | | | | | |
| 24 | | | | | | | | | | |
| 25 | Test Statistic: 0.061 | | | | | | | | | |
| 26 | | | | | | | | | | |
| 27 | For 10% significance level, 0.81 is not an outlier. | | | | | | | | | |
| 28 | For 5% significance level, 0.81 is not an outlier. | | | | | | | | | |
| 29 | For 1% significance level, 0.81 is not an outlier. | | | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | | | | | | | | | | |
| 32 | | | | **Dixon's Outlier Test for Arsenic (surface)** | | | | | | |
| 33 | | | | | | | | | | |
| 34 | Number of Observations = 7 | | | | | | | | | |
| 35 | 10% critical value: 0.434 | | | | | | | | | |
| 36 | 5% critical value: 0.507 | | | | | | | | | |
| 37 | 1% critical value: 0.637 | | | | | | | | | |
| 38 | | | | | | | | | | |
| 39 | **1. Observation Value 3.84 is a Potential Outlier (Upper Tail)?** | | | | | | | | | |
| 40 | | | | | | | | | | |
| 41 | Test Statistic: 0.129 | | | | | | | | | |
| 42 | | | | | | | | | | |
| 43 | For 10% significance level, 3.84 is not an outlier. | | | | | | | | | |
| 44 | For 5% significance level, 3.84 is not an outlier. | | | | | | | | | |
| 45 | For 1% significance level, 3.84 is not an outlier. | | | | | | | | | |
| 46 | | | | | | | | | | |
| 47 | **2. Observation Value 1.2 is a Potential Outlier (Lower Tail)?** | | | | | | | | | |
| 48 | | | | | | | | | | |
| 49 | Test Statistic: 0.076 | | | | | | | | | |
| 50 | | | | | | | | | | |
| 51 | For 10% significance level, 1.2 is not an outlier. | | | | | | | | | |
| 52 | For 5% significance level, 1.2 is not an outlier. | | | | | | | | | |
| 53 | For 1% significance level, 1.2 is not an outlier. | | | | | | | | | |
| 54 | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 55 | | | | | | | | | | |
| 56 | **Dixon's Outlier Test for Manganese (subsurface)** | | | | | | | | | |
| 57 | | | | | | | | | | |
| 58 | Number of Observations = 7 | | | | | | | | | |
| 59 | 10% critical value: 0.434 | | | | | | | | | |
| 60 | 5% critical value: 0.507 | | | | | | | | | |
| 61 | 1% critical value: 0.637 | | | | | | | | | |
| 62 | | | | | | | | | | |
| 63 | **1. Observation Value 327 is a Potential Outlier (Upper Tail)?** | | | | | | | | | |
| 64 | | | | | | | | | | |
| 65 | Test Statistic: 0.075 | | | | | | | | | |
| 66 | | | | | | | | | | |
| 67 | For 10% significance level, 327 is not an outlier. | | | | | | | | | |
| 68 | For 5% significance level, 327 is not an outlier. | | | | | | | | | |
| 69 | For 1% significance level, 327 is not an outlier. | | | | | | | | | |
| 70 | | | | | | | | | | |
| 71 | **2. Observation Value 72.3 is a Potential Outlier (Lower Tail)?** | | | | | | | | | |
| 72 | | | | | | | | | | |
| 73 | Test Statistic: 0.035 | | | | | | | | | |
| 74 | | | | | | | | | | |
| 75 | For 10% significance level, 72.3 is not an outlier. | | | | | | | | | |
| 76 | For 5% significance level, 72.3 is not an outlier. | | | | | | | | | |
| 77 | For 1% significance level, 72.3 is not an outlier. | | | | | | | | | |
| 78 | | | | | | | | | | |
| 79 | | | | | | | | | | |
| 80 | **Dixon's Outlier Test for Manganese (surface)** | | | | | | | | | |
| 81 | | | | | | | | | | |
| 82 | Number of Observations = 7 | | | | | | | | | |
| 83 | 10% critical value: 0.434 | | | | | | | | | |
| 84 | 5% critical value: 0.507 | | | | | | | | | |
| 85 | 1% critical value: 0.637 | | | | | | | | | |
| 86 | | | | | | | | | | |
| 87 | **1. Observation Value 334 is a Potential Outlier (Upper Tail)?** | | | | | | | | | |
| 88 | | | | | | | | | | |
| 89 | Test Statistic: 0.024 | | | | | | | | | |
| 90 | | | | | | | | | | |
| 91 | For 10% significance level, 334 is not an outlier. | | | | | | | | | |
| 92 | For 5% significance level, 334 is not an outlier. | | | | | | | | | |
| 93 | For 1% significance level, 334 is not an outlier. | | | | | | | | | |
| 94 | | | | | | | | | | |
| 95 | **2. Observation Value 85.9 is a Potential Outlier (Lower Tail)?** | | | | | | | | | |
| 96 | | | | | | | | | | |
| 97 | Test Statistic: 0.173 | | | | | | | | | |
| 98 | | | | | | | | | | |
| 99 | For 10% significance level, 85.9 is not an outlier. | | | | | | | | | |
| 100 | For 5% significance level, 85.9 is not an outlier. | | | | | | | | | |
| 101 | For 1% significance level, 85.9 is not an outlier. | | | | | | | | | |
| 102 | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Table D.1-2** | | **Goodness-of-Fit Test Statistics by Horizon for Uncensored Full Data Sets without Non-Detects** | | | | | | | | | |
| 2 | **User Selected Options** | | | | | | | | | | | |
| 3 | Date/Time of Computation | | ProUCL 5.16/26/2019 4:06:57 PM | | | | | | | | | |
| 4 | From File | | [redacted].xls | | | | | | | | | |
| 5 | Full Precision | | OFF | | | | | | | | | |
| 6 | Confidence Coefficient | | 0.95 | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | **Arsenic (subsurface)** | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | **Raw Statistics** | | | | | | | | | | | |
| 12 | Number of Valid Observations | 7 | | | | | | | | | | |
| 13 | Number of Distinct Observations | 7 | | | | | | | | | | |
| 14 | Minimum | 0.81 | | | | | | | | | | |
| 15 | Maximum | 7.2 | | | | | | | | | | |
| 16 | Mean of Raw Data | 2.586 | | | | | | | | | | |
| 17 | Standard Deviation of Raw Data | 2.155 | | | | | | | | | | |
| 18 | Khat | 2.337 | | | | | | | | | | |
| 19 | Theta hat | 1.107 | | | | | | | | | | |
| 20 | Kstar | 1.431 | | | | | | | | | | |
| 21 | Theta star | 1.808 | | | | | | | | | | |
| 22 | Mean of Log Transformed Data | 0.721 | | | | | | | | | | |
| 23 | Standard Deviation of Log Transformed Data | 0.698 | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | **Normal GOF Test Results** | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | Correlation Coefficient R | 0.859 | | | | | | | | | | |
| 28 | Shapiro Wilk Test Statistic | 0.759 | | | | | | | | | | |
| 29 | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | | | | | |
| 30 | Approximate Shapiro Wilk P Value | 0.00949 | | | | | | | | | | |
| 31 | Lilliefors Test Statistic | 0.281 | | | | | | | | | | |
| 32 | Lilliefors Critical (0.05) Value | 0.304 | | | | | | | | | | |
| 33 | **Data appear Approximate Normal at (0.05) Significance Level** | | | | | | | | | | | |
| 34 | | | | | | | | | | | | |
| 35 | **Gamma GOF Test Results** | | | | | | | | | | | |
| 36 | | | | | | | | | | | | |
| 37 | Correlation Coefficient R | 0.953 | | | | | | | | | | |
| 38 | A-D Test Statistic | 0.387 | | | | | | | | | | |
| 39 | A-D Critical (0.05) Value | 0.714 | | | | | | | | | | |
| 40 | K-S Test Statistic | 0.196 | | | | | | | | | | |
| 41 | K-S Critical(0.05) Value | 0.315 | | | | | | | | | | |
| 42 | **Data appear Gamma Distributed at (0.05) Significance Level** | | | | | | | | | | | |
| 43 | | | | | | | | | | | | |
| 44 | **Lognormal GOF Test Results** | | | | | | | | | | | |
| 45 | | | | | | | | | | | | |
| 46 | Correlation Coefficient R | 0.973 | | | | | | | | | | |
| 47 | Shapiro Wilk Test Statistic | 0.96 | | | | | | | | | | |
| 48 | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | | | | | |
| 49 | Approximate Shapiro Wilk P Value | 0.726 | | | | | | | | | | |
| 50 | Lilliefors Test Statistic | 0.151 | | | | | | | | | | |
| 51 | Lilliefors Critical (0.05) Value | 0.304 | | | | | | | | | | |
| 52 | **Data appear Lognormal at (0.05) Significance Level** | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | | | | | | | | | | | | |
| 54 | **Arsenic (surface)** | | | | | | | | | | | |
| 55 | | | | | | | | | | | | |
| 56 | | | | **Raw Statistics** | | | | | | | | |
| 57 | | | | | Number of Valid Observations | 7 | | | | | | |
| 58 | | | | | Number of Distinct Observations | 6 | | | | | | |
| 59 | | | | | Minimum | 1.2 | | | | | | |
| 60 | | | | | Maximum | 3.84 | | | | | | |
| 61 | | | | | Mean of Raw Data | 2.163 | | | | | | |
| 62 | | | | | Standard Deviation of Raw Data | 1.081 | | | | | | |
| 63 | | | | | Khat | 5.248 | | | | | | |
| 64 | | | | | Theta hat | 0.412 | | | | | | |
| 65 | | | | | Kstar | 3.094 | | | | | | |
| 66 | | | | | Theta star | 0.699 | | | | | | |
| 67 | | | | | Mean of Log Transformed Data | 0.673 | | | | | | |
| 68 | | | | | Standard Deviation of Log Transformed Data | 0.467 | | | | | | |
| 69 | | | | | | | | | | | | |
| 70 | | | | **Normal GOF Test Results** | | | | | | | | |
| 71 | | | | | | | | | | | | |
| 72 | | | | | Correlation Coefficient R | 0.914 | | | | | | |
| 73 | | | | | Shapiro Wilk Test Statistic | 0.818 | | | | | | |
| 74 | | | | | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | |
| 75 | | | | | Approximate Shapiro Wilk P Value | 0.0898 | | | | | | |
| 76 | | | | | Lilliefors Test Statistic | 0.27 | | | | | | |
| 77 | | | | | Lilliefors Critical (0.05) Value | 0.304 | | | | | | |
| 78 | **Data appear Normal at (0.05) Significance Level** | | | | | | | | | | | |
| 79 | | | | | | | | | | | | |
| 80 | | | | **Gamma GOF Test Results** | | | | | | | | |
| 81 | | | | | | | | | | | | |
| 82 | | | | | Correlation Coefficient R | 0.95 | | | | | | |
| 83 | | | | | A-D Test Statistic | 0.577 | | | | | | |
| 84 | | | | | A-D Critical (0.05) Value | 0.71 | | | | | | |
| 85 | | | | | K-S Test Statistic | 0.266 | | | | | | |
| 86 | | | | | K-S Critical(0.05) Value | 0.313 | | | | | | |
| 87 | **Data appear Gamma Distributed at (0.05) Significance Level** | | | | | | | | | | | |
| 88 | | | | | | | | | | | | |
| 89 | | | | **Lognormal GOF Test Results** | | | | | | | | |
| 90 | | | | | | | | | | | | |
| 91 | | | | | Correlation Coefficient R | 0.942 | | | | | | |
| 92 | | | | | Shapiro Wilk Test Statistic | 0.867 | | | | | | |
| 93 | | | | | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | |
| 94 | | | | | Approximate Shapiro Wilk P Value | 0.271 | | | | | | |
| 95 | | | | | Lilliefors Test Statistic | 0.24 | | | | | | |
| 96 | | | | | Lilliefors Critical (0.05) Value | 0.304 | | | | | | |
| 97 | **Data appear Lognormal at (0.05) Significance Level** | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 | | | | | | | | | | | | |
| 99 | **Manganese (subsurface)** | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |
| 101 | | | | **Raw Statistics** | | | | | | | | |
| 102 | | | | | Number of Valid Observations | 7 | | | | | | |
| 103 | | | | | Number of Distinct Observations | 7 | | | | | | |
| 104 | | | | | Minimum | 72.3 | | | | | | |
| 105 | | | | | Maximum | 327 | | | | | | |
| 106 | | | | | Mean of Raw Data | 188.8 | | | | | | |
| 107 | | | | | Standard Deviation of Raw Data | 108.3 | | | | | | |
| 108 | | | | | Khat | 3.111 | | | | | | |
| 109 | | | | | Theta hat | 60.7 | | | | | | |
| 110 | | | | | Kstar | 1.873 | | | | | | |
| 111 | | | | | Theta star | 100.8 | | | | | | |
| 112 | | | | | Mean of Log Transformed Data | 5.072 | | | | | | |
| 113 | | | | | Standard Deviation of Log Transformed Data | 0.655 | | | | | | |
| 114 | | | | | | | | | | | | |
| 115 | | | | **Normal GOF Test Results** | | | | | | | | |
| 116 | | | | | | | | | | | | |
| 117 | | | | | Correlation Coefficient R | 0.945 | | | | | | |
| 118 | | | | | Shapiro Wilk Test Statistic | 0.863 | | | | | | |
| 119 | | | | | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | |
| 120 | | | | | Approximate Shapiro Wilk P Value | 0.291 | | | | | | |
| 121 | | | | | Lilliefors Test Statistic | 0.248 | | | | | | |
| 122 | | | | | Lilliefors Critical (0.05) Value | 0.304 | | | | | | |
| 123 | **Data appear Normal at (0.05) Significance Level** | | | | | | | | | | | |
| 124 | | | | | | | | | | | | |
| 125 | | | | **Gamma GOF Test Results** | | | | | | | | |
| 126 | | | | | | | | | | | | |
| 127 | | | | | Correlation Coefficient R | 0.929 | | | | | | |
| 128 | | | | | A-D Test Statistic | 0.574 | | | | | | |
| 129 | | | | | A-D Critical (0.05) Value | 0.712 | | | | | | |
| 130 | | | | | K-S Test Statistic | 0.261 | | | | | | |
| 131 | | | | | K-S Critical(0.05) Value | 0.314 | | | | | | |
| 132 | **Data appear Gamma Distributed at (0.05) Significance Level** | | | | | | | | | | | |
| 133 | | | | | | | | | | | | |
| 134 | | | | **Lognormal GOF Test Results** | | | | | | | | |
| 135 | | | | | | | | | | | | |
| 136 | | | | | Correlation Coefficient R | 0.935 | | | | | | |
| 137 | | | | | Shapiro Wilk Test Statistic | 0.844 | | | | | | |
| 138 | | | | | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | |
| 139 | | | | | Approximate Shapiro Wilk P Value | 0.201 | | | | | | |
| 140 | | | | | Lilliefors Test Statistic | 0.255 | | | | | | |
| 141 | | | | | Lilliefors Critical (0.05) Value | 0.304 | | | | | | |
| 142 | **Data appear Lognormal at (0.05) Significance Level** | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143 | | | | | | | | | | | | |
| 144 | **Manganese (surface)** | | | | | | | | | | | |
| 145 | | | | | | | | | | | | |
| 146 | | | | **Raw Statistics** | | | | | | | | |
| 147 | | | | | Number of Valid Observations | 7 | | | | | | |
| 148 | | | | | Number of Distinct Observations | 7 | | | | | | |
| 149 | | | | | Minimum | 85.9 | | | | | | |
| 150 | | | | | Maximum | 334 | | | | | | |
| 151 | | | | | Mean of Raw Data | 212.1 | | | | | | |
| 152 | | | | | Standard Deviation of Raw Data | 96.97 | | | | | | |
| 153 | | | | | Khat | 5.118 | | | | | | |
| 154 | | | | | Theta hat | 41.44 | | | | | | |
| 155 | | | | | Kstar | 3.02 | | | | | | |
| 156 | | | | | Theta star | 70.23 | | | | | | |
| 157 | | | | | Mean of Log Transformed Data | 5.256 | | | | | | |
| 158 | | | | | Standard Deviation of Log Transformed Data | 0.502 | | | | | | |
| 159 | | | | | | | | | | | | |
| 160 | | | | **Normal GOF Test Results** | | | | | | | | |
| 161 | | | | | | | | | | | | |
| 162 | | | | | Correlation Coefficient R | 0.971 | | | | | | |
| 163 | | | | | Shapiro Wilk Test Statistic | 0.921 | | | | | | |
| 164 | | | | | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | |
| 165 | | | | | Approximate Shapiro Wilk P Value | 0.673 | | | | | | |
| 166 | | | | | Lilliefors Test Statistic | 0.201 | | | | | | |
| 167 | | | | | Lilliefors Critical (0.05) Value | 0.304 | | | | | | |
| 168 | **Data appear Normal at (0.05) Significance Level** | | | | | | | | | | | |
| 169 | | | | | | | | | | | | |
| 170 | | | | **Gamma GOF Test Results** | | | | | | | | |
| 171 | | | | | | | | | | | | |
| 172 | | | | | Correlation Coefficient R | 0.955 | | | | | | |
| 173 | | | | | A-D Test Statistic | 0.275 | | | | | | |
| 174 | | | | | A-D Critical (0.05) Value | 0.71 | | | | | | |
| 175 | | | | | K-S Test Statistic | 0.172 | | | | | | |
| 176 | | | | | K-S Critical(0.05) Value | 0.313 | | | | | | |
| 177 | **Data appear Gamma Distributed at (0.05) Significance Level** | | | | | | | | | | | |
| 178 | | | | | | | | | | | | |
| 179 | | | | **Lognormal GOF Test Results** | | | | | | | | |
| 180 | | | | | | | | | | | | |
| 181 | | | | | Correlation Coefficient R | 0.975 | | | | | | |
| 182 | | | | | Shapiro Wilk Test Statistic | 0.937 | | | | | | |
| 183 | | | | | Shapiro Wilk Critical (0.05) Value | 0.803 | | | | | | |
| 184 | | | | | Approximate Shapiro Wilk P Value | 0.751 | | | | | | |
| 185 | | | | | Lilliefors Test Statistic | 0.156 | | | | | | |
| 186 | | | | | Lilliefors Critical (0.05) Value | 0.304 | | | | | | |
| 187 | **Data appear Lognormal at (0.05) Significance Level** | | | | | | | | | | | |

| | | |
|---|---|---|
| **Table D.1-3** | **Classical Oneway ANOVA Complete Site Data** | |
| Date/Time of Computation | ProUCL 5.16/26/2019 4:07:31 PM | |
| From File | [redacted]20190626035824.xls | |
| Full Precision | OFF | |

**Arsenic**

| Group | Obs | Mean | SD | Variance |
|---|---|---|---|---|
| subsurface | 7 | 2.586 | 2.155 | 4.645 |
| surface | 7 | 2.163 | 1.081 | 1.168 |
| Grand Statistics (All data) | 14 | 2.374 | 1.653 | 2.731 |

**Classical One-Way Analysis of Variance Table**

| Source | SS | DOF | MS | V.R.(F Stat) | P-Value |
|---|---|---|---|---|---|
| Between Groups | 0.626 | 1 | 0.626 | 0.215 | 0.651 |
| Within Groups | 34.88 | 12 | 2.907 | | |
| Total | 35.5 | 13 | | | |

| | |
|---|---|
| Pooled Standard Deviation | 1.705 |
| R-Sq | 0.0176 |

**Note: A p-value <= 0.05 (or some other selected level) suggests that there are significant differences in mean/median characteristics of the various groups at 0.05 or other selected level of significance**

**A p-value > 0.05 (or other selected level) suggests that mean/median characteristics of the various groups are comparable.**

**Manganese**

| Group | Obs | Mean | SD | Variance |
|---|---|---|---|---|
| subsurface | 7 | 188.8 | 108.3 | 11724 |
| surface | 7 | 212.1 | 96.97 | 9403 |
| Grand Statistics (All data) | 14 | 200.5 | 99.48 | 9897 |

**Classical One-Way Analysis of Variance Table**

| Source | SS | DOF | MS | V.R.(F Stat) | P-Value |
|---|---|---|---|---|---|
| Between Groups | 1899 | 1 | 1899 | 0.18 | 0.679 |
| Within Groups | 126757 | 12 | 10563 | | |
| Total | 128656 | 13 | | | |

| | |
|---|---|
| Pooled Standard Deviation | 102.8 |
| R-Sq | 0.0148 |

**Note: A p-value <= 0.05 (or some other selected level) suggests that there are significant differences in mean/median characteristics of the various groups at 0.05 or other selected level of significance**

**A p-value > 0.05 (or other selected level) suggests that mean/median characteristics of the various groups are comparable.**

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | **Table D.1-4.** | **Outlier Tests for Selected Uncensored Variables** | | | | | | | |
| 2 | | | | **User Selected Options** | **Combined Surface and Subsurface Sampling Results** | | | | | | | |
| 3 | | | | Date/Time of Computation | ProUCL 5.16/26/2019 4:14:56 PM | | | | | | | |
| 4 | | | | | From File | [redacted]20190626035824.xls | | | | | | |
| 5 | | | | | Full Precision | OFF | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | **Dixon's Outlier Test for Arsenic** | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | Number of Observations = 14 | | | | | | | | | | | |
| 10 | 10% critical value: 0.492 | | | | | | | | | | | |
| 11 | 5% critical value: 0.546 | | | | | | | | | | | |
| 12 | 1% critical value: 0.641 | | | | | | | | | | | |
| 13 | | | | | | | | | | | | |
| 14 | **1. Observation Value 7.2 is a Potential Outlier (Upper Tail)?** | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | Test Statistic: 0.617 | | | | | | | | | | | |
| 17 | | | | | | | | | | | | |
| 18 | For 10% significance level, 7.2 is an outlier. | | | | | | | | | | | |
| 19 | For 5% significance level, 7.2 is an outlier. | | | | | | | | | | | |
| 20 | For 1% significance level, 7.2 is not an outlier. | | | | | | | | | | | |
| 21 | | | | | | | | | | | | |
| 22 | **2. Observation Value 0.81 is a Potential Outlier (Lower Tail)?** | | | | | | | | | | | |
| 23 | | | | | | | | | | | | |
| 24 | Test Statistic: 0.145 | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | For 10% significance level, 0.81 is not an outlier. | | | | | | | | | | | |
| 27 | For 5% significance level, 0.81 is not an outlier. | | | | | | | | | | | |
| 28 | For 1% significance level, 0.81 is not an outlier. | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | **Dixon's Outlier Test for Manganese** | | | | | | | | | | | |
| 32 | | | | | | | | | | | | |
| 33 | Number of Observations = 14 | | | | | | | | | | | |
| 34 | 10% critical value: 0.492 | | | | | | | | | | | |
| 35 | 5% critical value: 0.546 | | | | | | | | | | | |
| 36 | 1% critical value: 0.641 | | | | | | | | | | | |
| 37 | | | | | | | | | | | | |
| 38 | **1. Observation Value 334 is a Potential Outlier (Upper Tail)?** | | | | | | | | | | | |
| 39 | | | | | | | | | | | | |
| 40 | Test Statistic: 0.028 | | | | | | | | | | | |
| 41 | | | | | | | | | | | | |
| 42 | For 10% significance level, 334 is not an outlier. | | | | | | | | | | | |
| 43 | For 5% significance level, 334 is not an outlier. | | | | | | | | | | | |
| 44 | For 1% significance level, 334 is not an outlier. | | | | | | | | | | | |
| 45 | | | | | | | | | | | | |
| 46 | **2. Observation Value 72.3 is a Potential Outlier (Lower Tail)?** | | | | | | | | | | | |
| 47 | | | | | | | | | | | | |
| 48 | Test Statistic: 0.053 | | | | | | | | | | | |
| 49 | | | | | | | | | | | | |
| 50 | For 10% significance level, 72.3 is not an outlier. | | | | | | | | | | | |
| 51 | For 5% significance level, 72.3 is not an outlier. | | | | | | | | | | | |
| 52 | For 1% significance level, 72.3 is not an outlier. | | | | | | | | | | | |

| | | |
|---|---|---|
| **Table D.1-5.** | **Goodness-of-Fit Test Statistics for Uncensored Combined Data Sets** | |
| **User Selected Options** | | |
| Date/Time of Computation | ProUCL 5.16/26/2019 4:09:36 PM | |
| From File | [redacted]20190626035824.xls | |
| Full Precision | OFF | |
| Confidence Coefficient | 0.95 | |

**Arsenic**

**Raw Statistics**

| | |
|---|---|
| Number of Valid Observations | 14 |
| Number of Distinct Observations | 12 |
| Minimum | 0.81 |
| Maximum | 7.2 |
| Mean of Raw Data | 2.374 |
| Standard Deviation of Raw Data | 1.653 |
| Khat | 3.14 |
| Theta hat | 0.756 |
| Kstar | 2.515 |
| Theta star | 0.944 |
| Mean of Log Transformed Data | 0.697 |
| Standard Deviation of Log Transformed Data | 0.571 |

**Normal GOF Test Results**

| | |
|---|---|
| Correlation Coefficient R | 0.869 |
| Shapiro Wilk Test Statistic | 0.774 |
| Shapiro Wilk Critical (0.05) Value | 0.874 |
| Approximate Shapiro Wilk P Value | 0.00159 |
| Lilliefors Test Statistic | 0.232 |
| Lilliefors Critical (0.05) Value | 0.226 |

**Data not Normal at (0.05) Significance Level**

**Gamma GOF Test Results**

| | |
|---|---|
| Correlation Coefficient R | 0.954 |
| A-D Test Statistic | 0.476 |
| A-D Critical (0.05) Value | 0.742 |
| K-S Test Statistic | 0.18 |
| K-S Critical(0.05) Value | 0.23 |

**Data appear Gamma Distributed at (0.05) Significance Level**

**Lognormal GOF Test Results**

| | |
|---|---|
| Correlation Coefficient R | 0.977 |
| Shapiro Wilk Test Statistic | 0.961 |
| Shapiro Wilk Critical (0.05) Value | 0.874 |
| Approximate Shapiro Wilk P Value | 0.67 |
| Lilliefors Test Statistic | 0.147 |
| Lilliefors Critical (0.05) Value | 0.226 |

**Data appear Lognormal at (0.05) Significance Level**

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | | | | | | | | | | | | |
| 54 | **Manganese** | | | | | | | | | | | |
| 55 | | | | | | | | | | | | |
| 56 | | | | **Raw Statistics** | | | | | | | | |
| 57 | | | | | Number of Valid Observations | 14 | | | | | | |
| 58 | | | | | Number of Distinct Observations | 14 | | | | | | |
| 59 | | | | | Minimum | 72.3 | | | | | | |
| 60 | | | | | Maximum | 334 | | | | | | |
| 61 | | | | | Mean of Raw Data | 200.5 | | | | | | |
| 62 | | | | | Standard Deviation of Raw Data | 99.48 | | | | | | |
| 63 | | | | | Khat | 3.815 | | | | | | |
| 64 | | | | | Theta hat | 52.55 | | | | | | |
| 65 | | | | | Kstar | 3.045 | | | | | | |
| 66 | | | | | Theta star | 65.83 | | | | | | |
| 67 | | | | | Mean of Log Transformed Data | 5.164 | | | | | | |
| 68 | | | | | Standard Deviation of Log Transformed Data | 0.569 | | | | | | |
| 69 | | | | | | | | | | | | |
| 70 | | | | **Normal GOF Test Results** | | | | | | | | |
| 71 | | | | | | | | | | | | |
| 72 | | | | | Correlation Coefficient R | 0.96 | | | | | | |
| 73 | | | | | Shapiro Wilk Test Statistic | 0.894 | | | | | | |
| 74 | | | | | Shapiro Wilk Critical (0.05) Value | 0.874 | | | | | | |
| 75 | | | | | Approximate Shapiro Wilk P Value | 0.147 | | | | | | |
| 76 | | | | | Lilliefors Test Statistic | 0.152 | | | | | | |
| 77 | | | | | Lilliefors Critical (0.05) Value | 0.226 | | | | | | |
| 78 | **Data appear Normal at (0.05) Significance Level** | | | | | | | | | | | |
| 79 | | | | | | | | | | | | |
| 80 | | | | **Gamma GOF Test Results** | | | | | | | | |
| 81 | | | | | | | | | | | | |
| 82 | | | | | Correlation Coefficient R | 0.937 | | | | | | |
| 83 | | | | | A-D Test Statistic | 0.559 | | | | | | |
| 84 | | | | | A-D Critical (0.05) Value | 0.741 | | | | | | |
| 85 | | | | | K-S Test Statistic | 0.17 | | | | | | |
| 86 | | | | | K-S Critical(0.05) Value | 0.23 | | | | | | |
| 87 | **Data appear Gamma Distributed at (0.05) Significance Level** | | | | | | | | | | | |
| 88 | | | | | | | | | | | | |
| 89 | | | | **Lognormal GOF Test Results** | | | | | | | | |
| 90 | | | | | | | | | | | | |
| 91 | | | | | Correlation Coefficient R | 0.955 | | | | | | |
| 92 | | | | | Shapiro Wilk Test Statistic | 0.886 | | | | | | |
| 93 | | | | | Shapiro Wilk Critical (0.05) Value | 0.874 | | | | | | |
| 94 | | | | | Approximate Shapiro Wilk P Value | 0.107 | | | | | | |
| 95 | | | | | Lilliefors Test Statistic | 0.164 | | | | | | |
| 96 | | | | | Lilliefors Critical (0.05) Value | 0.226 | | | | | | |
| 97 | **Data appear Lognormal at (0.05) Significance Level** | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | **Table D.1-6.** | **Background Statistics for Uncensored Combined Data Sets** | | | | | | | | |
| 2 | | | **User Selected Options** | | | | | | | | | |
| 3 | | | Date/Time of Computation | ProUCL 5.16/26/2019 4:10:36 PM | | | | | | | | |
| 4 | | | From File | [redacted]Users[redacted]ProUCL_data_Curtis Bay - Fin | | | | | | | | |
| 5 | | | Full Precision | OFF | | | | | | | | |
| 6 | | | Confidence Coefficient | 95% | | | | | | | | |
| 7 | | | Coverage | 95% | | | | | | | | |
| 8 | | | New or Future K Observations | 1 | | | | | | | | |
| 9 | | | Number of Bootstrap Operations | 2000 | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | **Arsenic** | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | **General Statistics** | | | | | | | | | | | |
| 14 | | | | | | Total Number of Observations | 14 | | | Number of Distinct Observations | 12 | | |
| 15 | | | | | | **Minimum** | 0.81 | | | First Quartile | 1.4 | | |
| 16 | | | | | | Second Largest | 3.84 | | | **Median** | 1.795 | | |
| 17 | | | | | | **Maximum** | 7.2 | | | Third Quartile | 2.825 | | |
| 18 | | | | | | **Mean** | 2.374 | | | SD | 1.653 | | |
| 19 | | | | | | Coefficient of Variation | 0.696 | | | Skewness | 2.136 | | |
| 20 | | | | | | **Mean of logged Data** | 0.697 | | | SD of logged Data | 0.571 | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | **Critical Values for Background Threshold Values (BTVs)** | | | | | | | |
| 23 | | | | | | Tolerance Factor K (For UTL) | 2.614 | | | d2max (for USL) | 2.372 | | |
| 24 | | | | | | | | | | | | | |
| 25 | | | | | | **Normal GOF Test** | | | | | | | |
| 26 | | | | | | Shapiro Wilk Test Statistic | 0.774 | | | **Shapiro Wilk GOF Test** | | | |
| 27 | | | | | | 5% Shapiro Wilk Critical Value | 0.874 | | | Data Not Normal at 5% Significance Level | | | |
| 28 | | | | | | Lilliefors Test Statistic | 0.232 | | | **Lilliefors GOF Test** | | | |
| 29 | | | | | | 5% Lilliefors Critical Value | 0.226 | | | Data Not Normal at 5% Significance Level | | | |
| 30 | | | | | | **Data Not Normal at 5% Significance Level** | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | | | | | | **Background Statistics Assuming Normal Distribution** | | | | | | | |
| 33 | | | | | | 95% UTL with 95% Coverage | 6.694 | | | 90% Percentile (z) | 4.492 | | |
| 34 | | | | | | 95% UPL (t) | 5.404 | | | 95% Percentile (z) | 5.093 | | |
| 35 | | | | | | 95% USL | 6.294 | | | 99% Percentile (z) | 6.219 | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | **Gamma GOF Test** | | | | | | | |
| 38 | | | | | | A-D Test Statistic | 0.476 | | | **Anderson-Darling Gamma GOF Test** | | | |
| 39 | | | | | | 5% A-D Critical Value | 0.742 | | | Detected data appear Gamma Distributed at 5% Significance Level | | | |
| 40 | | | | | | K-S Test Statistic | 0.18 | | | **Kolmogorov-Smirnov Gamma GOF Test** | | | |
| 41 | | | | | | 5% K-S Critical Value | 0.23 | | | Detected data appear Gamma Distributed at 5% Significance Level | | | |
| 42 | | | | | | **Detected data appear Gamma Distributed at 5% Significance Level** | | | | | | | |
| 43 | | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | **Gamma Statistics** | | | | | | | | | | | |
| 45 | | | | | k hat (MLE) | 3.14 | | | | k star (bias corrected MLE) | | 2.515 |
| 46 | | | | | Theta hat (MLE) | 0.756 | | | | Theta star (bias corrected MLE) | | 0.944 |
| 47 | | | | | nu hat (MLE) | 87.92 | | | | nu star (bias corrected) | | 70.41 |
| 48 | | | | | MLE Mean (bias corrected) | 2.374 | | | | MLE Sd (bias corrected) | | 1.497 |
| 49 | | | | | | | | | | | | |
| 50 | **Background Statistics Assuming Gamma Distribution** | | | | | | | | | | | |
| 51 | | | | 95% Wilson Hilferty (WH) Approx. Gamma UPL | | 5.455 | | | | 90% Percentile | | 4.38 |
| 52 | | | | 95% Hawkins Wixley (HW) Approx. Gamma UPL | | 5.498 | | | | 95% Percentile | | 5.248 |
| 53 | | | | 95% WH Approx. Gamma UTL with 95% Coverage | | 7.568 | | | | 99% Percentile | | 7.146 |
| 54 | | | | 95% HW Approx. Gamma UTL with 95% Coverage | | 7.807 | | | | | | |
| 55 | | | | | 95% WH USL | 6.863 | | | | 95% HW USL | | 7.025 |
| 56 | | | | | | | | | | | | |
| 57 | **Lognormal GOF Test** | | | | | | | | | | | |
| 58 | | | | | Shapiro Wilk Test Statistic | 0.961 | | | | **Shapiro Wilk Lognormal GOF Test** | | |
| 59 | | | | | 5% Shapiro Wilk Critical Value | 0.874 | | | | Data appear Lognormal at 5% Significance Level | | |
| 60 | | | | | Lilliefors Test Statistic | 0.147 | | | | **Lilliefors Lognormal GOF Test** | | |
| 61 | | | | | 5% Lilliefors Critical Value | 0.226 | | | | Data appear Lognormal at 5% Significance Level | | |
| 62 | **Data appear Lognormal at 5% Significance Level** | | | | | | | | | | | |
| 63 | | | | | | | | | | | | |
| 64 | **Background Statistics assuming Lognormal Distribution** | | | | | | | | | | | |
| 65 | | | | | 95% UTL with 95% Coverage | 8.933 | | | | 90% Percentile (z) | | 4.174 |
| 66 | | | | | 95% UPL (t) | 5.719 | | | | 95% Percentile (z) | | 5.136 |
| 67 | | | | | 95% USL | 7.778 | | | | 99% Percentile (z) | | 7.58 |
| 68 | | | | | | | | | | | | |
| 69 | **Nonparametric Distribution Free Background Statistics** | | | | | | | | | | | |
| 70 | **Data appear Gamma Distributed at 5% Significance Level** | | | | | | | | | | | |
| 71 | | | | | | | | | | | | |
| 72 | **Nonparametric Upper Limits for Background Threshold Values** | | | | | | | | | | | |
| 73 | | | | | Order of Statistic, r | 14 | | | | 95% UTL with 95% Coverage | | 7.2 |
| 74 | | | | | Approx, f used to compute achieved CC | 0.737 | | | | Approximate Actual Confidence Coefficient achieved by UTL | | 0.512 |
| 75 | | | | | | | | | | Approximate Sample Size needed to achieve specified CC | | 59 |
| 76 | | | | 95% Percentile Bootstrap UTL with 95% Coverage | | 7.2 | | | | 95% BCA Bootstrap UTL with 95% Coverage | | 7.2 |
| 77 | | | | | 95% UPL | 7.2 | | | | 90% Percentile | | 3.738 |
| 78 | | | | | 90% Chebyshev UPL | 7.506 | | | | 95% Percentile | | 5.016 |
| 79 | | | | | 95% Chebyshev UPL | 9.831 | | | | 99% Percentile | | 6.763 |
| 80 | | | | | 95% USL | 7.2 | | | | | | |
| 81 | | | | | | | | | | | | |
| 82 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. | | | | | | | | | | | |
| 83 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers | | | | | | | | | | | |
| 84 | and consists of observations collected from clean unimpacted locations. | | | | | | | | | | | |
| 85 | The use of USL tends to provide a balance between false positives and false negatives provided the data | | | | | | | | | | | |
| 86 | represents a background data set and when many onsite observations need to be compared with the BTV. | | | | | | | | | | | |
| 87 | | | | | | | | | | | | |

**Manganese**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 14 |
| Minimum | 72.3 | First Quartile | 99.79 |
| Second Largest | 328 | Median | 199 |
| Maximum | 334 | Third Quartile | 296 |
| Mean | 200.5 | SD | 99.48 |
| Coefficient of Variation | 0.496 | Skewness | 0.0822 |
| Mean of logged Data | 5.164 | SD of logged Data | 0.569 |

**Critical Values for Background Threshold Values (BTVs)**

| | | | |
|---|---|---|---|
| Tolerance Factor K (For UTL) | 2.614 | d2max (for USL) | 2.372 |

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.894 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.152 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.226 | Data appear Normal at 5% Significance Level | |

**Data appear Normal at 5% Significance Level**

**Background Statistics Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| 95% UTL with 95% Coverage | 460.5 | 90% Percentile (z) | 328 |
| 95% UPL (t) | 382.8 | 95% Percentile (z) | 364.1 |
| 95% USL | 436.4 | 99% Percentile (z) | 431.9 |

**Gamma GOF Test**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.559 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.741 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.17 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.23 | Detected data appear Gamma Distributed at 5% Significance Level | |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 3.815 | k star (bias corrected MLE) | 3.045 |
| Theta hat (MLE) | 52.55 | Theta star (bias corrected MLE) | 65.83 |
| nu hat (MLE) | 106.8 | nu star (bias corrected) | 85.26 |
| MLE Mean (bias corrected) | 200.5 | MLE Sd (bias corrected) | 114.9 |

**Background Statistics Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Wilson Hilferty (WH) Approx. Gamma UPL | 436.7 | 90% Percentile | 354.5 |
| 95% Hawkins Wixley (HW) Approx. Gamma UPL | 448.3 | 95% Percentile | 418.9 |
| 95% WH Approx. Gamma UTL with 95% Coverage | 592.3 | 99% Percentile | 558.4 |
| 95% HW Approx. Gamma UTL with 95% Coverage | 624 | | |
| 95% WH USL | 540.6 | 95% HW USL | 564.8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 134 | **Lognormal GOF Test** | | | | | | | | | | | |
| 135 | | | | | Shapiro Wilk Test Statistic | 0.886 | **Shapiro Wilk Lognormal GOF Test** | | | | | |
| 136 | | | | | 5% Shapiro Wilk Critical Value | 0.874 | Data appear Lognormal at 5% Significance Level | | | | | |
| 137 | | | | | Lilliefors Test Statistic | 0.164 | **Lilliefors Lognormal GOF Test** | | | | | |
| 138 | | | | | 5% Lilliefors Critical Value | 0.226 | Data appear Lognormal at 5% Significance Level | | | | | |
| 139 | **Data appear Lognormal at 5% Significance Level** | | | | | | | | | | | |
| 140 | | | | | | | | | | | | |
| 141 | **Background Statistics assuming Lognormal Distribution** | | | | | | | | | | | |
| 142 | | | | 95% UTL with | 95% Coverage | 773 | | | 90% Percentile (z) | 362.3 | | |
| 143 | | | | | 95% UPL (t) | 495.8 | | | 95% Percentile (z) | 445.5 | | |
| 144 | | | | | 95% USL | 673.5 | | | 99% Percentile (z) | 656.3 | | |
| 145 | | | | | | | | | | | | |
| 146 | **Nonparametric Distribution Free Background Statistics** | | | | | | | | | | | |
| 147 | **Data appear Normal at 5% Significance Level** | | | | | | | | | | | |
| 148 | | | | | | | | | | | | |
| 149 | **Nonparametric Upper Limits for Background Threshold Values** | | | | | | | | | | | |
| 150 | | | | | Order of Statistic, r | 14 | | | 95% UTL with | 95% Coverage | 334 | |
| 151 | | | | | Approx, f used to compute achieved CC | 0.737 | | | Approximate Actual Confidence Coefficient achieved by UTL | | 0.512 | |
| 152 | | | | | | | | | Approximate Sample Size needed to achieve specified CC | | 59 | |
| 153 | | | | 95% Percentile Bootstrap UTL with | 95% Coverage | 334 | | | 95% BCA Bootstrap UTL with | 95% Coverage | 334 | |
| 154 | | | | | 95% UPL | 334 | | | 90% Percentile | | 327.7 | |
| 155 | | | | | 90% Chebyshev UPL | 509.4 | | | 95% Percentile | | 330.1 | |
| 156 | | | | | 95% Chebyshev UPL | 649.3 | | | 99% Percentile | | 333.2 | |
| 157 | | | | | 95% USL | 334 | | | | | | |
| 158 | | | | | | | | | | | | |
| 159 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. | | | | | | | | | | | |
| 160 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers | | | | | | | | | | | |
| 161 | and consists of observations collected from clean unimpacted locations. | | | | | | | | | | | |
| 162 | The use of USL tends to provide a balance between false positives and false negatives provided the data | | | | | | | | | | | |
| 163 | represents a background data set and when many onsite observations need to be compared with the BTV. | | | | | | | | | | | |
| 164 | | | | | | | | | | | | |

Table D.1-8. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 1
Former Curtis Bay Ordnance Depot Remedial Investigation

| Location Name: | | | | DU1-SU09 | | | | | | | DU1-SU10 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | | 3/12/2019 | | | | | | | 3/29/2019 | | | | | | | | |
| OC Type: | | | | FT | | FT | | FT | | | Field | FT | | FT | | FT | | | Field |
| Sample Name: | | | | DU1A-SU09R1 | | DU1A-SU09R2 | | DU1A-SU09R3 | | 95% UCL[1] | Replicate RSD | DU1A-SU10R1 | | DU1A-SU10R2 | | DU1A-SU10R3 | | 95% UCL[1] | Replicate RSD |
| Analyte | CAS | Unit | Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 22.8 | | 13.8 | | 8.9 | | 32.91 | **46.48** | 13.4 | | 10.4 | | 11 | | 14.28 | 13.68 |
| Manganese | 7439-96-5 | mg/kg | 30% | 420 | | 372 | | 183 | | 640.32 | **38.55** | 563 | | 459 | | 672 | | 744.23 | 18.86 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | | | | |

Table D.1-8. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 1
Former Curtis Bay Ordnance Depot Remedial Investigation

| Location Name: | | | | DU1-SU11 | | | | | | | DU1-SU30 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | | 3/12/2019 | | | | | | | 3/27/2019 | | | | | | | | |
| OC Type: | | | | FT | | FT | | FT | | | Field | FSI | | FSI | | FSI | | | Field |
| Sample Name: | | | | DU1A-SU11R1 | | DU1A-SU11R2 | | DU1A-SU11R3 | | 95% UCL[1] | Replicate RSD | DU1A-SU30S1 | | DU1A-SU30S2 | | DU1A-SU30S3 | | 95% UCL[1] | Replicate RSD |
| Analyte | CAS | Unit | Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 10.3 | | 9.4 | | 6.9 | | 11.84 | 19.87 | 3.3 | | 5.8 | | 4.9 | | 6.80 | 27.13 |
| Manganese | 7439-96-5 | mg/kg | 30% | 1040 | | 665 | | 1100 | | 1332.43 | 25.21 | 5100 | | 5090 | | 3850 | | 5891.82 | 15.36 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | | | | |

Table D.1-8. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 1
Former Curtis Bay Ordnance Depot Remedial Investigation

| Location Name: | | | | DU1-SU36 | | | | | | | | DU1-SU44 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | | 3/29/2019 | | | | | | | | 3/27/2019 | | | | | | | |
| OC Type: | | | | FT | | FT | | FT | | | Field | FT | | FT | | FT | | | Field |
| Sample Name: | | | | DU1A-SU36R1 | | DU1A-SU36R2 | | DU1A-SU36R3 | | 95% UCL[1] | Replicate RSD | DU1A-SU44R1 | | DU1A-SU44R2 | | DU1A-SU44R3 | | 95% UCL[1] | Replicate RSD |
| Analyte | CAS | Unit | Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 5.9 | | 3.1 | J | 3.5 | | 7.98 | **36.35** | 0.45 | J | 0.38 | J | 1.4 | | 2.18 | **76.65** |
| Manganese | 7439-96-5 | mg/kg | 30% | 508 | | 418 | | 460 | | 537.92 | 9.75 | 120 | | 140 | | 105 | | 151.27 | 14.43 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | 0.4 | UJ | 1.2 | | 1.1 | | 2.00 | **48.43** |

Table D.1-8. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 1
Former Curtis Bay Ordnance Depot Remedial Investigation

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU51 | | | | | | | | | |
| | | | Sample Date: | 3/12/2019 | | | | | | | | | |
| | | | OC Type: | FT | | FT | | FT | | | | | Field |
| | | | Sample Name: | DU1A-SU51R1 | | DU1A-SU51R2 | | DU1A-SU51R3 | | 95% UCL[1] | | | Replicate RSD |
| Analyte | CAS | Unit | Limit | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 7.5 | | 4.6 | | 5 | | 8.35 | | | 27.57 |
| Manganese | 7439-96-5 | mg/kg | 30% | 1150 | | 485 | | 810 | | 1651.84 | | | **40.80** |
| **SW846 7010** | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | |

**Legend:**
1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.
Blank cells indicate that the sample was not analyzed by the method.
mg/kg - milligrams per kilogram
FT - field triplicate
FSI - field split incremental sample
QC - quality control
RSD - relative standard deviation
UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**
Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:
mean - arithmetic mean of the replicate samples
SD - standard deviation
r - number of replicate samples
α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)
t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

Table D.1-9. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicate Samples in DU 2
Former Curtis Bay Ordnance Depot Remedial Investigation

| Location Name: | | | | DU2-SU02 | | | | | | | DU2-SU07 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | | 3/22/2019 | | | | | | | 3/22/2019 | | | | | | |
| OC Type: | | | | FT | | FT | | FT | | Field | FT | | FT | | FT | | Field |
| Sample Name: | | | | DU2A-SU02R1 | | DU2A-SU02R2 | | DU2A-SU02R3 | 95% UCL[1] | Replicate RSD | DU2A-SU07R1 | | DU2A-SU07R2 | | DU2A-SU07R3 | 95% UCL[1] | Replicate RSD |
| Analyte | CAS | Unit | Limit | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 13.1 | | 15.5 | | 17 | 18.52 | 12.94 | 56.1 | | 92.5 | | 96 | 118.78 | 27.10 |
| Manganese | 7439-96-5 | mg/kg | 30% | 279 | | 473 | | 254 | 637.02 | **35.75** | 179 | | 402 | | 443 | 698.87 | **41.62** |

**Legend:**
1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.
Blank cells indicate that the sample was not analyzed by the method.
mg/kg - milligrams per kilogram
FT - field triplicate
FSI - field split incremental sample
QC - quality control
RSD - relative standard deviation
UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**
Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:
mean - arithmetic mean of the replicate samples
SD - standard deviation
r - number of replicate samples
α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)
t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

THIS PAGE INTENTIONALLY LEFT BLANK.

Table D.1-10. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicates in DU 3
Former Curtis Bay Ordnance Depot Remedial Investigation

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU3-SU03 | | | | | | | |
| | | | Sample Date: | 3/21/2019 | | | | | | | |
| | | | OC Type: | FT | | FT | | FT | | | Field |
| | | | Sample Name: | DU3A-SU03R1 | | DU3A-SU03R2 | | DU3A-SU03R3 | | | Replicate RPD |
| Analyte | CAS | Unit | Limit | | | | | | | | |
| **SW6010** | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 28.6 | | 8.7 | | 6.7 | | 45.14 | **82.55** |
| Manganese | 7439-96-5 | mg/kg | 30% | 23900 | | 1600 | | 5980 | | 40227.73 | **112.60** |

**Legend:**

1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.

Blank cells indicate that the sample was not analyzed by the method.

mg/kg - milligrams per kilogram

FT - field triplicate

FSI - field split incremental sample

QC - quality control

RSD - relative standard deviation

UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**

Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:

mean - arithmetic mean of the replicate samples

SD - standard deviation

r - number of replicate samples

α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)

t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

Table D.1-11. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Surface Soil Replicates in DU 4
Former Curtis Bay Ordnance Depot Remedial Investigation

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU4-SU07 | | | | | | | | | |
| | | | Sample Date: | 4/2/2019 | | | | | | | | | |
| | | | OC Type: | FT | | FT | | FT | | | | | Field |
| | | | Sample Name: | DU4A-SU07R1 | | DU4A-SU07R2 | | DU4A-SU07R3 | | | 95% UCL[1] | | Replicate RPD |
| Analyte | CAS | Unit | Limit | | | | | | | | | | |
| SW6010 | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 30% | 1.5 | | 2.7 | | 3.1 | | | 4.53 | | **34.22** |
| Manganese | 7439-96-5 | mg/kg | 30% | 104 | | 111 | | 123 | | | 128.87 | | 8.53 |

**Legend:**

1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.

Blank cells indicate that the sample was not analyzed by the method.

mg/kg - milligrams per kilogram

FT - field triplicate

FSI - field split incremental sample

QC - quality control

RSD - relative standard deviation

UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**

Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:

mean - arithmetic mean of the replicate samples

SD - standard deviation

r - number of replicate samples

α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)

t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

**Table D.1-12. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | DU1-SU09 | | | | | | | DU1-SU10 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | 3/12/2019 | | | | | | | 3/29/2019 | | | | | | |
| OC Type: | | | FT | | FT | | FT | | Field | FT | | FT | | FT | | Field |
| Sample Name: | | | DU1B-SU09R1 | | DU1B-SU09R2 | | DU1B-SU09R3 | 95% UCL[1] | Replicate RSD | DU1B-SU10R1 | | DU1B-SU10R2 | | DU1B-SU10R3 | 95% UCL[1] | Replicate RSD |
| Analyte | CAS | Unit | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 12.3 | | 8.5 | | 10.4 | 13.60 | 18.27 | 6.8 | | 7.1 | | 10.7 | 11.86 | 26.47 |
| Manganese | 7439-96-5 | mg/kg | 847 | | 173 | | 227 | 1358.19 | **90.10** | 513 | | 363 | | 574 | 666.39 | 22.47 |
| **SW846 7010** | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | |

**Table D.1-12. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | DU1-SU11 | | | | | | | | DU1-SU30 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | 3/12/2019 | | | | | | | | 3/27/2019 | | | | | | | | | |
| OC Type: | | | FT | | FT | | FT | | | Field | FSI | | FSI | | FSI | | | | | Field Split |
| Sample Name: | | | DU1B-SU11R1 | | DU1B-SU11R2 | | DU1B-SU11R3 | | 95% UCL[1] | Replicate RSD | DU1B-SU30S1 | | DU1B-SU30S2 | | DU1B-SU30S3 | | 95% UCL[1] | | | Replicate RSD |
| Analyte | CAS | Unit | | | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 6.8 | | 8 | | 14.3 | | 19.84 | **41.53** | 0.6 | J | 0.71 | J | 0.6 | J | 0.74 | | | 9.98 |
| Manganese | 7439-96-5 | mg/kg | 529 | | 330 | | 944 | | 1389.37 | **52.12** | 426 | | 354 | | 346 | | 449.61 | | | 11.74 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | 0.76 | J | 0.42 | U | 0.91 | | 1.33 | | | **36.04** |

**Table D.1-12. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | DU1-SU36 | | | | | | | | DU1-SU44 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | 3/29/2019 | | | | | | | | 3/27/2019 | | | | | | | | | |
| OC Type: | | | FT | | FT | | FT | | | Field | FT | | FT | | FT | | | | | Field |
| Sample Name: | | | DU1B-SU36R1 | | DU1B-SU36R2 | | DU1B-SU36R3 | | 95% UCL[1] | Replicate RSD | DU1B-SU44R1 | | DU1B-SU44R2 | | DU1B-SU44R3 | | 95% UCL[1] | | Replicate RSD | |
| Analyte | CAS | Unit | | | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 2.9 | | 3.4 | | 5.1 | | 6.70 | **30.35** | 0.57 | J | 0.6 | J | 0.32 | J | 0.88 | | **30.95** | |
| Manganese | 7439-96-5 | mg/kg | 324 | | 367 | | 360 | | 389.23 | 6.59 | 84.9 | | 105 | | 69.9 | | 116.29 | | 20.34 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | 1 | | 1.1 | | 0.82 | | 1.21 | | 14.58 | |

**Table D.1-12. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | DU1-SU51 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | 3/12/2019 | | | | | | | | | |
| OC Type: | | | FT | | FT | | FT | | | | Field | |
| Sample Name: | | | DU1B-SU51R1 | | DU1B-SU51R2 | | DU1B-SU51R3 | | 95% UCL[1] | | Replicate RSD | |
| Analyte | CAS | Unit | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 7.5 | | 4.7 | | 3.3 | | 10.55 | | **41.39** | |
| Manganese | 7439-96-5 | mg/kg | 450 | | 381 | | 427 | | 478.56 | | 8.38 | |
| **SW846 7010** | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | |

**Legend:**

1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.

Blank cells indicate that the sample was not analyzed by the method.
mg/kg - milligrams per kilogram
FT - field triplicate
FSI - field split incremental sample
QC - quality control
RSD - relative standard deviation
UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**
Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:
mean - arithmetic mean of the replicate samples
SD - standard deviation
r - number of replicate samples
α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)
t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

**Table D.1-13. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 2, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | DU2-SU02 | | | | | | | DU2-SU07 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | 3/22/2019 | | | | | | | 3/22/2019 | | | | | | |
| OC Type: | | | FT | | FT | | FT | | Field | FT | | FT | | FT | | Field |
| Sample Name: | | | DU2B-SU02R1 | | DU2B-SU02R2 | | DU2B-SU02R3 | 95% UCL | Replicate RSD | DU2B-SU07R1 | | DU2B-SU07R2 | | DU2B-SU07R3 | 95% UCL | Replicate RSD |
| Analyte | CAS | Unit | | | | | | | | | | | | | | |
| SW6010 | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 9.8 | | 13.7 | | 14.6 | 17.00 | 20.09 | 24.3 | | 67.1 | | 53.5 | 103.34 | **45.28** |
| Manganese | 7439-96-5 | mg/kg | 222 | | 135 | | 90.5 | 317.49 | **44.84** | 1960 | | 183 | | 216 | 3344.62 | **129.28** |

**Legend:**

1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.

Blank cells indicate that the sample was not analyzed by the method.
mg/kg - milligrams per kilogram
FT - field triplicate
FSI - field split incremental sample
QC - quality control
RSD - relative standard deviation
UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**
Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:
mean - arithmetic mean of the replicate samples
SD - standard deviation
r - number of replicate samples
α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)
t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

THIS PAGE INTENTIONALLY LEFT BLANK.

**Table D.1-14. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 3, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location Name: | | | DU3-SU03 | | | | | | | | | |
| Sample Date: | | | 3/21/2019 | | | | | | | | | |
| OC Type: | | | FT | | FT | | FT | | | | | Field |
| Sample Name: | | | DU3B-SU03R1 | | DU3B-SU03R2 | | DU3B-SU03R3 | | 95% UCL | | | Replicate RSD |
| Analyte | CAS | Unit | | | | | | | | | | |
| SW6010 | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 12.8 | | 12.1 | | 66 | | 108.11 | | | **102.04** |
| Manganese | 7439-96-5 | mg/kg | 5910 | | 2480 | | 432 | | 9906.40 | | | **94.12** |

**Legend:**

1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.

Blank cells indicate that the sample was not analyzed by the method.
mg/kg - milligrams per kilogram
FT - field triplicate
FSI - field split incremental sample
QC - quality control
RSD - relative standard deviation
UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**
Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:
mean - arithmetic mean of the replicate samples
SD - standard deviation
r - number of replicate samples
α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)
t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

**Table D.1-15. Summary of Relative Standard Deviation and 95% Upper Confidence Limit Calculations for Subsurface Soil Replicate Samples in DU 4, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | DU4-SU07 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | 4/2/2019 | | | | | | | | | |
| OC Type: | | | FT | | FT | | FT | | | | Subsurface | |
| Sample Name: | | | DU4B-SU07R1 | | DU4B-SU07R2 | | DU4B-SU07R3 | | 95% UCL | | Replicate RSD | |
| Analyte | CAS | Unit | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 1.6 | | 1.3 | | 1.6 | | 1.79 | | 11.55 | |
| Manganese | 7439-96-5 | mg/kg | 76.9 | | 77.3 | | 80.3 | | 81.30 | | 2.38 | |

**Legend:**

1. The 95% UCL is calculated using the Chebyshev method for sample replicate relative standard deviations (RSD) greater than 30% and the Student's t method, otherwise.

Blank cells indicate that the sample was not analyzed by the method.
mg/kg - milligrams per kilogram
FT - field triplicate
FSI - field split incremental sample
QC - quality control
RSD - relative standard deviation
UCL - upper confidence limit of the mean

**Bold RSD values indicate that the RSD exceeds the QC limit.**
Highlighted cells indicate that the RSD is greater than 100%

Student's t method UCL formula

$$95\%\ UCL = mean + t_{(1-\alpha)(r-1)} * \frac{SD}{\sqrt{r}}$$

Chebyshev method UCL formula

$$95\%\ UCL = mean + \left(\sqrt{\frac{1}{\alpha} - 1} * \frac{SD}{\sqrt{r}}\right)$$

Where:
mean - arithmetic mean of the replicate samples
SD - standard deviation
r - number of replicate samples
α - acceptable level of potential decision error (e.g., 0.05 or 5% for a 95% UCL)
t - (1-αth) quantile of the Student's-t distribution with (r-1) degrees of freedom

**Table D.1-17. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU05 | | | | | | | DU1-SU07 | | | | | | | | |
| | | | Sample Date: | 3/18/2019 | | | | | | | 3/12/2019 | | | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory | N | | LT | | LT | | Laboratory | | |
| | | | Sample Name*: | DU1A-SU05 | | 255706 | | 255707 | | Replicate RSD | DU1A-SU07 | | 252675 | | 252676 | | Replicate RSD | | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 21.2 | J- | 23.2 | | 20.8 | | 5.92 | 11.1 | J | 11 | | 7.3 | J | **22.10** | | |
| Manganese | 7439-96-5 | mg/kg | 15% | 826 | J- | 856 | | 804 | | 3.15 | 671 | J | 674 | | 363 | J | **31.39** | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-17. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU10 | | | | | | | | DU1-SU11 | | | | | | | |
| | | | Sample Date: | 3/29/2019 | | | | | | | | 3/12/2019 | | | | | | | |
| | | | QC Type: | FT | | LT | | LT | | Laboratory | | FT | | LT | | LT | | Laboratory | |
| | | | Sample Name*: | DU1A-SU10R3 | | 268943 | | 268944 | | Replicate RSD | | DU1A-SU11R1 | | 252679 | | 252680 | | Replicate RSD | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 11 | | 10.9 | | 11.2 | | 1.38 | | 10.3 | | 8.9 | | 7.7 | J | 14.51 | |
| Manganese | 7439-96-5 | mg/kg | 15% | 672 | | 661 | | 676 | | 1.16 | | 1040 | | 1000 | | 993 | | 2.51 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-17. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU18 | | | | | | | | DU1-SU30 | | | | | | | |
| | | | Sample Date: | 3/26/2019 | | | | | | | | 3/27/2019 | | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory | | FSI | | LT | | LT | | Laboratory | |
| | | | Sample Name*: | DU1A-SU18 | | 266418 | | 266419 | | Replicate RSD | | DU1A-SU30S1 | | 265270 | | 265271 | | Replicate RSD | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 55.1 | | 60.3 | | 60.6 | | 5.27 | | 3.3 | | 4 | | 3.2 | | 12.45 | |
| Manganese | 7439-96-5 | mg/kg | 15% | 17900 | J | 22000 | J | 22000 | J | 11.47 | | 5100 | | 5320 | | 4530 | | 8.18 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-17. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU34 | | | | | | | DU1-SU36 | | | | | | | | |
| | | | Sample Date: | 3/29/2019 | | | | | | | 3/29/2019 | | | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory | FT | | LT | | LT | | Laboratory | | |
| | | | Sample Name*: | DU1A-SU34 | | 268932 | | 268933 | | Replicate RSD | DU1A-SU36R2 | | 265282 | | 265283 | | Replicate RSD | | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 18.9 | J | 18.9 | | 11.2 | J | **27.22** | 3.1 | J | 2.8 | | 4.7 | J | **28.91** | | |
| Manganese | 7439-96-5 | mg/kg | 15% | 630 | | 641 | | 600 | | 3.40 | 418 | | 389 | | 503 | | 13.57 | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-17. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU38 | | | | | | | | DU1-SU44 | | | | | | | |
| | | | Sample Date: | 3/25/2019 | | | | | | | | 3/27/2019 | | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory | | FT | | LT | | LT | | Laboratory | |
| | | | Sample Name*: | DU1A-SU38 | | 260075 | | 260076 | | Replicate RSD | | DU1A-SU44R1 | | 274296 | | 274297 | | Replicate RSD | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 3.4 | | 4 | | 3.9 | | 8.53 | | 0.45 | J | | | | | | |
| Manganese | 7439-96-5 | mg/kg | 15% | 386 | | 396 | | 384 | | 1.65 | | 120 | | | | | | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | | | | | | | | | | 0.4 | UJ | 0.73 | J | 0.9 | J | **37.57** | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

THIS PAGE INTENTIONALLY LEFT BLANK.

**Table D.1-18. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 2, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU2-SU04 | | | | | | | |
| | | | Sample Date: | 3/28/2019 | | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory | |
| | | | Sample Name: | DU2A-SU04 | | 265272 | | 265273 | | Replicate RSD | |
| Analyte | CAS | Unit | Limit | | | | | | | | |
| SW6010 | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 10.2 | | 10.3 | | 10 | | 1.50 | |
| Manganese | 7439-96-5 | mg/kg | 15% | 835 | | 690 | | 772 | | 9.50 | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-19. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 3, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU3-SU01 | | | | | | |
| | | | Sample Date: | 3/20/2019 | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory |
| | | | Sample Name: | DU3A-SU01 | | 258588 | | 258589 | | Replicate RSD |
| Analyte | CAS | Unit | Limit | | | | | | | |
| SW6010 | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 8.2 | J- | 7.6 | | 6.3 | J | 13.18 |
| Manganese | 7439-96-5 | mg/kg | 15% | 4870 | J- | 4900 | | 4840 | | 0.62 |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-20. Summary of Relative Standard Deviation Calculations for Surface Soil Laboratory Replicates Samples in DU 4, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU4-SU04 | | | | | | |
| | | | Sample Date: | 4/3/2019 | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory |
| | | | Sample Name: | DU4A-SU04 | | 268949 | | 268950 | | Replicate RSD |
| Analyte | CAS | Unit | QC Limit | | | | | | | |
| SW6010 | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 1.6 | J | 2 | J | 1.4 | | **18.33** |
| Manganese | 7439-96-5 | mg/kg | 15% | 168 | | 183 | | 174 | | 4.31 |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

THIS PAGE INTENTIONALLY LEFT BLANK.

**Table D.1-21. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU10 | | | | | | | DU1-SU13 | | | | | | | | |
| | | | Sample Date: | 3/29/2019 | | | | | | | 3/28/2019 | | | | | | | | |
| | | | OC Type: | FT | | LT | | LT | | Laboratory | N | | LT | | LT | | Laboratory | | |
| | | | Sample Name*: | DU1B-SU10R3 | | 268945 | | 268946 | | Replicate RSD | DU1B-SU13 | | 265278 | | 265279 | | Replicate RSD | | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 10.7 | | 10.3 | | 10.4 | | 1.99 | 6.9 | | 8 | | 6.8 | | 9.21 | | |
| Manganese | 7439-96-5 | mg/kg | 15% | 574 | | 566 | | 577 | | 0.99 | 2410 | J | 1740 | J | 1610 | J | **22.36** | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | | | | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-21. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| Location Name: | | | | DU1-SU14 | | | | | | | | DU1-SU15 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date: | | | | 3/28/2019 | | | | | | | | 3/26/2019 | | | | | | | |
| OC Type: | | | | N | | LT | | LT | | Laboratory | | N | | LT | | LT | | Laboratory | |
| Sample Name*: | | | | DU1B-SU14 | | 274300 | | 274301 | | Replicate RSD | | DU1B-SU15 | | 265264 | | 265265 | | Replicate RSD | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 0.47 | J | | | | | | | 8 | J- | 8.2 | | 8 | | 1.43 | |
| Manganese | 7439-96-5 | mg/kg | 15% | 771 | | | | | | | | 1200 | | 1150 | | 1160 | | 2.26 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 1.6 | | 1.2 | J | 1.3 | J | **15.23** | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-21. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU34 | | | | | | | DU1-SU42 | | | | | | | | |
| | | | Sample Date: | 3/29/2019 | | | | | | | 3/20/2019 | | | | | | | | |
| | | | QC Type: | N | | LT | | LT | | Laboratory | N | | LT | | LT | | Laboratory | | |
| | | | Sample Name*: | DU1B-SU34 | | 268936 | | 268937 | | Replicate RSD | DU1B-SU42 | | 264656 | | 264657 | | Replicate RSD | | |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 9.4 | J | 10.4 | | 5.5 | J | **30.70** | 11.3 | J | 5 | J | 2 | J | **77.81** | | |
| Manganese | 7439-96-5 | mg/kg | 15% | 324 | | 356 | | 319 | | 6.03 | 367 | | 324 | | 330 | | 6.84 | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | | | | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-21. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 1, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU1-SU47 | | | | | | DU1-SU51 | | | | | | |
| | | | Sample Date: | 3/19/2019 | | | | | | 3/12/2019 | | | | | | |
| | | | QC Type: | N | | LT | | LT | Laboratory | N | | LT | | LT | | Laboratory |
| | | | Sample Name*: | DU1B-SU47 | | 258605 | | 258606 | Replicate RSD | DU1B-SU51R1 | | 253823 | | 253824 | | Replicate RSD |
| Analyte | CAS | Unit | QC Limit | | | | | | | | | | | | | |
| **SW6010** | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 21.3 | | 20.9 | | 20.5 | 1.91 | 7.5 | | 4.5 | | 4.1 | | **34.63** |
| Manganese | 7439-96-5 | mg/kg | 15% | 267 | | 254 | | 228 | 7.95 | 450 | | 372 | | 352 | | 13.23 |
| **SW846 7010** | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | | | | | | | | | | | | | |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value
"J-" estimated vaule may be biased low
U - not detected at the limit of detection (LOD). LOD is shown.
**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-22. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 2, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU2-SU02 | | | | | | | |
| | | | Sample Date: | 3/22/2019 | | | | | | | |
| | | | OC Type: | FT | | LT | | LT | | | Laboratory |
| | | | Sample Name*: | DU2B-SU02R2 | | 260078 | | 260079 | | | Replicate RSD |
| Analyte | CAS | Unit | QC Limit | | | | | | | | |
| SW6010 | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 13.7 | | 13.1 | | 13.2 | | | 2.41 |
| Manganese | 7439-96-5 | mg/kg | 15% | 135 | | 138 | | 162 | | | 10.21 |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
FT - field triplicate (parent sample for lab triplicate)
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-23. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 3, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | Location Name: | DU3-SU01 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date: | 3/20/2019 | | | | | | |
| | | | OC Type: | N | | LT | | LT | | Laboratory |
| | | | Sample Name*: | DU3B-SU01 | | 258592 | | 258593 | | Replicate RSD |
| Analyte | CAS | Unit | QC Limit | | | | | | | |
| SW6010 | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 6.7 | | 7.3 | | 7.3 | | 4.88 |
| Manganese | 7439-96-5 | mg/kg | 15% | 7430 | J | 4070 | J | 4320 | J | **35.50** |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value

**Bold RSD values indicate that the RSD exceeds the QC limit.**

**Table D.1-24. Summary of Relative Standard Deviation Calculations for Subsurface Soil Laboratory Replicates Samples in DU 4, Former Curtis Bay Ordnance Depot Remedial Investigation**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location Name: | DU4-SU04 | | | | | | |
| | | | Sample Date: | 4/3/2019 | | | | | | |
| | | | OC Type: | N | | LT | | LT | | Laboratory |
| | | | Sample Name*: | DU4B-SU04 | | 268956 | | 268957 | | Replicate RSD |
| Analyte | CAS | Unit | QC Limit | | | | | | | |
| **SW6010** | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/kg | 15% | 2.3 | | 1.8 | J | 2 | | 12.38 |
| Manganese | 7439-96-5 | mg/kg | 15% | 90.1 | | 102 | | 119 | J | 14.01 |

* LT sample names are the laboratory sample ID.
mg/kg - milligrams per kilogram
LT - laboratory triplicate
N - normal environmental sample
QC - quality control
RSD - relative standard deviation

"J" - estimated value

**Bold RSD values indicate that the RSD exceeds the QC limit.**

THIS PAGE INTENTIONALLY LEFT BLANK.

**Attachment 1**

**ProUCL Input Data**

This Page Intentionally Left Blank

**ProUCL Data for the Arsenic and Manganese Remedial Investigation**
**Former Curtis Bay Ordnance Depot**

| Group | Location ID | Sample ID | Sample Depth | Arsenic | D_Arsenic | Manganese | D_Manganese |
|---|---|---|---|---|---|---|---|
| Subsurface | DU4-SU05 | DU4B-SU05_260475 | 1-2 | 0.81 | 1 | 218.0 | 1 |
| Subsurface | DU4-SU06 | DU4B-SU06_260467 | 1-2 | 1.20 | 1 | 72.3 | 1 |
| Subsurface | DU4-SU07 | DU4B-SU07RUCL | 1-2 | 1.79 | 1 | 81.3 | 1 |
| Subsurface | DU4-SU02 | DU4B-SU02_260929 | 1-2 | 1.80 | 1 | 225.0 | 1 |
| Subsurface | DU4-SU04 | DU4B-SU04_260925 | 1-2 | 2.30 | 1 | 90.1 | 1 |
| Subsurface | DU4-SU03 | DU4B-SU03_260927 | 1-2 | 3.00 | 1 | 327.0 | 1 |
| Subsurface | DU4-SU01 | DU4B-SU01_260931 | 1-2 | 7.20 | 1 | 308.0 | 1 |
| Surface | DU4-SU05 | DU4A-SU05_260474 | 0-1 | 1.20 | 1 | 180.0 | 1 |
| Surface | DU4-SU02 | DU4A-SU02_260928 | 0-1 | 1.40 | 1 | 328.0 | 1 |
| Surface | DU4-SU06 | DU4A-SU06_260466 | 0-1 | 1.40 | 1 | 85.9 | 1 |
| Surface | DU4-SU04 | DU4A-SU04_260924 | 0-1 | 1.60 | 1 | 168.0 | 1 |
| Surface | DU4-SU01 | DU4A-SU01_260930 | 0-1 | 2.20 | 1 | 334.0 | 1 |
| Surface | DU4-SU03 | DU4A-SU03_260926 | 0-1 | 3.50 | 1 | 260.0 | 1 |
| Surface | DU4-SU07 | DU4A-SU07R1UCL | 0-1 | 3.84 | 1 | 128.9 | 1 |

THIS PAGE INTENTIONALLY LEFT BLANK.

# APPENDIX D.2: DATA VALIDATION REPORTS

**This Page Intentionally Left Blank**

# DATA VALIDATION REPORT

**DEPOT-WIDE REMEDIAL INVESTIGATION / FEASIBILITY STUDY**
**FOR ARSENIC AND MANGANESE IN SOIL AT THE**
**FORMER CURTIS BAY ORDNANCE DEPOT**
**ANNE ARUNDEL COUNTY, MARYLAND**

**CT LABORATORIES, LLC**

**SAMPLE DELIVERY GROUP [redacted] / FOLDERS [redacted]**

**JUNE 26, 2019**

*Prepared for:*

Earth Resources Technology, Inc.
[redacted]
Laurel, MD 20707
[redacted]

*Prepared by:*

HSW Engineering, Inc.
[redacted]
Tampa, Florida 33624
[redacted]

HSW Project [redacted]

## 1.0 Introduction

This Data Validation Report (DVR) is a summary of the review and validation of environmental analytical data for sample delivery group (SDG) [redacted]). The analytical work was performed by CT Laboratories, LLC, Baraboo, Wisconsin (CT). The analytical data were validated in accordance with specifications given in the document titled *Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-wide Remedial Investigation / Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland (February 2019)* (UFP QAPP). This document was prepared by ERT, Inc., Laurel, Maryland, for the U.S. Army Corps of Engineers (USACE) under Contract No. [redacted] Delivery Order [redacted]

Validation qualifiers were those defined by in the UFP QAPP and are summarized as follows. Definitions of commonly-used terms and acronyms used in this DVR but not expressly defined can be found in the document cited above or in the laboratory data package.

| Data Validation Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for but was not detected above the level of the reported sample limit of detection. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported limit of detection is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. Sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample. |

The analytical deliverables conformed to Level IV (or Stage 4) reporting as defined by the U.S. Environmental Protection Agency (USEPA) in the document titled *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA 540-R-08-005). Validation was limited to Level III (Stage 2b) deliverables as defined in this guidance document.

A combination of automated and manual means were used to validate the data, with Stage 2a electronic data deliverables (SEDD 2a) processed through ADR.net automated data review software against criteria established in an electronic quality assurance project plan (eQAPP) prepared by ERT with input from CT. This automated review was supplemented by a manual review of non-ADR.net-processable information (e.g., case narratives, instrument calibration data, etc.).

## 2.0 General Information

The following 34 soil samples, collected by the incremental sampling methodology (ISM), were submitted for laboratory analysis of arsenic and manganese. The laboratory prepared the samples in accordance with their standard operating procedure (SOP) GEO-13, which incorporates USACE guidance for preparation of ISM samples. The prepared samples were analyzed for the two target metals by EPA Method 6010C.

| CT Sample ID | Folder # | ERT Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|
| 250740 | 143438 | DU1A-SU2 | SOIL | 3/11/2019 | 3/12/2019 |
| 250741 | 143438 | DU1B-SU2 | SOIL | 3/11/2019 | 3/12/2019 |
| 250742 | 143438 | DU1A-SU1 | SOIL | 3/11/2019 | 3/12/2019 |
| 250743 | 143438 | DU1B-SU1 | SOIL | 3/11/2019 | 3/12/2019 |
| 250744 | 143438 | DU1A-SU4 | SOIL | 3/11/2019 | 3/12/2019 |
| 250745 | 143438 | DU1B-SU4 | SOIL | 3/11/2019 | 3/12/2019 |
| 250746 | 143438 | DU1A-SU3 | SOIL | 3/11/2019 | 3/12/2019 |
| 250747 | 143438 | DU1B-SU3 | SOIL | 3/11/2019 | 3/12/2019 |
| 251121 | 143477 | DU1A-SU07 | SOIL | 3/12/2019 | 3/13/2019 |
| 251124 | 143477 | DU1B-SU07 | SOIL | 3/12/2019 | 3/13/2019 |
| 251125 | 143477 | DU1A-SU09R1 | SOIL | 3/12/2019 | 3/13/2019 |
| 251126 | 143477 | DU1A-SU09R2 | SOIL | 3/12/2019 | 3/13/2019 |
| 251127 | 143477 | DU1A-SU09R3 | SOIL | 3/12/2019 | 3/13/2019 |
| 251128 | 143477 | DU1B-SU09R1 | SOIL | 3/12/2019 | 3/13/2019 |
| 251129 | 143477 | DU1B-SU09R2 | SOIL | 3/12/2019 | 3/13/2019 |
| 251130 | 143477 | DU1B-SU09R3 | SOIL | 3/12/2019 | 3/13/2019 |
| 251131 | 143477 | DU1A-SU11R1 | SOIL | 3/12/2019 | 3/13/2019 |
| 251132 | 143477 | DU1B-SU11R2 | SOIL | 3/12/2019 | 3/13/2019 |
| 251133 | 143477 | DU1A-SU11R2 | SOIL | 3/12/2019 | 3/13/2019 |
| 251134 | 143477 | DU1B-SU11R1 | SOIL | 3/12/2019 | 3/13/2019 |
| 251135 | 143477 | DU1A-SU11R3 | SOIL | 3/12/2019 | 3/13/2019 |
| 251136 | 143477 | DU1B-SU11R3 | SOIL | 3/12/2019 | 3/13/2019 |
| 251137 | 143477 | DU1A-SU51R1 | SOIL | 3/12/2019 | 3/13/2019 |
| 251138 | 143477 | DU1A-SU51R2 | SOIL | 3/12/2019 | 3/13/2019 |
| 251139 | 143477 | DU1A-SU51R3 | SOIL | 3/12/2019 | 3/13/2019 |
| 251140 | 143477 | DU1B-SU51R1 | SOIL | 3/12/2019 | 3/13/2019 |
| 251141 | 143477 | DU1B-SU51R2 | SOIL | 3/12/2019 | 3/13/2019 |
| 251142 | 143477 | DU1B-SU51R3 | SOIL | 3/12/2019 | 3/13/2019 |
| 251663 | 143517 | DU1A-SU06 | SOIL | 3/13/2019 | 3/14/2019 |
| 251664 | 143517 | DU1B-SU06 | SOIL | 3/13/2019 | 3/14/2019 |
| 251665 | 143517 | DU1A-SU08 | SOIL | 3/13/2019 | 3/14/2019 |
| 251666 | 143517 | DU1B-SU08 | SOIL | 3/13/2019 | 3/14/2019 |
| 251667 | 143517 | DU1A-SU58 | SOIL | 3/13/2019 | 3/14/2019 |
| 251668 | 143517 | DU1B-SU58 | SOIL | 3/13/2019 | 3/14/2019 |

### 2.1 Sample Delivery and Condition Upon Receipt

The chain-of-custody (COC) forms were reviewed and deemed acceptable. The samples were received by the laboratory in good condition, in sufficient quantities, and at acceptable temperatures. No issues upon receipt had been noted by the laboratory. Copies of USACE and USEPA authorization to use a puck

mill for grinding the samples (rather than a ball mill, as had been specified in the UFP QAPP) were included in the Level IV analytical data deliverable.

*Qualification:* None required.

## 2.2 Case Narrative and Completeness

The laboratory data package was reviewed for completeness, with no discrepancies noted. The narrative was thorough in identifying several issues, all of which were taken into consideration as part of the validation process.

*Qualification:* None required, based on the case narrative or data package completeness.

## 2.3 Holding Times

The samples were prepared and analyzed for target analytes (metals only) within required holding times.

*Qualification:* None required.

## 2.4 Field Quality Control (QC) Samples

### 2.4.1 Field-Generated Blanks

No field-generated blanks were required, as noted in the UFP QAPP.

*Qualification:* None required.

### 2.4.2 Field Replicates

Field replicates (triplicates) were collected at six ISM sampling locations and identified with suffixes of R1, R2, and R3. The UPF QAPP gives a precision goal of 30% RSD for field triplicates. This limit was exceeded for arsenic for three of the six triplicates, including locations DU1B-SU11 (41.53% RSD), DU1A-SU09 (46.48% RSD), and DU1B-SU51 (41.39% RSD), and for manganese at locations DU1B-SU09 (90.1% RSD), DU1B-SU11 (52.12%), DU1A-SU51 (40.8%), and DU1A-SU09 (38.55%) (refer to the Field Triplicate RSD Report included as an attachment to this DVR).

Qualification: No qualifications were made based on %RSD exceedances alone. However, the variability in triplicate results will be taken into consideration by the project team in estimating the level of confidence in the representativeness of discrete samples and in utilizing the data for decision-making purposes.

# 3.0 Analytical Data

## 3.1 Metals (EPA Method 6010C)

The soil samples underwent sieving and grinding, followed by acid digestion in either of two preparation batches.

*Method Blanks*

A low level of manganese was detected in one of the two method blanks, and low levels of both arsenic and manganese were detected in the second of the two method blanks. In all instances, the concentrations of these metals detected in the soil samples exceeded the artifact threshold values of

five times the concentrations detected in the blanks, precluding the need for qualification of sample data.

*Qualification:* None required.

*Laboratory Control Samples (LCSs)*
The recoveries of arsenic and manganese reported for the two LCSs were within acceptance limits.

*Qualification:* None required.

*Matrix Spike / Matrix Spike Duplicates (MS/MSDs)*
Additional volumes of samples DU1A-SU07, DU1A-SU58, and DU1B-SU58 were used for MS/MSD analyses. While the MS/MSD recoveries reported for arsenic and manganese for samples DU1A-SU58 and DU1B-SU58 met validation acceptance criteria for analytical accuracy (recoveries of within 82-111% for arsenic and 84-114% for manganese) and analytical precision (relative percent difference, or %RPD, of within 20%), the laboratory reported slightly low MS/MSD recoveries of arsenic in the spike analyses of sample DU1A-SU07 (both 80%) and a failure to recovery manganese in these spike samples (both 0%).

*Qualification:* The detections of arsenic and manganese reported for parent sample DU1A-SU07 (11.1 mg/Kg and 671 mg/Kg, respectively) were classified as less than fully quantitative, based on MS/MSD recoveries, and were coded with a J- validation qualifiers.

*Serial Dilutions / Post-Digestion Spikes (SDs/PDSs)*
The laboratory analyzed five-fold SDs and PDSs of samples DU1A-SU07, DU1A-SU58, and DU1B-SU58. The results of these quality control analyses reported for samples DU1A-SU58 and DU1B-SU58 met project and validation acceptance criteria, with no qualification of the results for arsenic and manganese required. In the SD analysis of sample DU1A-SU07, the recovery of arsenic was deemed invalid due to the relatively low concentration of the analyte in the parent sample, while the PDS recovery of arsenic (66%) was less than the acceptance range (80-120%). The result for manganese reported for the SD analysis of sample DU1A-SU07 was deemed to have failed (i.e., 12% difference, or %D, relative to the parent sample), while the PDS result for manganese was not meaningful as the PDS spike concentration was less than one-fourth the concentration of manganese in the parent sample. As noted in the previous subsection, the laboratory reported low recoveries of arsenic and a failure to recover manganese in the MS/MSD analyses of sample DU1A-SU07.

*Qualification:* The combined SD and PDS data served as additional reasons for the application of the J- qualifier to the result for arsenic for sample DU1A-SU07. As the result for manganese for the five-fold dilution of this sample was greater than the result for the parent sample, a J+ validation qualifier was applied to the result. These qualifiers were entered into the "Professional Judgment" field of the SEDD to keep them distinct from qualifiers applied due to MS/MSD recoveries. The final validation qualifier for arsenic for sample DU1A-SU07 was J-, while the final validation qualifier for manganese for this sample was J (i.e., J- from MS/MSD results and J+ from SD result).

*Laboratory Duplicates and Triplicates*
The laboratory analyzed samples DU1A-SU58 and DU1B-SU58 in duplicate and analyzed samples DU1A-SU07, DU1A-SU11R1, and DU1B-SU51R2 in triplicate for arsenic and manganese. Duplicate results were evaluated by the %RPD, and triplicate results were evaluated by the percent relative standard deviation (%RSD). The laboratory's information management system (LIMS) is not capable of calculating and reporting %RSDs for triplicates (i.e., only %RPDs were reported, in both the Level IV data package and

SEDD 2a); therefore, %RSDs for triplicate results were manually calculated by the validator and compared with the limit of 15% RSD given in the eQAPP. The evaluation of field duplicate and triplicate results is summarized as follows.

| Analyte | ERT Sample ID | Sample Type | Result | Lab Qualifier | RSD (%) | RPD (%) | LOD | LOQ |
|---|---|---|---|---|---|---|---|---|
| ARSENIC | DU1A-SU07 | | 11.1 | Y,M | | | 0.41 | 0.82 |
| ARSENIC | DU1A-SU07DUP | DUP | 7.3 | | | | 0.412 | 0.824 |
| ARSENIC | DU1A-SU07DUP | DUP | 11.0 | | **22.1%** | -- | 0.41 | 0.82 |
| ARSENIC | DU1A-SU11R1 | FT | 10.3 | Y | | | 0.42 | 0.83 |
| ARSENIC | DU1A-SU11R1DUP | DUP | 7.7 | | | | 0.421 | 0.843 |
| ARSENIC | DU1A-SU11R1DUP | DUP | 8.9 | | 14.5% | -- | 0.419 | 0.838 |
| ARSENIC | DU1A-SU58 | | 12.3 | | | | 0.42 | 0.84 |
| ARSENIC | DU1A-SU58DUP | DUP | 12.0 | | -- | 2.47% | 0.421 | 0.843 |
| ARSENIC | DU1B-SU51R2 | | 4.7 | | | | 0.41 | 0.82 |
| ARSENIC | DU1B-SU51R2DUP | DUP | 4.1 | | | | 0.411 | 0.823 |
| ARSENIC | DU1B-SU51R2DUP | DUP | 4.5 | | 6.9% | -- | 0.414 | 0.827 |
| ARSENIC | DU1B-SU58 | | 9.7 | | | | 0.41 | 0.81 |
| ARSENIC | DU1B-SU58DUP | DUP | 9.7 | | -- | 0.00% | 0.408 | 0.815 |
| MANGANESE | DU1A-SU07 | | 671 | Y,M | | | 0.077 | 0.15 |
| MANGANESE | DU1A-SU07DUP | DUP | 674 | | | | 0.0768 | 0.154 |
| MANGANESE | DU1A-SU07DUP | DUP | 363 | | **31.4%** | -- | 0.0772 | 0.154 |
| MANGANESE | DU1A-SU11R1 | FT | 1040 | | | | 0.078 | 0.16 |
| MANGANESE | DU1A-SU11R1DUP | DUP | 993 | | | | 0.079 | 0.158 |
| MANGANESE | DU1A-SU11R1DUP | DUP | 1000 | | 2.5% | -- | 0.0786 | 0.157 |
| MANGANESE | DU1A-SU58 | | 169 | | | | 0.079 | 0.16 |
| MANGANESE | DU1A-SU58DUP | DUP | 172 | | -- | 1.76% | 0.079 | 0.158 |
| MANGANESE | DU1B-SU51R2 | | 381 | | | | 0.077 | 0.15 |
| MANGANESE | DU1B-SU51R2DUP | DUP | 372 | | | | 0.0776 | 0.155 |
| MANGANESE | DU1B-SU51R2DUP | DUP | 352 | | 4.0% | -- | 0.0772 | 0.154 |
| MANGANESE | DU1B-SU58 | | 71.2 | | | | 0.076 | 0.15 |
| MANGANESE | DU1B-SU58DUP | DUP | 70.8 | | -- | 0.56% | 0.0764 | 0.153 |

*Qualification:* The ADR.net software applied qualifiers to samples analyzed in duplicate or triplicate when the %RPDs exceeded the limit given in the UFP QAPP (20%). In one instance (arsenic reported for sample DU1A-SU11R1), the qualifier applied by the software was removed by the validator, as the %RSD was acceptable (i.e., 14.5%, or within 15%). In two other instances (arsenic and manganese reported for sample DU1A-SU07), the ADR.net software had applied J qualifiers based on %RPDs. As the %RSDs for these two results exceeded 15%, the J qualifiers were retained but ascribed to laboratory triplicate results, rather than laboratory duplicate results, not being within control limits. (Note that qualifiers of J- previously applied were automatically revised by the ADR.net software to J qualifiers when the %RSD or %RPD exceeded the limit; i.e., direction of bias was no longer clearly indicated).

*Initial Calibrations (ICALs)*
The two multi-point ICALs of arsenic and manganese, performed daily (3/19/2019 and 3/20/2019) in association with the analysis of the project samples, met requirements for linearity, with all correlation coefficient ($r^2$) values approximating 1.0.

*Qualification:* None required.

*Initial Calibration Verifications and Lower Limit of Quantitation Checks (ICVs / LLQCs)*
ICVs and LLQCs were analyzed following each ICAL. All ICV and LLQC recoveries were within acceptance limits (90-110% and 80-120%, respectively).

*Qualification:* None required.

*Continuing Calibration Verifications (CCVs)*
All mid-level and high-level CCVs bracketing the analysis of the project soil samples were within acceptance limits (90-110%).

*Qualification:* None required.

*Initial and Continuing Calibration Blanks (ICBs/CCBs)*
Neither of the two target metals was detected in either of the two ICBs or in any of the CCBs bracketing the sample analyses.

*Qualification:* None required.

*Interference Check Samples (ICS-A and -AB)*
The absolute values reported for arsenic and manganese in the analysis of the two ICS-A solutions were less than the magnitude of the limits of detection (LODs). The recoveries of arsenic and manganese in the analysis of the two ICS-AB solutions were within the acceptance range of 80-120%.

*Qualification:* None required.

*Internal Standards*
A representative subset of the data for internal standard (yttrium) were reviewed from the raw data. Instrument readings were consistent from one sample to the next, and the %RSDs of the multiple instrument readings were acceptable (less than 5% in these spot-checks of the raw data).

*Qualification:* None required.

*Analyte Quantitation*
No dilutions were required, and no issues associated with the analytical findings, other than as previously described, were noted.

*Qualification:* None required.

## 4.0 Final Validation Qualifiers

Of 68 discrete results reported for the 34 project samples, only three results were qualified as a result of the validation (Attachment A). No results were rejected or recommended for exclusion; therefore, analytical completeness in terms of usable data is 100%.

## Attachment A

## ADR.net Reports

# Field QC Assignments and Associated Samples

**EDD File Name:** 143438

**eQapp Name:** Curtis Bay Ordnance Depot - As + Mn RI 040519

| | Associated Samples | Sample Collection Date |
|---|---|---|
| **Field QC Sample:** DU1A-SU09R1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU09R2 | 3/12/2019 10:31:00 AM |
| | DU1A-SU09R3 | 3/12/2019 10:31:00 AM |
| **Field QC Sample:** DU1A-SU11R1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU11R3 | 3/12/2019 1:09:00 PM |
| | DU1A-SU11R2 | 3/12/2019 1:09:00 PM |
| **Field QC Sample:** DU1A-SU51R1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU51R2 | 3/12/2019 2:50:00 PM |
| | DU1A-SU51R3 | 3/12/2019 2:50:00 PM |
| **Field QC Sample:** DU1B-SU09R1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU09R2 | 3/12/2019 10:31:00 AM |
| | DU1B-SU09R3 | 3/12/2019 10:31:00 AM |
| **Field QC Sample:** DU1B-SU11R1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU11R3 | 3/12/2019 1:09:00 PM |
| | DU1B-SU11R2 | 3/12/2019 1:09:00 PM |
| **Field QC Sample:** DU1B-SU51R1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU51R2 | 3/12/2019 4:30:00 PM |
| | DU1B-SU51R3 | 3/12/2019 4:30:00 PM |

# Field Triplicate RSD Report

**Lab Reporting Batch ID: 143438** **Laboratory: CTLB**

**EDD Filename: 143438SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As +**

***Method: 6010C***
***Matrix: SOIL***

| Analyte | Concentration (mg/kg) DU1A-SU11R1 (DRY) | DU1A-SU11R2 (DRY) | DU1A-SU11R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 10.3 | 9.4 | 6.9 | 19.87 | 30.00 | No Qualifiers Applied |
| MANGANESE | 1040 | 665 | 1100 | 25.21 | 30.00 | |

| Analyte | Concentration (mg/kg) DU1B-SU09R1 (DRY) | DU1B-SU09R2 (DRY) | DU1B-SU09R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 12.3 | 8.5 | 10.4 | 18.27 | 30.00 | No Qualifiers Applied |
| MANGANESE | 847 | 173 | 227 | 90.1 | 30.00 | |

| Analyte | Concentration (mg/kg) DU1B-SU11R1 (DRY) | DU1B-SU11R2 (DRY) | DU1B-SU11R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 6.8 | 8.0 | 14.3 | 41.53 | 30.00 | No Qualifiers Applied |
| MANGANESE | 529 | 330 | 944 | 52.12 | 30.00 | |

| Analyte | Concentration (mg/kg) DU1A-SU51R1 (DRY) | DU1A-SU51R2 (DRY) | DU1A-SU51R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 7.5 | 4.6 | 5.0 | 27.57 | 30.00 | No Qualifiers Applied |
| MANGANESE | 1150 | 485 | 810 | 40.8 | 30.00 | |

| Analyte | Concentration (mg/kg) DU1A-SU09R1 (DRY) | DU1A-SU09R2 (DRY) | DU1A-SU09R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 22.8 | 13.8 | 8.9 | 46.48 | 30.00 | No Qualifiers Applied |
| MANGANESE | 420 | 372 | 183 | 38.55 | 30.00 | |

| Analyte | Concentration (mg/kg) DU1B-SU51R1 (DRY) | DU1B-SU51R2 (DRY) | DU1B-SU51R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 7.5 | 4.7 | 3.3 | 41.39 | 30.00 | No Qualifiers Applied |
| MANGANESE | 450 | 381 | 427 | 8.38 | 30.00 | |

* - RPD was calculated and compared against library RPD because only two samples among the triplicate set had detected results.
NC - (Not Calculated) is reported if only one sample among the triplicate set has a detected result.

**Project Name and Number: - CURTIS BAY ORDNANCE DEPOT**

# Method Blank Outlier Report

**Lab Reporting Batch ID: 143438** **Laboratory: CTLB**

**EDD Filename: 143438SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 252654 | 3/19/2019 5:02:00 PM | MANGANESE | 5.2 mg/kg | DU1A-SU07<br>DU1A-SU09R1<br>DU1A-SU09R2<br>DU1A-SU09R3<br>DU1A-SU1<br>DU1A-SU11R1<br>DU1A-SU11R2<br>DU1A-SU2<br>DU1A-SU3<br>DU1A-SU4<br>DU1B-SU07<br>DU1B-SU09R1<br>DU1B-SU09R2<br>DU1B-SU09R3<br>DU1B-SU1<br>DU1B-SU11R1<br>DU1B-SU11R2<br>DU1B-SU2<br>DU1B-SU3<br>DU1B-SU4 |
| 253821 | 3/20/2019 3:48:00 PM | ARSENIC<br>MANGANESE | 0.18 mg/kg<br>5.2 mg/kg | DU1A-SU06<br>DU1A-SU08<br>DU1A-SU11R3<br>DU1A-SU51R1<br>DU1A-SU51R2<br>DU1A-SU51R3<br>DU1A-SU58<br>DU1B-SU06<br>DU1B-SU08<br>DU1B-SU11R3<br>DU1B-SU51R1<br>DU1B-SU51R2<br>DU1B-SU51R3<br>DU1B-SU58 |

# Matrix Spike/Matrix Spike Duplicate Outlier Report

**Lab Reporting Batch ID: 143438** **Laboratory: CTLB**

**EDD Filename: 143438SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---|---|---|---|---|---|---|
| DU1A-SU07MS (DRY)<br>DU1A-SU07MSD (DRY)<br>(DU1A-SU07) | ARSENIC<br>MANGANESE | 80<br>0 | 80<br>0 | 82.00-111.00<br>84.00-114.00 | -<br>- | ARSENIC<br>MANGANESE | J- (all detects)<br>UJ (all non-detects) |
| DU1A-SU58MSD (DRY)<br>(DU1A-SU58) | ARSENIC | - | 81 | 82.00-111.00 | - | ARSENIC | J-(all detects)<br>UJ(all non-detects) |

# History of Manual Changes to Automated Data Review Qualifiers

**Changed by:** Cindy Lee Westergard

| Analyte | Method | Analysis Type | Result | Unit | Reason Code | Original Value | New Value | Edit Time |
|---|---|---|---|---|---|---|---|---|
| **Field Sample ID:** DU1A-SU07 | | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 11.1 | mg/kg | Professional Judgment | | J- | 6/26/2019 9:14 |
| Reason for change: | SD result invalid; PDS recovery (66%) less than acceptance range (80-120%). | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 11.1 | mg/kg | Laboratory Duplicate Precision | J | | 6/26/2019 10:13 |
| Reason for change: | Sample was analyzed by the laboratory in triplicate; therefore, %RSD was evaluated, rather than %RPD. | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 11.1 | mg/kg | Laboratory Triplicate Precision | | J | 6/26/2019 10:14 |
| Reason for change: | Laboratory triplicate %RSD exceeded control limit. | | | | | | | |
| **MANGANESE** | 6010C | INITIAL | 671 | mg/kg | Professional Judgment | | J+ | 6/26/2019 9:16 |
| Reason for change: | PDS result invalid due to low concentration of spike relative to the concentration in the parent sample. Five-fold SD %D (12%) exceeded control limit (10%), with SD result higher than parent result. | | | | | | | |
| **MANGANESE** | 6010C | INITIAL | 671 | mg/kg | Laboratory Duplicate Precision | J | | 6/26/2019 10:13 |
| Reason for change: | Sample was analyzed by the laboratory in triplicate; therefore, %RSD was evaluated, rather than %RPD. | | | | | | | |
| **MANGANESE** | 6010C | INITIAL | 671 | mg/kg | Laboratory Triplicate Precision | | J | 6/26/2019 10:14 |
| Reason for change: | Laboratory triplicate %RSD exceeded control limit. | | | | | | | |
| **Field Sample ID:** DU1A-SU11R1 | | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 10.3 | mg/kg | Laboratory Duplicate Precision | J | | 6/26/2019 10:11 |
| Reason for change: | Qualifier based on laboratory duplicate %RPD is not warranted, as the %RSD for the laboratory triplicate analyses (14.5%) was acceptable. | | | | | | | |

# Data Qualifier Summary

**Lab Reporting Batch ID: 143438** **Laboratory: CTLB**

**EDD Filename: 143438SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

| | |
|---|---|
| ***Method Category:*** | **METALS** |
| ***Method:*** | **6010C** |
| ***Matrix:*** | **SOIL** |

***Sample ID:*** **DU1A-SU07** ***Collected:*** **3/12/2019 8:14:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| *Analyte* | *Lab Result* | *Lab Qual* | *DL* | *DL Type* | *RL* | *RL Type* | *Units* | *Data Review Qual* | *Reason Code* |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 11.1 | Y,M | 0.41 | LOD | 0.82 | LOQ | mg/kg | J | Ms, ProfJudg, Lt |
| MANGANESE | 671 | Y,M | 0.077 | LOD | 0.15 | LOQ | mg/kg | J | Ms, ProfJudg, Lt |

***Sample ID:*** **DU1A-SU58** ***Collected:*** **3/13/2019 1:15:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| *Analyte* | *Lab Result* | *Lab Qual* | *DL* | *DL Type* | *RL* | *RL Type* | *Units* | *Data Review Qual* | *Reason Code* |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 12.3 | | 0.42 | LOD | 0.84 | LOQ | mg/kg | J- | Ms |

* denotes a non-reportable result

**Project Name and Number: - CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID: 143438**

**Laboratory: CTLB**

**EDD Filename: 143438SEDD**

**eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

## Reason Code Legend

| *Reason Code* | *Description* |
|---|---|
| Ld | Laboratory Duplicate Precision |
| Lt | Laboratory Triplicate Precision |
| Mb | Method Blank Contamination |
| Ms | Matrix Spike Lower Estimation |
| ProfJudg | Professional Judgment |

* denotes a non-reportable result

**Project Name and Number: - CURTIS BAY ORDNANCE DEPOT**

# DATA VALIDATION REPORT

**DEPOT-WIDE REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FOR ARSENIC AND MANGANESE IN SOIL AT THE
FORMER CURTIS BAY ORDNANCE DEPOT
ANNE ARUNDEL COUNTY, MARYLAND**

**CT LABORATORIES, LLC**

**SAMPLE DELIVERY GROUP** [redacted]

**JUNE 4, 2019**

*Prepared for:*

Earth Resources Technology, Inc.
[redacted]
Laurel, MD 20707
[redacted]

*Prepared by:*

HSW Engineering, Inc.
[redacted]
Tampa, Florida 33624
[redacted]

HSW Project No: [redacted]

## 1.0 Introduction

This Data Validation Report (DVR) is a summary of the review and validation of environmental analytical data for sample delivery group (SDG) [redacted] The analytical work was performed by CT Laboratories, LLC, Baraboo, Wisconsin (CT). The analytical data were validated in accordance with specifications given in the document titled *Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-wide Remedial Investigation / Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland (February 2019)* (UFP QAPP). This document was prepared by ERT, Inc., Laurel, Maryland, for the U.S. Army Corps of Engineers (USACE) under Contract No. [redacted] Delivery Order [redacted]

Validation qualifiers were those defined by in the UFP QAPP and are summarized as follows. Definitions of commonly-used terms and acronyms used in this DVR but not expressly defined can be found in the document cited above or in the laboratory data package.

| Data Validation Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for but was not detected above the level of the reported sample limit of detection. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported limit of detection is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. Sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample. |

The analytical deliverables conformed to Level IV (or Stage 4) reporting as defined by the U.S. Environmental Protection Agency (USEPA) in the document titled *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA 540-R-08-005). Validation was limited to Level III (Stage 2b) deliverables as defined in this guidance document.

A combination of automated and manual means were used to validate the data, with Stage 2a electronic data deliverables (SEDD 2a) processed through ADR.net automated data review software against criteria established in an electronic quality assurance project plan (eQAPP) prepared by ERT with input from CT. This automated review was supplemented by a manual review of non-ADR.net-processable information (e.g., case narratives, instrument calibration data, etc.).

## 2.0 General Information

The following 40 soil samples, collected by the incremental sampling methodology (ISM), were submitted for laboratory analysis of arsenic and manganese. The laboratory prepared the samples in accordance with their standard operating procedure (SOP) GEO-13, which incorporates USACE guidance for preparation of ISM samples. The prepared samples were analyzed for the two target metals by EPA Method 6010C.

| CT Sample ID | Folder # | ERT Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|
| 253258 | 143587 | DU1A-SU05 | SOIL | 03/18/2019 | 03/19/2019 |
| 253274 | 143587 | DU1B-SU05 | SOIL | 03/18/2019 | 03/19/2019 |
| 253275 | 143587 | DU1A-SU27 | SOIL | 03/18/2019 | 03/19/2019 |
| 253276 | 143587 | DU1B-SU27 | SOIL | 03/18/2019 | 03/19/2019 |
| 253277 | 143587 | DU1B-SU28 | SOIL | 03/18/2019 | 03/19/2019 |
| 253278 | 143587 | DU1A-SU28 | SOIL | 03/18/2019 | 03/19/2019 |
| 253279 | 143587 | DU1A-SU37 | SOIL | 03/18/2019 | 03/19/2019 |
| 253280 | 143587 | DU1B-SU37 | SOIL | 03/18/2019 | 03/19/2019 |
| 253281 | 143587 | DU1A-SU41 | SOIL | 03/18/2019 | 03/19/2019 |
| 253282 | 143587 | DU1B-SU41 | SOIL | 03/18/2019 | 03/19/2019 |
| 254587 | 143688 | DU1A-SU43 | SOIL | 03/19/2019 | 03/21/2019 |
| 254588 | 143688 | DU1B-SU43 | SOIL | 03/19/2019 | 03/21/2019 |
| 254589 | 143688 | DU1A-SU53 | SOIL | 03/19/2019 | 03/21/2019 |
| 254590 | 143688 | DU1B-SU53 | SOIL | 03/19/2019 | 03/21/2019 |
| 254591 | 143688 | DU1A-SU57 | SOIL | 03/20/2019 | 03/21/2019 |
| 254592 | 143688 | DU1B-SU57 | SOIL | 03/20/2019 | 03/21/2019 |
| 254593 | 143688 | DU1A-SU55 | SOIL | 03/20/2019 | 03/21/2019 |
| 254594 | 143688 | DU1B-SU55 | SOIL | 03/20/2019 | 03/21/2019 |
| 254595 | 143688 | DU1A-SU54 | SOIL | 03/19/2019 | 03/21/2019 |
| 254596 | 143688 | DU1B-SU54 | SOIL | 03/19/2019 | 03/21/2019 |
| 254597 | 143688 | DU1A-SU45 | SOIL | 03/20/2019 | 03/21/2019 |
| 254598 | 143688 | DU1B-SU45 | SOIL | 03/20/2019 | 03/21/2019 |
| 254599 | 143688 | DU1A-SU42 | SOIL | 03/20/2019 | 03/21/2019 |
| 254600 | 143688 | DU1B-SU42 | SOIL | 03/20/2019 | 03/21/2019 |
| 254601 | 143688 | DU3A-SU01 | SOIL | 03/20/2019 | 03/21/2019 |
| 254602 | 143688 | DU3B-SU01 | SOIL | 03/20/2019 | 03/21/2019 |
| 254603 | 143688 | DU3A-SU02 | SOIL | 03/20/2019 | 03/21/2019 |
| 254604 | 143688 | DU3B-SU02 | SOIL | 03/20/2019 | 03/21/2019 |
| 254605 | 143688 | DU3A-SU04 | SOIL | 03/20/2019 | 03/21/2019 |
| 254606 | 143688 | DU3B-SU04 | SOIL | 03/20/2019 | 03/21/2019 |
| 254959 | 143730 | DU1A-SU50 | SOIL | 03/19/2019 | 03/22/2019 |
| 254961 | 143730 | DU1B-SU50 | SOIL | 03/19/2019 | 03/22/2019 |
| 254962 | 143730 | DU1A-SU59 | SOIL | 03/19/2019 | 03/22/2019 |
| 254963 | 143730 | DU1B-SU59 | SOIL | 03/19/2019 | 03/22/2019 |
| 254964 | 143730 | DU1A-SU56 | SOIL | 03/19/2019 | 03/22/2019 |
| 254965 | 143730 | DU1B-SU56 | SOIL | 03/19/2019 | 03/22/2019 |
| 254966 | 143730 | DU1A-SU47 | SOIL | 03/19/2019 | 03/22/2019 |
| 254967 | 143730 | DU1B-SU47 | SOIL | 03/19/2019 | 03/22/2019 |
| 254968 | 143730 | DU1A-SU49 | SOIL | 03/19/2019 | 03/22/2019 |
| 254969 | 143730 | DU1B-SU49 | SOIL | 03/19/2019 | 03/22/2019 |

## 2.1 Sample Delivery and Condition Upon Receipt

The chain-of-custody (COC) forms were reviewed and deemed acceptable. The samples were received by the laboratory in good condition, in sufficient quantities, and at acceptable temperatures. Minor issues regarding the correct identification of two samples were effectively resolved at the time of sample log-in. Copies of USACE and USEPA authorization to use a puck mill for grinding the samples (rather than a ball mill, as had been specified in the UFP QAPP) were included in the Level IV analytical data deliverable.

*Qualification:* None required.

## 2.2 Case Narrative and Completeness

The laboratory data package was reviewed for completeness, with no discrepancies discerned. The narrative was thorough in identifying several issues, all of which were taken into consideration as part of the validation process.

*Qualification:* None required, based on the case narrative or data package completeness.

## 2.3 Holding Times

The samples were prepared and analyzed for target analytes (metals only) within required holding times.

*Qualification:* None required.

## 2.4 Field Quality Control (QC) Samples

### 2.4.1 Field-Generated Blanks

No field-generated blanks were required, as noted in the UFP QAPP.

*Qualification:* None required.

### 2.4.2 Field Replicates

No field replicates were collected from any of the sampling locations addressed by this DVR.

*Qualification:* None required.

# 3.0 Analytical Data

## 3.1 Metals (EPA Method 6010C)

The soil samples underwent sieving and grinding, followed by acid digestion in any one of three preparation batches.

*Method Blanks*

Low levels of arsenic and manganese were detected in each of the three method blanks. In all instances, the concentrations of these metals detected in the soil samples exceeded the artifact threshold values of five times the concentrations detected in the blanks, precluding the need for qualification of sample data.

*Qualification:* None required.

*Laboratory Control Samples (LCSs)*
The recoveries of arsenic and manganese reported for each of the three LCSs were within acceptance limits.

*Qualification:* None required.

*Matrix Spike / Matrix Spike Duplicates (MS/MSDs)*
Additional volumes of samples DU1A-SU05, DU3A-SU01, DU3B-SU01, DU1A-SU56, and DU1B-SU56 were used for MS/MSD analyses. The MS/MSD recoveries reported for arsenic and manganese for samples DU3A-SU01, DU3B-SU01, and DU1A-SU56 and for arsenic for sample DU1B-SU56 met validation acceptance criteria; i.e., all recoveries either were within the required acceptance limits (82-111% for arsenic and 84-114% for manganese) or, in the case of manganese, were not meaningful due to the high concentration of the analyte in the parent sample, relative to the spike concentration (i.e., greater than four times as much). The laboratory reported low recoveries of arsenic and manganese of less than the lower acceptance limits for the MS and/or MSD analyses of sample DU1A-SU05 and of manganese in both the MS and MSD analyses of sample DU1B-SU56. In all instances, the MS/MSD relative percent differences (%RPDs) were within acceptance limits.

*Qualification:* The following sample results (all detections) were classified as less than fully quantitative, based on the MS and/or MSD recoveries.

| CT Sample ID | ERT Sample ID | Analyte | Result | Qualifier |
|---|---|---|---|---|
| 253258 | DU1A-SU05 | ARSENIC | 21.2 | J- |
| | | MANGANESE | 826 | J- |
| 254965 | DU1B-SU56 | MANGANESE | 349 | J- |

*Serial Dilutions / Post-Digestion Spikes (SDs/PDSs)*
The laboratory analyzed five-fold SDs of samples DU1A-SU05, DU3A-SU01, DU3B-SU01, DU1A-SU56, and DU1B-SU56. In all instances, the results for arsenic were invalid due to the relatively low concentrations of the analyte in the parent samples (i.e., less than 50 times the limit of quantitation , or LOQ, prior to the five-fold dilution), while the results for manganese were valid but deemed to have failed, with percent differences (%Ds) of greater than 10%. The laboratory performed PDS analyses of these samples, with low or failed recoveries reported for manganese for samples DU1A-SU05 (72%), DU1B-SU56 (0%), DU3A-SU01 (65%), and DU3B-SU01 (0%) and a low recovery reported for arsenic for sample DU3A-SU01 (67%). The acceptance range is 80-120%.

*Qualification:* The combined SD and PDS data served as additional reasons for the application of J- qualifiers to the results for manganese for samples DU1A-SU05 and DU1B-SU56 (previously qualified due to low MS/MSD recoveries) and for the application of J- qualifiers to the detections of manganese reported for samples DU3A-SU01 and DU3B-SU01 and for arsenic reported for sample DU3A-SU01. These qualifiers were entered into the "Professional Judgment" field of the SEDD to keep them distinct from qualifiers applied due to MS/MSD recoveries.

*Laboratory Duplicates and Triplicates*
The laboratory analyzed samples DU1A-SU56 and DU1B-SU56 in duplicate and analyzed samples DU1A-SU05, DU3A-SU01, DU3B-SU01, DU1B-SU47, and DU1B-SU42 in triplicate for arsenic and manganese. Duplicate results were evaluated by the %RPD, and triplicate results were evaluated by the percent relative standard deviation (%RSD). The laboratory's information management system (LIMS) is not capable of calculating and reporting %RSDs for triplicates (i.e., only %RPDs were reported, in both the

Level IV data package and SEDD 2a); therefore, %RSDs for triplicate results were manually calculated by the validator and compared with the limit of 15% RSD given in the eQAPP.

*Qualification:* The ADR.net software applied qualifiers to samples analyzed in duplicate or triplicate when the %RPDs exceeded the limit given in the UFP QAPP (20%). In one instance (arsenic reported for sample DU3A-SU01), the qualifier applied by the software was removed by the validator, as the %RSD was acceptable (i.e., within 15%). In another instance, the ADR.net software correctly applied a validation qualifier of J based on %RPD (to the detection of manganese reported for sample DU1B-SU56); this qualifier was allowed to remain. In two other instances (manganese reported for sample DU3B-SU01 and arsenic reported for sample DU1B-SU42), the ADR.net software had applied J qualifiers based on %RPDs. As the %RSDs for these two results exceeded 15%, the J qualifiers were retained but ascribed to laboratory triplicate results, rather than laboratory duplicate results, not being within control limits. (Note that qualifiers of J- previously applied were automatically revised by the ADR.net software to J qualifiers when the %RSD or %RPD exceeded the limit; i.e., direction of bias was no longer clearly indicated).

*Initial Calibrations (ICALs)*

The six multi-point ICALs of arsenic and manganese, performed daily, met requirements for linearity, with all correlation coefficient ($r^2$) values approximating 1.0.

*Qualification:* None required.

*Initial Calibration Verifications and Lower Limit of Quantitation Checks (ICVs / LLQCs)*

ICVs and LLQCs were analyzed following each ICAL. All ICV and LLQC recoveries were within acceptance limits (90-110% and 80-120%, respectively).

*Qualification:* None required.

*Continuing Calibration Verifications (CCVs)*

All mid-level and high-level CCVs bracketing the analysis of the project soil samples were within acceptance limits (90-110%).

*Qualification:* None required.

*Initial and Continuing Calibration Blanks (ICBs/CCBs)*

No metals were detected in any of the ICBs. Low-level detections of arsenic and manganese were detected in some CCBs; however, the on-instrument detections of arsenic and manganese in all 40 soil samples exceeded the artifact threshold values of five times the concentrations detected in the blanks.

*Qualification:* None required.

*Interference Check Samples (ICS-A and -AB)*

The absolute values reported for arsenic and manganese in all ICS-A solutions were less than the magnitude of the limits of detection (LODs). The recoveries of arsenic and manganese in the analysis of the ICS-AB solutions were within the acceptance range of 80-120%.

*Qualification:* None required.

*Internal Standards*

A representative subset of the data for internal standard (yttrium) were reviewed from the raw data. Instrument readings were consistent from one sample to the next, and the %RSDs of the multiple instrument readings were acceptable (less than 5% in these spot-checks of the raw data).

*Qualification:* None required.

*Analyte Quantitation*

Eight samples required dilutions by factors of ten and one sample (DU3B-SU01) required dilution by a factor of 100, to allow accurate quantitation of manganese. No other dilutions were required. No issues associated with the analytical findings, other than as previously described, were noted.

*Qualification:* None required.

## 4.0 Final Validation Qualifiers

Of 80 discrete results reported for the 40 project samples, seven results (three for arsenic and four for manganese) were qualified as a result of the validation (Attachment A). No results were rejected or recommended for exclusion; therefore, analytical completeness in terms of usable data is 100%.

## Attachment A

## ADR.net Reports

# Method Blank Outlier Report

**Lab Reporting Batch ID: 143587** **Laboratory: CTLB**

**EDD Filename: 143587SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 255704 | 3/27/2019 5:09:00 PM | ARSENIC<br>MANGANESE | 0.19 mg/kg<br>5.1 mg/kg | DU1A-SU05<br>DU1A-SU27<br>DU1A-SU28<br>DU1A-SU37<br>DU1A-SU41<br>DU1A-SU43<br>DU1A-SU53<br>DU1A-SU54<br>DU1A-SU55<br>DU1A-SU57<br>DU1B-SU05<br>DU1B-SU27<br>DU1B-SU28<br>DU1B-SU37<br>DU1B-SU41<br>DU1B-SU43<br>DU1B-SU53<br>DU1B-SU54<br>DU1B-SU55<br>DU1B-SU57 |
| 258582 | 4/4/2019 5:56:00 AM | ARSENIC<br>MANGANESE | 0.29 mg/kg<br>11.2 mg/kg | DU1A-SU42<br>DU1A-SU45<br>DU1A-SU47<br>DU1A-SU49<br>DU1A-SU50<br>DU1A-SU59<br>DU1B-SU42<br>DU1B-SU45<br>DU1B-SU49<br>DU1B-SU50<br>DU1B-SU59<br>DU3A-SU01<br>DU3A-SU02<br>DU3A-SU04<br>DU3B-SU01<br>DU3B-SU02<br>DU3B-SU04 |
| 258596 | 4/4/2019 11:01:00 AM | ARSENIC<br>MANGANESE | 0.27 mg/kg<br>6.5 mg/kg | DU1A-SU56<br>DU1B-SU47<br>DU1B-SU56 |

# Matrix Spike/Matrix Spike Duplicate Outlier Report

**Lab Reporting Batch ID: 143587** **Laboratory: CTLB**

**EDD Filename: 143587SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| *QC Sample ID (Associated Samples)* | *Compound* | *MS %R* | *MSD %R* | *%R Limits* | *RPD (Limits)* | *Affected Compounds* | *Flag* |
|---|---|---|---|---|---|---|---|
| DU1A-SU05MS (DRY)<br>DU1A-SU05MSD (DRY)<br>(DU1A-SU05) | ARSENIC<br>MANGANESE | 81<br>75 | -<br>78 | 82.00-111.00<br>84.00-114.00 | -<br>- | ARSENIC<br>MANGANESE | J- (all detects)<br>UJ (all non-detects) |
| DU1B-SU56MS (DRY)<br>DU1B-SU56MSD (DRY)<br>(DU1B-SU56) | MANGANESE | 44 | 49 | 84.00-114.00 | - | MANGANESE | J-(all detects)<br>UJ(all non-detects) |
| DU3B-SU01MS (DRY)<br>DU3B-SU01MSD (DRY)<br>(DU3B-SU01) | MANGANESE | 0 | 0 | 84.00-114.00 | - | MANGANESE | J-(all detects)<br>UJ(all non-detects) |
| DU3A-SU01MS (WET)<br>DU3A-SU01MSD (WET)<br>(DU3A-SU01) | MANGANESE | 59 | 154 | 84.00-114.00 | - | MANGANESE | J(all detects)<br>UJ(all non-detects) |

# Lab Duplicate Outlier Report

**Lab Reporting Batch ID: 143587** **Laboratory: CTLB**

**EDD Filename: 143587SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As +**

***Method: 6010C***
***Matrix: SOIL***

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---|---|---|---|
| DU3A-SU01DUP (WET) (DU3A-SU01) | ARSENIC | 26 | 20.00 | J (all detects) UJ (all non-detects) |
| DU1B-SU42DUP (DRY) (DU1B-SU42) | ARSENIC | 77 | 20.00 | J(all detects) UJ(all non-detects) |
| DU3B-SU01DUP (DRY) (DU3B-SU01) | MANGANESE | 53 | 20.00 | J(all detects) UJ(all non-detects) |
| DU1B-SU56DUP (DRY) (DU1B-SU56) | MANGANESE | 76 | 20.00 | J(all detects) UJ(all non-detects) |

# Data Qualifier Summary

**Lab Reporting Batch ID: 143587** **Laboratory: CTLB**

**EDD Filename: 143587SEDD** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method Category:*** **METALS**

***Method:*** **6010C** ***Matrix:*** **SOIL**

***Sample ID:*** **DU1A-SU05** ***Collected:*** **3/18/2019 9:15:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 21.2 | | 0.42 | LOD | 0.83 | LOQ | mg/kg | J- | Ms |
| MANGANESE | 826 | M | 0.078 | LOD | 0.16 | LOQ | mg/kg | J- | Ms, ProfJudg |

***Sample ID:*** **DU1B-SU42** ***Collected:*** **3/20/2019 1:20:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 11.3 | Y | 0.40 | LOD | 0.79 | LOQ | mg/kg | J | Lt |

***Sample ID:*** **DU1B-SU56** ***Collected:*** **3/19/2019 11:10:00 AM** ***Analysis Type:*** **DILUTION-01** ***Dilution:*** **10.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 349 | M,Y,B | 0.79 | LOD | 1.6 | LOQ | mg/kg | J | Ms, Ld, ProfJudg |

***Sample ID:*** **DU3A-SU01** ***Collected:*** **3/20/2019 2:35:00 PM** ***Analysis Type:*** **DILUTION-01** ***Dilution:*** **10.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 4870 | M | 0.78 | LOD | 1.6 | LOQ | mg/kg | J- | ProfJudg |

***Sample ID:*** **DU3A-SU01** ***Collected:*** **3/20/2019 2:35:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 8.2 | Y,M | 0.42 | LOD | 0.83 | LOQ | mg/kg | J- | ProfJudg |

***Sample ID:*** **DU3B-SU01** ***Collected:*** **3/20/2019 2:35:00 PM** ***Analysis Type:*** **DILUTION-01** ***Dilution:*** **10.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 7430 | Y,M | 0.78 | LOD | 1.6 | LOQ | mg/kg | J | ProfJudg, Lt |

* denotes a non-reportable result

**Project Name and Number: - CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID: 143587**

**Laboratory: CTLB**

**EDD Filename: 143587SEDD**

**eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

## Reason Code Legend

| *Reason Code* | *Description* |
|---|---|
| Ld | Laboratory Duplicate Precision |
| Lt | Laboratory Triplicate Precision |
| Mb | Method Blank Contamination |
| Ms | Matrix Spike Lower Estimation |
| Ms | Matrix Spike Upper Estimation |
| ProfJudg | Professional Judgment |

* denotes a non-reportable result

**Project Name and Number: - CURTIS BAY ORDNANCE DEPOT**

# History of Manual Changes to Automated Data Review Qualifiers

**Changed by:** Cindy Lee Westergard

| Analyte | Method | Analysis Type | Result | Unit | Reason Code | Original Value | New Value | Edit Time | |
|---|---|---|---|---|---|---|---|---|---|
| **Field Sample ID:** DU1A-SU05 | | | | | | | | | |
| **MANGANESE** | 6010C | INITIAL | 826 | mg/kg | Professional Judgment | | J- | 6/4/2019 | 15:05 |
| Reason for change: | SD results deemed to have failed, and PDS recovery was less than 80%. | | | | | | | | |
| **Field Sample ID:** DU1B-SU42 | | | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 11.3 | mg/kg | Laboratory Duplicate Precision | J | | 6/4/2019 | 15:14 |
| Reason for change: | Laboratory duplicates evaluation, based on %RPD, superseded by laboratory triplicates evaluation, based on %RSD. | | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 11.3 | mg/kg | Laboratory Triplicate Precision | | J | 6/4/2019 | 15:17 |
| Reason for change: | The %RSD generated for the laboratory triplicate analyses of this sample (77.8%) exceeded the limit given in the eQAPP (15%). | | | | | | | | |
| **Field Sample ID:** DU1B-SU56 | | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 349 | mg/kg | Professional Judgment | | J- | 6/4/2019 | 15:06 |
| Reason for change: | SD results deemed to have failed, and PDS recovery was less than 80%. | | | | | | | | |
| **Field Sample ID:** DU3A-SU01 | | | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 8.2 | mg/kg | Professional Judgment | | J- | 6/4/2019 | 15:08 |
| Reason for change: | SD result was deemed to have failed, and PDS recovery was less than 80%. | | | | | | | | |
| **ARSENIC** | 6010C | INITIAL | 8.2 | mg/kg | Laboratory Duplicate Precision | J | | 6/4/2019 | 15:09 |
| Reason for change: | Although the RPD for one of the laboratory duplicate analyses exceeded 20%, the %RSD for the three triplicates was acceptable (<15%). | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 4870 | mg/kg | Matrix Spike Lower Estimation | J- | | 6/4/2019 | 15:02 |
| Reason for change: | The recovery data were not meaningful as the spike concentration was less than one-fourth the concentration of the analyte in the parent sample. | | | | | | | | |

| Analyte | Method | Analysis Type | Result | Unit | Reason Code | Original Value | New Value | Edit Time | |
|---|---|---|---|---|---|---|---|---|---|
| **Field Sample ID:** DU3A-SU01 | | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 4870 | mg/kg | Matrix Spike Upper Estimation | J+ | | 6/4/2019 | 15:02 |
| Reason for change: | The recovery data were not meaningful as the spike concentration was less than one-fourth the concentration of the analyte in the parent sample. | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 4870 | mg/kg | Professional Judgment | | J- | 6/4/2019 | 15:07 |
| Reason for change: | SD results were deemed to have failed, and PDS recovery was less than 80%. | | | | | | | | |
| **Field Sample ID:** DU3B-SU01 | | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 7430 | mg/kg | Matrix Spike Lower Estimation | J- | | 6/4/2019 | 15:02 |
| Reason for change: | The recovery data were not meaningful as the spike concentration was less than one-fourth the concentration of the analyte in the parent sample. | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 7430 | mg/kg | Professional Judgment | | J- | 6/4/2019 | 15:08 |
| Reason for change: | SD result was deemed to have failed, and PDS recovery was less than 80%. | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 7430 | mg/kg | Laboratory Duplicate Precision | J | | 6/4/2019 | 15:12 |
| Reason for change: | Laboratory duplicates evaluation (%RPD) superseded by laboratory triplicates evaluation (%RSD). | | | | | | | | |
| **MANGANESE** | 6010C | DILUTION-01 | 7430 | mg/kg | Laboratory Triplicate Precision | | J | 6/4/2019 | 15:13 |
| Reason for change: | The %RSD results from the laboratory triplicate analyses (35.5%) exceeded the limit of 15% given in the eQAPP. | | | | | | | | |

# DATA VALIDATION REPORT

**DEPOT-WIDE REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FOR ARSENIC AND MANGANESE IN SOIL AT THE
FORMER CURTIS BAY ORDNANCE DEPOT
ANNE ARUNDEL COUNTY, MARYLAND**

**CT LABORATORIES, LLC**

**SAMPLE DELIVERY GROUP [redacted] / FOLDERS [redacted]**

**JUNE 11, 2019**

*Prepared for:*

Earth Resources Technology, Inc.
[redacted]
Laurel, MD 20707
[redacted]

*Prepared by:*

HSW Engineering, Inc.
[redacted]
Tampa, Florida 33624
[redacted]

HSW Project No: [redacted]

## 1.0 Introduction

This Data Validation Report (DVR) is a summary of the review and validation of environmental analytical data for sample delivery group (SDG) 143765 (folders [redacted] The analytical work was performed by CT Laboratories, LLC, Baraboo, Wisconsin (CT). The analytical data were validated in accordance with specifications given in the document titled *Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-wide Remedial Investigation / Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland (February 2019)* (UFP QAPP). This document was prepared by ERT, Inc., Laurel, Maryland, for the U.S. Army Corps of Engineers (USACE) under Contract No. [redacted] Delivery Order [redacted]

Validation qualifiers were those defined by in the UFP QAPP and are summarized as follows. Definitions of commonly-used terms and acronyms used in this DVR but not expressly defined can be found in the document cited above or in the laboratory data package.

| Data Validation Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for but was not detected above the level of the reported sample limit of detection. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported limit of detection is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. Sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample. |

The analytical deliverables conformed to Level IV (or Stage 4) reporting as defined by the U.S. Environmental Protection Agency (USEPA) in the document titled *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA 540-R-08-005). Validation was limited to Level III (Stage 2b) deliverables as defined in this guidance document.

A combination of automated and manual means was used to validate the data, with Stage 2a electronic data deliverables (SEDD 2a) processed through ADR.net automated data review software against criteria established in an electronic quality assurance project plan (eQAPP) prepared by ERT with input from CT. This automated review was supplemented by a manual review of non-ADR.net-processable information (e.g., case narratives, instrument calibration data, etc.).

## 2.0 General Information

The following 86 soil samples, collected by the incremental sampling methodology (ISM), were submitted for laboratory analysis of arsenic and manganese. The laboratory prepared the samples in accordance with their standard operating procedure (SOP) GEO-13, which incorporates USACE guidance for preparation of ISM samples. The prepared samples were analyzed for the two target metals by EPA Method 6010C (inductively-coupled plasma-atomic emission spectrometry [ICP-AES]). Samples for which results for arsenic were less than the laboratory's limit of quantitation (LOQ) by EPA Method 6010C were reanalyzed for arsenic by EPA Method 7010 (graphic furnace atomic absorption [GFAA] spectrophotometry), which has greater sensitivity and lower LOQ than does Method 6010C.

| CT Sample ID | Folder # | ERT Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|
| 255833 | 143765 | DU3A-SU03R1 | SOIL | 3/21/2019 | 3/26/2019 |
| 255853 | 143765 | DU3B-SU03R1 | SOIL | 3/21/2019 | 3/26/2019 |
| 255854 | 143765 | DU3A-SU07 | SOIL | 3/21/2019 | 3/26/2019 |
| 255855 | 143765 | DU3B-SU07 | SOIL | 3/21/2019 | 3/26/2019 |
| 255856 | 143765 | DU3A-SU03R2 | SOIL | 3/22/2019 | 3/26/2019 |
| 255857 | 143765 | DU3B-SU03R2 | SOIL | 3/22/2019 | 3/26/2019 |
| 255858 | 143765 | DU3A-SU03R3 | SOIL | 3/22/2019 | 3/26/2019 |
| 255859 | 143765 | DU3B-SU03R3 | SOIL | 3/22/2019 | 3/26/2019 |
| 255860 | 143765 | DU2A-SU07R1 | SOIL | 3/22/2019 | 3/26/2019 |
| 255861 | 143765 | DU2B-SU07R1 | SOIL | 3/22/2019 | 3/26/2019 |
| 255880 | 143765 | DU1A-SU32 | SOIL | 3/25/2019 | 3/26/2019 |
| 255881 | 143765 | DU1B-SU32 | SOIL | 3/25/2019 | 3/26/2019 |
| 255882 | 143765 | DU1A-SU33 | SOIL | 3/25/2019 | 3/26/2019 |
| 255883 | 143765 | DU1B-SU33 | SOIL | 3/25/2019 | 3/26/2019 |
| 255884 | 143765 | DU3A-SU09 | SOIL | 3/25/2019 | 3/26/2019 |
| 255885 | 143765 | DU3B-SU09 | SOIL | 3/25/2019 | 3/26/2019 |
| 255886 | 143765 | DU3A-SU10 | SOIL | 3/25/2019 | 3/26/2019 |
| 255887 | 143765 | DU3B-SU10 | SOIL | 3/25/2019 | 3/26/2019 |
| 255888 | 143765 | DU3A-SU05 | SOIL | 3/25/2019 | 3/26/2019 |
| 255889 | 143765 | DU3B-SU05 | SOIL | 3/25/2019 | 3/26/2019 |
| 255901 | 143765 | DU1A-SU46 | SOIL | 3/25/2019 | 3/26/2019 |
| 255903 | 143765 | DU1B-SU46 | SOIL | 3/25/2019 | 3/26/2019 |
| 255904 | 143765 | DU1A-SU38 | SOIL | 3/25/2019 | 3/26/2019 |
| 255905 | 143765 | DU1B-SU38 | SOIL | 3/25/2019 | 3/26/2019 |
| 255906 | 143765 | DU1A-SU40 | SOIL | 3/25/2019 | 3/26/2019 |
| 255907 | 143765 | DU1B-SU40 | SOIL | 3/25/2019 | 3/26/2019 |
| 255908 | 143765 | DU1A-SU35 | SOIL | 3/25/2019 | 3/26/2019 |
| 255909 | 143765 | DU1B-SU35 | SOIL | 3/25/2019 | 3/26/2019 |
| 255910 | 143765 | DU1A-SU31 | SOIL | 3/25/2019 | 3/26/2019 |
| 255911 | 143765 | DU1B-SU31 | SOIL | 3/25/2019 | 3/26/2019 |
| 255912 | 143765 | DU2A-SU07R2 | SOIL | 3/22/2019 | 3/26/2019 |
| 255913 | 143765 | DU2B-SU07R2 | SOIL | 3/22/2019 | 3/26/2019 |
| 255914 | 143765 | DU2A-SU07R3 | SOIL | 3/22/2019 | 3/26/2019 |
| 255915 | 143765 | DU2B-SU07R3 | SOIL | 3/22/2019 | 3/26/2019 |
| 255916 | 143765 | DU2A-SU02R1 | SOIL | 3/22/2019 | 3/26/2019 |
| 255917 | 143765 | DU2B-SU02R1 | SOIL | 3/22/2019 | 3/26/2019 |
| 255918 | 143765 | DU2A-SU02R2 | SOIL | 3/22/2019 | 3/26/2019 |
| 255919 | 143765 | DU2B-SU02R2 | SOIL | 3/22/2019 | 3/26/2019 |

| CT Sample ID | Folder # | ERT Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|
| 255920 | 143765 | DU2A-SU02R3 | SOIL | 3/22/2019 | 3/26/2019 |
| 255921 | 143765 | DU2B-SU02R3 | SOIL | 3/22/2019 | 3/26/2019 |
| 256767 | 143811 | DU1A-SU24 | SOIL | 3/26/2019 | 3/27/2019 |
| 256794 | 143811 | DU1B-SU24 | SOIL | 3/26/2019 | 3/27/2019 |
| 256795 | 143811 | DU1A-SU25 | SOIL | 3/26/2019 | 3/27/2019 |
| 256796 | 143811 | DU1B-SU25 | SOIL | 3/26/2019 | 3/27/2019 |
| 256797 | 143811 | DU1A-SU15 | SOIL | 3/26/2019 | 3/27/2019 |
| 256798 | 143811 | DU1B-SU15 | SOIL | 3/26/2019 | 3/27/2019 |
| 256799 | 143811 | DU3A-SU08 | SOIL | 3/26/2019 | 3/27/2019 |
| 256800 | 143811 | DU3B-SU08 | SOIL | 3/26/2019 | 3/27/2019 |
| 256801 | 143811 | DU3A-SU06 | SOIL | 3/26/2019 | 3/27/2019 |
| 256802 | 143811 | DU3B-SU06 | SOIL | 3/26/2019 | 3/27/2019 |
| 256803 | 143811 | DU1A-SU18 | SOIL | 3/26/2019 | 3/27/2019 |
| 256804 | 143811 | DU1B-SU18 | SOIL | 3/26/2019 | 3/27/2019 |
| 256805 | 143811 | DU1A-SU22 | SOIL | 3/26/2019 | 3/27/2019 |
| 256806 | 143811 | DU1B-SU22 | SOIL | 3/26/2019 | 3/27/2019 |
| 256807 | 143811 | DU1A-SU17 | SOIL | 3/26/2019 | 3/27/2019 |
| 256808 | 143811 | DU1B-SU17 | SOIL | 3/26/2019 | 3/27/2019 |
| 257642 | 143856 | DU1B-SU16 | SOIL | 3/27/2019 | 3/28/2019 |
| 257643 | 143856 | DU1A-SU16 | SOIL | 3/27/2019 | 3/28/2019 |
| 257644 | 143856 | DU1B-SU26 | SOIL | 3/27/2019 | 3/28/2019 |
| 257645 | 143856 | DU1A-SU20 | SOIL | 3/27/2019 | 3/28/2019 |
| 257646 | 143856 | DU1B-SU20 | SOIL | 3/27/2019 | 3/28/2019 |
| 257647 | 143856 | DU1A-SU44R1 | SOIL | 3/27/2019 | 3/28/2019 |
| 257648 | 143856 | DU1B-SU44R1 | SOIL | 3/27/2019 | 3/28/2019 |
| 257649 | 143856 | DU1A-SU44R2 | SOIL | 3/27/2019 | 3/28/2019 |
| 257650 | 143856 | DU1B-SU44R2 | SOIL | 3/27/2019 | 3/28/2019 |
| 257651 | 143856 | DU1A-SU44R3 | SOIL | 3/27/2019 | 3/28/2019 |
| 257652 | 143856 | DU1B-SU44R3 | SOIL | 3/27/2019 | 3/28/2019 |
| 257653 | 143856 | DU1A-SU48 | SOIL | 3/27/2019 | 3/28/2019 |
| 257654 | 143856 | DU1B-SU48 | SOIL | 3/27/2019 | 3/28/2019 |
| 257655 | 143856 | DU1A-SU26 | SOIL | 3/27/2019 | 3/28/2019 |
| 257656 | 143856 | DU1A-SU30S1 | SOIL | 3/27/2019 | 3/28/2019 |
| 257657 | 143856 | DU1B-SU30S1 | SOIL | 3/27/2019 | 3/28/2019 |
| 257658 | 143856 | DU1A-SU30S2 | SOIL | 3/27/2019 | 3/28/2019 |
| 257659 | 143856 | DU1B-SU30S2 | SOIL | 3/27/2019 | 3/28/2019 |
| 257660 | 143856 | DU1A-SU30S3 | SOIL | 3/27/2019 | 3/28/2019 |
| 257661 | 143856 | DU1B-SU30S3 | SOIL | 3/27/2019 | 3/28/2019 |
| 257662 | 143856 | DU2A-SU18 | SOIL | 3/27/2019 | 3/28/2019 |
| 257663 | 143856 | DU2B-SU18 | SOIL | 3/27/2019 | 3/28/2019 |
| 258269 | 143900 | DU2A-SU10 | SOIL | 3/28/2019 | 3/29/2019 |
| 258271 | 143900 | DU2B-SU10 | SOIL | 3/28/2019 | 3/29/2019 |
| 258272 | 143900 | DU2A-SU05 | SOIL | 3/28/2019 | 3/29/2019 |
| 258273 | 143900 | DU2B-SU05 | SOIL | 3/28/2019 | 3/29/2019 |
| 258274 | 143900 | DU2A-SU04 | SOIL | 3/28/2019 | 3/29/2019 |
| 258275 | 143900 | DU2B-SU04 | SOIL | 3/28/2019 | 3/29/2019 |
| 258276 | 143900 | DU2A-SU03 | SOIL | 3/28/2019 | 3/29/2019 |
| 258277 | 143900 | DU2B-SU03 | SOIL | 3/28/2019 | 3/29/2019 |

## 2.1 Sample Delivery and Condition Upon Receipt

The chain-of-custody (COC) forms were reviewed and deemed acceptable. The samples were received by the laboratory in good condition, in sufficient quantities, and at acceptable temperatures. Copies of USACE and USEPA authorization to use a puck mill for grinding the samples (rather than a ball mill, as had been specified in the UFP QAPP) were included in the Level IV analytical data deliverable.

*Qualification:* None required.

## 2.2 Case Narrative and Completeness

The laboratory data package was reviewed for completeness, with no discrepancies noted. The narrative was thorough in identifying several issues, all of which were taken into consideration as part of the validation process.

*Qualification:* None required, based on the case narrative or data package completeness.

## 2.3 Holding Times

The samples were prepared and analyzed for target analytes (metals only) within required holding times.

*Qualification:* None required.

## 2.4 Field Quality Control (QC) Samples

### 2.4.1 Field-Generated Blanks

No field-generated blanks were required, as noted in the UFP QAPP.

*Qualification:* None required.

### 2.4.2 Field Replicates

Field replicates (triplicates) were collected at eight ISM sampling locations and from two core samples that had been collected via direct-push technology (DPT). Triplicate samples collected from the two DPT core samples were identified with suffixes of S1, S2, and S3. All other triplicate samples were identified with suffixes of R1, R2, and R3. The results for these ten sets of triplicate samples, along with the percent relative standard deviation (%RSD) for each, are summarized as follows. The UPF QAPP gives a precision goal of 30% RSD for field triplicates. This limit was exceeded in several instances.

| Method | Analyte | ERT Sample ID | Result | Lab Qualifier | RSD (%) | Limit of Detection (LOD) | Limit of Quantitation (LOQ) |
|---|---|---|---|---|---|---|---|
| 6010C | ARSENIC | DU1A-SU30S1 | 3.3 | | | 0.42 | 0.85 |
| 6010C | ARSENIC | DU1A-SU30S2 | 5.8 | | | 0.41 | 0.82 |
| 6010C | ARSENIC | DU1A-SU30S3 | 4.9 | | 27.1% | 0.41 | 0.82 |
| 6010C | ARSENIC | DU1A-SU44R1 | 0.45 | J | | 0.41 | 0.83 |
| 6010C | ARSENIC | DU1A-SU44R2 | 0.38 | J | | 0.4 | 0.79 |
| 6010C | ARSENIC | DU1A-SU44R3 | 1.4 | | **76.7%** | 0.41 | 0.82 |
| 6010C | ARSENIC | DU1B-SU30S1 | 0.6 | J | | 0.42 | 0.84 |
| 6010C | ARSENIC | DU1B-SU30S2 | 0.71 | J | | 0.41 | 0.82 |
| 6010C | ARSENIC | DU1B-SU30S3 | 0.6 | J | 10.0% | 0.42 | 0.84 |
| 6010C | ARSENIC | DU1B-SU44R1 | 0.57 | J | | 0.41 | 0.82 |

| Method | Analyte | ERT Sample ID | Result | Lab Qualifier | RSD (%) | Limit of Detection (LOD) | Limit of Quantitation (LOQ) |
|---|---|---|---|---|---|---|---|
| 6010C | ARSENIC | DU1B-SU44R2 | 0.6 | J | | 0.41 | 0.81 |
| 6010C | ARSENIC | DU1B-SU44R3 | 0.32 | J | **31.0%** | 0.42 | 0.84 |
| 6010C | ARSENIC | DU2A-SU02R1 | 13.1 | | | 0.43 | 0.85 |
| 6010C | ARSENIC | DU2A-SU02R2 | 15.5 | | | 0.41 | 0.81 |
| 6010C | ARSENIC | DU2A-SU02R3 | 17 | | 12.9% | 0.41 | 0.82 |
| 6010C | ARSENIC | DU2A-SU07R1 | 56.1 | | | 0.42 | 0.84 |
| 6010C | ARSENIC | DU2A-SU07R2 | 92.5 | | | 0.4 | 0.81 |
| 6010C | ARSENIC | DU2A-SU07R3 | 96 | | 27.1% | 0.39 | 0.78 |
| 6010C | ARSENIC | DU2B-SU02R1 | 9.8 | | | 0.41 | 0.83 |
| 6010C | ARSENIC | DU2B-SU02R2 | 13.7 | | | 0.42 | 0.84 |
| 6010C | ARSENIC | DU2B-SU02R3 | 14.6 | | 20.1% | 0.4 | 0.8 |
| 6010C | ARSENIC | DU2B-SU07R1 | 24.3 | | | 0.42 | 0.83 |
| 6010C | ARSENIC | DU2B-SU07R2 | 67.1 | | | 0.42 | 0.84 |
| 6010C | ARSENIC | DU2B-SU07R3 | 53.5 | | **45.3%** | 0.42 | 0.83 |
| 6010C | ARSENIC | DU3A-SU03R1 | 28.6 | | | 0.41 | 0.82 |
| 6010C | ARSENIC | DU3A-SU03R2 | 8.7 | | | 0.39 | 0.77 |
| 6010C | ARSENIC | DU3A-SU03R3 | 6.7 | | **82.6%** | 0.39 | 0.78 |
| 6010C | ARSENIC | DU3B-SU03R1 | 12.8 | | | 0.38 | 0.77 |
| 6010C | ARSENIC | DU3B-SU03R2 | 12.1 | | | 0.42 | 0.83 |
| 6010C | ARSENIC | DU3B-SU03R3 | 66 | | **102.0%** | 0.42 | 0.84 |
| 6010C | MANGANESE | DU1A-SU30S1 | 5100 | | | 0.4 | 0.79 |
| 6010C | MANGANESE | DU1A-SU30S2 | 5090 | | | 0.39 | 0.77 |
| 6010C | MANGANESE | DU1A-SU30S3 | 3850 | | 15.4% | 0.39 | 0.77 |
| 6010C | MANGANESE | DU1A-SU44R1 | 120 | | | 0.078 | 0.16 |
| 6010C | MANGANESE | DU1A-SU44R2 | 140 | | | 0.074 | 0.15 |
| 6010C | MANGANESE | DU1A-SU44R3 | 105 | | 14.4% | 0.077 | 0.15 |
| 6010C | MANGANESE | DU1B-SU30S1 | 426 | | | 0.079 | 0.16 |
| 6010C | MANGANESE | DU1B-SU30S2 | 354 | | | 0.077 | 0.15 |
| 6010C | MANGANESE | DU1B-SU30S3 | 346 | | 11.7% | 0.078 | 0.16 |
| 6010C | MANGANESE | DU1B-SU44R1 | 84.9 | | | 0.077 | 0.15 |
| 6010C | MANGANESE | DU1B-SU44R2 | 105 | | | 0.076 | 0.15 |
| 6010C | MANGANESE | DU1B-SU44R3 | 69.9 | | 20.3% | 0.079 | 0.16 |
| 6010C | MANGANESE | DU2A-SU02R1 | 279 | | | 0.08 | 0.16 |
| 6010C | MANGANESE | DU2A-SU02R2 | 473 | | | 0.076 | 0.15 |
| 6010C | MANGANESE | DU2A-SU02R3 | 254 | | **35.7%** | 0.077 | 0.15 |
| 6010C | MANGANESE | DU2A-SU07R1 | 179 | | | 0.079 | 0.16 |
| 6010C | MANGANESE | DU2A-SU07R2 | 402 | | | 0.076 | 0.15 |
| 6010C | MANGANESE | DU2A-SU07R3 | 443 | | **41.6%** | 0.073 | 0.15 |
| 6010C | MANGANESE | DU2B-SU02R1 | 222 | | | 0.078 | 0.16 |
| 6010C | MANGANESE | DU2B-SU02R2 | 135 | | | 0.079 | 0.16 |
| 6010C | MANGANESE | DU2B-SU02R3 | 90.5 | | **44.8%** | 0.075 | 0.15 |
| 6010C | MANGANESE | DU2B-SU07R1 | 1960 | | | 0.078 | 0.16 |
| 6010C | MANGANESE | DU2B-SU07R2 | 183 | | | 0.079 | 0.16 |
| 6010C | MANGANESE | DU2B-SU07R3 | 216 | | **129.3%** | 0.078 | 0.16 |
| 6010C | MANGANESE | DU3A-SU03R1 | 23900 | | | 0.77 | 1.5 |
| 6010C | MANGANESE | DU3A-SU03R2 | 1600 | | | 0.72 | 1.4 |

| Method | Analyte | ERT Sample ID | Result | Lab Qualifier | RSD (%) | Limit of Detection (LOD) | Limit of Quantitation (LOQ) |
|---|---|---|---|---|---|---|---|
| 6010C | MANGANESE | DU3A-SU03R3 | 5980 | | 112.6% | 1.5 | 2.9 |
| 6010C | MANGANESE | DU3B-SU03R1 | 5910 | | | 0.72 | 1.4 |
| 6010C | MANGANESE | DU3B-SU03R2 | 2480 | | | 0.78 | 1.6 |
| 6010C | MANGANESE | DU3B-SU03R3 | 432 | | 94.1% | 0.079 | 0.16 |
| 7010 | ARSENIC | DU1A-SU44R1 | 0.39 | | | 0.4 | 0.79 |
| 7010 | ARSENIC | DU1A-SU44R2 | 1.2 | | | 0.41 | 0.83 |
| 7010 | ARSENIC | DU1A-SU44R3 | 1.1 | | 49.3% | 0.42 | 0.84 |
| 7010 | ARSENIC | DU1B-SU30S1 | 0.76 | | | 0.42 | 0.83 |
| 7010 | ARSENIC | DU1B-SU30S2 | 0.74 | | | 0.42 | 0.84 |
| 7010 | ARSENIC | DU1B-SU30S3 | 0.91 | | 11.6% | 0.42 | 0.83 |
| 7010 | ARSENIC | DU1B-SU44R1 | 1 | | | 0.41 | 0.81 |
| 7010 | ARSENIC | DU1B-SU44R2 | 1.1 | | | 0.42 | 0.85 |
| 7010 | ARSENIC | DU1B-SU44R3 | 0.82 | | 14.6% | 0.4 | 0.81 |

*Qualification:* No qualifications were made based on %RSD exceedances alone. However, the variability in triplicate results will be taken into consideration by the project team in estimating the level of confidence in the representativeness of discrete samples and utilizing the data for decision-making purposes.

## 3.0 Analytical Data

The soil samples underwent sieving and grinding, followed by acid digestion, in any one of seven preparation batches. One of these batches was for reanalysis of 12 samples for arsenic by GFAA (EPA Method 7010); all others were for arsenic and manganese by ICP-AES (EPA Method 6010C).

### 3.1 Metals (EPA Method 6010C)

*Method Blanks*

Low levels of arsenic were detected in four of the six method blanks analyzed by ICP-AES, and low levels of manganese were detected in all six of these method blanks. In all instances, the concentrations of arsenic and manganese reported by ICP-AES exceeded the artifact threshold values of five times the concentrations detected in the corresponding method blank such that no qualification of the data was necessary.

*Qualification:* None required.

*Laboratory Control Samples (LCSs)*

The recoveries of arsenic and manganese reported for the six LCSs analyzed by ICP-AES were within project acceptance limits.

*Qualification:* None required.

*Matrix Spike / Matrix Spike Duplicates (MS/MSDs)*

Additional volumes of samples DU2B-SU02R2, DU2A-SU10, and DU2B-SU10 were used for MS/MSD analyses, while additional volumes of sample DU1B-SU15 were used for MS analysis only. The MS/MSD recoveries reported for arsenic and manganese for samples DU2B-SU02R2 and DU2B-SU10 were within

the required acceptance limits (82-111% for arsenic and 84-114% for manganese). The MS recovery of manganese reported for sample DU1B-SU15 and MS/MSD recoveries of arsenic reported for sample DU2A-SU10 also were within acceptance limits. The laboratory reported a low MS recovery of arsenic for sample DU1B-SU15 (62%) and low MS/MSD recoveries of manganese for sample DU2A-SU10 (40%/80%). In all instances, the MS/MSD relative percent differences (%RPDs) were within acceptance limits.

*Qualification:* The following parent sample results were classified as less than fully quantitative, based on the MS and/or MSD recoveries.

| CT Sample ID | ERT Sample ID | Analyte | Result | Qualifier |
|---|---|---|---|---|
| 256798 | DU1B-SU15 | ARSENIC | 8.0 | J- |
| 258269 | DU2A-SU10 | MANGANESE | 1,910 | J- |

*Serial Dilutions (SDs)*

The laboratory analyzed five-fold SDs of sample DU2A-SU10 for manganese and samples DU1B-SU15 and DU1A-SU44R1 for arsenic. The results for manganese were valid (i.e., the concentration of manganese in the parent sample was greater than 50 times the limit of quantitation, or LOQ) and yielded a percent difference (%D) of 12%, which slightly exceeds the limit (10%). The results for arsenic were deemed invalid (not meaningful) due to the relatively low concentrations of arsenic in the parent samples prior to dilution (i.e., less than 50 x LOQ).

*Qualification:* The detection of manganese reported for sample DU2A-SU10 (1,910 mg/Kg), previously qualified with a J- validation qualifier due to the low MS/MSD recoveries, was re-assigned a validation qualifier of J based on the SD %D (a J qualifier rather than a J- qualifier was used as the result for the five-fold dilution was greater than the result reported for the undiluted parent sample). This qualifier was entered into the "Professional Judgment" field of the SEDD to distinguish it from the qualifier applied due to the MS/MSD recoveries.

*Post-Digestion Spikes (PDSs)*

The laboratory performed PDS analyses of samples DI2B-SU02R2 (manganese), DU1B-SU15 (arsenic), DU2B-SU10 (arsenic and manganese), and DU2A-SU10 (arsenic and manganese). A low recovery was reported for arsenic for the PDS of sample DU1B-SU15 (39% vs. 80-120%). In all other instances, the recoveries were within the acceptance range.

*Qualification:* The detection of arsenic reported for sample DU1B-SU15 (8.0 mg/Kg) previously was qualified with a J- validation qualifier due to a low MS recovery. The low PDS recovery serves as an additional reason for the application of the J- qualifier.

*Laboratory Duplicates and Triplicates*

The laboratory performed triplicate analyses of samples DU1A-SU38, DU2B-SU02R2, DU1B-SU15, DU1A-SU30S1, DU2A-SU04, and DU1A-SU18 and duplicate analyses of sample DU2A-SU10. The laboratory's information management system (LIMS) is not capable of calculating and reporting %RSDs for triplicates (i.e., only %RPDs were reported in the Level IV data package); therefore, %RSDs for triplicate results

were manually calculated by the validator and compared with the limit of 15% RSD given in the eQAPP. As summarized below, all %RSDs or %RPDs were within acceptance limits.

| Analyte | ERT Sample ID | Sample Type | Result | Lab Qualifier | RSD (%) | RPD (%) | LOD | LOQ |
|---|---|---|---|---|---|---|---|---|
| ARSENIC | DU1A-SU18 | | 55.1 | | | | 0.4 | 0.79 |
| ARSENIC | DU1A-SU18DUP | DUP | 60.6 | | | | 0.399 | 0.798 |
| ARSENIC | DU1A-SU18DUP | DUP | 60.3 | | 5.3% | -- | 0.397 | 0.794 |
| ARSENIC | DU1A-SU30S1 | FT | 3.3 | | | | 0.42 | 0.85 |
| ARSENIC | DU1A-SU30S1DUP | DUP | 3.2 | | | | 0.425 | 0.851 |
| ARSENIC | DU1A-SU30S1DUP | DUP | 4 | | 12.5% | -- | 0.425 | 0.851 |
| ARSENIC | DU1A-SU38 | | 3.4 | | | | 0.41 | 0.81 |
| ARSENIC | DU1A-SU38DUP | DUP | 4 | | | | 0.406 | 0.813 |
| ARSENIC | DU1A-SU38DUP | DUP | 3.9 | | 8.5% | -- | 0.406 | 0.813 |
| ARSENIC | DU1B-SU15 | | 8 | M | | | 0.42 | 0.84 |
| ARSENIC | DU1B-SU15DUP | DUP | 8.2 | | | | 0.423 | 0.847 |
| ARSENIC | DU1B-SU15DUP | DUP | 8 | | 1.4% | -- | 0.419 | 0.838 |
| ARSENIC | DU2A-SU04 | | 10.2 | | | | 0.43 | 0.86 |
| ARSENIC | DU2A-SU04DUP | DUP | 10 | | | | 0.432 | 0.865 |
| ARSENIC | DU2A-SU04DUP | DUP | 10.3 | | 1.5% | -- | 0.432 | 0.865 |
| ARSENIC | DU2A-SU10 | | 21.4 | | | | 0.42 | 0.83 |
| ARSENIC | DU2A-SU10DUP | DUP | 21.2 | | -- | 0.94% | 0.419 | 0.839 |
| ARSENIC | DU2B-SU02R2 | | 13.7 | | | | 0.42 | 0.84 |
| ARSENIC | DU2B-SU02R2DUP | DUP | 13.1 | | | | 0.419 | 0.838 |
| ARSENIC | DU2B-SU02R2DUP | DUP | 13.2 | | 2.4% | -- | 0.421 | 0.843 |
| MANGANESE | DU1A-SU18 | | 17900 | Y | | | 7.4 | 15 |
| MANGANESE | DU1A-SU18DUP | DUP | 22000 | | | | 7.44 | 14.9 |
| MANGANESE | DU1A-SU18DUP | DUP | 22000 | | 11.5% | -- | 7.48 | 15 |
| MANGANESE | DU1A-SU30S1 | FT | 5100 | | | | 0.4 | 0.79 |
| MANGANESE | DU1A-SU30S1DUP | DUP | 5320 | | | | 0.399 | 0.797 |
| MANGANESE | DU1A-SU30S1DUP | DUP | 4530 | | 8.2% | -- | 0.399 | 0.797 |
| MANGANESE | DU1A-SU38 | | 386 | | | | 0.076 | 0.15 |
| MANGANESE | DU1A-SU38DUP | DUP | 396 | | | | 0.0762 | 0.152 |
| MANGANESE | DU1A-SU38DUP | DUP | 384 | | 1.7% | -- | 0.0762 | 0.152 |
| MANGANESE | DU1B-SU15 | | 1200 | | | | 0.079 | 0.16 |
| MANGANESE | DU1B-SU15DUP | DUP | 1160 | | | | 0.0786 | 0.157 |
| MANGANESE | DU1B-SU15DUP | DUP | 1150 | | 2.3% | -- | 0.0794 | 0.159 |
| MANGANESE | DU2A-SU04 | | 835 | | | | 0.081 | 0.16 |
| MANGANESE | DU2A-SU04DUP | DUP | 772 | | | | 0.0811 | 0.162 |
| MANGANESE | DU2A-SU04DUP | DUP | 690 | | 9.5% | -- | 0.0811 | 0.162 |
| MANGANESE | DU2A-SU10 | | 1910 | | | | 0.078 | 0.16 |
| MANGANESE | DU2A-SU10DUP | DUP | 2010 | | -- | 5.10% | 0.0787 | 0.157 |
| MANGANESE | DU2B-SU02R2 | | 135 | | | | 0.079 | 0.16 |
| MANGANESE | DU2B-SU02R2DUP | DUP | 138 | | | | 0.0786 | 0.157 |
| MANGANESE | DU2B-SU02R2DUP | DUP | 162 | | 10.2% | -- | 0.079 | 0.158 |

*Qualification:* None required.

*Initial Calibrations (ICALs)*
The multi-point ICALs of arsenic and manganese, performed daily, met requirements for linearity, with all correlation coefficient ($r^2$) values approximating 1.0.

*Qualification:* None required.

*Initial Calibration Verifications and Lower Limit of Quantitation Checks (ICVs / LLQCs)*
ICVs and LLQCs were analyzed following each ICAL. All ICV and LLQC recoveries were within acceptance limits (90-110% and 80-120%, respectively).

*Qualification:* None required.

*Continuing Calibration Verifications (CCVs)*
All mid-level and high-level CCVs bracketing the analysis of the project soil samples were within acceptance limits (90-110%).

*Qualification:* None required.

*Initial Calibration Blanks (ICBs)*
No metals were detected in any of the ICBs.

*Qualification:* None required.

*Continuing Calibration Blanks (CCBs)*
Low-level detections of arsenic and manganese were detected in some CCBs; however, in all such instances, the detections were at concentrations of only slightly greater than the detection limits and, as such, not clearly distinguishable from instrument noise. Also, none of the affected CCBs were associated with any of the samples for which low-level detections (arsenic only) were reported.

*Qualification:* None required.

*Interference Check Samples (ICS-A and -AB)*
ICS-A and ICS-AB solutions are analyzed at the beginning of the analytical run, following the ICAL and analysis of the ICV and ICB. The absolute values reported for arsenic and manganese in all ICS-A solutions were less than the magnitude of the limits of detection (LODs). The recoveries of arsenic and manganese in the analysis of the ICS-AB solutions were within the acceptance range of 80-120%.

*Qualification:* None required.

*Internal Standards*
A representative subset of the data for internal standard (yttrium) were reviewed from the raw data. Instrument readings were consistent from one sample to the next, and the %RSDs of the multiple instrument readings were acceptable (less than 5% in these spot-checks of the raw data).

*Qualification:* None required.

*Analyte Quantitation*
Twenty samples required dilutions, by factors of between five and 100, to allow accurate quantitation of manganese. No other dilutions were required. No issues associated with the analytical findings, other than as previously described, were noted.

*Qualification:* None required.

## 3.2 Arsenic (EPA Method 7010)

The 12 samples reanalyzed for arsenic by GFAA (EPA Method 7010) underwent acid digestion as part of a single preparation batch.

*Method Blanks*
A low concentration of arsenic was detected in the method blank (0.15 mg/Kg). Arsenic was detected in all 12 of the soil samples, at concentrations ranging from 0.39 mg/Kg in sample DU1A-SU44R1 to 1.3 mg/Kg in sample DU1A-SU48. Two sample results (DU1A-SU44R1 at 0.39 mg/Kg and DU1B-SU30S2 at 0.74 mg/Kg) were less than the artifact threshold value of five times the concentration detected in the method blank (0.15 mg/Kg x 5 = 0.75 mg/Kg).

*Qualification:* The detections of arsenic reported for samples DU1A-SU44R1 (0.39 mg/Kg) and DU1B-SU30S2 (0.74 mg/Kg) by GFAA were less than the artifact threshold value of five times the concentration of arsenic detected in the method blank (0.15 mg/Kg x 5 = 0.75 mg/Kg) and, therefore, were classified as non-detections at the reported concentrations.

*Laboratory Control Samples (LCSs)*
The recovery of arsenic reported for the single LCS analyzed by GFAA (97%) was within project acceptance limits.

*Qualification:* None required.

*Matrix Spike / Matrix Spike Duplicates (MS/MSDs)*
Additional volumes of sample DU1A-SU44R1 were used for MS/MSD analyses. The MS/MSD recoveries (246% and 219%) greatly exceeded the control limits (80-120%) and indicate positive analytical bias. The analyte was detected at an estimated concentration of 0.39 mg/Kg in the parent sample, with the result previously classified as a non-detection due to the presence of the analyte in the method blank.

*Qualification:* The elevated MS/MSD recoveries were included as an additional reason for qualification of the result for arsenic reported for parent sample DU1A-SU44R1. The final validation qualifier assigned to this result therefore was modified from U to UJ.

*Serial Dilutions / Post-Digestion Spikes (SDs/PDSs)*
The laboratory analyzed a five-fold SD of sample DU1A-SU44R1 and a PDS of this sample. The five-fold SD result was not valid due to the low concentration of the analyte in the undiluted parent sample. The PDS recovery (105%) was within acceptance limits (80-120%).

*Qualification:* None required.

*Laboratory Triplicates*
The laboratory performed triplicate analyses of sample DU1A-SS44R1. Although the result for the primary sample (0.39 mg/Kg) was classified as a non-detection, based on the presence of arsenic in the

method blank, the value was used to calculate the %RSD, along with detections of 0.73 mg/Kg and 0.90 mg/Kg reported for the two replicate analyses. The resulting %RSD (38.6%) exceeds the project control limit of 15%.

*Qualification:* The ADR.net software applied a J qualifier to the primary sample result of 0.39 mg/Kg based on a calculated %RPD. This qualifier was removed by the validator and, instead, a J was entered into the field for laboratory triplicates, based on the %RSD of 38.6%.

*Initial Calibrations (ICALs)*

The ICAL, performed with a blank and five standards, met requirements for linearity, with a correlation coefficient ($r^2$) of 0.9992.

*Qualification:* None required.

*Initial Calibration Verification*

The ICV, analyzed following the ICAL, was acceptable (104%).

*Qualification:* None required.

*Continuing Calibration Verifications (CCVs)*

All CCVs bracketing the analysis of the project soil samples were within acceptance limits (90-110%).

*Qualification:* None required.

*Initial and Continuing Calibration Blanks (ICBs/CCBs)*

An ICB was not identified as such. However, a CCB was analyzed immediately after the ICV and after every ten samples. No arsenic was detected in these CCBs.

*Qualification:* None required.

*Analyte Quantitation*

Low-level detections of arsenic were reported for all 12 samples, with two of these detections classified as non-detections based on the presence of arsenic in the method blank. A comparison of the results generated by Method 7010 (GFAA) with those generated by Method 6010C (ICP-AES) indicated overall agreement in results. As indicated by the MS/MSD recoveries, the results generated by GFAA may reflect some positive bias; as such, the results generated by ICP-AES may be more accurate, despite being less than the LOQ.

| ERT Sample ID | QC Type | Method 7010 (GFAA) | | Method 6010C (ICP-AES) | |
|---|---|---|---|---|---|
| DU1A-SU26 | | 0.91 | | 0.79 | J |
| DU1A-SU44R1 | FT | 0.39 | UJ | 0.45 | J |
| DU1A-SU44R2 | | 1.2 | | 0.38 | J |
| DU1A-SU44R3 | | 1.1 | | 1.4 | |
| DU1A-SU48 | | 1.3 | | 0.43 | J |
| DU1B-SU30S1 | FT | 0.76 | J | 0.6 | J |
| DU1B-SU30S2 | | 0.74 | U | 0.71 | J |
| DU1B-SU30S3 | | 0.91 | | 0.6 | J |
| DU1B-SU44R1 | FT | 1 | | 0.57 | J |

| ERT Sample ID | QC Type | Method 7010 (GFAA) | Method 6010C (ICP-AES) | |
|---|---|---|---|---|
| DU1B-SU44R2 | | 1.1 | 0.6 | J |
| DU1B-SU44R3 | | 0.82 | 0.32 | J |
| DU1B-SU48 | | 1.1 | 0.19 | J |

*Qualification:* None required.

## 4.0 Final Validation Qualifiers

Of 184 discrete results reported for the 86 project samples, only five results were qualified as a result of the validation (Attachment A). An additional 12 detections of arsenic were reported by the laboratory with J qualifiers as they were less than the LOQ; these qualifiers were retained as final validation qualifiers. No results were rejected or recommended for exclusion; therefore, analytical completeness in terms of usable data is 100%.

## Attachment A

## ADR.net Reports

# Field QC Assignments and Associated Samples

**EDD File Name:** 143765

**eQapp Name:** Curtis Bay Ordnance Depot - As + Mn RI 040519

| | Associated Samples | Sample Collection Date |
|---|---|---|
| **Field QC Sample:** DU1A-SU30S1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU30S2 | 3/27/2019 10:55:00 AM |
| | DU1A-SU30S3 | 3/27/2019 11:00:00 AM |
| **Field QC Sample:** DU1A-SU44R1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU44R3 | 3/27/2019 11:05:00 AM |
| | DU1A-SU44R2 | 3/27/2019 10:10:00 AM |
| **Field QC Sample:** DU1B-SU30S1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU30S3 | 3/27/2019 11:00:00 AM |
| | DU1B-SU30S2 | 3/27/2019 10:55:00 AM |
| **Field QC Sample:** DU1B-SU44R1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU44R2 | 3/27/2019 10:11:00 AM |
| | DU1B-SU44R3 | 3/27/2019 11:06:00 AM |
| **Field QC Sample:** DU2A-SU02R1<br>**QC Type:** Field_Triplicate | | |
| | DU2A-SU02R2 | 3/22/2019 4:25:00 PM |
| | DU2A-SU02R3 | 3/22/2019 4:30:00 PM |
| **Field QC Sample:** DU2A-SU07R1<br>**QC Type:** Field_Triplicate | | |
| | DU2A-SU07R2 | 3/22/2019 12:50:00 PM |
| | DU2A-SU07R3 | 3/22/2019 12:55:00 PM |

| | Associated Samples | Sample Collection Date |
|---|---|---|
| **Field QC** DU2B-SU02R1<br>**QC Type:** Field_Triplicate | | |
| | DU2B-SU02R2 | 3/22/2019 4:25:00 PM |
| | DU2B-SU02R3 | 3/22/2019 4:30:00 PM |
| **Field QC** DU2B-SU07R1<br>**QC Type:** Field_Triplicate | | |
| | DU2B-SU07R3 | 3/22/2019 12:55:00 PM |
| | DU2B-SU07R2 | 3/22/2019 12:50:00 PM |
| **Field QC** DU3A-SU03R1<br>**QC Type:** Field_Triplicate | | |
| | DU3A-SU03R2 | 3/22/2019 8:45:00 AM |
| | DU3A-SU03R3 | 3/22/2019 8:50:00 AM |
| **Field QC** DU3B-SU03R1<br>**QC Type:** Field_Triplicate | | |
| | DU3B-SU03R2 | 3/22/2019 8:45:00 AM |
| | DU3B-SU03R3 | 3/22/2019 8:50:00 AM |

# Method Blank Outlier Report

**Lab Reporting Batch ID: 143765**

**Laboratory: CTLB**

**EDD Filename: [redacted]rev**

**eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 258582 | 4/4/2019 5:56:00 AM | ARSENIC<br>MANGANESE | 0.29 mg/kg<br>11.2 mg/kg | DU3A-SU03R1<br>DU3A-SU07<br>DU3B-SU03R1 |
| 258596 | 4/4/2019 11:01:00 AM | ARSENIC<br>MANGANESE | 0.27 mg/kg<br>6.5 mg/kg | DU1A-SU32<br>DU1A-SU33<br>DU1B-SU32<br>DU1B-SU33<br>DU2A-SU07R1<br>DU2B-SU07R1<br>DU3A-SU03R2<br>DU3A-SU03R3<br>DU3A-SU05<br>DU3A-SU09<br>DU3A-SU10<br>DU3B-SU03R2<br>DU3B-SU03R3<br>DU3B-SU05<br>DU3B-SU07<br>DU3B-SU09<br>DU3B-SU10 |
| 260073 | 4/5/2019 10:26:00 AM | ARSENIC<br>MANGANESE | 0.14 mg/kg<br>5.7 mg/kg | DU1A-SU25<br>DU1A-SU31<br>DU1A-SU35<br>DU1A-SU38<br>DU1A-SU40<br>DU1A-SU46<br>DU1B-SU31<br>DU1B-SU35<br>DU1B-SU38<br>DU1B-SU40<br>DU1B-SU46<br>DU2A-SU02R1<br>DU2A-SU02R2<br>DU2A-SU02R3<br>DU2A-SU07R2<br>DU2A-SU07R3<br>DU2B-SU02R1<br>DU2B-SU02R2<br>DU2B-SU07R2<br>DU2B-SU07R3 |
| 265240 | 4/19/2019 8:06:00 AM | ARSENIC<br>MANGANESE | 0.29 mg/kg<br>8.0 mg/kg | DU1A-SU15<br>DU1A-SU16<br>DU1A-SU17<br>DU1A-SU18<br>DU1A-SU20<br>DU1A-SU22<br>DU1A-SU24<br>DU1B-SU15<br>DU1B-SU16<br>DU1B-SU17<br>DU1B-SU18<br>DU1B-SU22<br>DU1B-SU24<br>DU1B-SU25<br>DU1B-SU26<br>DU2B-SU02R3<br>DU3A-SU06<br>DU3A-SU08<br>DU3B-SU06<br>DU3B-SU08 |

# Method Blank Outlier Report

**Lab Reporting Batch ID: 143765** **Laboratory: CTLB**

**EDD Filename: [redacted]rev** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 265268 | 4/23/2019 9:51:00 PM | MANGANESE | 5.1 mg/kg | DU1A-SU26<br>DU1A-SU30S1<br>DU1A-SU30S2<br>DU1A-SU30S3<br>DU1A-SU44R1<br>DU1A-SU44R2<br>DU1A-SU44R3<br>DU1A-SU48<br>DU1B-SU20<br>DU1B-SU30S1<br>DU1B-SU30S2<br>DU1B-SU30S3<br>DU1B-SU44R1<br>DU1B-SU44R2<br>DU1B-SU44R3<br>DU1B-SU48<br>DU2A-SU04<br>DU2A-SU10<br>DU2A-SU18<br>DU2B-SU18 |
| 265276 | 4/23/2019 5:08:00 PM | MANGANESE | 4.8 mg/kg | DU2A-SU03<br>DU2A-SU05<br>DU2B-SU03<br>DU2B-SU04<br>DU2B-SU05<br>DU2B-SU10 |

***Method:*** **7010**
***Matrix:*** **SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 274294 | 5/2/2019 2:29:00 PM | ARSENIC | 0.15 mg/kg | DU1A-SU26<br>DU1A-SU44R1<br>DU1A-SU44R2<br>DU1A-SU44R3<br>DU1A-SU48<br>DU1B-SU30S1<br>DU1B-SU30S2<br>DU1B-SU30S3<br>DU1B-SU44R1<br>DU1B-SU44R2<br>DU1B-SU44R3<br>DU1B-SU48 |

***The following samples and their listed target analytes were qualified due to contamination reported in this blank***

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---|---|---|---|
| DU1A-SU44R1(INITIAL) | ARSENIC | 0.39 mg/kg | 0.39U mg/kg |
| DU1B-SU30S2(INITIAL) | ARSENIC | 0.74 mg/kg | 0.74U mg/kg |

# Matrix Spike/Matrix Spike Duplicate Outlier Report

**Lab Reporting Batch ID: 143765** **Laboratory: CTLB**

**EDD Filename: [redacted]rev** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

**Method: 6010C**
**Matrix: SOIL**

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---|---|---|---|---|---|---|
| DU1B-SU15MS (DRY) (DU1B-SU15) | ARSENIC | 62 | - | 82.00-111.00 | - | ARSENIC | J- (all detects) UJ (all non-detects) |
| DU2A-SU10MS (DRY) DU2A-SU10MSD (DRY) (DU2A-SU10) | MANGANESE | 40 | 80 | 84.00-114.00 | - | MANGANESE | J-(all detects) UJ(all non-detects) |

**Method: 7010**
**Matrix: SOIL**

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---|---|---|---|---|---|---|
| DU1A-SU44R1MS (DRY) DU1A-SU44R1MSD (DRY) (DU1A-SU44R1) | ARSENIC | 246 | 219 | 80.00-120.00 | - | ARSENIC | J+(all detects) |

# Lab Duplicate Outlier Report

**Lab Reporting Batch ID: 143765** **Laboratory: CTLB**

**EDD Filename: [redacted]rev** **eQAPP Name: Curtis Bay Ordnance Depot - As +**

***Method: 6010C***
***Matrix: SOIL***

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---|---|---|---|
| DU1A-SU18DUP (DRY) (DU1A-SU18) | MANGANESE | 21 | 20.00 | J (all detects) UJ (all non-detects) |

***Method: 7010***
***Matrix: SOIL***

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---|---|---|---|
| DU1A-SU44R1DUP (DRY) (DU1A-SU44R1) | ARSENIC | 161 | 20.00 | J(all detects) UJ(all non-detects) |

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID:** 143765 **Laboratory:** CTLB

**EDD Filename:** [redacted]rev **eQAPP Name:** Curtis Bay Ordnance Depot - As + Mn RI

**Method Category:** METALS

**Method:** 6010C **Matrix:** SOIL

**Sample ID:** DU1A-SU18 **Collected:** 3/26/2019 4:30:00 PM **Analysis Type:** DILUTION-01 **Dilution:** 100.0

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 17900 | Y | 7.4 | LOD | 15 | LOQ | mg/kg | J | Ld |

**Sample ID:** DU1A-SU26 **Collected:** 3/27/2019 2:00:00 PM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.79 | J | 0.42 | LOD | 0.85 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1A-SU44R1 **Collected:** 3/27/2019 9:25:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.45 | J | 0.41 | LOD | 0.83 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1A-SU44R2 **Collected:** 3/27/2019 10:10:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.38 | J | 0.40 | LOD | 0.79 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1A-SU48 **Collected:** 3/27/2019 12:25:00 PM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.43 | J | 0.41 | LOD | 0.83 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1B-SU15 **Collected:** 3/26/2019 2:20:00 PM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 8.0 | M | 0.42 | LOD | 0.84 | LOQ | mg/kg | J- | Ms, ProfJudg |

**Sample ID:** DU1B-SU30S1 **Collected:** 3/27/2019 10:50:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.60 | J | 0.42 | LOD | 0.84 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1B-SU30S2 **Collected:** 3/27/2019 10:55:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.71 | J | 0.41 | LOD | 0.82 | LOQ | mg/kg | J | RI |

* denotes a non-reportable result

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID:** 143765 **Laboratory:** CTLB

**EDD Filename:** [redacted]rev **eQAPP Name:** Curtis Bay Ordnance Depot - As + Mn RI

**Method Category:** METALS **Method:** 6010C **Matrix:** SOIL

**Sample ID:** DU1B-SU30S3 **Collected:** 3/27/2019 11:00:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.60 | J | 0.42 | LOD | 0.84 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1B-SU44R1 **Collected:** 3/27/2019 9:26:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.57 | J | 0.41 | LOD | 0.82 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1B-SU44R2 **Collected:** 3/27/2019 10:11:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.60 | J | 0.41 | LOD | 0.81 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1B-SU44R3 **Collected:** 3/27/2019 11:06:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.32 | J | 0.42 | LOD | 0.84 | LOQ | mg/kg | J | RI |

**Sample ID:** DU1B-SU48 **Collected:** 3/27/2019 12:26:00 PM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.19 | J | 0.41 | LOD | 0.83 | LOQ | mg/kg | J | RI |

**Sample ID:** DU2A-SU10 **Collected:** 3/28/2019 9:35:00 AM **Analysis Type:** INITIAL **Dilution:** 1.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 1910 | | 0.078 | LOD | 0.16 | LOQ | mg/kg | J | Ms, ProfJudg |

**Method Category:** METALS **Method:** 7010 **Matrix:** SOIL

**Sample ID:** DU1A-SU44R1 **Collected:** 3/27/2019 9:25:00 AM **Analysis Type:** INITIAL **Dilution:** 5.00

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.39 | JV,B | 0.40 | LOD | 0.79 | LOQ | mg/kg | UJ | Ms, Mb, Lt |

* denotes a non-reportable result

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID: 143765** **Laboratory: CTLB**

**EDD Filename: [redacted]rev** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method Category:*** **METALS**

***Method:*** **7010** ***Matrix:*** **SOIL**

***Sample ID:*** **DU1B-SU30S1** ***Collected:*** **3/27/2019 10:50:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **5.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.76 | JV,B | 0.42 | LOD | 0.83 | LOQ | mg/kg | J | RI |

***Sample ID:*** **DU1B-SU30S2** ***Collected:*** **3/27/2019 10:55:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **5.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.74 | JV,B | 0.42 | LOD | 0.84 | LOQ | mg/kg | U | Mb |

* denotes a non-reportable result

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# DATA VALIDATION REPORT

**DEPOT-WIDE REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FOR ARSENIC AND MANGANESE IN SOIL AT THE
FORMER CURTIS BAY ORDNANCE DEPOT
ANNE ARUNDEL COUNTY, MARYLAND**

**CT LABORATORIES, LLC**

**SAMPLE DELIVERY GROUP** [redacted]

**JUNE 18, 2019**

*Prepared for:*

Earth Resources Technology, Inc.
[redacted]
Laurel, MD 20707
[redacted]

*Prepared by:*

HSW Engineering, Inc.
[redacted]
Tampa, Florida 33624
[redacted]

HSW Project No: [redacted]

## 1.0 Introduction

This Data Validation Report (DVR) is a summary of the review and validation of environmental analytical data for sample delivery group (SDG) 143965 (folders 143965, 144004, and 144017). The analytical work was performed by CT Laboratories, LLC, Baraboo, Wisconsin (CT). The analytical data were validated in accordance with specifications given in the document titled *Final Uniform Federal Policy – Quality Assurance Project Plan for Depot-wide Remedial Investigation / Feasibility Study for Arsenic and Manganese in Soil at the Former Curtis Bay Ordnance Depot, Anne Arundel County, Maryland (February 2019)* (UFP QAPP). This document was prepared by ERT, Inc., Laurel, Maryland, for the U.S. Army Corps of Engineers (USACE) under Contract No. [redacted] Delivery Order [redacted]

Validation qualifiers were those defined by in the UFP QAPP and are summarized as follows. Definitions of commonly-used terms and acronyms used in this DVR but not expressly defined can be found in the document cited above or in the laboratory data package.

| Data Validation Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for but was not detected above the level of the reported sample limit of detection. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported limit of detection is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. Sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample. |

The analytical deliverables conformed to Level IV (or Stage 4) reporting as defined by the U.S. Environmental Protection Agency (USEPA) in the document titled *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA 540-R-08-005). Validation was limited to Level III (Stage 2b) deliverables as defined in this guidance document.

A combination of automated and manual means was used to validate the data, with Stage 2a electronic data deliverables (SEDD 2a) processed through ADR.net automated data review software against criteria established in an electronic quality assurance project plan (eQAPP) prepared by ERT with input from CT. This automated review was supplemented by a manual review of non-ADR.net-processable information (e.g., case narratives, instrument calibration data, etc.).

## 2.0 General Information

The following 72 soil samples, collected by the incremental sampling methodology (ISM), were submitted for laboratory analysis of arsenic and manganese. The laboratory prepared the samples in accordance with their standard operating procedure (SOP) GEO-13, which incorporates USACE guidance for preparation of ISM samples. The prepared samples were analyzed for the two target metals by EPA Method 6010C (inductively-coupled plasma-atomic emission spectrometry [ICP-AES]). Two samples for which results for arsenic were less than the laboratory's limit of quantitation (LOQ) by EPA Method 6010C were reanalyzed for arsenic by EPA Method 7010 (graphic furnace atomic absorption [GFAA] spectrophotometry), which has greater sensitivity and lower LOQ than does Method 6010C.

| CT Sample ID | Folder # | ERT Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|
| 259433 | 143965 | DU1A-SU13 | SOIL | 3/28/2019 | 4/2/2019 |
| 259434 | 143965 | DU1B-SU13 | SOIL | 3/28/2019 | 4/2/2019 |
| 259435 | 143965 | DU1A-SU14 | SOIL | 3/28/2019 | 4/2/2019 |
| 259436 | 143965 | DU1B-SU14 | SOIL | 3/28/2019 | 4/2/2019 |
| 259437 | 143965 | DU1A-SU19 | SOIL | 3/28/2019 | 4/2/2019 |
| 259459 | 143965 | DU1B-SU19 | SOIL | 3/28/2019 | 4/2/2019 |
| 259460 | 143965 | DU1A-SU12 | SOIL | 3/28/2019 | 4/2/2019 |
| 259462 | 143965 | DU1B-SU12 | SOIL | 3/28/2019 | 4/2/2019 |
| 259463 | 143965 | DU1A-SU36R1 | SOIL | 3/29/2019 | 4/2/2019 |
| 259464 | 143965 | DU1B-SU36R1 | SOIL | 3/29/2019 | 4/2/2019 |
| 259465 | 143965 | DU1A-SU36R2 | SOIL | 3/29/2019 | 4/2/2019 |
| 259466 | 143965 | DU1B-SU36R2 | SOIL | 3/29/2019 | 4/2/2019 |
| 259467 | 143965 | DU1A-SU36R3 | SOIL | 3/29/2019 | 4/2/2019 |
| 259468 | 143965 | DU1B-SU36R3 | SOIL | 3/29/2019 | 4/2/2019 |
| 259469 | 143965 | DU1A-SU34 | SOIL | 3/29/2019 | 4/2/2019 |
| 259470 | 143965 | DU1B-SU34 | SOIL | 3/29/2019 | 4/2/2019 |
| 259471 | 143965 | DU1A-SU10R1 | SOIL | 3/29/2019 | 4/2/2019 |
| 259472 | 143965 | DU1B-SU10R1 | SOIL | 3/29/2019 | 4/2/2019 |
| 259473 | 143965 | DU2A-SU09 | SOIL | 4/1/2019 | 4/2/2019 |
| 259474 | 143965 | DU2B-SU09 | SOIL | 4/1/2019 | 4/2/2019 |
| 259475 | 143965 | DU2A-SU08 | SOIL | 4/1/2019 | 4/2/2019 |
| 259477 | 143965 | DU2B-SU08 | SOIL | 4/1/2019 | 4/2/2019 |
| 259478 | 143965 | DU1A-SU21 | SOIL | 4/1/2019 | 4/2/2019 |
| 259479 | 143965 | DU1B-SU21 | SOIL | 4/1/2019 | 4/2/2019 |
| 259480 | 143965 | DU2A-SU16 | SOIL | 4/1/2019 | 4/2/2019 |
| 259481 | 143965 | DU2B-SU16 | SOIL | 4/1/2019 | 4/2/2019 |
| 259482 | 143965 | DU2A-SU15 | SOIL | 3/29/2019 | 4/2/2019 |
| 259483 | 143965 | DU2B-SU15 | SOIL | 3/29/2019 | 4/2/2019 |
| 259484 | 143965 | DU2A-SU01 | SOIL | 3/29/2019 | 4/2/2019 |
| 259485 | 143965 | DU2B-SU01 | SOIL | 3/29/2019 | 4/2/2019 |
| 259487 | 143965 | DU2A-SU17 | SOIL | 3/29/2019 | 4/2/2019 |
| 259492 | 143965 | DU2B-SU17 | SOIL | 3/29/2019 | 4/2/2019 |

| | | | | | |
|---|---|---|---|---|---|
| 259493 | 143965 | DU1A-SU10R2 | SOIL | 3/29/2019 | 4/2/2019 |
| 259494 | 143965 | DU1B-SU10R2 | SOIL | 3/29/2019 | 4/2/2019 |
| 259495 | 143965 | DU1A-SU10R3 | SOIL | 3/29/2019 | 4/2/2019 |
| 259496 | 143965 | DU1B-SU10R3 | SOIL | 3/29/2019 | 4/2/2019 |
| 259497 | 143965 | DU1A-SU39 | SOIL | 4/1/2019 | 4/2/2019 |
| 259498 | 143965 | DU1B-SU39 | SOIL | 4/1/2019 | 4/2/2019 |
| 259499 | 143965 | DU1A-SU23 | SOIL | 4/1/2019 | 4/2/2019 |
| 259500 | 143965 | DU1B-SU23 | SOIL | 4/1/2019 | 4/2/2019 |
| 259501 | 143965 | DU1A-SU29 | SOIL | 4/1/2019 | 4/2/2019 |
| 259502 | 143965 | DU1B-SU29 | SOIL | 4/1/2019 | 4/2/2019 |
| 259503 | 143965 | DU1A-SU52 | SOIL | 4/1/2019 | 4/2/2019 |
| 259504 | 143965 | DU1B-SU52 | SOIL | 4/1/2019 | 4/2/2019 |
| 259505 | 143965 | DU2A-SU06 | SOIL | 4/1/2019 | 4/2/2019 |
| 259506 | 143965 | DU2B-SU06 | SOIL | 4/1/2019 | 4/2/2019 |
| 260386 | 144004 | DU2A-SU14 | SOIL | 4/2/2019 | 4/3/2019 |
| 260459 | 144004 | DU2B-SU14 | SOIL | 4/2/2019 | 4/3/2019 |
| 260460 | 144004 | DU2A-SU13 | SOIL | 4/2/2019 | 4/3/2019 |
| 260461 | 144004 | DU2B-SU13 | SOIL | 4/2/2019 | 4/3/2019 |
| 260462 | 144004 | DU2A-SU12 | SOIL | 4/2/2019 | 4/3/2019 |
| 260463 | 144004 | DU2B-SU12 | SOIL | 4/2/2019 | 4/3/2019 |
| 260464 | 144004 | DU2A-SU11 | SOIL | 4/2/2019 | 4/3/2019 |
| 260465 | 144004 | DU2B-SU11 | SOIL | 4/2/2019 | 4/3/2019 |
| 260466 | 144004 | DU4A-SU06 | SOIL | 4/2/2019 | 4/3/2019 |
| 260467 | 144004 | DU4B-SU06 | SOIL | 4/2/2019 | 4/3/2019 |
| 260468 | 144004 | DU4A-SU07R1 | SOIL | 4/2/2019 | 4/3/2019 |
| 260469 | 144004 | DU4B-SU07R1 | SOIL | 4/2/2019 | 4/3/2019 |
| 260470 | 144004 | DU4A-SU07R2 | SOIL | 4/2/2019 | 4/3/2019 |
| 260471 | 144004 | DU4B-SU07R2 | SOIL | 4/2/2019 | 4/3/2019 |
| 260472 | 144004 | DU4A-SU07R3 | SOIL | 4/2/2019 | 4/3/2019 |
| 260473 | 144004 | DU4B-SU07R3 | SOIL | 4/2/2019 | 4/3/2019 |
| 260474 | 144004 | DU4A-SU05 | SOIL | 4/2/2019 | 4/3/2019 |
| 260475 | 144004 | DU4B-SU05 | SOIL | 4/2/2019 | 4/3/2019 |
| 260924 | 144017 | DU4A-SU04 | SOIL | 4/3/2019 | 4/4/2019 |
| 260925 | 144017 | DU4B-SU04 | SOIL | 4/3/2019 | 4/4/2019 |
| 260926 | 144017 | DU4A-SU03 | SOIL | 4/3/2019 | 4/4/2019 |
| 260927 | 144017 | DU4B-SU03 | SOIL | 4/3/2019 | 4/4/2019 |
| 260928 | 144017 | DU4A-SU02 | SOIL | 4/3/2019 | 4/4/2019 |
| 260929 | 144017 | DU4B-SU02 | SOIL | 4/3/2019 | 4/4/2019 |
| 260930 | 144017 | DU4A-SU01 | SOIL | 4/3/2019 | 4/4/2019 |
| 260931 | 144017 | DU4B-SU01 | SOIL | 4/3/2019 | 4/4/2019 |

## 2.1 Sample Delivery and Condition Upon Receipt

The chain-of-custody (COC) forms were reviewed and deemed acceptable. The samples were received by the laboratory in good condition, in sufficient quantities, and at acceptable temperatures. Copies of USACE and USEPA authorization to use a puck mill for grinding the samples (rather than a ball mill, as had been specified in the UFP QAPP) were included in the Level IV analytical data deliverable.

*Qualification:* None required.

## 2.2 Case Narrative and Completeness

The laboratory data package was reviewed for completeness, with no discrepancies noted. The narrative was thorough in identifying several issues, all of which were taken into consideration as part of the validation process.

*Qualification:* None required, based on the case narrative or data package completeness.

## 2.3 Holding Times

The samples were prepared and analyzed for target analytes (metals only) within required holding times.

*Qualification:* None required.

## 2.4 Field Quality Control (QC) Samples

### 2.4.1 Field-Generated Blanks

No field-generated blanks were required, as noted in the UFP QAPP.

*Qualification:* None required.

### 2.4.2 Field Replicates

Field replicates (triplicates) were collected at six ISM sampling locations and identified with suffixes of R1, R2, and R3. The UPF QAPP gives a precision goal of 30% RSD for field triplicates. This limit was exceeded for arsenic for three of the six triplicates, including locations DU1B-SU36R1 (30.35% RSD), DU1A-SU36R2 (36.35% RSD), and DU4A-SU07R1 (34.22% RSD) (refer to the Field Triplicate RSD Report included as an attachment to this DVR).

*Qualification:* No qualifications were made based on %RSD exceedances alone. However, the variability in triplicate results will be taken into consideration by the project team in estimating the level of confidence in the representativeness of discrete samples and in utilizing the data for decision-making purposes.

# 3.0 Analytical Data

The soil samples underwent sieving and grinding, followed by acid digestion, in any one of five preparation batches. One of these batches was for reanalysis of two samples (DU1B-SU14 and DU4B-SU05) for arsenic by GFAA (EPA Method 7010); all others were for arsenic and manganese by ICP-AES (EPA Method 6010C).

## 3.1 Metals (EPA Method 6010C)

*Method Blanks*
Trace levels of arsenic were detected in two of the four method blanks, and low levels of manganese were detected in all four of these method blanks. In all instances, the concentrations of arsenic and manganese exceeded the artifact threshold values of five times the concentrations detected in the corresponding method blank such that no qualification of the sample data was necessary.

*Qualification:* None required.

*Laboratory Control Samples (LCSs)*
The recoveries of arsenic and manganese reported for the four LCSs analyzed by ICP-AES were within project acceptance limits.

*Qualification:* None required.

*Matrix Spike / Matrix Spike Duplicates (MS/MSDs)*
Additional volumes of samples DU1B-SU13, DU1A-SU13, DU1A-SU34, DU1B-SU34, DU1B-SU10R3, DU4A-SU04, and DU4B-SU04 were used for MS/MSD analyses of arsenic and manganese. All recoveries met validation acceptance criteria; i.e., all either were within acceptance limits or were not meaningful because the spike concentration was less than one-fourth the concentration in the parent sample (i.e., measurement of the spike concentrations was obscured by routine analytical measurement uncertainty).

*Qualification:* None required.

*Serial Dilutions (SDs)*
The laboratory analyzed five-fold SDs of samples DU1B-SU13, DU1B-SU34, DU1B-SU10R3, DU4B-SU04, and DU1A-SU13 for manganese. The percent differences (%Ds) for each of these five SDs were within 10% of the parent sample result and therefore were acceptable.

*Qualification:* None required.

*Post-Digestion Spikes (PDSs)*
The laboratory performed PDS analyses of samples DU1A-SU13, DU1B-SU13, DU1A-SU34, DU1B-SU34, DU1B-SU10R3, DU4A-SU04, and DU4B-SU04 for arsenic and manganese. All recoveries were within the acceptance range (80-120%).

*Qualification:* None required.

*Laboratory Duplicates and Triplicates*
The laboratory performed triplicate analyses of samples DU1B-SU13, DU1A-SU36R2, DU1A-SU34, DU1B-SU34, DU1A-SU10R3, DU1B-SU10R3, DU4A-SU04, and DU4B-SU04 and duplicate analyses of sample DU1A-SU13. The laboratory's information management system (LIMS) is not capable of calculating and reporting %RSDs for triplicates (i.e., only %RPDs were reported in the Level IV data package and in the SEDD 2a); therefore, %RSDs for triplicate results were manually calculated by the validator and compared with the limit of 15% RSD given in the UFP QAPP and eQAPP. As summarized below, limits for

%RSD for laboratory triplicates (and %RPDs for laboratory duplicates) were exceeded in several instances.

| Analyte | ERT Sample ID | Sample Type | Result | Lab Qualifier | RSD (%) | RPD (%) | LOD | LOQ |
|---|---|---|---|---|---|---|---|---|
| ARSENIC | DU1A-SU10R3 | | 11 | | | | 0.410 | 0.820 |
| ARSENIC | DU1A-SU10R3DUP | DUP | 10.9 | | | | 0.407 | 0.814 |
| ARSENIC | DU1A-SU10R3DUP | DUP | 11.2 | | 1.4% | -- | 0.407 | 0.814 |
| ARSENIC | DU1A-SU13 | | 18.2 | Y | | | 0.420 | 0.850 |
| ARSENIC | DU1A-SU13DUP | DUP | 13.4 | | -- | **30.4%** | 0.423 | 0.845 |
| ARSENIC | DU1A-SU34 | | 18.9 | Y | | | 0.420 | 0.850 |
| ARSENIC | DU1A-SU34DUP | DUP | 18.9 | | | | 0.426 | 0.851 |
| ARSENIC | DU1A-SU34DUP | DUP | 11.2 | | **27.2%** | -- | 0.421 | 0.842 |
| ARSENIC | DU1A-SU36R2 | | 3.1 | | | | 0.420 | 0.830 |
| ARSENIC | DU1A-SU36R2DUP | DUP | 4.7 | | | | 0.420 | 0.839 |
| ARSENIC | DU1A-SU36R2DUP | DUP | 2.8 | | **28.9%** | -- | 0.417 | 0.835 |
| ARSENIC | DU1B-SU10R3 | | 10.7 | | | | 0.420 | 0.840 |
| ARSENIC | DU1B-SU10R3DUP | DUP | 10.4 | | | | 0.420 | 0.839 |
| ARSENIC | DU1B-SU10R3DUP | DUP | 10.3 | | 2.0% | -- | 0.420 | 0.839 |
| ARSENIC | DU1B-SU13 | | 6.9 | | | | 0.410 | 0.830 |
| ARSENIC | DU1B-SU13DUP | DUP | 8 | | | | 0.414 | 0.827 |
| ARSENIC | DU1B-SU13DUP | DUP | 6.8 | | 9.2% | -- | 0.411 | 0.823 |
| ARSENIC | DU1B-SU34 | | 9.4 | Y | | | 0.400 | 0.800 |
| ARSENIC | DU1B-SU34DUP | DUP | 10.4 | | | | 0.396 | 0.792 |
| ARSENIC | DU1B-SU34DUP | DUP | 5.5 | | **30.7%** | -- | 0.392 | 0.784 |
| ARSENIC | DU4A-SU04 | | 1.6 | | | | 0.420 | 0.850 |
| ARSENIC | DU4A-SU04DUP | DUP | 2 | | | | 0.422 | 0.843 |
| ARSENIC | DU4A-SU04DUP | DUP | 1.4 | | **18.3%** | -- | 0.422 | 0.843 |
| ARSENIC | DU4B-SU04 | | 2.3 | | | | 0.430 | 0.860 |
| ARSENIC | DU4B-SU04DUP | DUP | 1.8 | | | | 0.430 | 0.861 |
| ARSENIC | DU4B-SU04DUP | DUP | 2 | | 12.4% | -- | 0.430 | 0.861 |
| MANGANESE | DU1A-SU10R3 | | 672 | | | | 0.077 | 0.150 |
| MANGANESE | DU1A-SU10R3DUP | DUP | 661 | | | | 0.076 | 0.153 |
| MANGANESE | DU1A-SU10R3DUP | DUP | 676 | | 1.2% | -- | 0.076 | 0.153 |
| MANGANESE | DU1A-SU13 | | 10700 | Y | | | 0.790 | 1.600 |
| MANGANESE | DU1A-SU13DUP | DUP | 7450 | | -- | **35.8%** | 0.792 | 1.580 |
| MANGANESE | DU1A-SU34 | | 630 | | | | 0.079 | 0.160 |
| MANGANESE | DU1A-SU34DUP | DUP | 641 | | | | 0.080 | 0.160 |
| MANGANESE | DU1A-SU34DUP | DUP | 600 | | 3.4% | -- | 0.079 | 0.158 |
| MANGANESE | DU1A-SU36R2 | | 418 | | | | 0.078 | 0.160 |
| MANGANESE | DU1A-SU36R2DUP | DUP | 503 | | | | 0.079 | 0.157 |
| MANGANESE | DU1A-SU36R2DUP | DUP | 389 | | 13.6% | -- | 0.078 | 0.157 |
| MANGANESE | DU1B-SU10R3 | | 574 | | | | 0.079 | 0.160 |
| MANGANESE | DU1B-SU10R3DUP | DUP | 566 | | | | 0.079 | 0.157 |
| MANGANESE | DU1B-SU10R3DUP | DUP | 577 | | 1.0% | -- | 0.079 | 0.157 |

| Analyte | ERT Sample ID | Sample Type | Result | Lab Qualifier | RSD (%) | RPD (%) | LOD | LOQ |
|---|---|---|---|---|---|---|---|---|
| MANGANESE | DU1B-SU13 | | 2410 | Y | | | 0.078 | 0.160 |
| MANGANESE | DU1B-SU13DUP | DUP | 1610 | | | | 0.077 | 0.154 |
| MANGANESE | DU1B-SU13DUP | DUP | 1740 | | **22.4%** | -- | 0.078 | 0.155 |
| MANGANESE | DU1B-SU34 | | 324 | | | | 0.075 | 0.150 |
| MANGANESE | DU1B-SU34DUP | DUP | 319 | | | | 0.074 | 0.147 |
| MANGANESE | DU1B-SU34DUP | DUP | 356 | | 6.0% | -- | 0.074 | 0.149 |
| MANGANESE | DU4A-SU04 | | 168 | | | | 0.079 | 0.160 |
| MANGANESE | DU4A-SU04DUP | DUP | 174 | | | | 0.079 | 0.158 |
| MANGANESE | DU4A-SU04DUP | DUP | 183 | | 4.3% | -- | 0.079 | 0.158 |
| MANGANESE | DU4B-SU04 | | 90.1 | B,Y | | | 0.081 | 0.160 |
| MANGANESE | DU4B-SU04DUP | DUP | 102 | | | | 0.081 | 0.161 |
| MANGANESE | DU4B-SU04DUP | DUP | 119 | | 14.0% | -- | 0.081 | 0.161 |

*Qualification:* Sample results for which %RSDs for laboratory triplicate analyses or %RPDs for laboratory duplicate analyses exceeded the limits of 15% and 20%, respectively, were classified as less than fully representative of the sample and were coded with J validation qualifiers.

*Initial Calibrations (ICALs)*

The multi-point ICALs of arsenic and manganese, performed daily, met requirements for linearity, with all correlation coefficient ($r^2$) values approximating 1.0.

*Qualification:* None required.

*Initial Calibration Verifications and Lower Limit of Quantitation Checks (ICVs / LLQCs)*

ICVs and LLQCs were analyzed following each ICAL. All ICV and LLQC recoveries were within acceptance limits (90-110% and 80-120%, respectively).

*Qualification:* None required.

*Continuing Calibration Verifications (CCVs)*

All mid-level and high-level CCVs bracketing the analysis of the project soil samples were within acceptance limits (90-110%).

*Qualification:* None required.

*Initial Calibration Blanks (ICBs)*

No metals were detected in any of the ICBs.

*Qualification:* None required.

*Continuing Calibration Blanks (CCBs)*

No arsenic or manganese were detected in any of the CCBs.

*Qualification:* None required.

*Interference Check Samples (ICS-A and -AB)*
ICS-A and ICS-AB solutions are analyzed at the beginning of the analytical run, following the ICAL and analysis of the ICV and ICB. The absolute values reported for arsenic and manganese in all ICS-A solutions were less than the magnitude of the limits of detection (LODs). The recoveries of arsenic and manganese in the analysis of the ICS-AB solutions were within the acceptance range of 80-120%.

*Qualification:* None required.

*Internal Standards*
A representative subset of the data for internal standard (yttrium) were reviewed from the raw data. Instrument readings were consistent from one sample to the next, and the %RSDs of the multiple instrument readings were acceptable (less than 5% in these spot-checks of the raw data).

*Qualification:* None required.

*Analyte Quantitation*
Seven samples required dilutions, by factors of five, ten, or 30, to allow accurate quantitation of manganese. No other dilutions were required. No issues associated with the analytical findings, other than as previously described, were noted.

*Qualification:* None required.

## 3.2 Arsenic (EPA Method 7010)

The two samples reanalyzed for arsenic by GFAA (samples DU1B-SU14 and DU4B-SU05) underwent acid digestion as part of a single preparation batch.

*Method Blanks*
A low concentration of arsenic was detected in the method blank (0.15 mg/Kg). Arsenic was detected in both samples, at concentrations of 1.6 mg/Kg in sample DU1B-SU14 and 0.79 mg/Kg in sample DU4B-SU05. These results exceed the artifact threshold value of five times the concentration detected in the method blank (0.15 mg/Kg x 5 = 0.75 mg/Kg).

*Qualification:* None required.

*Laboratory Control Samples (LCSs)*
The recovery of arsenic reported for the single LCS analyzed by GFAA (97%) was within project acceptance limits.

*Qualification:* None required.

*Matrix Spike / Matrix Spike Duplicates (MS/MSDs)*
Neither sample was used for MS/MSD analyses. However, samples DU1B-SU14 and DU4B-SU05 were batched with other CBD soil samples and for which project-specific MS/MSD analyses were performed (sample DU1A-SU44R1 was used; refer to the DVR for laboratory deliverable 143765).

*Qualification:* None required.

*Serial Dilutions / Post-Digestion Spikes (SDs/PDSs)*
SD and PDS analyses were performed with sample DU1A-SU44R1 and the results described in the DVR for laboratory deliverable 143765.

*Qualification:* None required.

*Laboratory Triplicates*
The laboratory performed triplicate analyses of sample DU1B-SU14 by Method 7010. The resulting %RSD (15.2%), after rounding, is within the project control limit (15% RSD).

*Qualification:* None required.

*Initial Calibrations (ICALs)*
The ICAL, performed with a blank and five standards, met requirements for linearity, with a correlation coefficient ($r^2$) of 0.9992.

*Qualification:* None required.

*Initial Calibration Verification*
The ICV, analyzed following the ICAL, was acceptable (104%).

*Qualification:* None required.

*Continuing Calibration Verifications (CCVs)*
All CCVs bracketing the analysis of the project soil samples were within acceptance limits (90-110%).

*Qualification:* None required.

*Initial and Continuing Calibration Blanks (ICBs/CCBs)*
An ICB was not identified as such. However, a CCB was analyzed immediately after the ICV and after every ten samples and bracketing the analysis of the two project samples. No arsenic was detected in these CCBs.

*Qualification:* None required.

*Analyte Quantitation*
A comparison of the results generated by Method 7010 (GFAA) with those generated by Method 6010C (ICP-AES) indicated overall agreement in results.

| ERT Sample ID | QC Type | Method 7010 | | Method 6010C | |
|---|---|---|---|---|---|
| DU1B-SU14 | | 1.6 | | 0.47 | J |
| DU4B-SU05 | | 0.79 | J | 0.81 | J |

*Qualification:* None required.

## 4.0 Final Validation Qualifiers

Of 146 discrete results reported for the 72 project samples, only seven results were qualified as a result of the validation (Attachment A). An additional three detections of arsenic were reported by the

laboratory with J qualifiers as they were less than the LOQ; these qualifiers were retained as final validation qualifiers. No results were rejected or recommended for exclusion; therefore, analytical completeness in terms of usable data is 100%.

## Attachment A

## ADR.net Reports

# Field QC Assignments and Associated Samples

**EDD File Name:** 143965

**eQapp Name:** Curtis Bay Ordnance Depot - As + Mn RI 040519

| | Associated Samples | Sample Collection Date |
|---|---|---|
| **Field QC Sample:** DU1A-SU10R1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU10R2 | 3/29/2019 3:15:00 PM |
| | DU1A-SU10R3 | 3/29/2019 3:20:00 PM |
| **Field QC Sample:** DU1A-SU36R1<br>**QC Type:** Field_Triplicate | | |
| | DU1A-SU36R2 | 3/29/2019 10:05:00 AM |
| | DU1A-SU36R3 | 3/29/2019 10:10:00 AM |
| **Field QC Sample:** DU1B-SU10R1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU10R3 | 3/29/2019 3:20:00 PM |
| | DU1B-SU10R2 | 3/29/2019 3:15:00 PM |
| **Field QC Sample:** DU1B-SU36R1<br>**QC Type:** Field_Triplicate | | |
| | DU1B-SU36R3 | 3/29/2019 10:10:00 AM |
| | DU1B-SU36R2 | 3/29/2019 10:05:00 AM |
| **Field QC Sample:** DU4A-SU07R1<br>**QC Type:** Field_Triplicate | | |
| | DU4A-SU07R2 | 4/2/2019 11:35:00 AM |
| | DU4A-SU07R3 | 4/2/2019 12:50:00 PM |
| **Field QC Sample:** DU4B-SU07R1<br>**QC Type:** Field_Triplicate | | |
| | DU4B-SU07R3 | 4/2/2019 12:50:00 PM |
| | DU4B-SU07R2 | 4/2/2019 11:35:00 AM |

# Method Blank Outlier Report

**Lab Reporting Batch ID: 143965**
**Laboratory: CTLB**
**EDD Filename: 143965SEDD_rev**
**eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**
***Matrix:*** **SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 265276 | 4/23/2019 5:08:00 PM | MANGANESE | 4.8 mg/kg | DU1A-SU12<br>DU1A-SU13<br>DU1A-SU14<br>DU1A-SU19<br>DU1A-SU36R1<br>DU1A-SU36R2<br>DU1A-SU36R3<br>DU1B-SU12<br>DU1B-SU13<br>DU1B-SU14<br>DU1B-SU19<br>DU1B-SU36R1<br>DU1B-SU36R2<br>DU1B-SU36R3 |
| 268928 | 4/25/2019 2:10:00 PM | ARSENIC<br>MANGANESE | 0.13 mg/kg<br>14.3 mg/kg | DU1A-SU10R1<br>DU1A-SU10R2<br>DU1A-SU21<br>DU1A-SU34<br>DU1B-SU10R1<br>DU1B-SU10R2<br>DU1B-SU21<br>DU1B-SU34<br>DU2A-SU01<br>DU2A-SU08<br>DU2A-SU09<br>DU2A-SU15<br>DU2A-SU16<br>DU2A-SU17<br>DU2B-SU01<br>DU2B-SU08<br>DU2B-SU09<br>DU2B-SU15<br>DU2B-SU16<br>DU2B-SU17 |
| 268941 | 4/25/2019 6:18:00 PM | ARSENIC<br>MANGANESE | 0.13 mg/kg<br>14.2 mg/kg | DU1A-SU10R3<br>DU1A-SU23<br>DU1A-SU29<br>DU1A-SU39<br>DU1A-SU52<br>DU1B-SU10R3<br>DU1B-SU23<br>DU1B-SU29<br>DU1B-SU39<br>DU1B-SU52<br>DU2A-SU06<br>DU2A-SU11<br>DU2A-SU12<br>DU2A-SU13<br>DU2A-SU14<br>DU2B-SU06<br>DU2B-SU11<br>DU2B-SU12<br>DU2B-SU13<br>DU2B-SU14 |

# Method Blank Outlier Report

**Lab Reporting Batch ID: 143965**
**Laboratory: CTLB**
**EDD Filename: 143965SEDD_rev**
**eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

**Method: 6010C**
**Matrix: SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 268964 | 4/25/2019 9:51:00 PM | MANGANESE | 12.8 mg/kg | DU4A-SU01<br>DU4A-SU02<br>DU4A-SU03<br>DU4A-SU04<br>DU4A-SU05<br>DU4A-SU06<br>DU4A-SU07R1<br>DU4A-SU07R2<br>DU4A-SU07R3<br>DU4B-SU01<br>DU4B-SU02<br>DU4B-SU03<br>DU4B-SU04<br>DU4B-SU05<br>DU4B-SU06<br>DU4B-SU07R1<br>DU4B-SU07R2<br>DU4B-SU07R3 |

**Method: 7010**
**Matrix: SOIL**

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---|---|---|---|---|
| 274294 | 5/2/2019 2:29:00 PM | ARSENIC | 0.15 mg/kg | DU1B-SU14<br>DU4B-SU05 |

# Matrix Spike/Matrix Spike Duplicate Outlier Report

**Lab Reporting Batch ID: 143965** **Laboratory: CTLB**

**EDD Filename: 143965SEDD_rev** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method:*** **6010C**

***Matrix:*** **SOIL**

| *QC Sample ID (Associated Samples)* | *Compound* | *MS %R* | *MSD %R* | *%R Limits* | *RPD (Limits)* | *Affected Compounds* | *Flag* |
|---|---|---|---|---|---|---|---|
| DU1B-SU13MS (DRY)<br>DU1B-SU13MSD (DRY)<br>(DU1B-SU13) | MANGANESE | 0 | 0 | 84.00-114.00 | - | MANGANESE | J- (all detects)<br>UJ (all non-detects) |
| DU1A-SU13MS (DRY)<br>DU1A-SU13MSD (DRY)<br>(DU1A-SU13) | MANGANESE | 0 | 0 | 84.00-114.00 | - | MANGANESE | J-(all detects)<br>UJ(all non-detects) |

# Field Triplicate RSD Report

**Lab Reporting Batch ID: 143965** **Laboratory: CTLB**

**EDD Filename: 143965SEDD_rev** **eQAPP Name: Curtis Bay Ordnance Depot - As +**

***Method: 6010C***
***Matrix: SOIL***

| Analyte | Concentration (mg/kg) DU4B-SU07R1 (DRY) | DU4B-SU07R2 (DRY) | DU4B-SU07R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 1.6 | 1.3 | 1.6 | 11.55 | 30.00 | No Qualifiers |
| MANGANESE | 76.9 | 77.3 | 80.3 | 2.38 | 30.00 | Applied |

| Analyte | Concentration (mg/kg) DU1A-SU10R1 (DRY) | DU1A-SU10R2 (DRY) | DU1A-SU10R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 13.4 | 10.4 | 11.0 | 13.68 | 30.00 | No Qualifiers |
| MANGANESE | 563 | 459 | 672 | 18.86 | 30.00 | Applied |

| Analyte | Concentration (mg/kg) DU1B-SU10R1 (DRY) | DU1B-SU10R2 (DRY) | DU1B-SU10R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 6.8 | 7.1 | 10.7 | 26.47 | 30.00 | No Qualifiers |
| MANGANESE | 513 | 363 | 574 | 22.47 | 30.00 | Applied |

| Analyte | Concentration (mg/kg) DU1B-SU36R1 (DRY) | DU1B-SU36R2 (DRY) | DU1B-SU36R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 2.9 | 3.4 | 5.1 | 30.35 | 30.00 | No Qualifiers |
| MANGANESE | 324 | 367 | 360 | 6.59 | 30.00 | Applied |

| Analyte | Concentration (mg/kg) DU1A-SU36R1 (DRY) | DU1A-SU36R2 (DRY) | DU1A-SU36R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 5.9 | 3.1 | 3.5 | 36.35 | 30.00 | No Qualifiers |
| MANGANESE | 508 | 418 | 460 | 9.75 | 30.00 | Applied |

| Analyte | Concentration (mg/kg) DU4A-SU07R1 (DRY) | DU4A-SU07R2 (DRY) | DU4A-SU07R3 (DRY) | Sample RSD/RPD | eQAPP RSD/RPD | Flag |
|---|---|---|---|---|---|---|
| ARSENIC | 1.5 | 2.7 | 3.1 | 34.22 | 30.00 | No Qualifiers |
| MANGANESE | 104 | 111 | 123 | 8.53 | 30.00 | Applied |

* - RPD was calculated and compared against library RPD because only two samples among the triplicate set had detected results.
NC - (Not Calculated) is reported if only one sample among the triplicate set has a detected result.

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID: 143965** **Laboratory: CTLB**

**EDD Filename: 143965SEDD_rev** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method Category:*** **METALS**

***Method:*** **6010C** ***Matrix:*** **SOIL**

***Sample ID:*** **DU1A-SU13** ***Collected:*** **3/28/2019 8:30:00 AM** ***Analysis Type:*** **DILUTION-01** ***Dilution:*** **10.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 10700 | Y | 0.79 | LOD | 1.6 | LOQ | mg/kg | J | Ld |

***Sample ID:*** **DU1A-SU13** ***Collected:*** **3/28/2019 8:30:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 18.2 | Y | 0.42 | LOD | 0.85 | LOQ | mg/kg | J | Ld |

***Sample ID:*** **DU1A-SU34** ***Collected:*** **3/29/2019 12:00:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 18.9 | Y | 0.42 | LOD | 0.85 | LOQ | mg/kg | J | Lt |

***Sample ID:*** **DU1A-SU36R2** ***Collected:*** **3/29/2019 10:05:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 3.1 | | 0.42 | LOD | 0.83 | LOQ | mg/kg | J | Lt |

***Sample ID:*** **DU1B-SU13** ***Collected:*** **3/28/2019 8:31:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| MANGANESE | 2410 | Y | 0.078 | LOD | 0.16 | LOQ | mg/kg | J | Lt |

***Sample ID:*** **DU1B-SU14** ***Collected:*** **3/28/2019 10:17:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.47 | J | 0.40 | LOD | 0.80 | LOQ | mg/kg | J | RI |

***Sample ID:*** **DU1B-SU34** ***Collected:*** **3/29/2019 12:00:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 9.4 | Y | 0.40 | LOD | 0.80 | LOQ | mg/kg | J | Lt |

* denotes a non-reportable result

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID: 143965** **Laboratory: CTLB**

**EDD Filename: 143965SEDD_rev** **eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

***Method Category:*** **METALS**

***Method:*** **6010C** ***Matrix:*** **SOIL**

***Sample ID:*** **DU4A-SU04** ***Collected:*** **4/3/2019 9:55:00 AM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 1.6 | | 0.42 | LOD | 0.85 | LOQ | mg/kg | J | Lt |

***Sample ID:*** **DU4B-SU05** ***Collected:*** **4/2/2019 2:25:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **1.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.81 | J | 0.42 | LOD | 0.83 | LOQ | mg/kg | J | RI |

***Method Category:*** **METALS**

***Method:*** **7010** ***Matrix:*** **SOIL**

***Sample ID:*** **DU4B-SU05** ***Collected:*** **4/2/2019 2:25:00 PM** ***Analysis Type:*** **INITIAL** ***Dilution:*** **5.00**

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 0.79 | JV,B | 0.42 | LOD | 0.85 | LOQ | mg/kg | J | RI |

* denotes a non-reportable result

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# Data Qualifier Summary

**Lab Reporting Batch ID: 143965**

**Laboratory: CTLB**

**EDD Filename: 143965SEDD_rev**

**eQAPP Name: Curtis Bay Ordnance Depot - As + Mn RI**

## Reason Code Legend

| *Reason Code* | *Description* |
|---|---|
| Ld | Laboratory Duplicate Precision |
| Lt | Laboratory Triplicate Precision |
| Mb | Method Blank Contamination |
| Ms | Matrix Spike Lower Estimation |
| RI | Reporting Limit Trace Value |

* denotes a non-reportable result

**Project Name and Number: - USACE Project: USACE Project: CURTIS BAY ORDNANCE DEPOT**

# APPENDIX D.3: DATA SUMMARY TABLES

**This Page Intentionally Left Blank**

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU01 | | DU1-SU02 | | DU1-SU03 | | DU1-SU04 | | DU1-SU05 | | DU1-SU06 | | DU1-SU07 | | DU1-SU08 | | | |
| | | | | | Sample Name: | DU1A-SU1 | | DU1A-SU2 | | DU1A-SU3 | | DU1A-SU4 | | DU1A-SU05 | | DU1A-SU06 | | DU1A-SU07 | | DU1A-SU08 | | | |
| | | | | | Sample Date: | 3/11/2019 | | 3/11/2019 | | 3/11/2019 | | 3/11/2019 | | 3/18/2019 | | 3/13/2019 | | 3/12/2019 | | 3/13/2019 | | | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.5 | | 98.2 | | 98.5 | | 97.7 | | 97.7 | | 98.7 | | 98.6 | | 99 | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **3.6** | | **8.9** | | **12.3** | | **15.2** | | **21.2** | J- | **5.6** | | **11.1** | J | **13.3** | | | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 156 | | 197 | | 420 | | 366 | | 826 | J- | 430 | | 671 | J | 896 | | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU09 | | | | | | | | DU1-SU10 | | | | | |
| | | | | | Sample Name: | DU1A-SU09R1 | | DU1A-SU09R2 | | DU1A-SU09R3 | | Replicate | | DU1A-SU10R1 | | DU1A-SU10R2 | | DU1A-SU10R3 | | Replicate |
| | | | | | Sample Date: | 3/12/2019 | | 3/12/2019 | | 3/12/2019 | | 95% UCL | | 3/29/2019 | | 3/29/2019 | | 3/29/2019 | | 95% UCL |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.7 | | 98.9 | | 98.9 | | NA | | 98.9 | | 99.1 | | 98.8 | | NA |
| **SW6010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **22.8** | | **13.8** | | **8.9** | | **33** | | **13.4** | | **10.4** | | **11** | | **14.3** |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 420 | | 372 | | 183 | | 640 | | 563 | | 459 | | 672 | | 744 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Location: | DU1-SU11 | | | | | | | | DU1-SU12 | | DU1-SU13 | | DU1-SU14 | | DU1-SU15 | | DU1-SU16 | |
| | | | | | | Sample Name: | DU1A-SU11R1 | | DU1A-SU11R2 | | DU1A-SU11R3 | | Replicate | | DU1A-SU12 | | DU1A-SU13 | | DU1A-SU14 | | DU1A-SU15 | | DU1A-SU16 | |
| | | | | | | Sample Date: | 3/12/2019 | | 3/12/2019 | | 3/12/2019 | | 95% UCL | | 3/28/2019 | | 3/28/2019 | | 3/28/2019 | | 3/26/2019 | | 3/27/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | | 98.9 | | 98.9 | | 98.4 | | | | 98.3 | | 99.1 | | 98.5 | | 99.7 | | 99.2 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | **10.3** | | **9.4** | | **6.9** | | **11.8** | | **11.5** | | **18.2** | J | **2.9** | | **44.6** | | **6** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | | **1,040** | | 665 | | **1,100** | | **1,332** | | **27,700** | | **10,700** | J | **1,140** | | **16,600** | | 237 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU17 | | DU1-SU18 | | DU1-SU19 | | DU1-SU20 | | DU1-SU21 | | DU1-SU22 | | DU1-SU23 | | DU1-SU24 | | DU1-SU25 | |
| | | | | | Sample Name: | DU1A-SU17 | | DU1A-SU18 | | DU1A-SU19 | | DU1A-SU20 | | DU1A-SU21 | | DU1A-SU22 | | DU1A-SU23 | | DU1A-SU24 | | DU1A-SU25 | |
| | | | | | Sample Date: | 3/26/2019 | | 3/26/2019 | | 3/28/2019 | | 3/27/2019 | | 4/1/2019 | | 3/26/2019 | | 4/1/2019 | | 3/26/2019 | | 3/26/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.3 | | 99.3 | | 98.6 | | 98.8 | | 98.7 | | 99.2 | | 98.8 | | 99.5 | | 99.2 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **29.8** | | **55.1** | | **39.6** | | **13.2** | | **8.1** | | **37.5** | | **37.2** | | **48.3** | | **24.8** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **1,790** | | **17,900** | J | 432 | | **1,010** | | 746 | | 470 | | **10,300** | | **18,400** | | 449 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | Location: | DU1-SU26 | | DU1-SU27 | DU1-SU28 | DU1-SU29 | DU1-SU30 | | | | DU1-SU31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Name: | DU1A-SU26 | | DU1A-SU27 | DU1A-SU28 | DU1A-SU29 | DU1A-SU30S1 | DU1A-SU30S2 | DU1A-SU30S3 | Replicate | DU1A-SU31 |
| | | | | | Sample Date: | 3/27/2019 | | 3/18/2019 | 3/18/2019 | 4/1/2019 | 3/27/2019 | 3/27/2019 | 3/27/2019 | 95% UCL | 3/25/2019 |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.2 | | 97.3 | 99.1 | 98.4 | 99 | 99.2 | 99.3 | NA | 99.2 |
| **SW6010** | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **0.79** | J | **13.9** | **3.1** | **15.1** | **3.3** | **5.8** | **4.9** | **6.8** | **6.5** |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 163 | | **1,350** | 727 | 781 | **5,100** | **5,090** | **3,850** | **5,892** | 214 |
| **SW846 7010** | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **0.91** | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)
RSL - USEPA Regional Screening Level, November 2018
BTV - Site-specific background threshold value
UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.
**Results exceeding the Residential Soil RSL are in bold font.**
Results exceeding the BTAG screening level are in red font.
Underlined results exceed the BTV.
mg/kg - milligrams per kilogram
"J" - estimated value
"J-" - estimated value may be biased low
"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.
NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU32 | | DU1-SU33 | | DU1-SU34 | | DU1-SU35 | | DU1-SU36 | | | | | | | | | | DU1-SU37 | |
| | | | | | Sample Name: | DU1A-SU32 | | DU1A-SU33 | | DU1A-SU34 | | DU1A-SU35 | | DU1A-SU36R1 | | DU1A-SU36R2 | | DU1A-SU36R3 | | Replicate | | DU1A-SU37 | |
| | | | | | Sample Date: | 3/25/2019 | | 3/25/2019 | | 3/29/2019 | | 3/25/2019 | | 3/29/2019 | | 3/29/2019 | | 3/29/2019 | | 95% UCL | | 3/18/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.9 | | 98.8 | | 98.9 | | 99.4 | | 98.7 | | 98.3 | | 99.1 | | NA | | 97.2 | | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **24.1** | | **21.9** | | **18.9** | J | **3** | | **5.9** | | **3.1** | J | **3.5** | | **8** | | **16.2** | | | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **1,680** | | 165 | | 630 | | 139 | | 508 | | 418 | | 460 | | 538 | | **23,400** | | | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU38 | | DU1-SU39 | | DU1-SU40 | | DU1-SU41 | | DU1-SU42 | | DU1-SU43 | |
| | | | | | Sample Name: | DU1A-SU38 | | DU1A-SU39 | | DU1A-SU40 | | DU1A-SU41 | | DU1A-SU42 | | DU1A-SU43 | |
| | | | | | Sample Date: | 3/25/2019 | | 4/1/2019 | | 3/25/2019 | | 3/18/2019 | | 3/20/2019 | | 3/19/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.4 | | 98.8 | | 99.2 | | 98.5 | | 99.4 | | 98.7 | |
| **SW6010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **3.4** | | **4** | | **5.8** | | **6.2** | | **7.2** | | **17.3** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 386 | | 637 | | 198 | | **1,580** | | 218 | | 415 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | Location: | DU1-SU44 | | | | | | DU1-SU45 | | DU1-SU46 | | DU1-SU47 | | DU1-SU48 | | DU1-SU49 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample Name: | DU1A-SU44R1 | | DU1A-SU44R2 | | DU1A-SU44R3 | Replicate | DU1A-SU45 | | DU1A-SU46 | | DU1A-SU47 | | DU1A-SU48 | | DU1A-SU49 | |
| | | | | | | Sample Date: | 3/27/2019 | | 3/27/2019 | | 3/27/2019 | 95% UCL | 3/20/2019 | | 3/25/2019 | | 3/19/2019 | | 3/27/2019 | | 3/19/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | | 99.1 | | 99.2 | | 99 | | 98.9 | | 99.4 | | 99.3 | | 99.2 | | 99.6 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | 0.45 | J | 0.38 | J | **1.4** | **2.8** | **5.8** | | **15.2** | | **22.3** | | 0.43 | J | **29.3** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | | 120 | | 140 | | 105 | 151 | **1,970** | | 558 | | 496 | | 140 | | 618 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | < 0.4 | UJ | **1.2** | | **1.1** | **2** | | | | | | | **1.3** | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU50 | | DU1-SU51 | | | | | | | DU1-SU52 | | DU1-SU53 | | DU1-SU54 | | DU1-SU55 | |
| | | | | | Sample Name: | DU1A-SU50 | | DU1A-SU51R1 | | DU1A-SU51R2 | | DU1A-SU51R3 | | Replicate | DU1A-SU52 | | DU1A-SU53 | | DU1A-SU54 | | DU1A-SU55 | |
| | | | | | Sample Date: | 3/19/2019 | | 3/12/2019 | | 3/12/2019 | | 3/12/2019 | | 95% UCL | 4/1/2019 | | 3/19/2019 | | 3/19/2019 | | 3/20/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.3 | | 99.5 | | 98.8 | | 99.4 | | | 99 | | 98.4 | | 99 | | 99.1 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **5.9** | | **7.5** | | **4.6** | | **5** | | **8.4** | **6.6** | | **20.9** | | **14.3** | | **6.3** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 702 | | **1,150** | | 485 | | 810 | | **1,652** | 107 | | 279 | | 182 | | 373 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-1. Summary of Surface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU56 | | DU1-SU57 | | DU1-SU58 | | DU1-SU59 | |
| | | | | | Sample Name: | DU1A-SU56 | | DU1A-SU57 | | DU1A-SU58 | | DU1A-SU59 | |
| | | | | | Sample Date: | 3/19/2019 | | 3/20/2019 | | 3/13/2019 | | 3/19/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | |
| **2540G** | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.6 | | 99.2 | | 98.9 | | 100 | |
| **SW6010** | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **39.7** | | **5.7** | | **12.3** | J- | **8.6** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 357 | | 242 | | 169 | | 341 | |
| **SW846 7010** | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU01 | | DU1-SU02 | | DU1-SU03 | | DU1-SU04 | | DU1-SU05 | | DU1-SU06 | | DU1-SU07 | | DU1-SU08 | |
| | | | | | Sample Name: | DU1B-SU1 | | DU1B-SU2 | | DU1B-SU3 | | DU1B-SU4 | | DU1B-SU05 | | DU1B-SU06 | | DU1B-SU07 | | DU1B-SU08 | |
| | | | | | Sample Date: | 43535 | | 43535 | | 43535 | | 43535 | | 3/18/2019 | | 3/13/2019 | | 3/12/2019 | | 3/13/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.2 | | 98.3 | | 98.5 | | 97.6 | | 96.5 | | 98.5 | | 98.4 | | 98.7 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **4.8** | | **9.4** | | **10.8** | | **9.3** | | **9.1** | | **4.6** | | **7.1** | | **18** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 150 | | 153 | | 236 | | 207 | | 372 | | 243 | | 390 | | 427 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)
RSL - USEPA Regional Screening Level, November 2018
BTV - Site-specific background threshold value
UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.
**Results exceeding the Residential Soil RSL are in bold font.**
Results exceeding the BTAG screening level are in red font.
Underlined results exceed the BTV.
Blank cells indicate that the compound was not analyzed.
mg/kg - milligrams per kilogram
"J" - estimated value
"J-" - estimated value may be biased low
"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.
NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU09 | | | | | | | | DU1-SU10 | | | | | |
| | | | | | Sample Name: | DU1B-SU09R1 | | DU1B-SU09R2 | | DU1B-SU09R3 | | Replicate | | DU1B-SU10R1 | | DU1B-SU10R2 | | DU1B-SU10R3 | | Replicate |
| | | | | | Sample Date: | 3/12/2019 | | 3/12/2019 | | 3/12/2019 | | 95% UCL | | 3/29/2019 | | 3/29/2019 | | 3/29/2019 | | 95% UCL |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.7 | | 98.8 | | 98 | | | | 98.9 | | 98.8 | | 98.8 | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **12.3** | | **8.5** | | **10.4** | | **13.6** | | **6.8** | | **7.1** | | **10.7** | | **11.86** |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 847 | | 173 | | 227 | | **1358.19** | | 513 | | 363 | | 574 | | 666.39 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)
RSL - USEPA Regional Screening Level, November 2018
BTV - Site-specific background threshold value
UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.
**Results exceeding the Residential Soil RSL are in bold font.**
Results exceeding the BTAG screening level are in red font.
Underlined results exceed the BTV.
Blank cells indicate that the compound was not analyzed.
mg/kg - milligrams per kilogram
"J" - estimated value
"J-" - estimated value may be biased low
"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.
NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU11 | | | | | | | | DU1-SU12 | | DU1-SU13 | | DU1-SU14 | | DU1-SU15 | | DU1-SU16 | |
| | | | | | Sample Name: | DU1B-SU11R1 | | DU1B-SU11R2 | | DU1B-SU11R3 | | Replicate | | DU1B-SU12 | | DU1B-SU13 | | DU1B-SU14 | | DU1B-SU15 | | DU1B-SU16 | |
| | | | | | Sample Date: | 3/12/2019 | | 3/12/2019 | | 3/12/2019 | | 95% UCL | | 3/28/2019 | | 3/28/2019 | | 3/28/2019 | | 3/26/2019 | | 3/27/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.3 | | 99 | | 99.5 | | | | 98.6 | | 99.2 | | 98.6 | | 98.4 | | 98.8 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **6.8** | | **8** | | **14.3** | | **19.84** | | **12.9** | | **6.9** | | 0.47 | J | **8** | J- | **5.5** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 529 | | 330 | | **944** | | **1386.37** | | **9,660** | | **2,410** | J | 771 | | **1,200** | | 149 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | **1.6** | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

Blank cells indicate that the compound was not analyzed.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU17 | | DU1-SU18 | | DU1-SU19 | | DU1-SU20 | | DU1-SU21 | | DU1-SU22 | | DU1-SU23 | | DU1-SU24 | | DU1-SU25 | |
| | | | | | Sample Name: | DU1B-SU17 | | DU1B-SU18 | | DU1B-SU19 | | DU1B-SU20 | | DU1B-SU21 | | DU1B-SU22 | | DU1B-SU23 | | DU1B-SU24 | | DU1B-SU25 | |
| | | | | | Sample Date: | 3/26/2019 | | 3/26/2019 | | 3/28/2019 | | 3/27/2019 | | 4/1/2019 | | 3/26/2019 | | 4/1/2019 | | 3/26/2019 | | 3/26/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.5 | | 99 | | 98.8 | | 98.6 | | 98.9 | | 99.3 | | 99.2 | | 99.5 | | 99 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **34.7** | | **13.4** | | **38.9** | | **7.7** | | **7.6** | | **30.4** | | **12.3** | | **7** | | **29.5** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **1,170** | | **2,400** | | 316 | | 667 | | 300 | | 301 | | **4,660** | | 155 | | 436 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

Blank cells indicate that the compound was not analyzed.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | |

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | |

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU38 | | DU1-SU39 | | DU1-SU40 | | DU1-SU41 | | DU1-SU42 | | DU1-SU43 | |
| | | | | | Sample Name: | DU1B-SU38 | | DU1B-SU39 | | DU1B-SU40 | | DU1B-SU41 | | DU1B-SU42 | | DU1B-SU43 | |
| | | | | | Sample Date: | 3/25/2019 | | 4/1/2019 | | 3/25/2019 | | 3/18/2019 | | 3/20/2019 | | 3/19/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.4 | | 98.9 | | 99.2 | | 98.9 | | 99.8 | | 98.9 | |
| **SW6010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **3** | | **7.9** | | **4.1** | | **5.7** | | **11.3** | J | **12.6** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 234 | | 571 | | 140 | | 849 | | 367 | | 419 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

Blank cells indicate that the compound was not analyzed.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | Location: | DU1-SU44 | | | | | | DU1-SU45 | | DU1-SU46 | | DU1-SU47 | | DU1-SU48 | | DU1-SU49 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample Name: | DU1B-SU44R1 | | DU1B-SU44R2 | | DU1B-SU44R3 | | Replicate | | DU1B-SU45 | | DU1B-SU46 | | DU1B-SU47 | | DU1B-SU48 | | DU1B-SU49 | |
| | | | | | | Sample Date: | 3/27/2019 | | 3/27/2019 | | 3/27/2019 | | 95% UCL | | 3/20/2019 | | 3/25/2019 | | 3/19/2019 | | 3/27/2019 | | 3/19/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | | 99.2 | | 99.3 | | 99.2 | | | | 99.3 | | 99 | | 99.7 | | 99.2 | | 99.3 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | 0.57 | J | 0.6 | J | 0.32 | J | **0.88** | | **2.8** | | **18.2** | | **21.3** | | 0.19 | J | **16.7** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | | 84.9 | | 105 | | 69.9 | | 116.29 | | 545 | | 423 | | 267 | | 71.3 | | 241 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | **1** | | **1.1** | | **0.82** | | **1.21** | | | | | | | | **1.1** | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

Blank cells indicate that the compound was not analyzed.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

## Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU50 | | DU1-SU51 | | | | | | | DU1-SU52 | | DU1-SU53 | | DU1-SU54 | | DU1-SU55 | |
| | | | | | Sample Name: | DU1B-SU50 | | DU1B-SU51R1 | | DU1B-SU51R2 | | DU1B-SU51R3 | | Replicate | DU1B-SU52 | | DU1B-SU53 | | DU1B-SU54 | | DU1B-SU55 | |
| | | | | | Sample Date: | 3/19/2019 | | 3/12/2019 | | 3/12/2019 | | 3/12/2019 | | 95% UCL | 4/1/2019 | | 3/19/2019 | | 3/19/2019 | | 3/20/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.5 | | 99.4 | | 99.7 | | 99.5 | | | 99 | | 98.3 | | 99.2 | | 99.4 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **6** | | **7.5** | | **4.7** | | **3.3** | | **10.55** | **5.4** | | **10.5** | | **10.7** | | **10.1** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 476 | | 450 | | 381 | | 427 | | 478.56 | 89.8 | | 156 | | 124 | | 292 | |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

Blank cells indicate that the compound was not analyzed.

mg/kg - milligrams per kilogram

"J" - estimated value

"J-" - estimated value may be biased low

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

**Table D.3-2. Summary of Site Subsurface Soil Sampling Results for DU1**
**Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU1-SU56 | | DU1-SU57 | | DU1-SU58 | | DU1-SU59 | | |
| | | | | | Sample Name: | DU1B-SU56 | | DU1B-SU57 | | DU1B-SU58 | | DU1B-SU59 | | |
| | | | | | Sample Date: | 3/19/2019 | | 3/20/2019 | | 3/13/2019 | | 3/19/2019 | | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.7 | | 99.5 | | 99.1 | | 100 | | |
| **SW6010** | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **20.2** | | **6.5** | | **9.7** | | **8.7** | | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 349 | J | 378 | | 71.2 | | 232 | | |
| **SW846 7010** | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)
RSL - USEPA Regional Screening Level, November 2018
BTV - Site-specific background threshold value
UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.
**Results exceeding the Residential Soil RSL are in bold font.**
Results exceeding the BTAG screening level are in red font.
Underlined results exceed the BTV.
Blank cells indicate that the compound was not analyzed.
mg/kg - milligrams per kilogram
"J" - estimated value
"J-" - estimated value may be biased low
"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.
NSL - No Screening Limit

## Table D.3-3. Summary of Surface Soil Sampling Results for DU2
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU2-SU01 | | DU2-02 | | | | | | DU2-SU03 | | DU2-SU04 | | DU2-SU05 | | DU2-SU06 | |
| | | | | | Sample Name: | DU2A-SU01 | | DU2A-SU02R1 | | DU2A-SU02R2 | | DU2A-SU02R3 | | Replicate | | DU2A-SU03 | | DU2A-SU04 | | DU2A-SU05 | | DU2A-SU06 | |
| | | | | | Sample Date: | 3/29/2019 | | 3/22/2019 | | 3/22/2019 | | 3/22/2019 | | 95% UCL | | 3/28/2019 | | 3/28/2019 | | 3/28/2019 | | 4/1/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.4 | | 98.9 | | 98.8 | | 99.2 | | | | 98.1 | | 97.4 | | 98.5 | | 98.5 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **4.1** | | **13.1** | | **15.5** | | **17** | | **18.5** | | **35.8** | | **10.2** | | **6** | | **92.5** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 186 | | 279 | | 473 | | 254 | | 637 | | **1,460** | | 835 | | 687 | | **1,700** | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

NSL - No Screening Limit

**Table D.3-3. Summary of Surface Soil Sampling Results for DU2**
**Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation**

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Location: | DU2-SU07 | | | | | | | | DU2-SU08 | | DU2-SU09 | | DU2-SU10 | | DU2-SU11 | | DU2-SU12 | |
| | | | | | | Sample Name: | DU2A-SU07R1 | | DU2A-SU07R2 | | DU2A-SU07R3 | | Replicate | | DU2A-SU08 | | DU2A-SU09 | | DU2A-SU10 | | DU2A-SU11 | | DU2A-SU12 | |
| | | | | | | Sample Date: | 3/22/2019 | | 3/22/2019 | | 3/22/2019 | | 95% UCL | | 4/1/2019 | | 4/1/2019 | | 3/28/2019 | | 4/2/2019 | | 4/2/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | | 99.4 | | 98.9 | | 99.1 | | | | 99.1 | | 98.8 | | 97.8 | | 98.6 | | 99.1 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | **56.1** | | **92.5** | | **96** | | **118.8** | | **88** | | **13.5** | | **21.4** | | **43** | | **21.3** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | | 179 | | 402 | | 443 | | 699 | | **1,710** | | 864 | | **1,910** | J | **5,890** | | **7,010** | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)
RSL - USEPA Regional Screening Level, November 2018
BTV - Site-specific background threshold value
UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.
**Results exceeding the Residential Soil RSL are in bold font.**
Results exceeding the BTAG screening level are in red font.
Underlined results exceed the BTV.
mg/kg - milligrams per kilogram
NSL - No Screening Limit

## Table D.3-3. Summary of Surface Soil Sampling Results for DU2
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU2-SU13 | | DU2-SU14 | | DU2-SU15 | | DU2-SU16 | | DU2-SU17 | | DU2-SU18 | |
| | | | | | Sample Name: | DU2A-SU13 | | DU2A-SU14 | | DU2A-SU15 | | DU2A-SU16 | | DU2A-SU17 | | DU2A-SU18 | |
| | | | | | Sample Date: | 4/2/2019 | | 4/2/2019 | | 3/29/2019 | | 4/1/2019 | | 3/29/2019 | | 3/27/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.4 | | 99 | | 99.3 | | 98.7 | | 99.3 | | 99 | |
| **SW6010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **15.6** | | **74.5** | | **29.4** | | **5.9** | | **23.1** | | **15.3** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **2,440** | | **2,100** | | **1,950** | | **1,530** | | **1,120** | | 586 | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

NSL - No Screening Limit

## Table D.3-4. Summary of Site Subsurface Soil Sampling Results for DU2
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Location: | DU2-SU01 | | DU2-SU02 | | | | | | DU2-SU03 | | DU2-SU04 | | DU2-SU05 | | DU2-SU06 | |
| | | | | | | Sample Name: | DU2B-SU01 | | DU2B-SU02R1 | | DU2B-SU02R2 | | DU2B-SU02R3 | | Replicate | | DU2B-SU03 | | DU2B-SU04 | | DU2B-SU05 | | DU2B-SU06 | |
| | | | | | | Sample Date: | 3/29/2019 | | 3/22/2019 | | 3/22/2019 | | 3/22/2019 | | 95% UCL | | 3/28/2019 | | 3/28/2019 | | 3/28/2019 | | 4/1/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | | 98.8 | | 99.2 | | 99.4 | | 99.2 | | | | 98.9 | | 98.8 | | 99.1 | | 98.9 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | | **3.1** | | **9.8** | | **13.7** | | **14.6** | | **17** | | **21.9** | | **2.2** | | **5.9** | | **114** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | | 106 | | 222 | | 135 | | 90.5 | | 317.49 | | 612 | | 328 | | 326 | | **926** | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

NSL - No Screening Limit

## Table D.3-4. Summary of Site Subsurface Soil Sampling Results for DU2
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU2-SU07 | | | | | | | | DU2-SU08 | | DU2-SU09 | | DU2-SU10 | | DU2-SU11 | | DU2-SU12 | |
| | | | | | Sample Name: | DU2B-SU07R1 | | DU2B-SU07R2 | | DU2B-SU07R3 | | Replicate | | DU2B-SU08 | | DU2B-SU09 | | DU2B-SU10 | | DU2B-SU11 | | DU2B-SU12 | |
| | | | | | Sample Date: | 3/22/2019 | | 3/22/2019 | | 3/22/2019 | | 95% UCL | | 4/1/2019 | | 4/1/2019 | | 3/28/2019 | | 4/2/2019 | | 4/2/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.6 | | 99.3 | | 99.2 | | | | 99.3 | | 99.3 | | 98.7 | | 98.9 | | 98.8 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **24.3** | | **67.1** | | **53.5** | | **103.34** | | **44.6** | | **8** | | **2.1** | | **12** | | **10.6** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **1,960** | | 183 | | 216 | | **3,345** | | 519 | | 378 | | 587 | | 894 | | 784 | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

NSL - No Screening Limit

## Table D.3-4. Summary of Site Subsurface Soil Sampling Results for DU2
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU2-SU13 | | DU2-SU14 | | DU2-SU15 | | DU2-SU16 | | DU2-SU17 | | DU2-SU18 | |
| | | | | | Sample Name: | DU2B-SU13 | | DU2B-SU14 | | DU2B-SU15 | | DU2B-SU16 | | DU2B-SU17 | | DU2B-SU18 | |
| | | | | | Sample Date: | 4/2/2019 | | 4/2/2019 | | 3/29/2019 | | 4/1/2019 | | 3/29/2019 | | 3/27/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 98.7 | | 98.6 | | 99.4 | | 98.5 | | 99.4 | | 99.2 | |
| **SW6010** | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **8.4** | | **51.9** | | **11.5** | | **3.9** | | **15.8** | | **4.3** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | 312 | | 531 | | **1,100** | | 293 | | 409 | | 345 | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

mg/kg - milligrams per kilogram

"J" - estimated value

## Table D.3-5. Summary of Surface Soil Sampling Results for DU3
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | Location: | DU3-SU01 | | DU3-SU02 | | DU3-SU03 | | | | | DU3-SU04 | | DU3-SU05 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample Name: | DU3A-SU01 | | DU3A-SU02 | | DU3A-SU03R1 | DU3A-SU03R2 | DU3A-SU03R3 | Replicate | | DU3A-SU04 | | DU3A-SU05 | |
| | | | | | | Sample Date: | 3/20/2019 | | 3/20/2019 | | 3/21/2019 | 3/22/2019 | 3/22/2019 | 95% UCL | | 3/20/2019 | | 3/25/2019 | |
| **Parameter** | | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | |
| Total Solids | | NSL | NSL | NSL | percent | | 100 | | 99.5 | | 100 | 99.5 | 99.1 | NA | | 99.2 | | 100 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | |
| Arsenic | | 3 | 0.68 | 328 | mg/kg | | **8.2** | J- | **12.8** | | **28.6** | **8.7** | 6.7 | **45.1** | | **23.1** | | **8.5** | |
| Manganese | | 13,000 | 900 | 330 | mg/kg | | 4,870 | J- | 6,240 | | 23,900 | 1,600 | 5,980 | 40,228 | | 48,800 | | 867 | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J -" - estimated value, result may be biased low

NSL - No Screening Limit

## Table D.3-5. Summary of Surface Soil Sampling Results for DU3
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | Location: | DU3-SU06 | | DU3-SU07 | | DU3-SU08 | | DU3-SU09 | | DU3-SU10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample Name: | DU3A-SU06 | | DU3A-SU07 | | DU3A-SU08 | | DU3A-SU09 | | DU3A-SU10 | |
| | | | | | | Sample Date: | 3/26/2019 | | 3/21/2019 | | 3/26/2019 | | 3/25/2019 | | 3/25/2019 | |
| **Parameter** | | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | |
| Total Solids | | NSL | NSL | NSL | percent | | 99.3 | | 99 | | 98.6 | | 99.5 | | 100 | |
| **SW6010** | | | | | | | | | | | | | | | | |
| Arsenic | | 3 | 0.68 | 328 | mg/kg | | **9.6** | | **6.3** | | **17.3** | | **12.1** | | **7.3** | |
| Manganese | | 13,000 | 900 | 330 | mg/kg | | 5,140 | | 17,300 | | 1,350 | | 15,600 | | 45,400 | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J -" - estimated value, result may be biased low

NSL - No Screening Limit

## Table D.3-6. Summary of Site Subsurface Soil Sampling Results for DU3
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU3-SU01 | | DU3-SU02 | | DU3-SU03 | | | | | | | | DU3-SU04 | | DU3-SU05 | | DU3-SU06 | |
| | | | | | Sample Name: | DU3B-SU01 | | DU3B-SU02 | | DU3B-SU03R1 | | DU3B-SU03R2 | | DU3B-SU03R3 | | Replicate | | DU3B-SU04 | | DU3B-SU05 | | DU3B-SU06 | |
| | | | | | Sample Date: | 3/20/2019 | | 3/20/2019 | | 3/21/2019 | | 3/22/2019 | | 3/22/2019 | | 95% UCL | | 3/20/2019 | | 3/25/2019 | | 3/26/2019 | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 99.7 | | 99.4 | | 100 | | 99.5 | | 100 | | | | 99.4 | | 100 | | 99.7 | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **6.7** | | **9.3** | | **12.8** | | **12.1** | | **66** | | **108.11** | | **17.8** | | **5.4** | | **1.5** | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **7,430** | J | **2,440** | | **5,910** | | **2,480** | | 432 | | **9,906** | | **24,600** | | 233 | | 89 | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)
RSL - USEPA Regional Screening Level, November 2018
BTV - Site-specific background threshold value
UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.
**Results exceeding the Residential Soil RSL are in bold font.**
Results exceeding the BTAG screening level are in red font.
Underlined results exceed the BTV.
mg/kg - milligrams per kilogram
"J" - estimated value
NSL - No Screening Limit

## Table D.3-6. Summary of Site Subsurface Soil Sampling Results for DU3
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU3-SU07 | | DU3-SU08 | | DU3-SU09 | | DU3-SU10 | | |
| | | | | | Sample Name: | DU3B-SU07 | | DU3B-SU08 | | DU3B-SU09 | | DU3B-SU10 | | |
| | | | | | Sample Date: | 3/21/2019 | | 3/26/2019 | | 3/25/2019 | | 3/25/2019 | | |
| **Parameter** | **BTV** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | NSL | percent | 100 | | 99.3 | | 100 | | 100 | | |
| **SW6010** | | | | | | | | | | | | | | |
| Arsenic | 7.8 | 3 | 0.68 | 328 | mg/kg | **2.9** | | **7.7** | | **5.1** | | **3.6** | | |
| Manganese | 460.5 | 13,000 | 900 | 330 | mg/kg | **1,880** | | 245 | | 557 | | **3,850** | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

BTV - Site-specific background threshold value

UCL - Upper Confidence Limit of the Mean

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Underlined results exceed the BTV.

mg/kg - milligrams per kilogram

"J" - estimated value

NSL - No Screening Limit

## Table D.3-7. Summary of Surface Soil Sampling Results for DU4 (Background)
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location: | DU4-SU01 | | DU4-SU02 | | DU4-SU03 | | DU4-SU04 | | DU4-SU05 | | DU4-SU06 | | DU4-SU07 | | | | | | |
| | | | | | Sample Name: | DU4A-SU01 | | DU4A-SU02 | | DU4A-SU03 | | DU4A-SU04 | | DU4A-SU05 | | DU4A-SU06 | | DU4A-SU07R1 | | DU4A-SU07R2 | | DU4A-SU07R3 | | Replicate |
| | | | | | Sample Date: | 4/3/2019 | | 4/3/2019 | | 4/3/2019 | | 4/3/2019 | | 4/2/2019 | | 4/2/2019 | | 4/2/2019 | | 4/2/2019 | | 4/2/2019 | | 95% UCL |
| **Parameter** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | percent | | 97.8 | | 97.2 | | 96.9 | | 98.3 | | 99.2 | | 99.3 | | 99.3 | | 99.1 | | 99.2 | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 3 | 0.68 | 328 | mg/kg | | **2.2** | | **1.4** | | **3.5** | | **1.6** | J | **1.2** | | **1.4** | | **1.5** | | **2.7** | | **3.1** | | **4.5** |
| Manganese | 13,000 | 900 | 330 | mg/kg | | 334 | | 328 | | 260 | | 168 | | 180 | | 85.9 | | 104 | | 111 | | 123 | | 129 |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

UCL - Upper Confidence Limit of the Mean

Note: These values are used to derive the site-specific background threshold values (BTVs). Therefore, these data are not compared to the BTVs.

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

mg/kg - milligrams per kilogram

"J" - estimated value

NSL - No Screening Limit

## Table D.3-8. Summary of Site Subsurface Soil Sampling Results for DU4 (Background)
## Former Curtis Bay Ordnance Depot Arsenic and Manganese Remedial Investigation

| | | | | | Location: | DU4-SU01 | | DU4-SU02 | | DU4-SU03 | | DU4-SU04 | | DU4-SU05 | | DU4-SU06 | | DU4-SU07 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Name: | DU4B-SU01 | | DU4B-SU02 | | DU4B-SU03 | | DU4B-SU04 | | DU4B-SU05 | | DU4B-SU06 | | DU4B-SU07R1 | | DU4B-SU07R2 | | DU4B-SU07R3 | | Replicate |
| | | | | | Sample Date: | 4/3/2019 | | 4/3/2019 | | 4/3/2019 | | 4/3/2019 | | 4/2/2019 | | 4/2/2019 | | 4/2/2019 | | 4/2/2019 | | 4/2/2019 | | 95% UCL |
| **Parameter** | **Industrial Soil RSL** | **Residential Soil RSL** | **BTAG** | **Units** | | | | | | | | | | | | | | | | | | | | |
| **2540G** | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Solids | NSL | NSL | NSL | percent | | 98.6 | | 98.5 | | 98 | | 96.8 | | 99.3 | | 99.4 | | 99.5 | | 99.4 | | 99.2 | | |
| **SW6010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 3 | 0.68 | 328 | mg/kg | | **7.2** | | **1.8** | | **3** | | **2.3** | | **0.81** | J | **1.2** | | **1.6** | | **1.3** | | **1.6** | | **1.79** |
| Manganese | 13,000 | 900 | 330 | mg/kg | | 308 | | 225 | | 327 | | 90.1 | | 218 | | 72.3 | | 76.9 | | 77.3 | | 80.3 | | 81.3 |
| **SW846 7010** | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 3 | 0.68 | 328 | mg/kg | | | | | | | | | | **0.79** | J | | | | | | | | | |

BTAG - USEPA Region III Biological Technical Assistance Group Screening Benchmarks (USEPA, 1995)

RSL - USEPA Regional Screening Level, November 2018

UCL - Upper Confidence Limit of the Mean

Note: These values are used to derive the site-specific background threshold values (BTVs). Therefore, these data are not compared to the BTVs.

Results exceeding the Industrial Soil RSL are shaded.

**Results exceeding the Residential Soil RSL are in bold font.**

Results exceeding the BTAG screening level are in red font.

Blank cells indicate that the compound was not analyzed.

mg/kg - milligrams per kilogram

"J" - estimated value

"U" - not detected at concentrations greater than the limit of detection (LOD). LOD is shown.

NSL - No Screening Limit

# APPENDIX D.4: LABORATORY LEVEL IV REPORTS
**Electronic [CD] Only**

**This Page Intentionally Left Blank**

CT LABORATORIES

*delivering more than data from your environmental analyses*

***ANALYTICAL RESULTS FOR:***

[redacted]
**ERT INC.**
[redacted]
**SUITE 300**
**LAUREL, MD 20707**

| | |
|---|---|
| PROJECT SITE: | Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD |
| DOD CONTRACT #: | [redacted] DO [redacted] |
| PROJECT #: | 3756 |
| SDG: | **143438** |
| FOLDERS: | 143438, 143477, & 143517 |
| PREPARED: | April 17, 2019 |
| TOTAL # OF PAGES: | 832 |

*The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.*

**APPROVED BY:** [redacted] PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents


| Section | Page |
|---|---|
| Cover Page | 1 |
| Table of Contents | 2 |
| Case Narrative and Summary of Detects (if applicable) | 3 |
| Data Qualifier Sheet | 5 |
| Sample Delivery Group Summary | 7 |
| QC Batch Cross Reference | 9 |
| Metals CLP Forms Documents | 13 |
| Metals Raw Data Documents | 127 |
| Metals Logbook Documents | 420 |
| Inorganic CLP Forms Documents | 701 |
| Inorganic Raw Data Documents | 738 |
| Inorganic Logbook Documents | 775 |
| Chain of Custody, PM Confirmation and Sample Condition Forms | 789 |

CT LABORATORIES

delivering more than data from your environmental analyses

## *Case Narrative*

**Client:** ERT, Inc.
**Project:** Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD
**Sample Receipt Dates:** 03/12/2019, 03/13/2019, & 03/14/2019
**SDG #:** 143438 (Folders 143438, 143477, & 143517)

Thirty-four ISM samples were received and analyzed for Arsenic and Manganese. Prior to analysis, the ISM samples were dried, sieved, and ground following the homogenization procedure outlined by the client. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale". The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

**Sample Analysis and Quality Control**

***Metals Analysis:***

The samples were analyzed using US EPA Method 6010C (ICP Metals). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

**ICP Arsenic & Manganese (6010C) Soil Analysis**

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 158872

Manganese was detected in the Method Blank (MB) above the Method Detection Limit (MDL) and greater than ½ the Reporting Limit (RL). The samples were reported and not reanalyzed because the MB result was less than 1/10$^{th}$ of the sample results.

The Serial Dilution (L) for sample # 251121 was not applicable for arsenic because the parent sample raw result was less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable. The parent sample was reported and qualified with an "M" flag for arsenic.

The L for sample # 251121 was not acceptable for manganese because the result exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was unacceptable. The parent sample was reported and qualified with an "M" flag for the failing element.

The Triplicate (TRIP) for sample # 251121 was not acceptable because the results exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing elements.

The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for sample # 251121 had outside recoveries for arsenic and manganese. A PDS was analyzed and was unacceptable. The parent sample was reported and qualified with an "M" flag for the failing elements.

The TRIP for sample # 251131 was not acceptable for arsenic because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

Analytical Run # 158900

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the sample arsenic results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not reanalyzed because the MB result was less than 1/10$^{th}$ of the sample results.

The TRIP for sample # 251141 was not applicable for arsenic because the parent sample result was less than five times the LOQ. An MSD was not analyzed. The parent sample was reported and not qualified.

The L for sample # 251667 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The MSD for sample # 251667 had an outside recovery for arsenic. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The L for sample # 251668 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The L for sample # 251668 was not acceptable for manganese because the result exceeded the RPD limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

CT LABORATORIES

delivering more than data from your environmental analyses

## Data Qualifiers

| Code | Description |
|---|---|
| A | Analyte averaged calibration criteria within acceptable limits. |
| B | Analyte detected in associated Method Blank. |
| C | Toxicity present in BOD sample. |
| D | Diluted Out. |
| E | Safe, No Total Coliform detected. |
| F | Unsafe, Total Coliform detected, no E. Coli detected. |
| G | Unsafe, Total Coliform detected and E. Coli detected. |
| H | Holding time exceeded. |
| J | Estimated value. |
| L | Significant peaks were detected outside the chromatographic window. |
| M | Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits. |
| N | Insufficient BOD oxygen depletion. |
| O | Complete BOD oxygen depletion. |
| P | Concentration of analyte differs more than 40% between primary and confirmation analysis. |
| Q | Laboratory Control Sample outside acceptance limits. |
| R | See Narrative at end of report. |
| S | Surrogate standard recovery outside acceptance limits due to apparent matrix effects. |
| T | Sample received with improper preservation or temperature. |
| U | Analyte concentration was not above the detection level. |
| V | Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference. |
| W | Sample amount received was below program minimum. |
| X | Analyte exceeded calibration range. |
| Y | Replicate/Duplicate precision outside acceptance limits. |
| Z | Calibration criteria exceeded. |

CT LABORATORIES

delivering more than data from your environmental analyses

## MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

**#1**: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

**#2**: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

**#3: Improperly Integrated Isomers and/or coeluting compounds.**
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

**#4: System Established Incorrect Baseline.**
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

**#5: Miscellaneous.**
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143438

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #:

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 1 | 250740 | 143438 | | DU1A-SU2 | SOIL | 03/11/2019 | 03/12/2019 |
| 2 | 250741 | 143438 | | DU1B-SU2 | SOIL | 03/11/2019 | 03/12/2019 |
| 3 | 250742 | 143438 | | DU1A-SU1 | SOIL | 03/11/2019 | 03/12/2019 |
| 4 | 250743 | 143438 | | DU1B-SU1 | SOIL | 03/11/2019 | 03/12/2019 |
| 5 | 250744 | 143438 | | DU1A-SU4 | SOIL | 03/11/2019 | 03/12/2019 |
| 6 | 250745 | 143438 | | DU1B-SU4 | SOIL | 03/11/2019 | 03/12/2019 |
| 7 | 250746 | 143438 | | DU1A-SU3 | SOIL | 03/11/2019 | 03/12/2019 |
| 8 | 250747 | 143438 | | DU1B-SU3 | SOIL | 03/11/2019 | 03/12/2019 |
| 9 | 251121 | 143477 | | DU1A-SU07 | SOIL | 03/12/2019 | 03/13/2019 |
| 10 | 251124 | 143477 | | DU1B-SU07 | SOIL | 03/12/2019 | 03/13/2019 |
| 11 | 251125 | 143477 | | DU1A-SU09R1 | SOIL | 03/12/2019 | 03/13/2019 |
| 12 | 251126 | 143477 | | DU1A-SU09R2 | SOIL | 03/12/2019 | 03/13/2019 |
| 13 | 251127 | 143477 | | DU1A-SU09R3 | SOIL | 03/12/2019 | 03/13/2019 |
| 14 | 251128 | 143477 | | DU1B-SU09R1 | SOIL | 03/12/2019 | 03/13/2019 |
| 15 | 251129 | 143477 | | DU1B-SU09R2 | SOIL | 03/12/2019 | 03/13/2019 |
| 16 | 251130 | 143477 | | DU1B-SU09R3 | SOIL | 03/12/2019 | 03/13/2019 |
| 17 | 251131 | 143477 | | DU1A-SU11R1 | SOIL | 03/12/2019 | 03/13/2019 |
| 18 | 251132 | 143477 | | DU1B-SU11R2 | SOIL | 03/12/2019 | 03/13/2019 |
| 19 | 251133 | 143477 | | DU1A-SU11R2 | SOIL | 03/12/2019 | 03/13/2019 |
| 20 | 251134 | 143477 | | DU1B-SU11R1 | SOIL | 03/12/2019 | 03/13/2019 |
| 21 | 251135 | 143477 | | DU1A-SU11R3 | SOIL | 03/12/2019 | 03/13/2019 |
| 22 | 251136 | 143477 | | DU1B-SU11R3 | SOIL | 03/12/2019 | 03/13/2019 |
| 23 | 251137 | 143477 | | DU1A-SU51R1 | SOIL | 03/12/2019 | 03/13/2019 |
| 24 | 251138 | 143477 | | DU1A-SU51R2 | SOIL | 03/12/2019 | 03/13/2019 |
| 25 | 251139 | 143477 | | DU1A-SU51R3 | SOIL | 03/12/2019 | 03/13/2019 |
| 26 | 251140 | 143477 | | DU1B-SU51R1 | SOIL | 03/12/2019 | 03/13/2019 |
| 27 | 251141 | 143477 | | DU1B-SU51R2 | SOIL | 03/12/2019 | 03/13/2019 |
| 28 | 251142 | 143477 | | DU1B-SU51R3 | SOIL | 03/12/2019 | 03/13/2019 |
| 29 | 251663 | 143517 | | DU1A-SU06 | SOIL | 03/13/2019 | 03/14/2019 |
| 30 | 251664 | 143517 | | DU1B-SU06 | SOIL | 03/13/2019 | 03/14/2019 |
| 31 | 251665 | 143517 | | DU1A-SU08 | SOIL | 03/13/2019 | 03/14/2019 |
| 32 | 251666 | 143517 | | DU1B-SU08 | SOIL | 03/13/2019 | 03/14/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143438

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #:

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| *33* | 251667 | 143517 | | DU1A-SU58 | SOIL | 03/13/2019 | 03/14/2019 |
| *34* | 251668 | 143517 | | DU1B-SU58 | SOIL | 03/13/2019 | 03/14/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# QC Batch Cross Reference Summary



ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #:
Report Date: 04/17/2019
Date Received: 03/12/2019
SDG #: 143438

## *Inorganic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 250740 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250741 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250742 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250743 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250744 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250745 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250746 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 250747 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251121 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251124 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251125 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251126 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251127 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251128 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251129 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251130 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251131 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251132 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251133 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251134 | Solids, Percent | EPA 8000C | SOIL | | 158861 |
| 251135 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251136 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251137 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251138 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251139 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251140 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251141 | Solids, Percent | EPA 8000C | SOIL | | 158862 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #:
SDG #: 143438

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 251142 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251663 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251664 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251665 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251666 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251667 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 251668 | Solids, Percent | EPA 8000C | SOIL | | 158862 |

## *Metal Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 250740 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250741 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250742 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250743 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250744 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250745 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250746 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 250747 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251121 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251124 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251125 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251126 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251127 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251128 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251129 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251130 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251131 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251132 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251133 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251134 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71076 | 158872 |
| 251135 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251136 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251137 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251138 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251139 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251140 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251141 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251142 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #:
SDG #: 143438

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 251663 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251664 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251665 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251666 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251667 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |
| 251668 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71092 | 158900 |

## *Organic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 250740 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250741 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250742 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250743 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250744 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250745 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250746 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 250747 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159090 |
| 251121 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251124 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251125 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251126 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251127 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251128 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251129 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251130 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251131 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251132 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251133 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251134 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251135 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251136 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251137 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251138 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251139 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251140 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251141 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251142 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159132 |
| 251663 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159203 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #:
SDG #: 143438

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 251664 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159203 |
| 251665 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159203 |
| 251666 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159203 |
| 251667 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159203 |
| 251668 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159203 |

# METALS
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251663 |
| Analytical Method: | EPA 6010C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 17:17 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.6 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 430 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.6 | Lab Sample ID: | 251121 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 18:17 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 11.1 | Y,M | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 671 | Y,M | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.0 | Lab Sample ID: | 251665 |
| Analytical Method: | EPA 6010C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 17:29 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.3 | | 0.14 | 0.43 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 896 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU09R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251125 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 19:28 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 22.8 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 420 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU09R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251126 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 19:34 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.8 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 372 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU09R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251127 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 19:41 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.9 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 183 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 250742 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 17:22 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.6 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 156 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU11R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251131 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 20:07 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.3 | Y | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1040 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU11R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251133 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 20:50 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.4 | | 0.14 | 0.43 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 665 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU11R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.4 | Lab Sample ID: | 251135 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 15:55 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.9 | | 0.14 | 0.43 | 0.86 | 0.86 |
| 7439-96-5 | Manganese | 1100 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.2 | Lab Sample ID: | 250740 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 17:09 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.9 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 197 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 250746 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 18:05 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.3 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 420 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU4**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 97.7 | Lab Sample ID: | 250744 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 17:52 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.2 | | 0.14 | 0.43 | 0.86 | 0.86 |
| 7439-96-5 | Manganese | 366 | | 0.027 | 0.081 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

**DU1A-SU51R1**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.5 | Lab Sample ID: | 251137 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 16:07 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.5 | | 0.13 | 0.39 | 0.77 | 0.77 |
| 7439-96-5 | Manganese | 1150 | | 0.024 | 0.072 | 0.14 | 0.14 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU51R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.8 | Lab Sample ID: | 251138 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 16:14 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.6 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 485 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

**DU1A-SU51R3**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.4 | Lab Sample ID: | 251139 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 16:20 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 810 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251667 |
| Analytical Method: | EPA 6010C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 17:42 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.3 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 169 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 251664 |
| Analytical Method: | EPA 6010C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 17:23 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.6 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 243 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.4 | Lab Sample ID: | 251124 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 19:21 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.1 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 390 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251666 |
| Analytical Method: | EPA 6010C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 17:36 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 18.0 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 427 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU09R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251128 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 19:48 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.3 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 847 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU09R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.8 | Lab Sample ID: | 251129 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 19:54 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.5 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 173 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU09R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.0 | Lab Sample ID: | 251130 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 20:00 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.4 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 227 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.2 | Lab Sample ID: | 250743 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 17:28 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.8 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 150 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU11R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.3 | Lab Sample ID: | 251134 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 20:57 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.8 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 529 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU11R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.0 | Lab Sample ID: | 251132 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 20:43 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.0 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 330 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU11R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.5 | Lab Sample ID: | 251136 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 16:01 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 14.3 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 944 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.3 | Lab Sample ID: | 250741 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 17:15 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.4 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 153 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 250747 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 18:11 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.8 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 236 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU4**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 97.6 | Lab Sample ID: | 250745 |
| Analytical Method: | EPA 6010C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158872 | Analysis Date/Time | 03/19/2019 17:58 |
| Analytical Prep Batch #: | 71076 | Prep. Date/Time: | 03/18/2019 12:45 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.3 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 207 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU51R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.4 | Lab Sample ID: | 251140 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 16:44 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.5 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 450 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU1B-SU51R2**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.7 | Lab Sample ID: | 251141 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 16:51 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.7 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 381 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU51R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.5 | Lab Sample ID: | 251142 |
| Analytical Method: | EPA 6010C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 17:10 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.3 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 427 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.1 | Lab Sample ID: | 251668 |
| Analytical Method: | EPA 6010C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158900 | Analysis Date/Time | 03/20/2019 18:38 |
| Analytical Prep Batch #: | 71092 | Prep. Date/Time: | 03/20/2019 07:46 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.7 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 71.2 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254128

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 14:16 | 2000 | 1950 | 98 | 90 | 110 |
| Manganese | 3/19/19 | 14:16 | 500.0 | 493.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254129

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 14:22 | 60.00 | 64.30 | 107 | 80 | 120 |
| Manganese | 3/19/19 | 14:22 | 30.00 | 32.70 | 109 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255533

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 13:08 | 2000 | 1940 | 97 | 90 | 110 |
| Manganese | 3/20/19 | 13:08 | 500.0 | 500.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255534

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 13:21 | 60.00 | 61.40 | 102 | 80 | 120 |
| Manganese | 3/20/19 | 13:21 | 30.00 | 33.30 | 111 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254135

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 16:12 | 5000 | 4540 | 91 | 90 | 110 |
| Manganese | 3/19/19 | 16:12 | 5000 | 4860 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254136

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 16:18 | 500.0 | 464.0 | 93 | 90 | 110 |
| Manganese | 3/19/19 | 16:18 | 500.0 | 507.0 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254138

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 17:34 | 5000 | 4510 | 90 | 90 | 110 |
| Manganese | 3/19/19 | 17:34 | 5000 | 4910 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254139

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 17:40 | 500.0 | 456.0 | 91 | 90 | 110 |
| Manganese | 3/19/19 | 17:40 | 500.0 | 515.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254142

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 18:57 | 5000 | 4610 | 92 | 90 | 110 |
| Manganese | 3/19/19 | 18:57 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254143

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 19:02 | 500.0 | 475.0 | 95 | 90 | 110 |
| Manganese | 3/19/19 | 19:02 | 500.0 | 503.0 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254146

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 20:19 | 5000 | 4800 | 96 | 90 | 110 |
| Manganese | 3/19/19 | 20:19 | 5000 | 5060 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254147

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 20:25 | 500.0 | 509.0 | 102 | 90 | 110 |
| Manganese | 3/19/19 | 20:25 | 500.0 | 496.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254149

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 21:09 | 5000 | 4790 | 96 | 90 | 110 |
| Manganese | 3/19/19 | 21:09 | 5000 | 5050 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254150

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/19/19 | 21:15 | 500.0 | 513.0 | 103 | 90 | 110 |
| Manganese | 3/19/19 | 21:15 | 500.0 | 488.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900 Lab Sample ID: 255539

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 15:06 | 5000 | 4670 | 93 | 90 | 110 |
| Manganese | 3/20/19 | 15:06 | 5000 | 4980 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255540

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 15:12 | 500.0 | 487.0 | 97 | 90 | 110 |
| Manganese | 3/20/19 | 15:12 | 500.0 | 499.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255542

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 16:27 | 5000 | 4720 | 94 | 90 | 110 |
| Manganese | 3/20/19 | 16:27 | 5000 | 5050 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255543

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 16:32 | 500.0 | 489.0 | 98 | 90 | 110 |
| Manganese | 3/20/19 | 16:32 | 500.0 | 501.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255545

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 17:48 | 5000 | 4800 | 96 | 90 | 110 |
| Manganese | 3/20/19 | 17:48 | 5000 | 5010 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255546

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 17:54 | 500.0 | 500.0 | 100 | 90 | 110 |
| Manganese | 3/20/19 | 17:54 | 500.0 | 499.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255548

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 19:10 | 5000 | 4800 | 96 | 90 | 110 |
| Manganese | 3/20/19 | 19:10 | 5000 | 5010 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255549

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 19:16 | 500.0 | 497.0 | 99 | 90 | 110 |
| Manganese | 3/20/19 | 19:16 | 500.0 | 505.0 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255551

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 20:12 | 5000 | 4660 | 93 | 90 | 110 |
| Manganese | 3/20/19 | 20:12 | 5000 | 4900 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255552

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/20/19 | 20:18 | 500.0 | 479.0 | 96 | 90 | 110 |
| Manganese | 3/20/19 | 20:18 | 500.0 | 505.0 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254131

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/19/2019 14:35 | -1.41 | U | 4 | 16 |
| Manganese | 03/19/2019 14:35 | -0.528 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255535

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/20/2019 13:27 | -1.19 | U | 4 | 16 |
| Manganese | 03/20/2019 13:27 | -0.269 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254137

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/19/2019 16:23 | -2.30 | U | 4 | 16 |
| Manganese | 03/19/2019 16:23 | -0.328 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254140

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/19/2019 17:46 | -0.306 | U | 4 | 16 |
| Manganese | 03/19/2019 17:46 | -0.269 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254144

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/19/2019 19:08 | -0.290 | U | 4 | 16 |
| Manganese | 03/19/2019 19:08 | -0.0900 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254148

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/19/2019 20:31 | 2.23 | U | 4 | 16 |
| Manganese | 03/19/2019 20:31 | 0.0510 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 254151

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/19/2019 21:21 | 3.71 | U | 4 | 16 |
| Manganese | 03/19/2019 21:21 | 0.266 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255541

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/20/2019 15:18 | 1.63 | U | 4 | 16 |
| Manganese | 03/20/2019 15:18 | 0.0600 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255544

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/20/2019 16:38 | 2.75 | U | 4 | 16 |
| Manganese | 03/20/2019 16:38 | 0.176 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255547

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/20/2019 18:00 | 0.958 | U | 4 | 16 |
| Manganese | 03/20/2019 18:00 | 0.460 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255550

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/20/2019 19:22 | 2.74 | U | 4 | 16 |
| Manganese | 03/20/2019 19:22 | 0.618 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 255553

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/20/2019 20:24 | 3.79 | U | 4 | 16 |
| Manganese | 03/20/2019 20:24 | 0.934 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158872  Lab Sample ID: 252654

Analytical Prep Batch # 71076  Preparation Date/Time: 03/18/2019 12:45

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 17:02 | -0.053 | U | 0.13 | 0.40 | |
| Manganese | 03/19/2019 17:02 | 5.2 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143438

Analytical Run #: 158900  Lab Sample ID: 253821

Analytical Prep Batch # 71092  Preparation Date/Time: 03/20/2019 07:46

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 15:48 | 0.18 | | 0.13 | 0.40 | FAIL |
| Manganese | 03/20/2019 15:48 | 5.2 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143438
ICS Source: SPEX

Analytical Run #: 158872
Lab Sample ID: 254132
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/19/2019 14:47 | 500000 | 555000 | 111 | 80 | 120 |
| Arsenic | 03/19/2019 14:47 | 0 | 14.10 | | -16 | 16 |
| Calcium | 03/19/2019 14:47 | 500000 | 527000 | 105 | 80 | 120 |
| Iron | 03/19/2019 14:47 | 500000 | 509000 | 102 | 80 | 120 |
| Magnesium | 03/19/2019 14:47 | 500000 | 528000 | 106 | 80 | 120 |
| Manganese | 03/19/2019 14:47 | 0 | -2.90 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143438
ICS Source: SPEX

Analytical Run #: 158900
Lab Sample ID: 255536
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/20/2019 13:45 | 500000 | 529000 | 106 | 80 | 120 |
| Arsenic | 03/20/2019 13:45 | 0 | 1.95 | | -16 | 16 |
| Calcium | 03/20/2019 13:45 | 500000 | 507000 | 101 | 80 | 120 |
| Iron | 03/20/2019 13:45 | 500000 | 506000 | 101 | 80 | 120 |
| Magnesium | 03/20/2019 13:45 | 500000 | 505000 | 101 | 80 | 120 |
| Manganese | 03/20/2019 13:45 | 0 | -2.09 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143438
ICS Source: SPEX, Ultra

Analytical Run #: 158872
Lab Sample ID: 254133
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/19/2019 14:54 | 500000 | 521000 | 104 | 80 | 120 |
| Arsenic | 03/19/2019 14:54 | 500.0 | 554.0 | 111 | 80 | 120 |
| Calcium | 03/19/2019 14:54 | 500000 | 499000 | 100 | 80 | 120 |
| Iron | 03/19/2019 14:54 | 500000 | 489000 | 98 | 80 | 120 |
| Magnesium | 03/19/2019 14:54 | 500000 | 499000 | 100 | 80 | 120 |
| Manganese | 03/19/2019 14:54 | 500.0 | 500.0 | 100 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143438
ICS Source: SPEX, Ultra

Analytical Run #: 158900
Lab Sample ID: 255537
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/20/2019 13:52 | 500000 | 527000 | 105 | 80 | 120 |
| Arsenic | 03/20/2019 13:52 | 500.0 | 568.0 | 114 | 80 | 120 |
| Calcium | 03/20/2019 13:52 | 500000 | 506000 | 101 | 80 | 120 |
| Iron | 03/20/2019 13:52 | 500000 | 511000 | 102 | 80 | 120 |
| Magnesium | 03/20/2019 13:52 | 500000 | 501000 | 100 | 80 | 120 |
| Manganese | 03/20/2019 13:52 | 500.0 | 504.0 | 101 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 98.6 | Concentration Units: | mg/kg |
| Sample No | 252677 | Parent Sample No.: | 251121 |
| Analytical Prep Batch # | 71076 | Analytical Preparation Date/Time: | 03/18/2019 12:45 |
| Analytical Run #: | 158872 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/19/2019 Analysis Time: -------- 18:44

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 425 | | 11.1 | | 515 | 80 | | P | *FAIL* |
| Manganese | 84-114 | 662 | | 671 | | 515 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 98.9 | Concentration Units: | mg/kg |
| Sample No | 253826 | Parent Sample No.: | 251667 |
| Analytical Prep Batch # | 71092 | Analytical Preparation Date/Time: | 03/20/2019 07:46 |
| Analytical Run #: | 158900 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/20/2019 Analysis Time: -------- 18:19

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 456 | | 12.3 | | 527 | 84 | | P |
| Manganese | 84-114 | 682 | | 169 | | 527 | 97 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 253829 | Parent Sample No.: | 251668 |
| Analytical Prep Batch # | 71092 | Analytical Preparation Date/Time: | 03/20/2019 07:46 |
| Analytical Run #: | 158900 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/20/2019 Analysis Time: -------- 18:57

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 444 | | 9.7 | | 505 | 86 | | P |
| Manganese | 84-114 | 593 | | 71.2 | | 505 | 103 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 98.6 | Concentration Units: | ug/L |
| Sample No | 254145 | Parent Sample No.: | 251121 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 158872 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 03/19/2019 | Analysis Time: -------- | 19:14 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 3070. | | 433. | | 4000 | 66 | | P | *FAIL* |
| Manganese | 80-120 | 25600. | | 26200. | | 1000 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 98.9 | Concentration Units: | ug/L |
| Sample No | 256662 | Parent Sample No.: | 251667 |
| Analytical Prep Batch # | | Analytical Preparation Date/Time: | |
| Analytical Run #: | 158900 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 03/20/2019 | Analysis Time: -------- | 18:31 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 18400 | | 468. | | 20000 | 90 | | P |
| Manganese | 80-120 | 25200 | | 6420. | | 20000 | 94 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 99.1 | Concentration Units: | ug/L |
| Sample No | 256663 | Parent Sample No.: | 251668 |
| Analytical Prep Batch # | | Analytical Preparation Date/Time: | |
| Analytical Run #: | 158900 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 03/20/2019 | Analysis Time: -------- | 19:28 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21300 | | 384 | | 20000 | 105 | | P |
| Manganese | 80-120 | 23200 | | 2810 | | 20000 | 102 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 98.6 | Concentration Units: | mg/kg |
| Sample No | 252678 | Parent Sample No.: | 252677 |
| Analytical Prep Batch # | 71076 | Analytical Preparation Date/Time: | 03/18/2019 12:45 |
| Analytical Run #: | 158872 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/19/2019 Analysis Time: -------- 18:50

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 425 | | 11.1 | | 515 | 80 | | P | *FAIL* |
| Manganese | 84-114 | 659 | | 671 | | 515 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 98.9 | Concentration Units: | mg/kg |
| Sample No | 253827 | Parent Sample No.: | 253826 |
| Analytical Prep Batch # | 71092 | Analytical Preparation Date/Time: | 03/20/2019 07:46 |
| Analytical Run #: | 158900 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/20/2019 Analysis Time: -------- 18:25

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 435 | | 12.3 | | 524 | 81 | | P | *FAIL* |
| Manganese | 84-114 | 671 | | 169 | | 524 | 96 | | P | |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1B-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143438 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 253830 | Parent Sample No.: | 253829 |
| Analytical Prep Batch # | 71092 | Analytical Preparation Date/Time: | 03/20/2019 07:46 |
| Analytical Run #: | 158900 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/20/2019 Analysis Time: -------- 19:04

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 438 | | 9.7 | | 510 | 84 | | P |
| Manganese | 84-114 | 581 | | 71.2 | | 510 | 100 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU07**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143438

% Solid for Sample: 98.6

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71076

Analytical Run #: 158872

ICAL Calibration #:

Sample #: 252675

Parent Sample #: 251121

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 | 18:30 | 20 | 11.1 | | 11.0 | | 1 | | P |
| Manganese | 03/19/2019 | 18:30 | 20 | 671 | | 674 | | 0 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU07**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 98.6
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71076
Analytical Run #: 158872
ICAL Calibration #:
Sample #: 252676
Parent Sample #: 251121

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 | 18:37 | 20 | 11.1 | | 7.3 | | 41 | | P | *FAIL* |
| Manganese | 03/19/2019 | 18:37 | 20 | 671 | | 363 | | 60 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU11R1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 98.9
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71076
Analytical Run #: 158872
ICAL Calibration #:
Sample #: 252679
Parent Sample #: 251131

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 | 20:13 | 20 | 10.3 | | 8.9 | | 15 | | P |
| Manganese | 03/19/2019 | 20:13 | 20 | 1040 | | 1000 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU11R1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 98.9
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71076
Analytical Run #: 158872
ICAL Calibration #:
Sample #: 252680
Parent Sample #: 251131

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 | 20:37 | 20 | 10.3 | | 7.7 | | 29 | | P | *FAIL* |
| Manganese | 03/19/2019 | 20:37 | 20 | 1040 | | 993 | | 5 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU51R2**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 99.7
Concentration Units: mg/kg

Analytical Prep Batch # 1
Analytical Preparation Date/Time 71092
Analytical Run #: 158900
ICAL Calibration #:
Sample #: 253823
Parent Sample #: 251141

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 | 16:57 | 20 | 4.7 | | 4.5 | | 4 | | P |
| Manganese | 03/20/2019 | 16:57 | 20 | 381 | | 372 | | 2 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU51R2**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 99.7
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71092
Analytical Run #: 158900
ICAL Calibration #:
Sample #: 253824
Parent Sample #: 251141

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 | 17:04 | 20 | 4.7 | | 4.1 | | 14 | | P |
| Manganese | 03/20/2019 | 17:04 | 20 | 381 | | 352 | | 8 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU58**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 98.9
Concentration Units: mg/kg

Analytical Prep Batch # 1
Analytical Preparation Date/Time 71092
Analytical Run #: 158900
ICAL Calibration #:
Sample #: 253825
Parent Sample #: 251667

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 | 18:12 | 20 | 12.3 | | 12.0 | | 2 | | P |
| Manganese | 03/20/2019 | 18:12 | 20 | 169 | | 172 | | 2 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU58**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 99.1
Concentration Units: mg/kg

Analytical Prep Batch # 1
Analytical Preparation Date/Time 71092
Analytical Run #: 158900
ICAL Calibration #:
Sample #: 253828
Parent Sample #: 251668

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 | 18:51 | 20 | 9.7 | | 9.7 | | 0 | | P |
| Manganese | 03/20/2019 | 18:51 | 20 | 71.2 | | 70.8 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU07**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143438

% Solid for Sample: 98.6 | Concentration Units: mg/kg

Analytical Prep Batch #: 71076 | Analytical Preparation Date/Time: 03/18/2019 12:45

Analytical Run #: 158872 | ICAL Calibration #:

Sample #: 252678 | Parent Sample #: 252677

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 | 18:50 | 20 | 425 | | 425 | | 0 | | P |
| Manganese | 03/19/2019 | 18:50 | 20 | 662 | | 659 | | 0 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU58**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143438

% Solid for Sample: 98.9 | Concentration Units: mg/kg

Analytical Prep Batch #: 71092 | Analytical Preparation Date/Time: 03/20/2019 07:46

Analytical Run #: 158900 | ICAL Calibration #:

Sample #: 253827 | Parent Sample #: 253826

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 | 18:25 | 20 | 456 | | 435 | | 4 | | P |
| Manganese | 03/20/2019 | 18:25 | 20 | 682 | | 671 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1B-SU58**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143438

% Solid for Sample: 99.1 | Concentration Units: mg/kg

Analytical Prep Batch #: 71092 | Analytical Preparation Date/Time: 03/20/2019 07:46

Analytical Run #: 158900 | ICAL Calibration #:

Sample #: 253830 | Parent Sample #: 253829

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 | 19:04 | 20 | 444 | | 438 | | 2 | | P |
| Manganese | 03/20/2019 | 19:04 | 20 | 593 | | 581 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143438

Concentration Units: mg/kg

Analytical Run #: 158872  Sample No.:#: 252653

Analytical Prep Batch #: 71076  Preparation Date/Time: 03/18/2019 12:45

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 16:56 | 82-111 | 43.8 | | 49.5 | 88 | | P |
| Manganese | 03/19/2019 16:56 | 84-114 | 50.2 | | 49.5 | 101 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143438

Concentration Units: mg/kg

Analytical Run #: 158900  Sample No.:#: 253822

Analytical Prep Batch #: 71092  Preparation Date/Time: 03/20/2019 07:46

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 15:42 | 82-111 | 47.7 | | 51.8 | 92 | | P |
| Manganese | 03/20/2019 15:42 | 84-114 | 53.6 | | 51.8 | 103 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1A-SU07**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143438

Concentration Units: ug/L

Sample No.: 254141 Parent Sample No.: 251121

LIMS Run #: 158872 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/19/2019 18:24 | 433. | | 500 | | 15 | | P | *INVALID* |
| Manganese | 03/19/2019 18:24 | 26200. | | 29400 | | 12 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1A-SU58**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143438

Concentration Units: ug/L

Sample No.: 256660 Parent Sample No.: 251667

LIMS Run #: 158900 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 18:06 | 468. | | 505 | | 8 | | P | *INVALID* |
| Manganese | 03/20/2019 18:06 | 6420. | | 6250 | | 3 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

9

## ICP SERIAL DILUTION

Sample Description

**DU1B-SU58**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143438

Concentration Units: ug/L

Sample No.: 256661 Parent Sample No.: 251668

LIMS Run #: 158900 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/20/2019 18:44 | 384 | | 450.5 | | 17 | | P | *INVALID* |
| Manganese | 03/20/2019 18:44 | 2810 | | 3275 | | 17 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

10

***METHOD DETECTION LIMITS (ANNUALLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TJA SDG No.: 143438

Matrix: SOLID

| Analyte | Wavelength (nm) | Background | CRDL (ug/L) | MDL ( mg/k) | M |
|---|---|---|---|---|---|
| Arsenic | 193.7 | | | 0.13 | P |
| Manganese | 257.61 | | | 0.025 | P |

**ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)**
**ICP ID NUMBER: TA ICAP6000 / ICAP6500**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 2 | Fe | 0.000006 | 0.000000 | No |
| | | | Ce | 0.000000 | 0.000000 | No |
| Ag 338.289 {100} | ☒ | 1 | Fe | 0.000906 | 0.000000 | No |
| Al 167.079 {501} | ☒ | None | | | | |
| Al 308.215 {109} | ☒ | None | | | | |
| Al 396.152 { 85} | ☒ | None | | | | |
| As 193.759 {474} | ☒ | 1 | Al | 0.001713 | 0.000000 | No |
| As 197.262 {471} | ☒ | 1 | Al | -0.000113 | 0.000000 | No |
| Ba 233.527 {445} | ☒ | 3 | Fe | -0.000038 | 0.000000 | No |
| | | | V | 0.000180 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Fe | 0.000002 | 0.000000 | No |
| Ba 493.409 { 68} | ☒ | 1 | Fe | 0.000029 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 1 | Fe | 0.000000 | 0.000000 | No |
| Be 234.861 {144} | ☒ | 1 | Fe | -0.000016 | 0.000000 | No |
| Ca 315.887 {107} | ☒ | None | | | | |
| Ca 317.933 {106} | ☒ | None | | | | |
| Ca 393.366 { 86} | ☒ | 1 | Cu | 0.000000 | 0.000000 | No |
| Ca 396.847 { 85} | ☒ | None | | | | |
| Cd 226.502 {449} | ☒ | 2 | Fe | 0.000090 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cd 228.802 {147} | ☒ | None | | | | |
| Co 228.616 {447} | ☒ | 5 | Fe | 0.000009 | 0.000000 | No |
| | | | Ti | 0.003000 | 0.000000 | No |
| | | | Ba | -0.001300 | 0.000000 | No |
| | | | Ni | 0.000040 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| Co 238.892 {141} | ☒ | 1 | Fe | 0.000188 | 0.000000 | No |
| Cr 205.560 {464} | ☒ | 1 | Fe | -0.000004 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 1 | Fe | -0.000014 | 0.000000 | No |
| Cu 224.700 {450} | ☒ | 5 | Fe | 0.000274 | 0.000000 | No |
| | | | Mo | 0.001320 | 0.000000 | No |
| | | | Ni | -0.006000 | 0.000000 | No |
| | | | Pb | 0.003030 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 1 | Fe | -0.000136 | 0.000000 | No |
| Cu 327.396 {103} | ☒ | 1 | Fe | 0.000069 | 0.000000 | No |
| Fe 234.349 {144} | ☒ | None | | | | |
| Fe 239.562 {140} | ☒ | None | | | | |
| Fe 259.940 {129} | ☒ | None | | | | |
| Mg 202.582 {466} | ☒ | None | | | | |
| Mg 279.079 {121} | ☒ | None | | | | |
| Mg 280.270 {120} | ☒ | None | | | | |
| Mn 257.610 {131} | ☒ | 1 | Al | -0.000086 | 0.000000 | No |

## ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
## ICP ID NUMBER: TA ICAP6000 / ICAP6500

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Mn 259.373 {130} | ☒ | 1 | Mg | 0.001339 | 0.000000 | No |
| Mo 202.030 {466} | ☒ | 1 | Fe | -0.000011 | 0.000000 | No |
| Mo 203.844 {465} | ☒ | 1 | Fe | -0.000020 | 0.000000 | No |
| Mo 204.598 {464} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ni 221.647 {452} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ni 231.604 {445} | ☒ | 3 | Fe | 0.000012 | 0.000000 | No |
| | | | Co | 0.000000 | 0.000000 | No |
| | | | Mo | 0.000000 | 0.000000 | No |
| Pb 216.999 {455} | ☒ | 2 | Al | 0.001241 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 3 | Si | 0.000000 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Fe | 0.000018 | 0.000000 | No |
| Pb 220.353 {153} | ☒ | 1 | Al | -0.000040 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 1 | Fe | 0.000009 | 0.000000 | No |
| Sb 217.581 {455} | ☒ | 3 | Fe | -0.000069 | 0.000000 | No |
| | | | V | 0.002070 | 0.000000 | No |
| | | | Pb | -0.001040 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 1 | Fe | -0.000360 | 0.000000 | No |
| Se 206.279 {463} | ☒ | 1 | Fe | 0.001308 | 0.000000 | No |
| Tl 190.856 {476} | ☒ | 5 | Fe | 0.000024 | 0.000000 | No |
| | | | Be | -0.000013 | 0.000000 | No |
| | | | Ti | 0.000050 | 0.000000 | No |
| | | | Cr | 0.000251 | 0.000000 | No |
| | | | V | -0.003800 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 1 | Fe | -0.000048 | 0.000000 | No |
| V 290.882 {116} | ☒ | 1 | Fe | 0.000073 | 0.000000 | No |
| V 292.402 {115} | ☒ | 3 | Fe | 0.000020 | 0.000000 | No |
| | | | Cr | -0.000400 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Zn 202.548 {466} | ☒ | 1 | Fe | -0.000239 | 0.000000 | No |
| Zn 206.200 {463} | ☒ | 1 | Fe | -0.000003 | 0.000000 | No |
| Zn 213.856 {457} | ☒ | 2 | Fe | 0.000167 | 0.000000 | No |
| | | | Cu | 0.007413 | 0.000000 | No |
| Y 324.228 {104}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| Na 588.995 { 57} | ☒ | 1 | Fe | 0.000106 | 0.000000 | No |
| Si 251.611 {134} | ☒ | 2 | Fe | -0.000105 | 0.000000 | No |
| | | | Mo | 0.005400 | 0.000000 | No |
| Ti 323.452 {104} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ti 334.941 {101} | ☒ | 1 | Fe | 0.000052 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |
| Sr 421.552 { 80} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |

**ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)**
**ICP ID NUMBER: TA ICAP6000 / ICAP6500**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Sn 189.989 {477} | ☒ | 1 | Fe | 0.000013 | 0.000000 | No |
| B 249.678 {135} | ☒ | 2 | Fe | 0.000001 | 0.000000 | No |
| | | | Co | 0.003970 | 0.000000 | No |
| B 249.773 {135} | ☒ | 1 | Fe | 0.000357 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 1 | Fe | 0.000011 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 1 | Fe | 0.000216 | 0.000000 | No |
| P 213.618 {457} | ☒ | 1 | Fe | -0.000079 | 0.000000 | No |
| S 182.034 {485} | ☒ | 1 | Mg | 0.000100 | 0.000000 | No |
| Hg 184.950 {482} | ☒ | 1 | Fe | 0.000001 | 0.000000 | No |
| Ce 404.076 { 83} | ☒ | 1 | Fe | 0.000227 | 0.000000 | No |

***ICP LINEAR RANGES (QUARTERLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TA SDG No.: 143438

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | M |
|---|---|---|---|
| Aluminum | 15.00 | 1000000 | P |
| Antimony | 15.00 | 10000 | P |
| Arsenic | 15.00 | 10000 | P |
| Barium | 15.00 | 10000 | P |
| Beryllium | 15.00 | 1000 | P |
| Boron | 15.00 | 1000 | P |
| Cadmium | 15.00 | 1000 | P |
| Calcium | 15.00 | 1000000 | P |
| Chromium | 15.00 | 100000 | P |
| Cobalt | 15.00 | 10000 | P |
| Copper | 15.00 | 100000 | P |
| Iron | 15.00 | 1000000 | P |
| Lead | 15.00 | 100000 | P |
| Lithium | 15.00 | 10000 | P |
| Magnesium | 15.00 | 1000000 | P |
| Manganese | 15.00 | 100000 | P |
| Molybdenum | 15.00 | 10000 | P |
| Nickel | 15.00 | 10000 | P |
| Potassium | 15.00 | 200000 | P |
| Selenium | 15.00 | 10000 | P |
| Silicon | 15.00 | 1000 | P |
| Silver | 15.00 | 100 | P |
| Sodium | 15.00 | 200000 | P |
| Strontium | 15.00 | 10000 | P |
| Thallium | 15.00 | 10000 | P |
| Tin | 15.00 | 10000 | P |
| Titanium | 15.00 | 1000 | P |
| Tungsten | 15.00 | 10000 | P |
| Vanadium | 15.00 | 10000 | P |
| Zinc | 15.00 | 100000 | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143438

Preparation Batch #: 71076

Preparation Date/Time: 03/18/2019 / 12:45

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 250740 | Normal Sample | DU1A-SU2 | SOIL | 1.92 |
| 250741 | Normal Sample | DU1B-SU2 | SOIL | 1.97 |
| 250742 | Normal Sample | DU1A-SU1 | SOIL | 1.95 |
| 250743 | Normal Sample | DU1B-SU1 | SOIL | 2.05 |
| 250744 | Normal Sample | DU1A-SU4 | SOIL | 1.90 |
| 250745 | Normal Sample | DU1B-SU4 | SOIL | 2.06 |
| 250746 | Normal Sample | DU1A-SU3 | SOIL | 1.97 |
| 250747 | Normal Sample | DU1B-SU3 | SOIL | 1.94 |
| 251121 | Normal Sample | DU1A-SU07 | SOIL | 1.98 |
| 251124 | Normal Sample | DU1B-SU07 | SOIL | 1.98 |
| 251125 | Normal Sample | DU1A-SU09R1 | SOIL | 1.92 |
| 251126 | Normal Sample | DU1A-SU09R2 | SOIL | 2.05 |
| 251127 | Normal Sample | DU1A-SU09R3 | SOIL | 2.08 |
| 251128 | Normal Sample | DU1B-SU09R1 | SOIL | 2.07 |
| 251129 | Normal Sample | DU1B-SU09R2 | SOIL | 2.00 |
| 251130 | Normal Sample | DU1B-SU09R3 | SOIL | 2.01 |
| 251131 | Normal Sample | DU1A-SU11R1 | SOIL | 1.94 |
| 251132 | Normal Sample | DU1B-SU11R2 | SOIL | 1.99 |
| 251133 | Normal Sample | DU1A-SU11R2 | SOIL | 1.90 |
| 251134 | Normal Sample | DU1B-SU11R1 | SOIL | 1.98 |
| 252653 | Lab Control Spike | | SOLID | 2.02 |
| 252654 | Method Blank | | SOLID | 1.92 |
| 252675 | Lab Duplicate | DU1A-SU07 | SOIL | 1.98 |
| 252676 | Lab Duplicate | DU1A-SU07 | SOIL | 1.97 |
| 252677 | Matrix Spike | DU1A-SU07 | SOIL | 1.97 |
| 252678 | Matrix Spike Duplicate | DU1A-SU07 | SOIL | 1.97 |
| 252679 | Lab Duplicate | DU1A-SU11R1 | SOIL | 1.93 |
| 252680 | Lab Duplicate | DU1A-SU11R1 | SOIL | 1.92 |

CT LABORATORIES
delivering more than data from your environmental analyses

13

***PREPARATION LOG***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Project: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Method: | EPA 3050B | SDG No.: | 143438 |
| Preparation Batch #: | 71076 | Preparation Date/Time: | 03/18/2019 / 12:45 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143438

Preparation Batch #: 71092

Preparation Date/Time: 03/20/2019 / 07:46

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 251135 | Normal Sample | DU1A-SU11R3 | SOIL | 1.90 |
| 251136 | Normal Sample | DU1B-SU11R3 | SOIL | 1.90 |
| 251137 | Normal Sample | DU1A-SU51R1 | SOIL | 2.08 |
| 251138 | Normal Sample | DU1A-SU51R2 | SOIL | 1.91 |
| 251139 | Normal Sample | DU1A-SU51R3 | SOIL | 1.92 |
| 251140 | Normal Sample | DU1B-SU51R1 | SOIL | 1.99 |
| 251141 | Normal Sample | DU1B-SU51R2 | SOIL | 1.95 |
| 251142 | Normal Sample | DU1B-SU51R3 | SOIL | 2.07 |
| 251663 | Normal Sample | DU1A-SU06 | SOIL | 1.92 |
| 251664 | Normal Sample | DU1B-SU06 | SOIL | 1.94 |
| 251665 | Normal Sample | DU1A-SU08 | SOIL | 1.90 |
| 251666 | Normal Sample | DU1B-SU08 | SOIL | 1.97 |
| 251667 | Normal Sample | DU1A-SU58 | SOIL | 1.92 |
| 251668 | Normal Sample | DU1B-SU58 | SOIL | 1.99 |
| 253821 | Method Blank | | SOLID | 2.00 |
| 253822 | Lab Control Spike | | SOLID | 1.93 |
| 253823 | Lab Duplicate | DU1B-SU51R2 | SOIL | 1.94 |
| 253824 | Lab Duplicate | DU1B-SU51R2 | SOIL | 1.95 |
| 253825 | Lab Duplicate | DU1A-SU58 | SOIL | 1.92 |
| 253826 | Matrix Spike | DU1A-SU58 | SOIL | 1.92 |
| 253827 | Matrix Spike Duplicate | DU1A-SU58 | SOIL | 1.93 |
| 253828 | Lab Duplicate | DU1B-SU58 | SOIL | 1.98 |
| 253829 | Matrix Spike | DU1B-SU58 | SOIL | 2.00 |
| 253830 | Matrix Spike Duplicate | DU1B-SU58 | SOIL | 1.98 |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143438

Instrument ID Number: TJA | Method Number: P

Start & End Date: 03/19/2019 to 03/19/2019 | Analytical Run #: 158872

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 254128 | ICV | 1.00 | 3/19 14:16 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254129 | ICVLL | 1.00 | 3/19 14:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254131 | ICB | 1.00 | 3/19 14:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254132 | ICSA | 1.00 | 3/19 14:47 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 254133 | ICSAB | 1.00 | 3/19 14:54 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 254135 | CCV1 | 1.00 | 3/19 16:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254136 | CCV2 | 1.00 | 3/19 16:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254137 | CCB | 1.00 | 3/19 16:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 252653 | LCSS | 1.00 | 3/19 16:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 252654 | MBS | 1.00 | 3/19 17:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250740 | Initial | 1.00 | 3/19 17:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250741 | Initial | 1.00 | 3/19 17:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250742 | Initial | 1.00 | 3/19 17:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250743 | Initial | 1.00 | 3/19 17:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254138 | CCV1 | 1.00 | 3/19 17:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254139 | CCV2 | 1.00 | 3/19 17:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254140 | CCB | 1.00 | 3/19 17:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250744 | Initial | 1.00 | 3/19 17:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250745 | Initial | 1.00 | 3/19 17:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250746 | Initial | 1.00 | 3/19 18:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 250747 | Initial | 1.00 | 3/19 18:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251121 | Initial | 1.00 | 3/19 18:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254141 | L | 5 | 3/19 18:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 252675 | DUP | 1.00 | 3/19 18:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 252676 | DUP | 1.00 | 3/19 18:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 252677 | MSS | 1.00 | 3/19 18:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 252678 | MSDS | 1.00 | 3/19 18:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254142 | CCV1 | 1.00 | 3/19 18:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254143 | CCV2 | 1.00 | 3/19 19:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143438

Instrument ID Number: TJA | Method Number: P

Start & End Date: 03/19/2019 to 03/19/2019 | Analytical Run #: 158872

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 254144 | CCB | 1.00 | 3/19 19:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254145 | PDSS | 1.00 | 3/19 19:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251124 | Initial | 1.00 | 3/19 19:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251125 | Initial | 1.00 | 3/19 19:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251126 | Initial | 1.00 | 3/19 19:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251127 | Initial | 1.00 | 3/19 19:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251128 | Initial | 1.00 | 3/19 19:48 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251129 | Initial | 1.00 | 3/19 19:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251130 | Initial | 1.00 | 3/19 20:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251131 | Initial | 1.00 | 3/19 20:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 252679 | DUP | 1.00 | 3/19 20:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254146 | CCV1 | 1.00 | 3/19 20:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254147 | CCV2 | 1.00 | 3/19 20:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254148 | CCB | 1.00 | 3/19 20:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 252680 | DUP | 1.00 | 3/19 20:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251132 | Initial | 1.00 | 3/19 20:43 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251133 | Initial | 1.00 | 3/19 20:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251134 | Initial | 1.00 | 3/19 20:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254149 | CCV1 | 1.00 | 3/19 21:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254150 | CCV2 | 1.00 | 3/19 21:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254151 | CCB | 1.00 | 3/19 21:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143438

Instrument ID Number: TJA | Method Number: P

Start & End Date: 03/20/2019 to 03/20/2019 | Analytical Run #: 158900

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255533 | ICV | 1.00 | 3/20 13:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255534 | ICVLL | 1.00 | 3/20 13:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255535 | ICB | 1.00 | 3/20 13:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255536 | ICSA | 1.00 | 3/20 13:45 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 255537 | ICSAB | 1.00 | 3/20 13:52 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 255539 | CCV1 | 1.00 | 3/20 15:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255540 | CCV2 | 1.00 | 3/20 15:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255541 | CCB | 1.00 | 3/20 15:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 253822 | LCSS | 1.00 | 3/20 15:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 253821 | MBS | 1.00 | 3/20 15:48 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251135 | Initial | 1.00 | 3/20 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251136 | Initial | 1.00 | 3/20 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251137 | Initial | 1.00 | 3/20 16:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251138 | Initial | 1.00 | 3/20 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251139 | Initial | 1.00 | 3/20 16:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255542 | CCV1 | 1.00 | 3/20 16:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255543 | CCV2 | 1.00 | 3/20 16:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255544 | CCB | 1.00 | 3/20 16:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251140 | Initial | 1.00 | 3/20 16:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251141 | Initial | 1.00 | 3/20 16:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 253823 | DUP | 1.00 | 3/20 16:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 253824 | DUP | 1.00 | 3/20 17:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251142 | Initial | 1.00 | 3/20 17:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251663 | Initial | 1.00 | 3/20 17:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251664 | Initial | 1.00 | 3/20 17:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251665 | Initial | 1.00 | 3/20 17:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251666 | Initial | 1.00 | 3/20 17:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 251667 | Initial | 1.00 | 3/20 17:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255545 | CCV1 | 1.00 | 3/20 17:48 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143438

Instrument ID Number: TJA
Method Number: P

Start & End Date: 03/20/2019 to 03/20/2019
Analytical Run #: 158900

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255546 | CCV2 | 1.00 | 3/20 17:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255547 | CCB | 1.00 | 3/20 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256660 | L | 5 | 3/20 18:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253825 | DUP | 1.00 | 3/20 18:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253826 | MSS | 1.00 | 3/20 18:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253827 | MSDS | 1.00 | 3/20 18:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256662 | PDSS | 1.00 | 3/20 18:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 251668 | Initial | 1.00 | 3/20 18:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256661 | L | 5 | 3/20 18:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253828 | DUP | 1.00 | 3/20 18:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253829 | MSS | 1.00 | 3/20 18:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253830 | MSDS | 1.00 | 3/20 19:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255548 | CCV1 | 1.00 | 3/20 19:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255549 | CCV2 | 1.00 | 3/20 19:16 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255550 | CCB | 1.00 | 3/20 19:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256663 | PDSS | 1.00 | 3/20 19:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255551 | CCV1 | 1.00 | 3/20 20:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255552 | CCV2 | 1.00 | 3/20 20:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255553 | CCB | 1.00 | 3/20 20:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

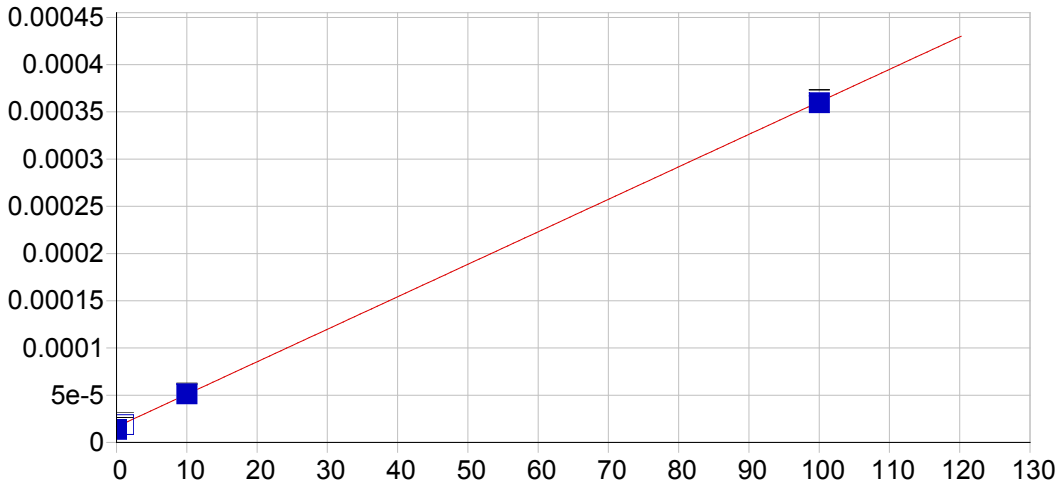
# METALS
# RAW DATA
# DOCUMENTS

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 03/20/2019 09:05:43 | 03/19/2019 13:24:24 | Linear | 1/Var | 0.000017 | 0.000003 | 0.000000 | 1.000000 | 0.999850 | 0.000001 | 0.773371 | 2.577902 |
| Ag 338.289 {100} | 03/20/2019 09:05:43 | 03/19/2019 13:30:00 | Linear | 1/Conc | 0.000008 | 0.000001 | 0.000000 | 1.000000 | 0.982224 | 0.000002 | 15.350229 | 51.167429 |
| Al 167.079 {501} | 03/20/2019 09:05:43 | 03/19/2019 13:30:01 | Linear | 1/Conc | 0.000033 | 0.000003 | 0.000000 | 1.000000 | 0.997271 | 0.000001 | 0.928238 | 3.094128 |
| Al 308.215 {109} | 03/20/2019 09:05:43 | 03/19/2019 13:49:45 | Linear | 1/Var | 0.000058 | 0.000000 | 0.000000 | 1.000000 | 0.999925 | 0.000008 | 29.332149 | 97.773828 |
| Al 396.152 { 85} | 03/20/2019 09:05:43 | 03/19/2019 14:03:59 | Curvili | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999978 | 0.000020 | 10.893915 | 36.313051 |
| As 193.759 {474} | 03/20/2019 09:05:43 | 03/19/2019 13:30:01 | Linear | 1/Var | -0.237703 | 0.085042 | 0.000000 | 1.000000 | 0.999998 | 0.073427 | 5.848254 | 19.494181 |
| As 197.262 {471} | 03/20/2019 09:05:43 | 03/19/2019 13:36:45 | Linear | 1/Conc | -0.073836 | 0.071628 | 0.000000 | 1.000000 | 0.999934 | 0.010738 | 7.146257 | 23.820855 |
| Ba 233.527 {445} | 03/20/2019 09:05:43 | 03/19/2019 13:30:01 | Linear | 1/Conc | 0.000003 | 0.000010 | 0.000000 | 1.000000 | 0.999920 | 0.000000 | 0.456034 | 1.520114 |
| Ba 455.403 { 74} | 03/20/2019 09:05:43 | 03/19/2019 13:36:46 | Linear | 1/Conc | 0.000057 | 0.000041 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.445655 | 1.485518 |
| Ba 493.409 { 68} | 03/20/2019 09:05:43 | 03/19/2019 13:36:46 | Linear | 1/Conc | 0.007559 | 0.000064 | 0.000000 | 1.000000 | 1.000000 | 0.000003 | 0.632998 | 2.109993 |
| Be 313.042 {108} | 03/20/2019 09:05:43 | 03/19/2019 13:30:02 | Linear | 1/Conc | -0.000574 | 0.000063 | 0.000000 | 1.000000 | 0.999975 | 0.000000 | 0.073798 | 0.245992 |
| Be 234.861 {144} | 03/20/2019 09:05:43 | 03/19/2019 13:30:02 | Linear | 1/Conc | -0.000000 | 0.000004 | 0.000000 | 1.000000 | 0.999979 | 0.000000 | 0.874419 | 2.914731 |
| Ca 315.887 {107} | 03/20/2019 09:05:43 | 03/19/2019 14:03:59 | Linear | 1/Var | 0.000050 | 0.000000 | 0.000000 | 1.000000 | 0.999840 | 0.000006 | 16.015967 | 53.386557 |
| Ca 317.933 {106} | 03/20/2019 09:05:43 | 03/19/2019 14:03:59 | Linear | 1/Conc | 0.005057 | 0.000001 | 0.000000 | 1.000000 | 0.999924 | 0.000014 | 7.488015 | 24.960051 |
| Ca 393.366 { 86} | 03/20/2019 09:05:43 | 03/19/2019 13:30:02 | Linear | 1/Var | 0.005701 | 0.000277 | 0.000000 | 1.000000 | 0.999829 | 0.002803 | 0.047338 | 0.157793 |
| Ca 396.847 { 85} | 03/20/2019 09:05:43 | 03/19/2019 13:36:47 | Linear | 1/Conc | 0.003596 | 0.000144 | 0.000000 | 1.000000 | 0.999929 | 0.000081 | 0.090327 | 0.301091 |
| Cd 226.502 {449} | 03/20/2019 09:05:43 | 03/19/2019 13:30:02 | Linear | 1/Conc | -0.000003 | 0.000028 | 0.000000 | 1.000000 | 0.999729 | 0.000001 | 0.247320 | 0.824400 |
| Cd 228.802 {447} | 03/20/2019 09:05:43 | 03/19/2019 13:30:03 | Linear | 1/Conc | 0.000027 | 0.000052 | 0.000000 | 1.000000 | 0.999949 | 0.000000 | 0.165319 | 0.551065 |
| Co 228.616 {447} | 03/20/2019 09:05:43 | 03/19/2019 13:36:47 | Linear | 1/Conc | 0.000012 | 0.000020 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 0.383453 | 1.278176 |
| Co 238.892 {141} | 03/20/2019 09:05:43 | 03/19/2019 13:36:47 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 0.769243 | 2.564143 |
| Cr 205.560 {464} | 03/20/2019 09:05:43 | 03/19/2019 13:43:27 | Linear | 1/Var | 0.000029 | 0.000013 | 0.000000 | 1.000000 | 0.997702 | 0.000158 | 0.414974 | 1.383248 |
| Cr 267.716 {126} | 03/20/2019 09:05:43 | 03/19/2019 13:36:48 | Linear | 1/Conc | 0.000002 | 0.000004 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 0.645843 | 2.152811 |
| Cu 224.700 {450} | 03/20/2019 09:05:43 | 03/19/2019 13:43:27 | Linear | 1/Conc | 0.000001 | 0.000007 | 0.000000 | 1.000000 | 0.999751 | 0.000009 | 0.696462 | 2.321541 |
| Cu 324.754 {104} | 03/20/2019 09:05:43 | 03/19/2019 13:43:27 | Linear | 1/Conc | 0.000300 | 0.000003 | 0.000000 | 1.000000 | 0.999906 | 0.000001 | 3.326514 | 11.088381 |
| Cu 327.396 {103} | 03/20/2019 09:05:43 | 03/19/2019 13:43:27 | Curvili | 1/Conc | 9.187963 | 0.569858 | -0.000000 | 1.000000 | 0.999977 | 0.106671 | 7.378743 | 24.595810 |
| Fe 234.349 {144} | 03/20/2019 09:05:43 | 03/19/2019 13:49:45 | Curvili | 1/Var | 0.000028 | 0.000001 | 0.000000 | 1.000000 | 0.999994 | 0.000005 | 1.547008 | 5.156692 |
| Fe 239.562 {140} | 03/20/2019 09:05:43 | 03/19/2019 14:03:59 | Linear | 1/Var | 0.000012 | 0.000000 | 0.000000 | 1.000000 | 0.997467 | 0.000019 | 8.276819 | 27.589396 |
| Fe 259.940 {129} | 03/20/2019 09:05:43 | 03/19/2019 13:56:29 | Curvili | 1/Var | 0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999845 | 0.000015 | 3.613095 | 12.043649 |
| Mg 202.582 {466} | 03/20/2019 09:05:43 | 03/19/2019 14:04:00 | Linear | 1/Var | 0.000047 | 0.000002 | 0.000000 | 1.000000 | 0.998678 | 0.000218 | 2.848392 | 9.494640 |
| Mg 279.079 {121} | 03/20/2019 09:05:43 | 03/19/2019 14:04:00 | Full Fit | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.030000 | 0.999975 | 0.000001 | 72.972704 | 243.24234 |
| Mg 280.270 {120} | 03/20/2019 09:05:43 | 03/19/2019 13:36:50 | Linear | 1/Var | 0.000315 | 0.000033 | 0.000000 | 1.000000 | 0.999375 | 0.000328 | 0.037859 | 0.126196 |
| Mn 257.610 {131} | 03/20/2019 09:05:43 | 03/19/2019 13:36:50 | Linear | 1/Conc | 0.000008 | 0.000012 | 0.000000 | 1.000000 | 0.999946 | 0.000001 | 0.099746 | 0.332486 |
| Mn 259.373 {130} | 03/20/2019 09:05:43 | 03/19/2019 13:43:27 | Linear | 1/Conc | 0.000005 | 0.000004 | 0.000000 | 1.000000 | 0.999698 | 0.000052 | 1.170526 | 3.901753 |
| Mo 202.030 {466} | 03/20/2019 09:05:43 | 03/19/2019 13:30:05 | Linear | 1/Conc | 0.000012 | 0.000009 | 0.000000 | 1.000000 | 0.999845 | 0.000000 | 0.497466 | 1.658221 |
| Mo 203.844 {465} | 03/20/2019 09:05:43 | 03/19/2019 13:30:05 | Linear | 1/Var | 0.000008 | 0.000006 | 0.000000 | 1.000000 | 0.999987 | 0.000004 | 1.036405 | 3.454682 |
| Mo 204.598 {464} | 03/20/2019 09:05:43 | 03/19/2019 13:36:50 | Linear | 1/Var | -0.000003 | 0.000006 | 0.000000 | 1.000000 | 0.999988 | 0.000005 | 0.879297 | 2.930992 |
| Ni 221.647 {452} | 03/20/2019 09:05:43 | 03/19/2019 13:36:50 | Linear | 1/Conc | -0.000002 | 0.000016 | 0.000000 | 1.000000 | 0.999961 | 0.000007 | 0.552953 | 1.843176 |
| Ni 231.604 {445} | 03/20/2019 09:05:43 | 03/19/2019 13:36:51 | Linear | 1/Conc | 0.000001 | 0.000014 | 0.000000 | 1.000000 | 0.999949 | 0.000001 | 0.567234 | 1.890780 |
| Pb 216.999 {455} | 03/20/2019 09:05:43 | 03/19/2019 13:43:28 | Linear | 1/Var | 0.000022 | 0.000001 | 0.000000 | 1.000000 | 0.999876 | 0.000024 | 4.959368 | 16.531227 |
| Pb 220.353 {453} | 03/20/2019 09:05:43 | 03/19/2019 13:30:06 | Linear | 1/Var | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999998 | 0.000002 | 3.272954 | 10.909846 |
| Pb 220.353 {153} | 03/20/2019 09:05:43 | 03/19/2019 13:43:28 | Linear | 1/Conc | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999929 | 0.000000 | 5.642640 | 18.808800 |
| Sb 206.833 {463} | 03/20/2019 09:05:43 | 03/19/2019 13:36:52 | Linear | 1/Conc | -0.000007 | 0.000002 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 2.411982 | 8.039941 |
| Sb 217.581 {455} | 03/20/2019 09:05:43 | 03/19/2019 13:36:52 | Linear | 1/Conc | 0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999975 | 0.000000 | 2.525762 | 8.419206 |
| Se 196.090 {472} | 03/20/2019 09:05:43 | 03/19/2019 13:30:06 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 4.222920 | 14.076400 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 03/20/2019 09:05:43 | 03/19/2019 13:36:52 | Curvili | 1/Conc | 0.000008 | 0.000000 | 0.000000 | 1.000000 | 0.999633 | 0.000000 | 23.878305 | 79.594349 |
| Tl 190.856 {476} | 03/20/2019 09:05:43 | 03/19/2019 13:36:52 | Linear | 1/Conc | 0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999860 | 0.000001 | 2.253934 | 7.513114 |
| Tl 190.856 {477} | 03/20/2019 09:05:43 | 03/19/2019 13:36:52 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999886 | 0.000000 | 7.018407 | 23.394691 |
| V 290.882 {116} | 03/20/2019 09:05:43 | 03/19/2019 13:36:53 | Linear | 1/Conc | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999966 | 0.000001 | 5.394293 | 17.980976 |
| V 292.402 {115} | 03/20/2019 09:05:43 | 03/19/2019 13:36:53 | Linear | 1/Conc | -0.000001 | 0.000005 | 0.000000 | 1.000000 | 0.999997 | 0.000000 | 0.761629 | 2.538762 |
| Zn 206.200 {463} | 03/20/2019 09:05:43 | 03/19/2019 13:43:28 | Linear | 1/Var | 0.000031 | 0.000012 | 0.000000 | 1.000000 | 0.997423 | 0.000261 | 0.444178 | 1.480593 |
| Zn 213.856 {457} | 03/20/2019 09:05:43 | 03/19/2019 13:30:07 | Linear | 1/Conc | 0.000067 | 0.000043 | 0.000000 | 1.000000 | 0.999994 | 0.000001 | 0.148778 | 0.495927 |
| Y 224.306 {450}* | 03/20/2019 09:05:43 | 03/19/2019 12:40:58 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 03/20/2019 09:05:43 | 03/19/2019 12:40:58 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 03/20/2019 09:05:43 | 03/19/2019 12:40:58 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 03/20/2019 09:05:43 | 03/19/2019 13:36:53 | Linear | 1/Conc | 0.005748 | 0.000006 | 0.000000 | 1.000000 | 0.999631 | 0.000031 | 7.195826 | 23.986086 |
| Na 589.592 { 57} | 03/20/2019 09:05:43 | 03/19/2019 14:04:00 | Linear | 1/Conc | 0.000193 | 0.000005 | 0.000000 | 1.000000 | 0.999999 | 0.000010 | 6.101412 | 20.338040 |
| Si 251.611 {134} | 03/20/2019 09:05:43 | 03/19/2019 14:04:00 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999956 | 0.000002 | 11.615978 | 38.719926 |
| Ti 323.452 {104} | 03/20/2019 09:05:43 | 03/19/2019 13:36:54 | Linear | 1/Conc | 0.000290 | 0.000008 | 0.000000 | 1.000000 | 0.999926 | 0.000001 | 1.442328 | 4.807762 |
| Ti 334.941 {101} | 03/20/2019 09:05:43 | 03/19/2019 13:36:54 | Linear | 1/Conc | 0.000014 | 0.000007 | 0.000000 | 1.000000 | 0.999895 | 0.000001 | 1.118009 | 3.726695 |
| Sr 407.771 { 83} | 03/20/2019 09:05:43 | 03/19/2019 13:36:55 | Linear | 1/Conc | 0.000086 | 0.000200 | 0.000000 | 1.000000 | 0.999997 | 0.000002 | 0.085554 | 0.285181 |
| Sr 421.552 { 80} | 03/20/2019 09:05:43 | 03/19/2019 13:36:55 | Linear | 1/Conc | 0.000008 | 0.000187 | 0.000000 | 1.000000 | 0.999997 | 0.000002 | 0.091972 | 0.306573 |
| Sn 189.989 {477} | 03/20/2019 09:05:43 | 03/19/2019 13:36:55 | Linear | 1/Conc | 0.000016 | 0.000005 | 0.000000 | 1.000000 | 0.999965 | 0.000001 | 0.963694 | 3.212313 |
| B 249.678 {135} | 03/20/2019 09:05:43 | 03/19/2019 13:36:55 | Linear | 1/Conc | 0.000009 | 0.000002 | 0.000000 | 1.000000 | 0.999940 | 0.000000 | 1.227164 | 4.090546 |
| B 249.773 {135} | 03/20/2019 09:05:43 | 03/19/2019 13:36:56 | Linear | 1/Var | 0.000009 | 0.000004 | 0.000000 | 1.000000 | 0.999783 | 0.000010 | 0.583302 | 1.944341 |
| Li 670.784 { 50} | 03/20/2019 09:05:43 | 03/19/2019 13:36:56 | Linear | 1/Var | -20.134015 | 13.595726 | 0.000000 | 1.000000 | 0.999967 | 4.600640 | 0.936491 | 3.121638 |
| K 766.490 { 44} | 03/20/2019 09:05:43 | 03/19/2019 14:04:00 | Linear | 1/Conc | 0.000122 | 0.000001 | 0.000000 | 1.000000 | 0.999993 | 0.000006 | 36.777301 | 122.59100 |
| P 213.618 {457} | 03/20/2019 09:05:43 | 03/19/2019 13:36:57 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.600645 | 15.335484 |
| S 182.034 {485} | 03/20/2019 09:05:43 | 03/19/2019 14:04:00 | Curvili | 1/Conc | 0.000014 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000001 | 6.010699 | 20.035664 |
| Hg 184.950 {482} | 03/20/2019 09:05:43 | 03/19/2019 13:30:09 | Linear | 1/Conc | 0.000005 | 0.000004 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 1.153275 | 3.844250 |
| Ce 404.076 { 83} | 03/20/2019 09:05:43 | 03/19/2019 13:30:09 | Linear | 1/Conc | 0.000050 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 25.194462 | 83.981540 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

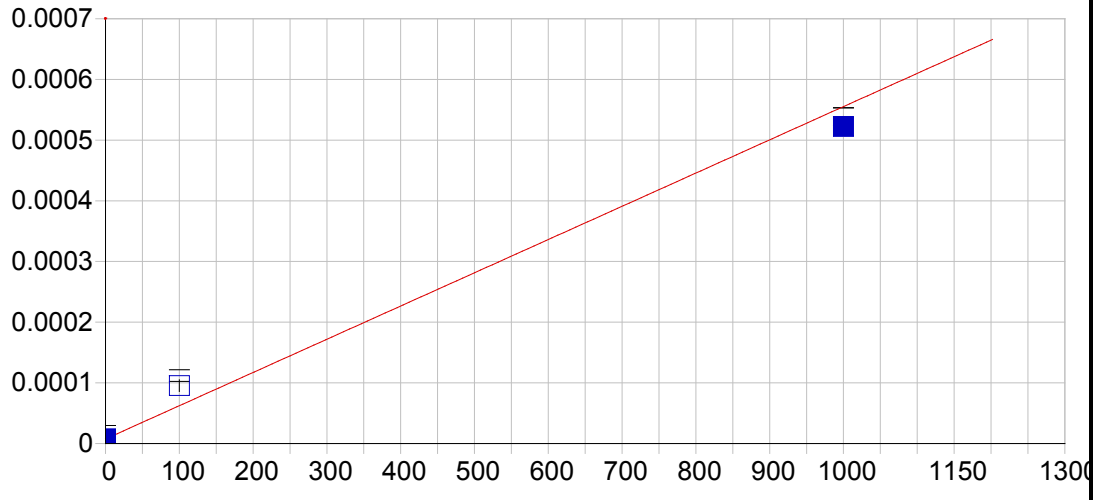



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999850 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.773371 | | |
| Predicted MQL: | 2.577902 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.86349 | -.863 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.100 | .100 | .999 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.701 | -.299 | -.299 | .00036 | .000 | 1 |
| CalStd3=1 | 1.0000 | .62964 | -.370 | -37.0 | .00002 | .000 | 1 |

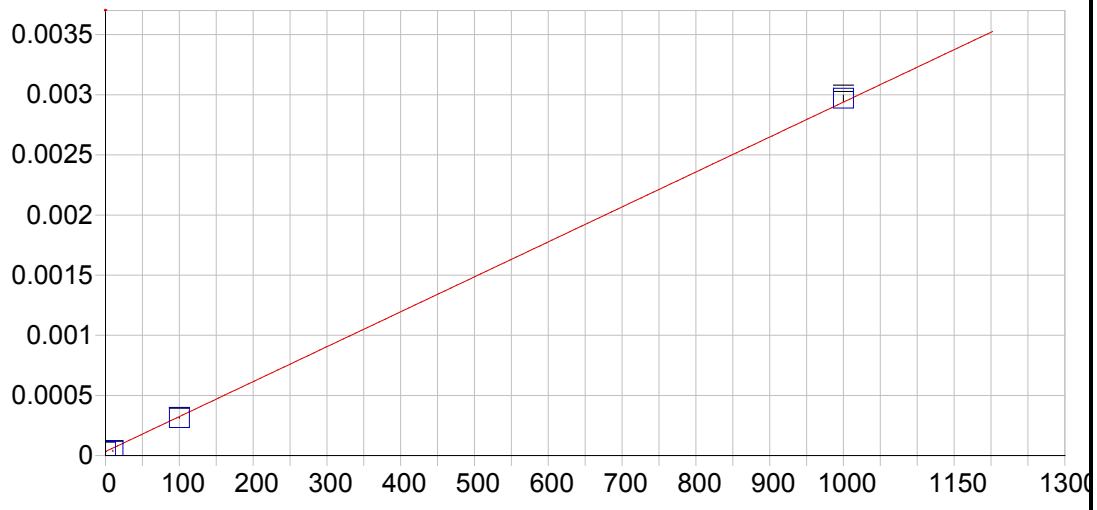



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.982224 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 15.350229 | | |
| Predicted MQL: | 51.167429 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05437 | -.054 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 160.41 | 60.4 | 60.4 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 939.60 | -60.4 | -6.04 | .00052 | .000 | 1 |

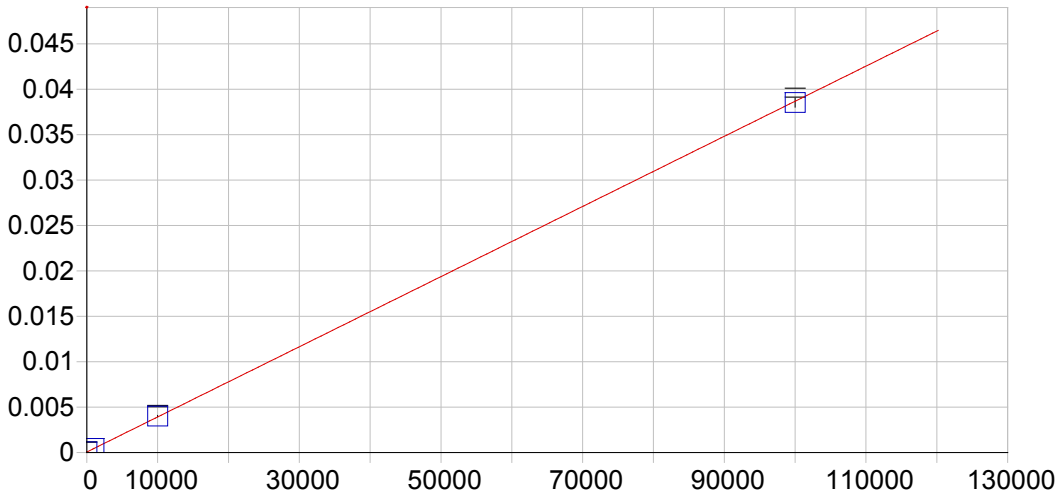



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997271 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.928238 | | |
| Predicted MQL: | 3.094128 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00787 | .008 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | .00297 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.3537 | -7.65 | -76.5 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.692 | -3.31 | -3.31 | .00031 | .000 | 1 |

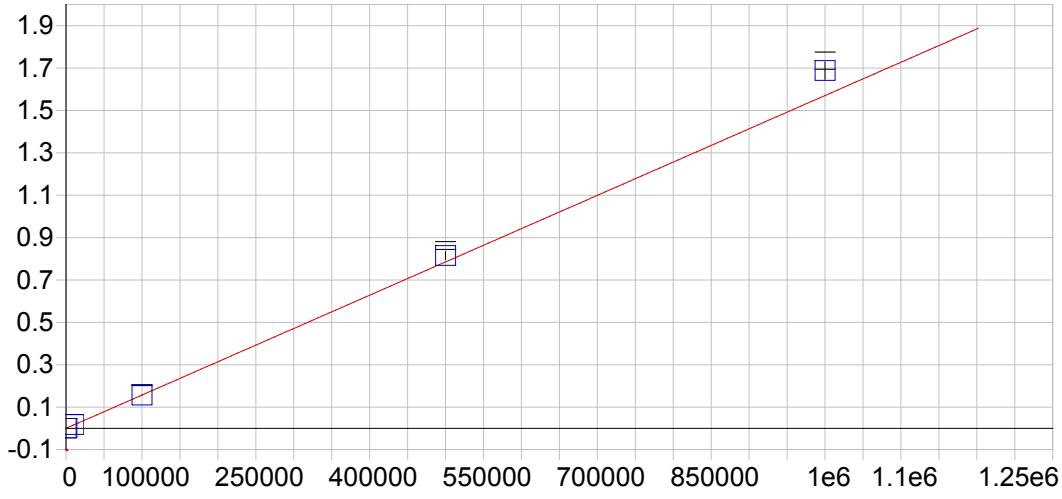



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999925 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 29.332149 | | |
| Predicted MQL: | 97.773828 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 8.7757 | 8.78 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10225. | 225. | 2.25 | .00401 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.38 | -4.62 | -.462 | .00044 | .000 | 1 |
| CalStd13=10 | 100000. | 99602. | -398. | -.398 | .03853 | .000 | 1 |

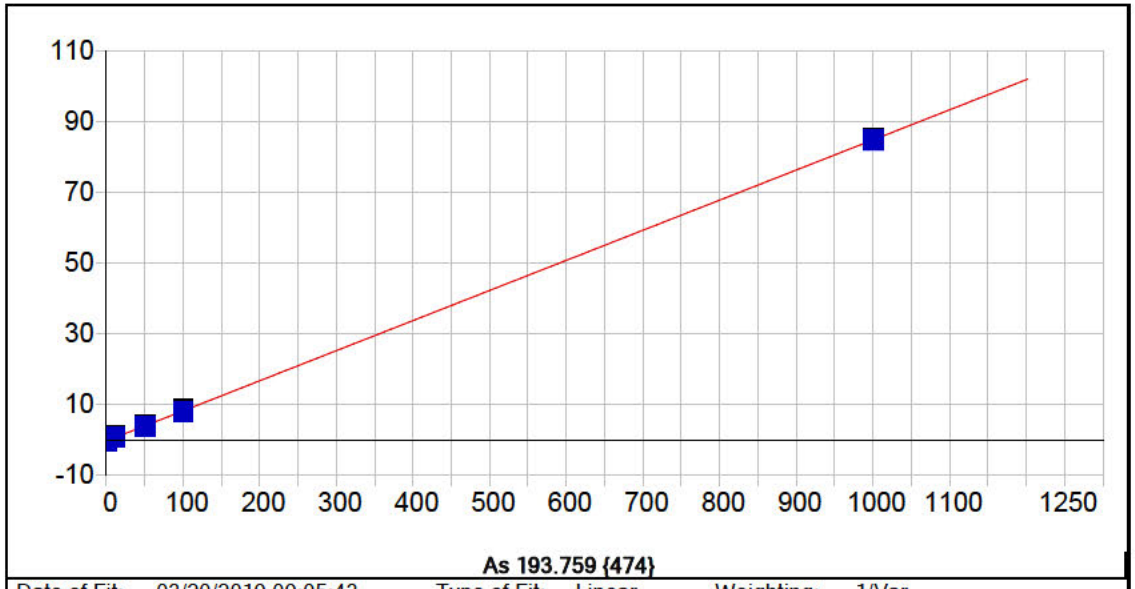



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 10.893915 | | |
| Predicted MQL: | 36.313051 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14267 | -.143 | .000 | -.00000 | .000 | 1 |
| CalStd14=50 | 500000. | 519040. | 19000. | 3.81 | .81514 | .018 | 1 |
| CalStd13=10 | 100000. | 99636. | -364. | -.364 | .15648 | .002 | 1 |
| CalStd10=10 | 10000. | 10786. | 786. | 7.86 | .01694 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1075.4 | 75.4 | 7.54 | .00169 | .000 | 1 |
| CalibStd15= | 1000000. | 1074900. | 74900. | 7.49 | 1.6880 | .041 | 1 |

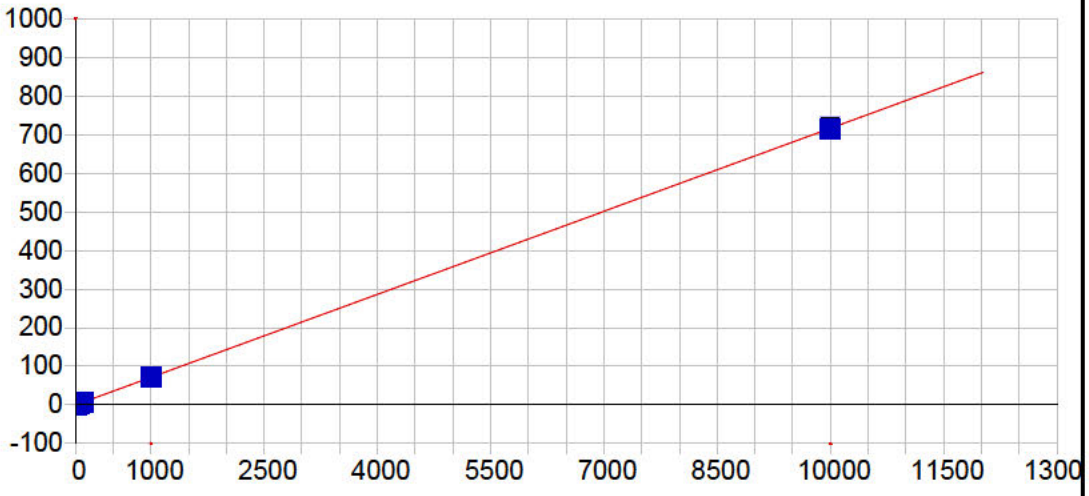



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.237703 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.085042 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.073427 | | |
| Predicted MDL: | 5.848254 | | |
| Predicted MQL: | 19.494181 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11904 | .119 | .000 | -.22758 | .166 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .124 | .012 | 84.530 | .384 | 1 |
| CalStd7=50 | 50.000 | 49.066 | -.934 | -1.87 | 3.9253 | .480 | 1 |
| CalStd5=10 | 10.000 | 11.247 | 1.25 | 12.5 | .71650 | .462 | 1 |
| CalStd8=100 | 100.00 | 98.084 | -1.92 | -1.92 | 8.0751 | .525 | 1 |

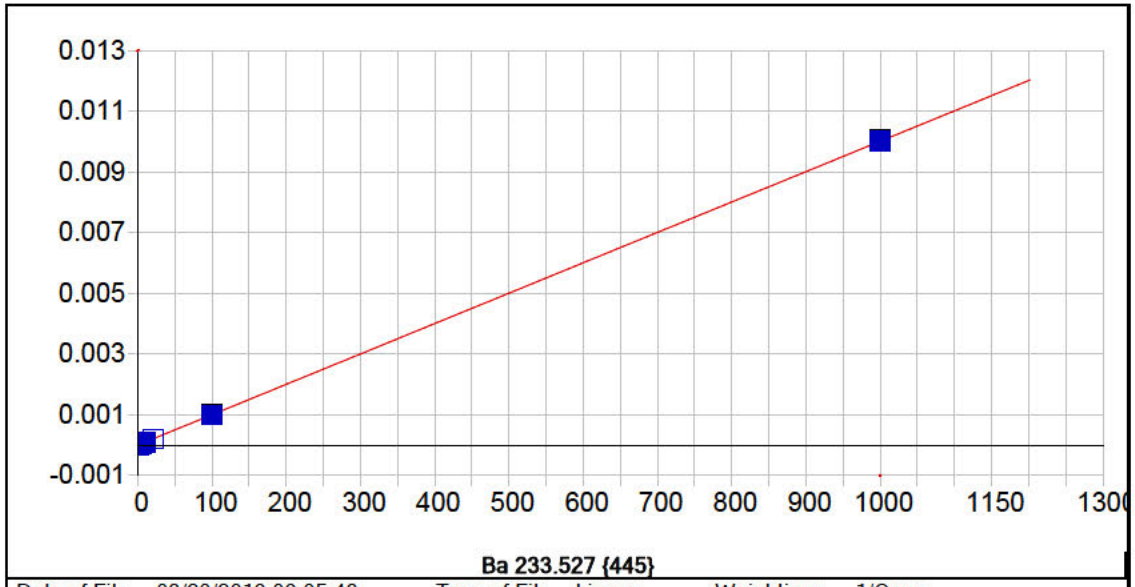



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.073836 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.071628 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.010738 | | |
| Predicted MDL: | 7.146257 | | |
| Predicted MQL: | 23.820855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00184 | -.002 | .000 | -.07397 | .384 | 1 |
| CalStd9=100 | 1000.0 | 1015.3 | 15.3 | 1.53 | 73.092 | .266 | 1 |
| CalStd7=50 | 50.000 | 54.921 | 4.92 | 9.84 | 3.8600 | .517 | 1 |
| CalStd5=10 | 10.000 | 11.459 | 1.46 | 14.6 | .74687 | .412 | 1 |
| CalStd8=100 | 100.00 | 92.594 | -7.41 | -7.41 | 6.6027 | .240 | 1 |
| CalStd10=10 | 10000. | 9985.8 | -14.2 | -.142 | 719.68 | .655 | 1 |

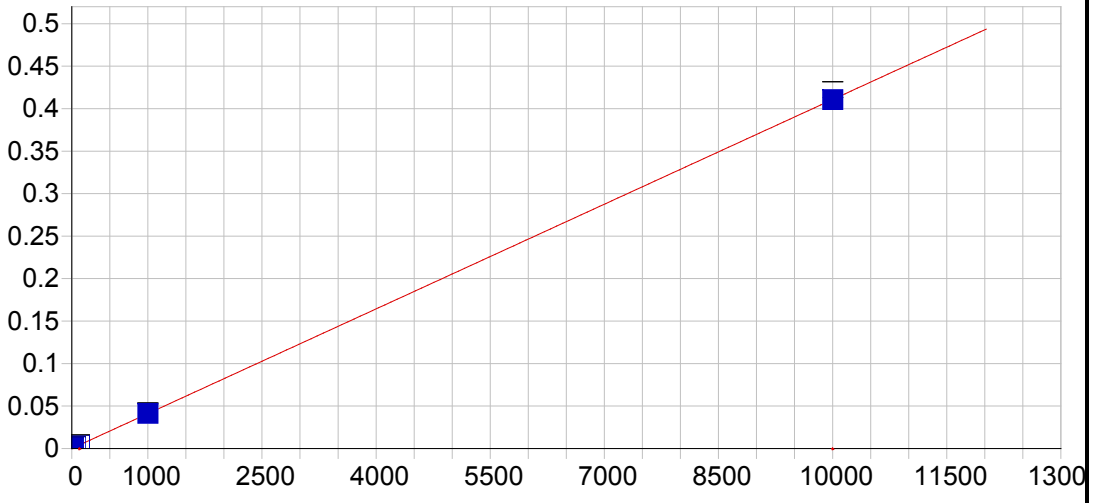



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999920 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.456034 | | |
| Predicted MQL: | 1.520114 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.213 | .213 | 2.13 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.659 | -.341 | -1.70 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.742 | -1.26 | -1.26 | .00099 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5615 | -.439 | -8.77 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.16 | .216 | .01004 | .000 | 1 |
| CalStd3=1 | 1.0000 | .66478 | -.335 | -33.5 | .00001 | .000 | 1 |

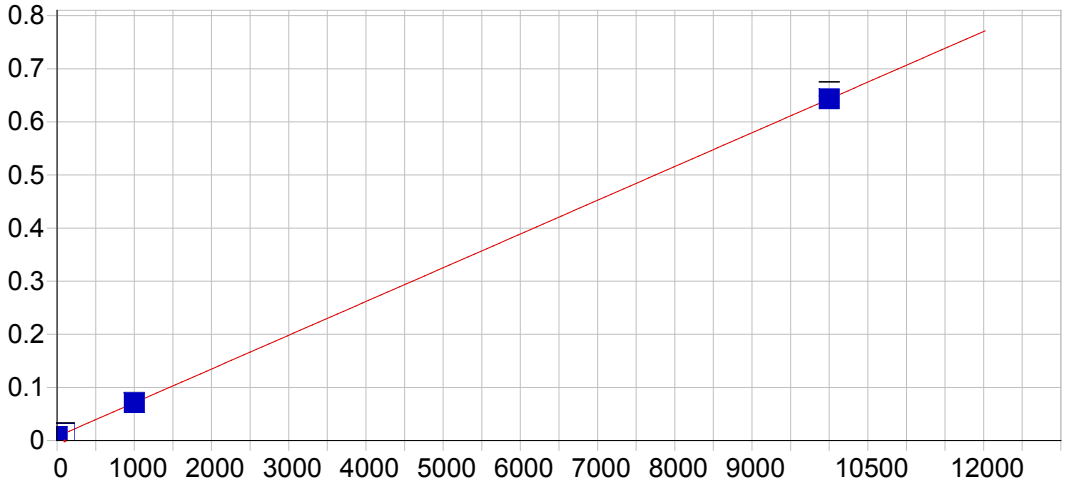



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000057 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000041 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.445655 | | |
| Predicted MQL: | 1.485518 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00011 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.027 | .027 | .054 | .00211 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.733 | .733 | 7.33 | .00050 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.990 | -.010 | -.050 | .00088 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.09 | 1.09 | 1.09 | .00421 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8280 | -.172 | -3.44 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.4 | 3.39 | .339 | .04126 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0591 | .059 | 5.91 | .00010 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.9 | -5.11 | -.051 | .41051 | .009 | 1 |

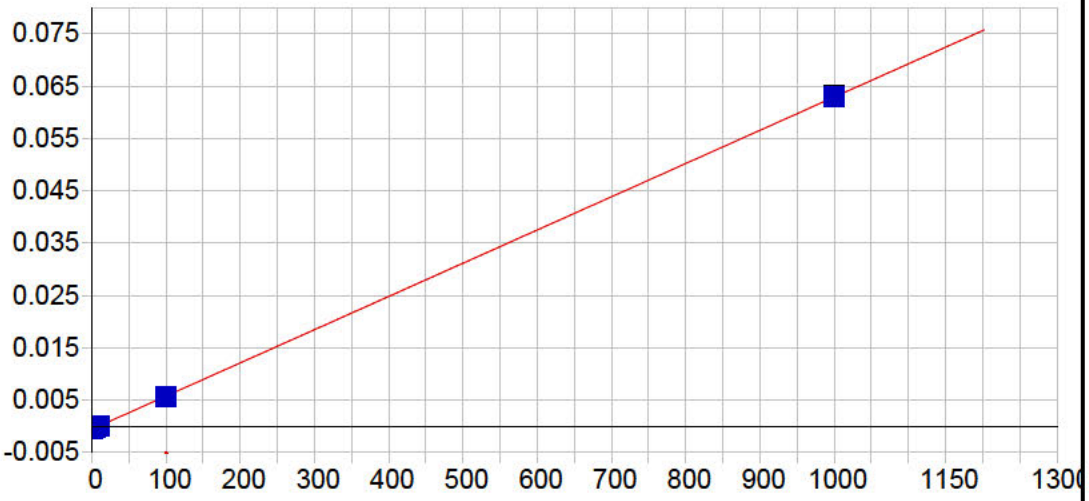



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.007559 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000064 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.632998 | | |
| Predicted MQL: | 2.109993 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00089 | -.001 | .000 | .00756 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.98 | -1.02 | -.102 | .07105 | .001 | 1 |
| CalStd8=100 | 100.00 | 100.99 | .994 | .994 | .01398 | .001 | 1 |
| CalStd10=10 | 10000. | 10000. | .027 | .000 | .64314 | .013 | 1 |

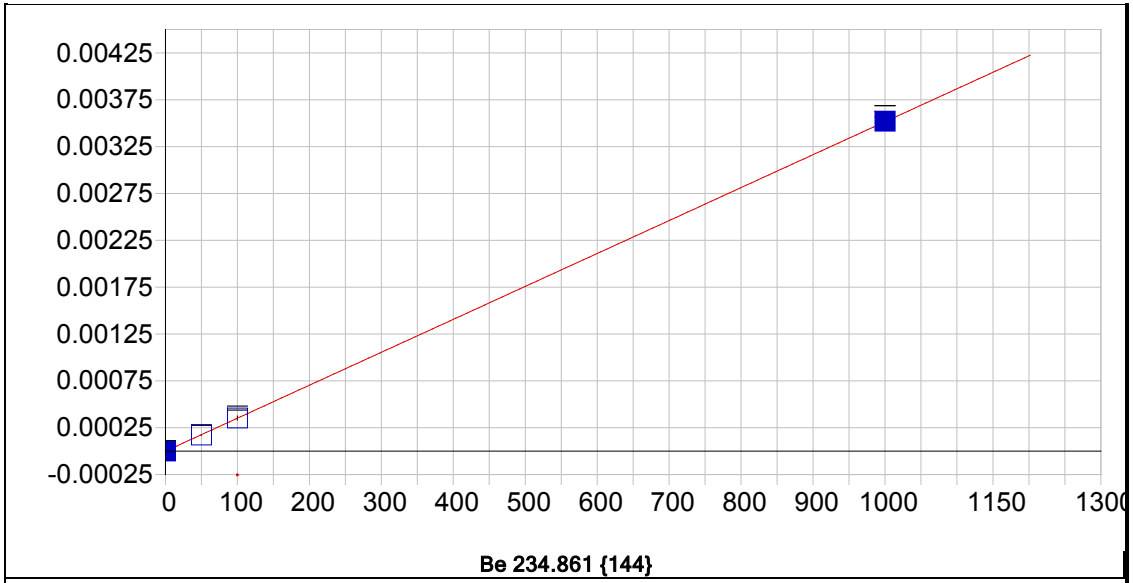



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000574 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000063 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999975 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.073798 | | |
| Predicted MQL: | 0.245992 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00002 | .000 | .000 | -.00057 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.525 | .525 | 5.25 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.826 | -1.17 | -1.17 | .00570 | .000 | 1 |
| CalStd2=0.5 | .50000 | .45904 | -.041 | -8.19 | -.00054 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7962 | -.204 | -4.08 | -.00027 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .862 | .086 | .06294 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0328 | .033 | 3.28 | -.00051 | .000 | 1 |

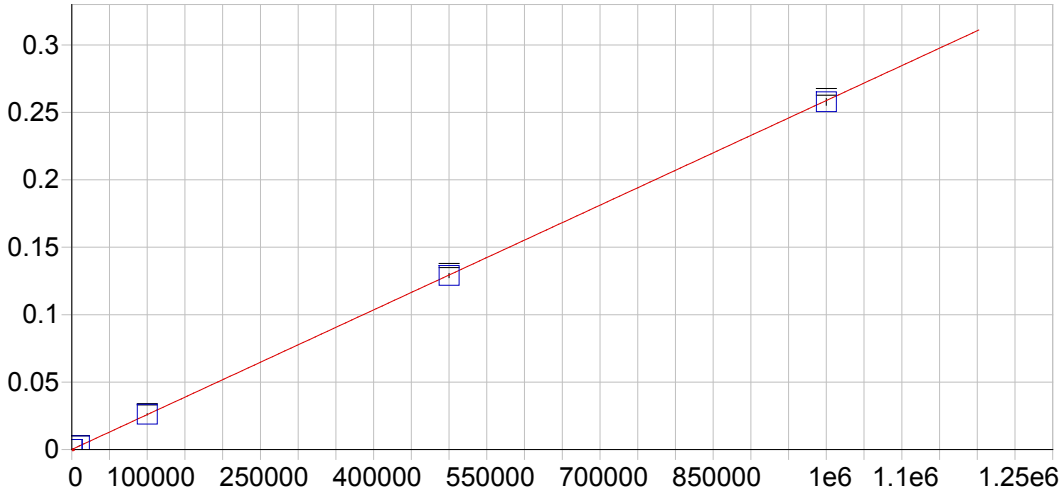



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.874419 | | |
| Predicted MQL: | 2.914731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00131 | .001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.2 | 1.21 | .121 | .00352 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.32 | .318 | .318 | .00035 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.471 | -1.53 | -3.06 | .00017 | .000 | 1 |

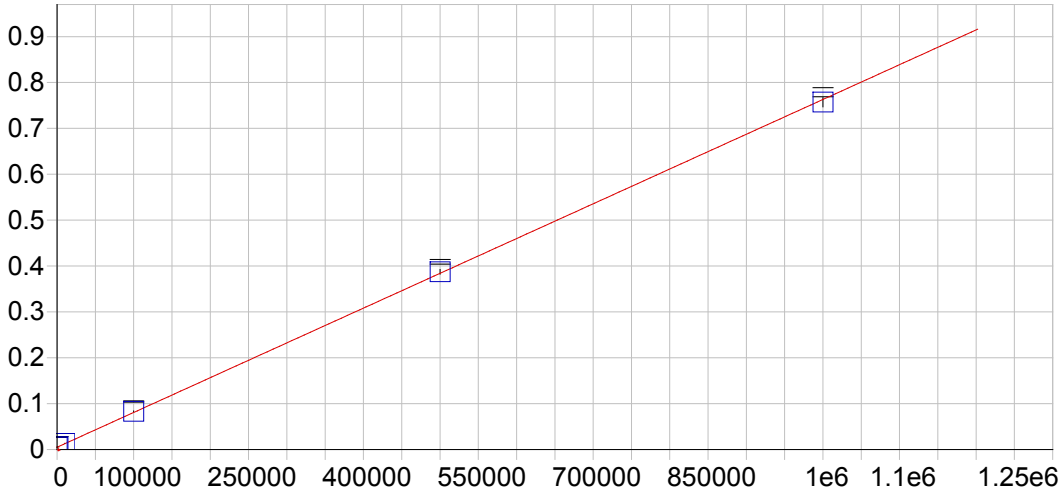



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000050 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999840 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 16.015967 | | |
| Predicted MQL: | 53.386557 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 9.3319 | 9.33 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 10464. | 464. | 4.64 | .00276 | .000 | 1 |
| CalStd13=10 | 100000. | 100710. | 713. | .713 | .02611 | .000 | 1 |
| CalStd14=50 | 500000. | 498450. | -1550. | -.309 | .12903 | .002 | 1 |
| CalStd9=100 | 1000.0 | 990.93 | -9.07 | -.907 | .00031 | .000 | 1 |
| CalibStd15= | 1000000. | 995970. | -4030. | -.403 | .25776 | .002 | 1 |

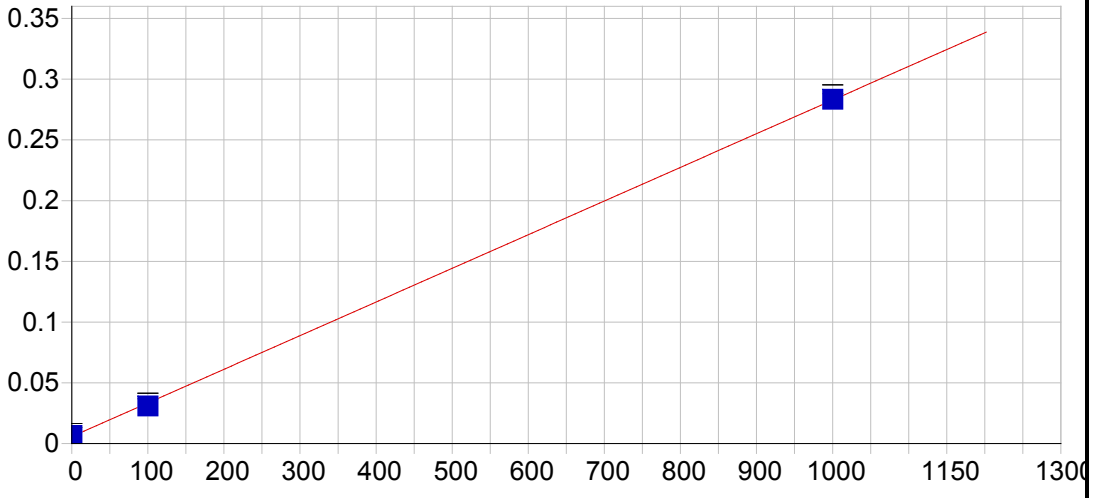



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005057 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999924 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 7.488015 | | |
| Predicted MQL: | 24.960051 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14727 | -.147 | .000 | .00506 | .000 | 1 |
| CalStd10=10 | 10000. | 10849. | 849. | 8.49 | .01328 | .000 | 1 |
| CalStd13=10 | 100000. | 102620. | 2620. | 2.62 | .08284 | .001 | 1 |
| CalStd14=50 | 500000. | 504410. | 4410. | .882 | .38739 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1035.3 | 35.3 | 3.53 | .00584 | .000 | 1 |
| CalibStd15= | 1000000. | 992090. | -7910. | -.791 | .75704 | .010 | 1 |

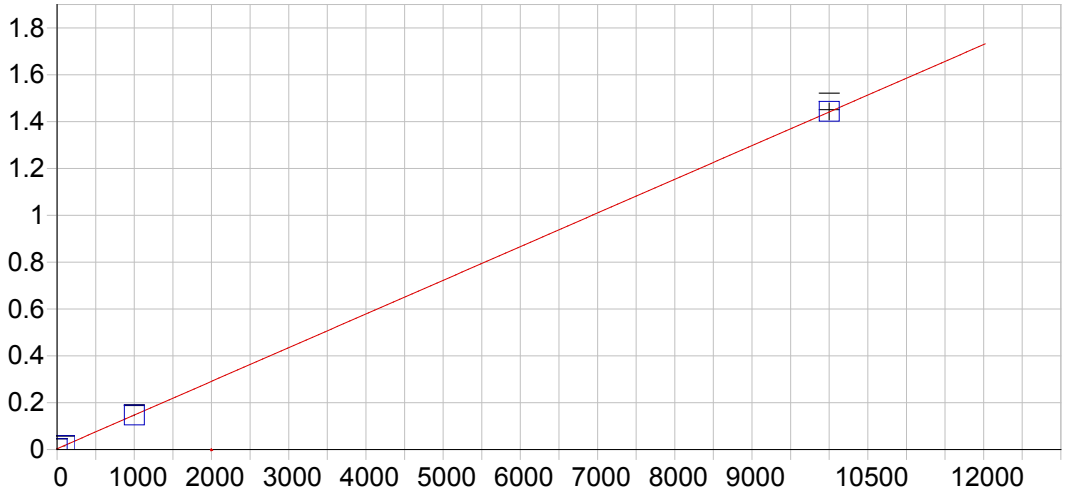



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005701 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000277 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999829 | Status: | OK. |
| Std Error of Est: | 0.002803 | | |
| Predicted MDL: | 0.047338 | | |
| Predicted MQL: | 0.157793 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 4.0038 | 4.00 | .000 | .00681 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.22 | .222 | .28344 | .004 | 1 |
| CalStd8=100 | 100.00 | 90.878 | -9.12 | -9.12 | .03089 | .002 | 1 |

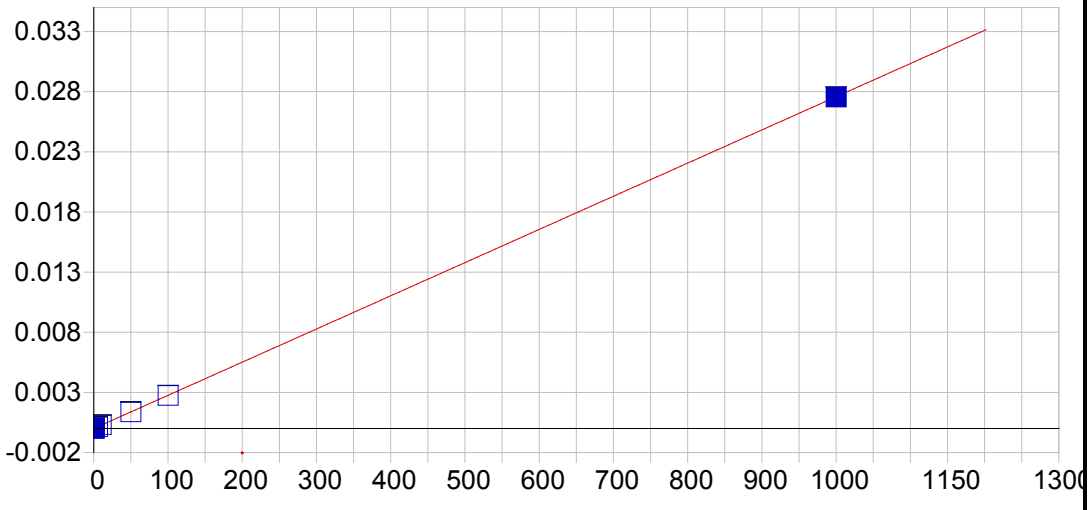



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003596 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000144 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999929 | Status: | OK. |
| Std Error of Est: | 0.000081 | | |
| Predicted MDL: | 0.090327 | | |
| Predicted MQL: | 0.301091 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01266 | .013 | .000 | .00360 | .001 | 1 |
| CalStd10=10 | 10000. | 10017. | 16.8 | .168 | 1.4438 | .035 | 1 |
| CalStd8=100 | 100.00 | 87.609 | -12.4 | -12.4 | .01619 | .001 | 1 |
| CalStd9=100 | 1000.0 | 995.63 | -4.37 | -.437 | .14675 | .002 | 1 |

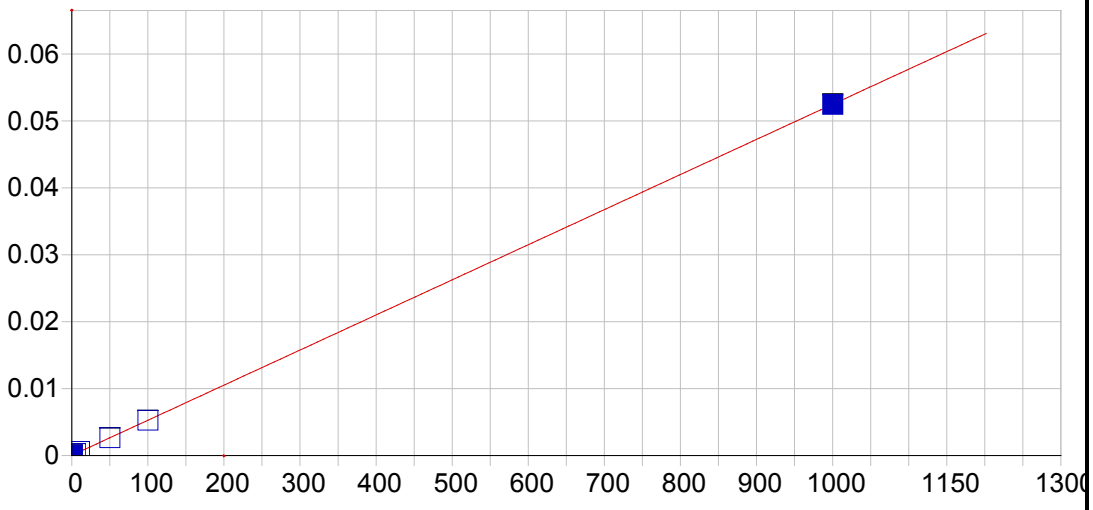



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000028 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999729 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.247320 | | |
| Predicted MQL: | 0.824400 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00069 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.960 | -.040 | -.081 | .00138 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2855 | .286 | 28.6 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | 1.0027 | .503 | 101. | .00002 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1414 | .141 | 2.83 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.590 | -.410 | -.410 | .00274 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.615 | .615 | 6.15 | .00029 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.91 | -1.09 | -.109 | .02756 | .000 | 1 |

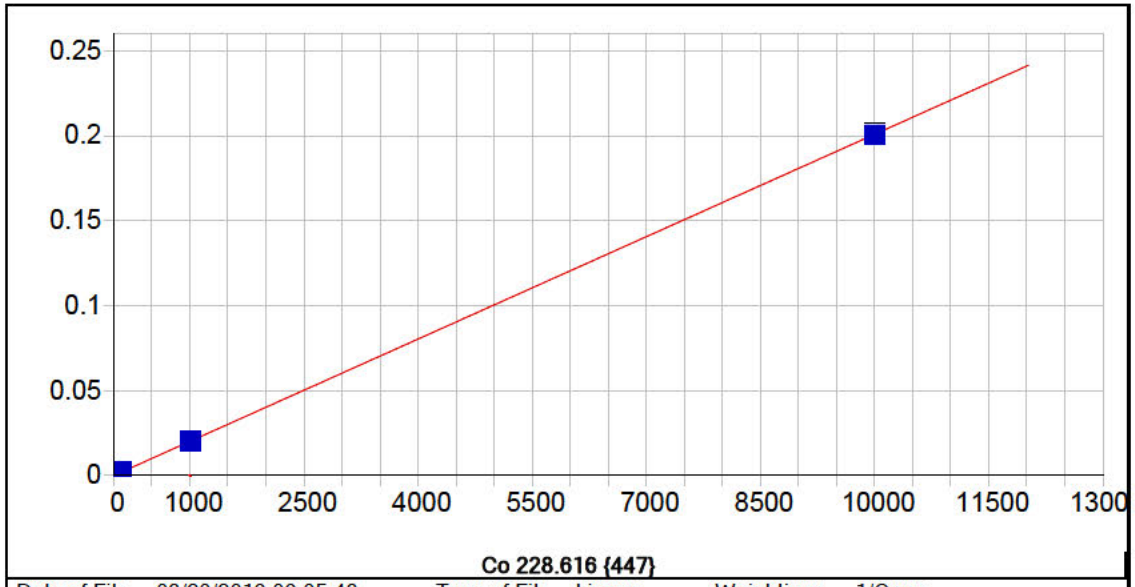



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000052 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999949 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.165319 | | |
| Predicted MQL: | 0.551065 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00024 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.894 | -.106 | -.211 | .00264 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1521 | .152 | 15.2 | .00009 | .000 | 1 |
| CalStd2=0.5 | .50000 | .64497 | .145 | 29.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9094 | -.091 | -1.81 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.594 | -.406 | -.406 | .00525 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.706 | .706 | 7.06 | .00059 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.60 | -.401 | -.040 | .05247 | .000 | 1 |

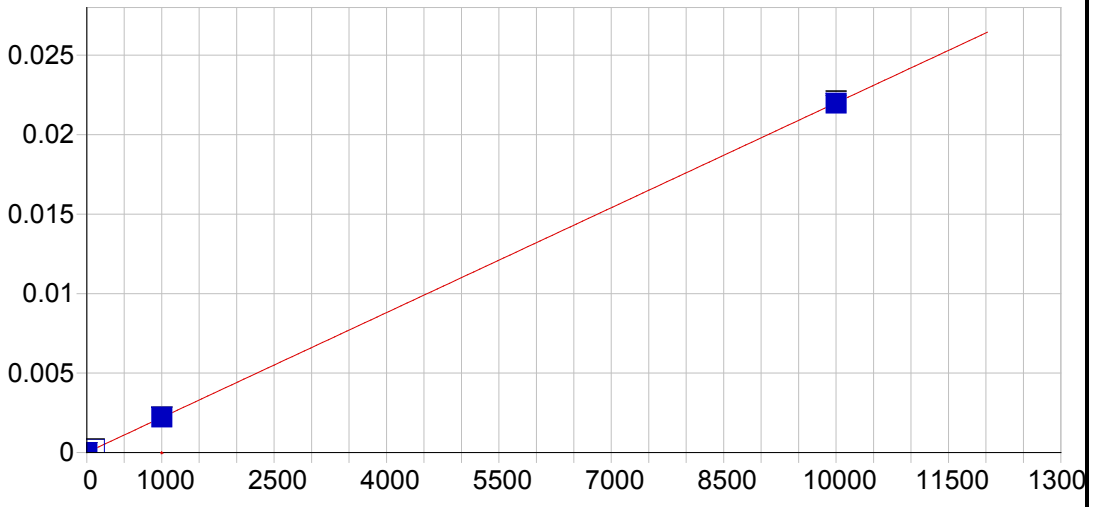



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000020 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.383453 | | |
| Predicted MQL: | 1.278176 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00002 | .000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.008 | 1.01 | 2.02 | .00104 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.903 | .903 | 9.03 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9427 | -.057 | -1.15 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.20 | 1.20 | 1.20 | .00205 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.4 | 22.4 | 2.24 | .02056 | .000 | 1 |
| CalStd3=1 | 1.0000 | .85062 | -.149 | -14.9 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9974.8 | -25.2 | -.252 | .20071 | .001 | 1 |

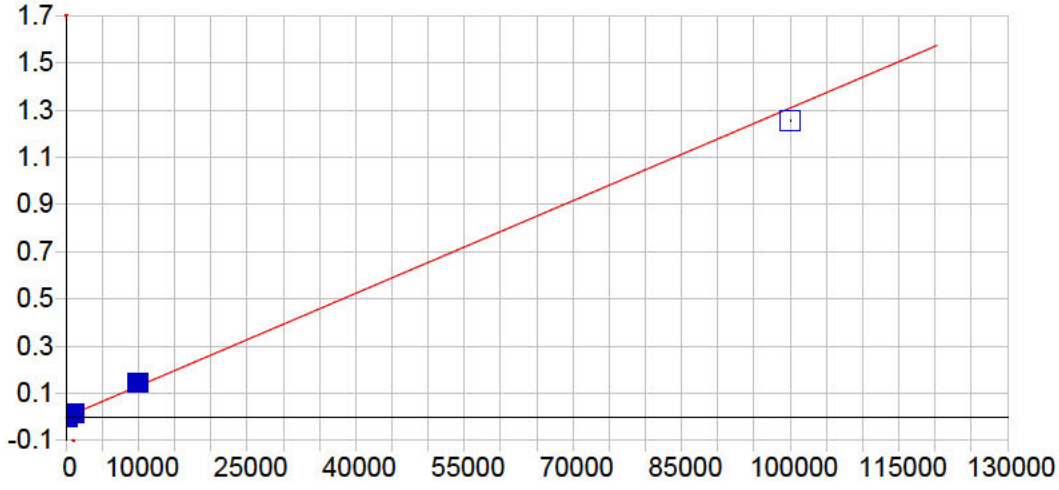



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.769243 | | |
| Predicted MQL: | 2.564143 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00072 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.4 | 11.4 | 1.14 | .00223 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.9 | -11.1 | -.111 | .02198 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.693 | -.307 | -.307 | .00022 | .000 | 1 |

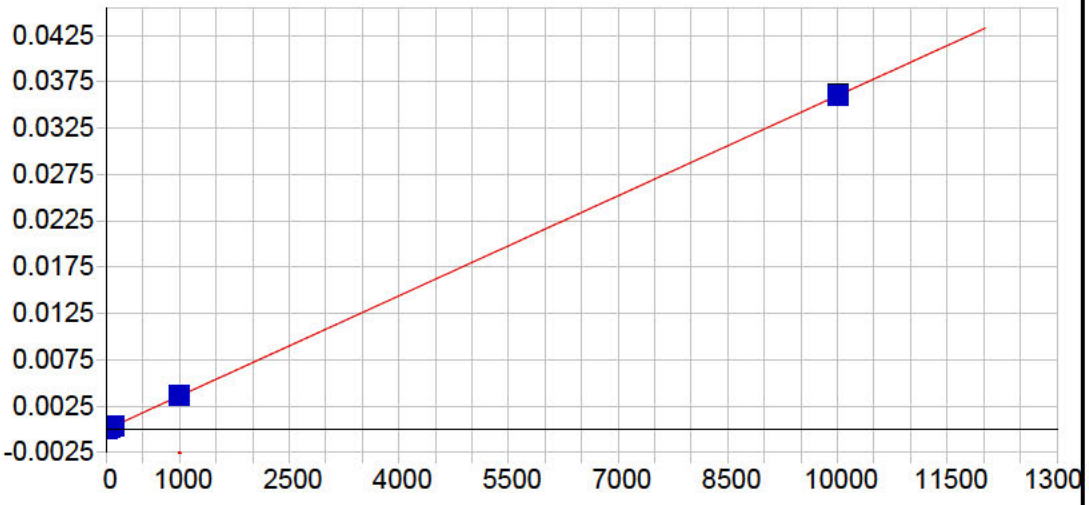



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000013 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997702 | Status: | OK. |
| Std Error of Est: | 0.000158 | | |
| Predicted MDL: | 0.414974 | | |
| Predicted MQL: | 1.383248 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.2836 | -2.28 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1412 | -.859 | -8.59 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.156 | 3.16 | 6.31 | .00072 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1126.9 | 127. | 12.7 | .01478 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.10 | 9.10 | 9.10 | .00146 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.8698 | -2.13 | -42.6 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.1479 | -2.15 | -215. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11068. | 1070. | 10.7 | .14492 | .000 | 1 |
| CalStd12=10 | 100000. | 95965. | -4030. | -4.03 | 1.2563 | .001 | 1 |

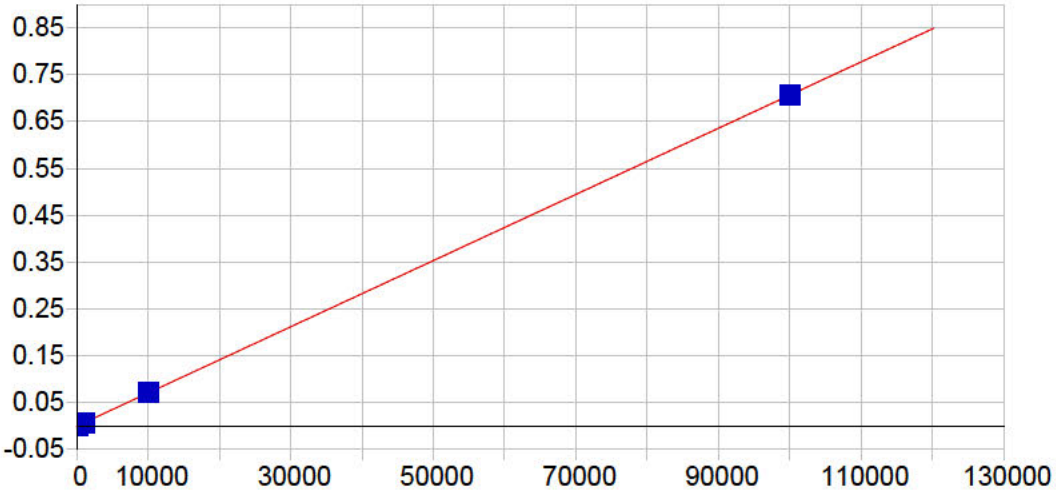



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.645843 | | |
| Predicted MQL: | 2.152811 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9026 | -.097 | -.974 | .00004 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.632 | -1.37 | -2.74 | .00018 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.4 | 7.40 | .740 | .00363 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.444 | -1.56 | -1.56 | .00036 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7525 | -.248 | -4.95 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9995.9 | -4.13 | -.041 | .03599 | .000 | 1 |

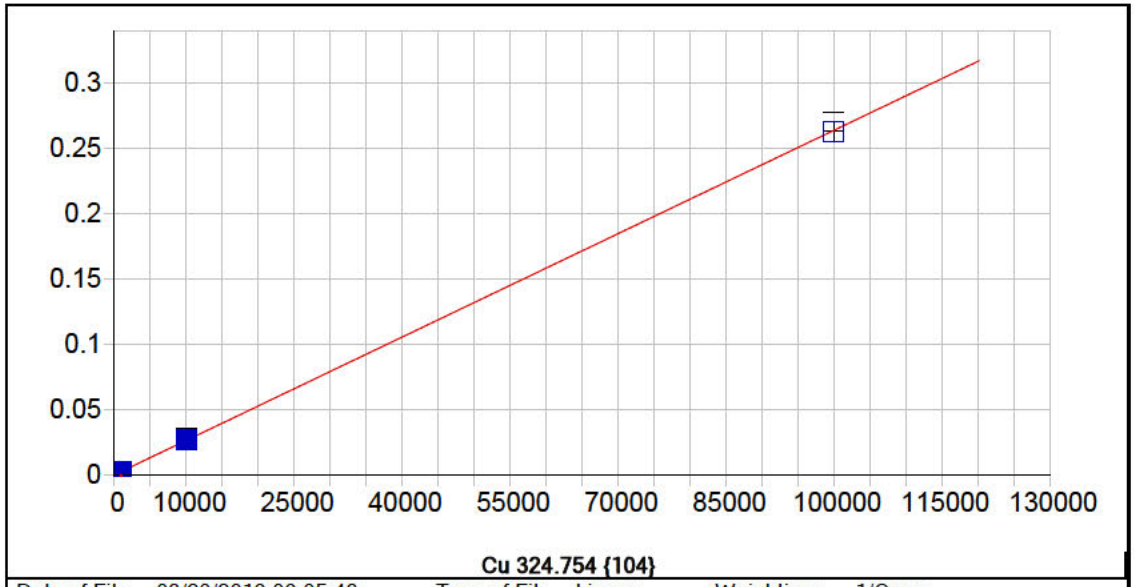



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999751 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.696462 | | |
| Predicted MQL: | 2.321541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03447 | .034 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.9 | 44.9 | 4.49 | .00738 | .000 | 1 |
| CalStd7=50 | 50.000 | 14.992 | -35.0 | -70.0 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 61.970 | -38.0 | -38.0 | .00044 | .000 | 1 |
| CalStd6=20 | 20.000 | 5.8731 | -14.1 | -70.6 | .00004 | .000 | 1 |
| CalStd12=10 | 100000. | 99841. | -159. | -.159 | .70547 | .002 | 1 |
| CalStd10=10 | 10000. | 10202. | 202. | 2.02 | .07209 | .000 | 1 |

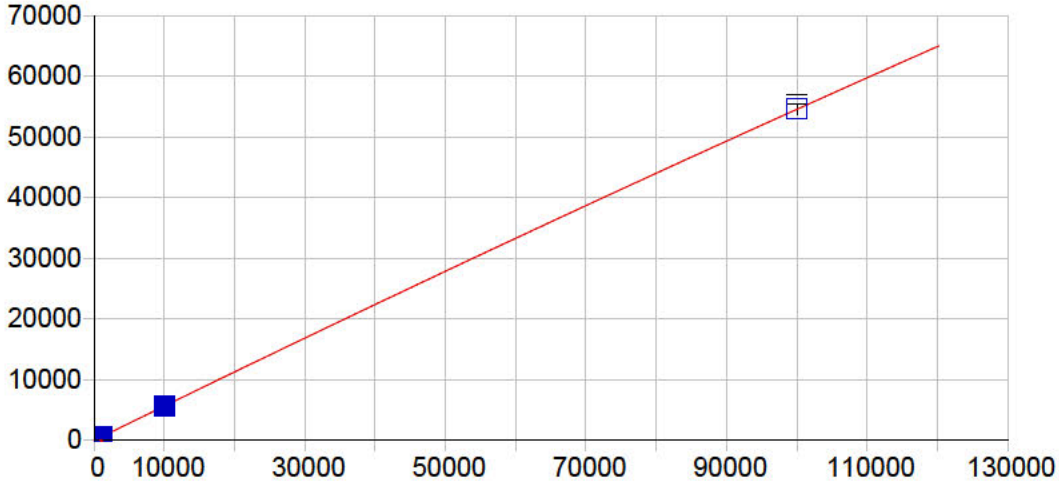



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000300 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 3.326514 | | |
| Predicted MQL: | 11.088381 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00642 | -.006 | .000 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.8 | 33.8 | 3.38 | .00302 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00059 | .000 | 1 |
| CalStd10=10 | 10000. | 10393. | 393. | 3.93 | .02767 | .000 | 1 |
| CalStd12=10 | 100000. | 99554. | -446. | -.446 | .26248 | .007 | 1 |
| CalStd5=10 | 10.000 | 13.025 | 3.03 | 30.3 | .00033 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.880 | 1.88 | 9.40 | .00036 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.148 | 4.15 | 8.30 | .00044 | .000 | 1 |

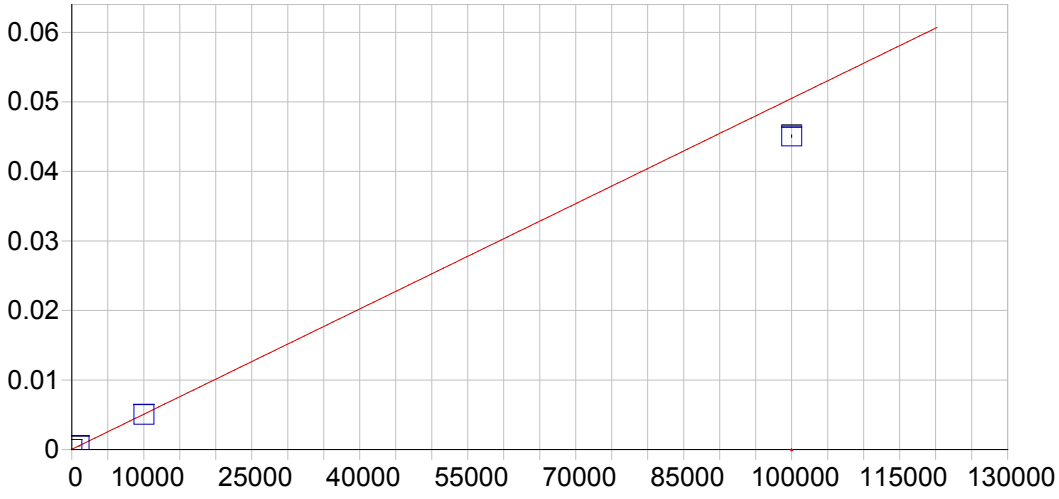



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.187963 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.569858 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999977 | Status: | OK. |
| Std Error of Est: | 0.106671 | | |
| Predicted MDL: | 7.378743 | | |
| Predicted MQL: | 24.595810 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00630 | .006 | .000 | 9.1916 | 3.05 | 1 |
| CalStd6=20 | 20.000 | 15.143 | -4.86 | -24.3 | 17.810 | 2.16 | 1 |
| CalStd7=50 | 50.000 | 48.704 | -1.30 | -2.59 | 36.925 | 1.01 | 1 |
| CalStd8=100 | 100.00 | 99.980 | -.020 | -.020 | 66.127 | 2.45 | 1 |
| CalStd9=100 | 1000.0 | 1006.9 | 6.85 | .685 | 582.37 | 7.09 | 1 |
| CalStd10=10 | 10000. | 10006. | 6.35 | .064 | 5687.2 | 50.5 | 1 |
| CalStd12=10 | 100000. | 99999. | -.761 | -.001 | 54585. | 787. | 1 |
| CalStd4=5 | 5.0000 | 1.2948 | -3.71 | -74.1 | 9.9241 | .761 | 1 |
| CalStd5=10 | 10.000 | 7.4248 | -2.58 | -25.8 | 13.416 | 2.62 | 1 |

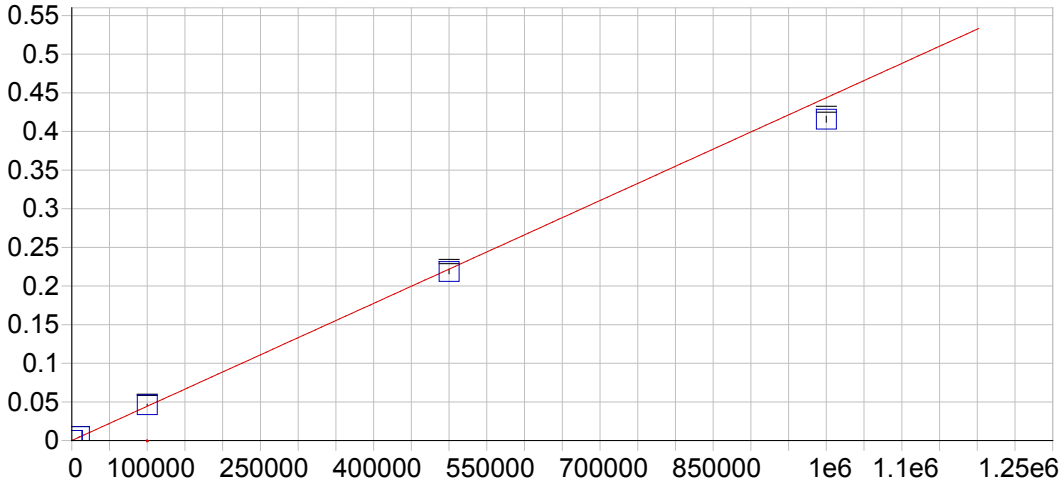



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 1.547008 | | |
| Predicted MQL: | 5.156692 | | |

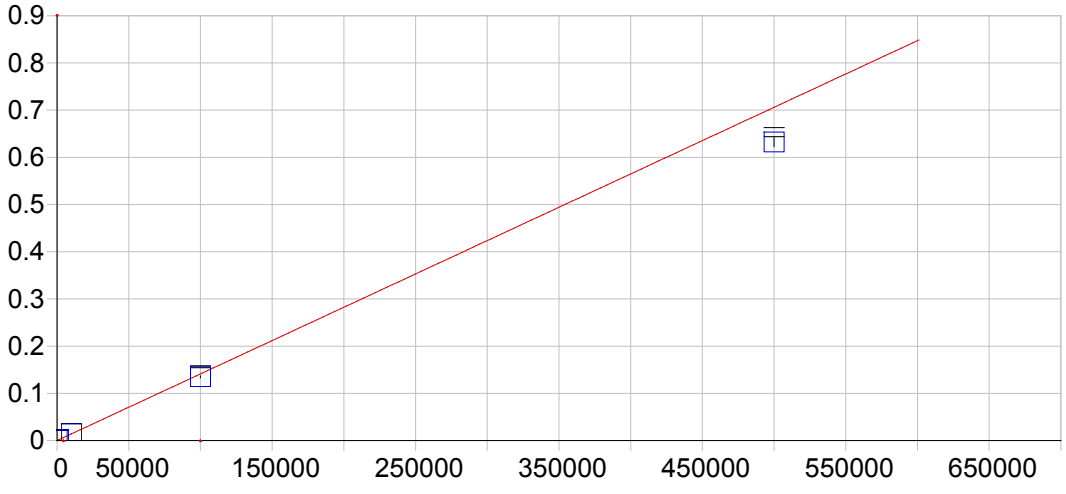
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.1650 | 2.17 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9931.8 | -68.2 | -.682 | .00504 | .000 | 1 |
| CalStd13=10 | 100000. | 89237. | -10800. | -10.8 | .04507 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.52 | -9.48 | -.948 | .00053 | .000 | 1 |




**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000012 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997467 | | Status: | OK. | |
| Std Error of Est: | 0.000019 | | | | |
| Predicted MDL: | 8.276819 | | | | |
| Predicted MQL: | 27.589396 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.5296 | -3.53 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11319. | 1320. | 13.2 | .00503 | .000 | 1 |
| CalStd13=10 | 100000. | 104020. | 4020. | 4.02 | .04616 | .001 | 1 |
| CalStd14=50 | 500000. | 492830. | -7170. | -1.43 | .21864 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1094.0 | 94.0 | 9.40 | .00050 | .000 | 1 |
| CalibStd15= | 1000000. | 937190. | -62800. | -6.28 | .41577 | .004 | 1 |

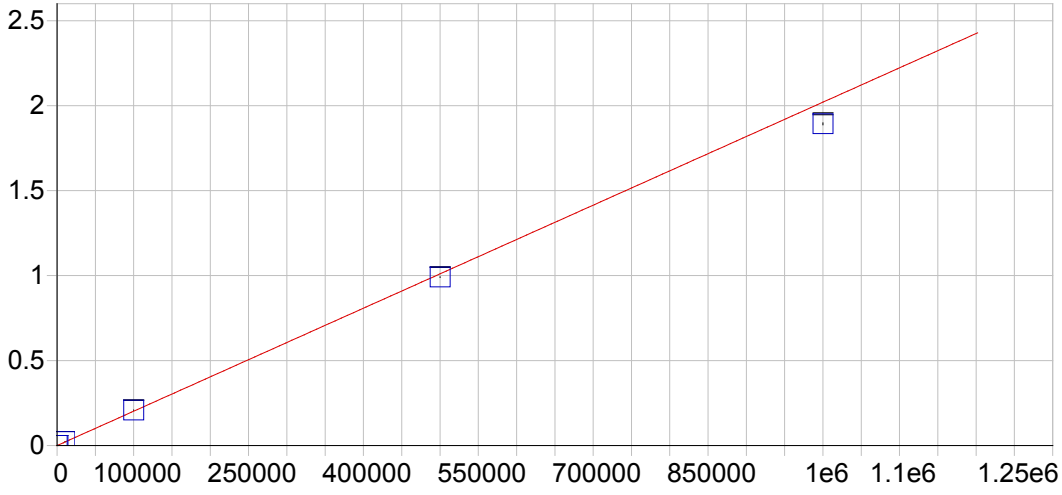



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999845 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 3.613095 | | |
| Predicted MQL: | 12.043649 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08633 | -.086 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10290. | 290. | 2.90 | .01455 | .000 | 1 |
| CalStd13=10 | 100000. | 95562. | -4440. | -4.44 | .13496 | .002 | 1 |
| CalStd14=50 | 500000. | 447690. | -52300. | -10.5 | .63220 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .041 | .004 | .00143 | .000 | 1 |

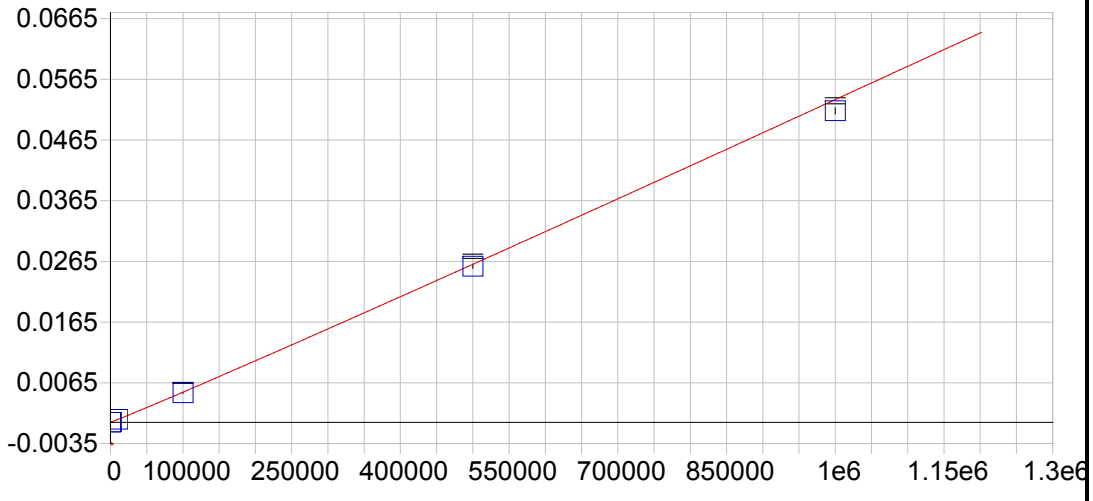



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998678 | Status: | OK. |
| Std Error of Est: | 0.000218 | | |
| Predicted MDL: | 2.848392 | | |
| Predicted MQL: | 9.494640 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.198 | -15.2 | .000 | .00002 | .000 | 1 |
| CalStd13=10 | 100000. | 103020. | 3020. | 3.02 | .20820 | .001 | 1 |
| CalStd10=10 | 10000. | 10951. | 951. | 9.51 | .02217 | .000 | 1 |
| CalStd14=50 | 500000. | 490380. | -9620. | -1.92 | .99086 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1140.8 | 141. | 14.1 | .00235 | .000 | 1 |
| CalibStd15= | 1000000. | 937120. | -62900. | -6.29 | 1.8935 | .006 | 1 |

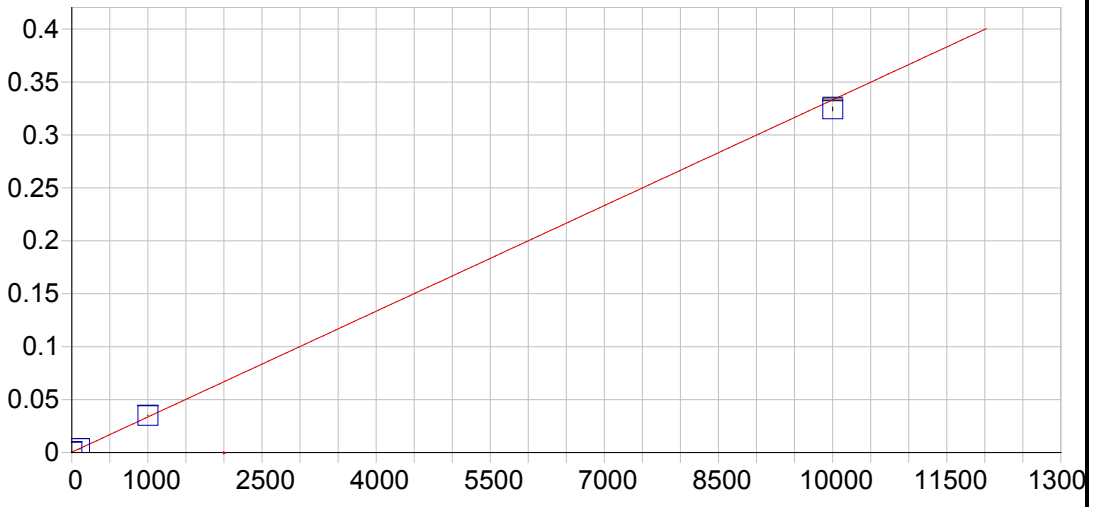



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.030000 | | |
| Correlation: | 0.999975 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 72.972704 | | |
| Predicted MQL: | 243.242347 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97892. | -2110. | -2.11 | .00485 | .000 | 1 |
| CalStd10=10 | 10000. | 10655. | 655. | 6.55 | .00049 | .000 | 1 |
| CalStd14=50 | 500000. | 493700. | -6300. | -1.26 | .02569 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.6 | 51.6 | 5.16 | .00005 | .000 | 1 |
| CalibStd15= | 1000000. | 966100. | -33900. | -3.39 | .05131 | .000 | 1 |

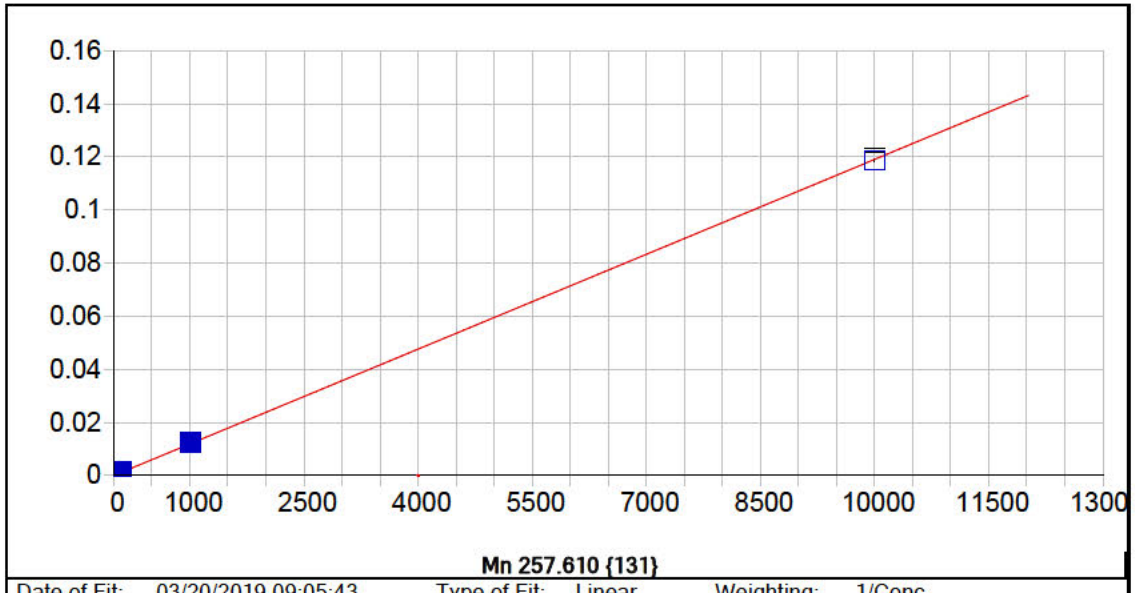



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000315 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000033 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999375 | Status: | OK. |
| Std Error of Est: | 0.000328 | | |
| Predicted MDL: | 0.037859 | | |
| Predicted MQL: | 0.126196 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.190 | 11.2 | .000 | .00069 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1041.3 | 41.3 | 4.13 | .03497 | .000 | 1 |
| CalStd10=10 | 10000. | 9741.2 | -259. | -2.59 | .32455 | .002 | 1 |
| CalStd8=100 | 100.00 | 99.223 | -.777 | -.777 | .00362 | .000 | 1 |

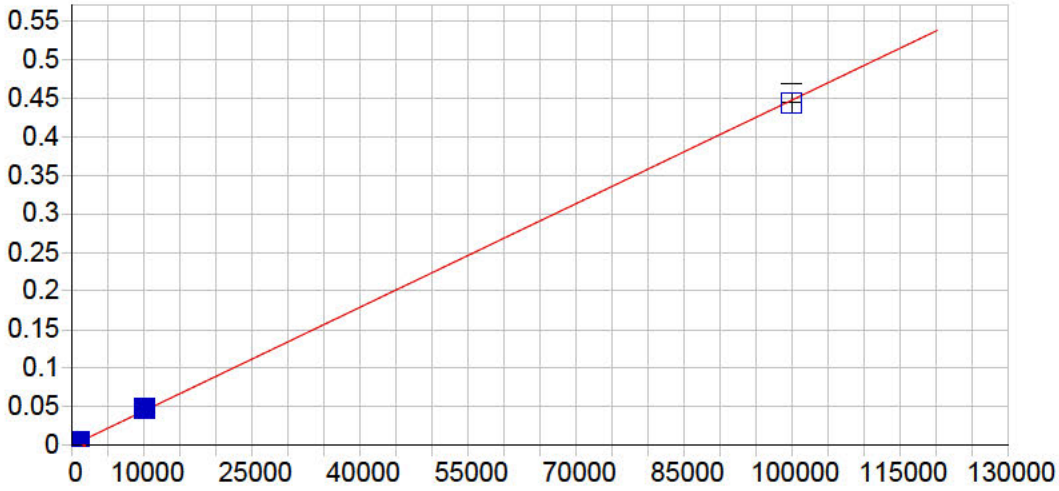



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999946 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.099746 | | |
| Predicted MQL: | 0.332486 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.441 | .441 | 4.41 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.071 | 1.07 | 2.14 | .00062 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.279 | .279 | 1.40 | .00025 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.27 | 2.27 | 2.27 | .00123 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5803 | -.420 | -8.39 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.9 | 30.9 | 3.09 | .01228 | .000 | 1 |
| CalStd10=10 | 10000. | 9965.5 | -34.5 | -.345 | .11866 | .001 | 1 |

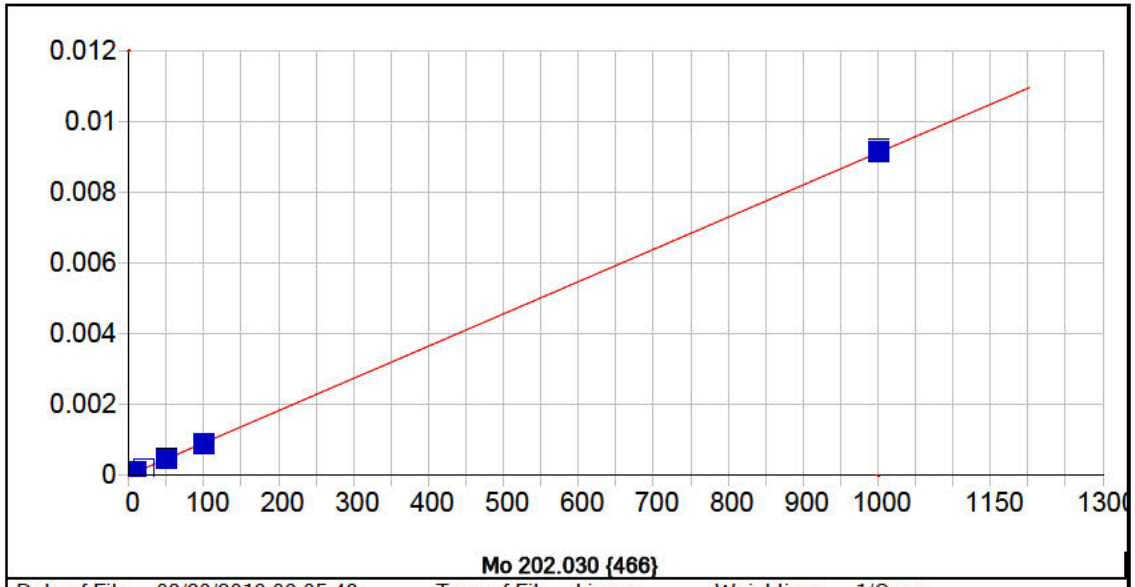



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999698 | Status: | OK. |
| Std Error of Est: | 0.000052 | | |
| Predicted MDL: | 1.170526 | | |
| Predicted MQL: | 3.901753 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.12556 | -.126 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10755. | 755. | 7.55 | .04813 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1058.2 | 58.2 | 5.82 | .00474 | .000 | 1 |
| CalStd12=10 | 100000. | 99186. | -814. | -.814 | .44330 | .012 | 1 |

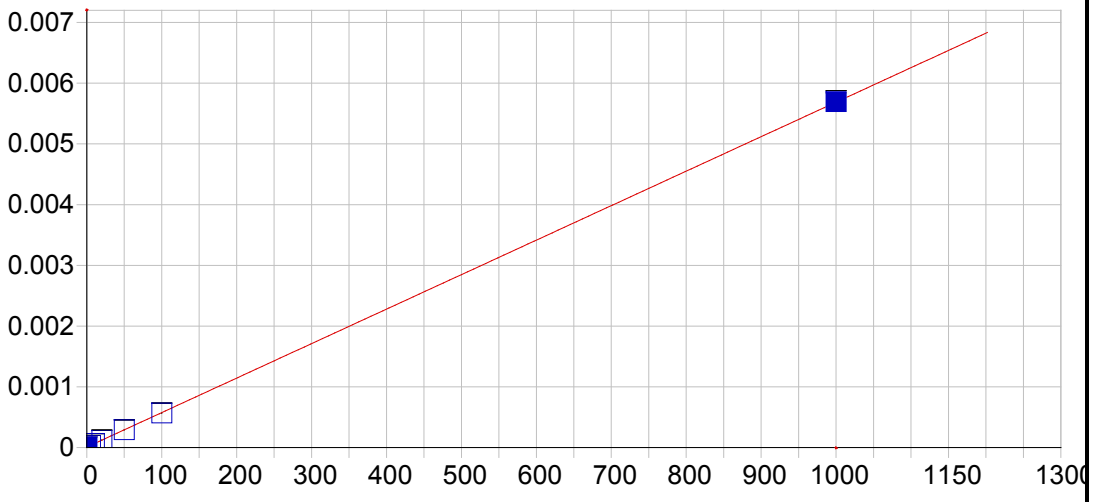



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999845 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.497466 | | |
| Predicted MQL: | 1.658221 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00165 | .002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.454 | -.546 | -1.09 | .00046 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.787 | -.213 | -1.06 | .00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.3993 | -.601 | -6.01 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.251 | -1.75 | -1.75 | .00091 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8246 | -1.18 | -23.5 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.3 | 4.29 | .429 | .00919 | .000 | 1 |

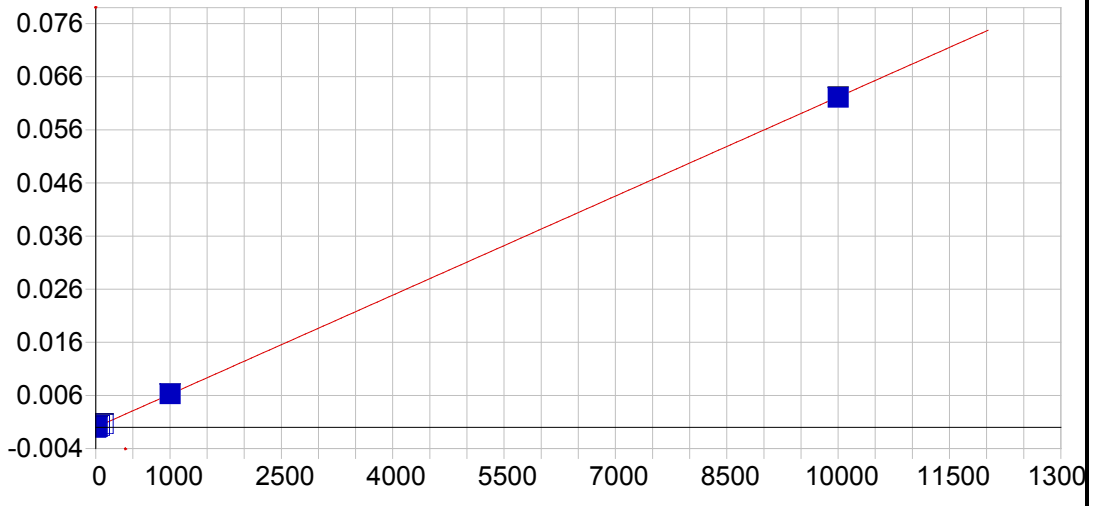



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 1.036405 | | |
| Predicted MQL: | 3.454682 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .49921 | .499 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.909 | -.091 | -.183 | .00029 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.222 | .222 | 1.11 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.128 | .128 | 1.28 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.497 | -1.50 | -1.50 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1162 | .116 | 2.32 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.32 | .132 | .00569 | .000 | 1 |

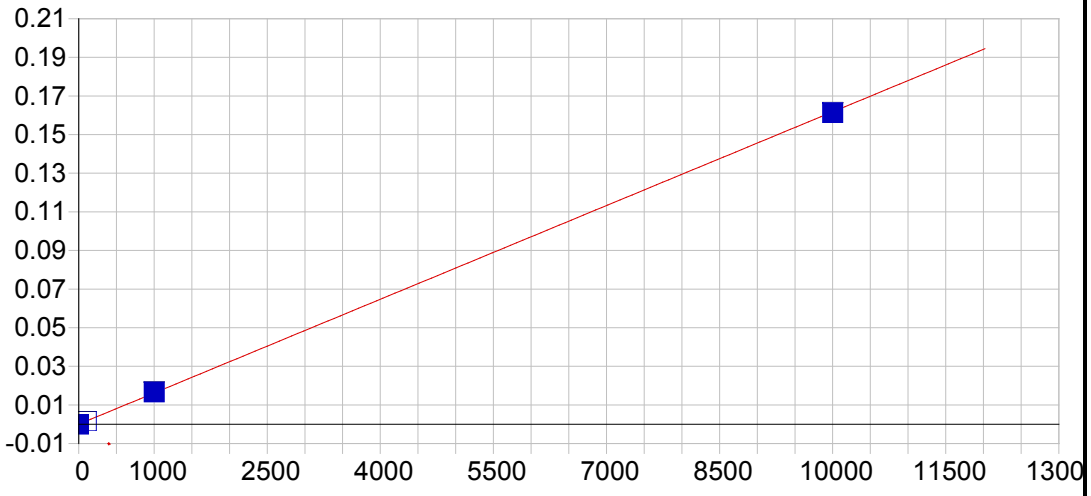



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999988 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.879297 | | |
| Predicted MQL: | 2.930992 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .31057 | .311 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.578 | -.422 | -.844 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.734 | -.266 | -1.33 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.300 | .300 | 3.00 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.911 | -1.09 | -1.09 | .00061 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.4140 | -.586 | -11.7 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1010.7 | 10.7 | 1.07 | .00628 | .000 | 1 |
| CalStd10=10 | 10000. | 9986.8 | -13.2 | -.132 | .06211 | .000 | 1 |

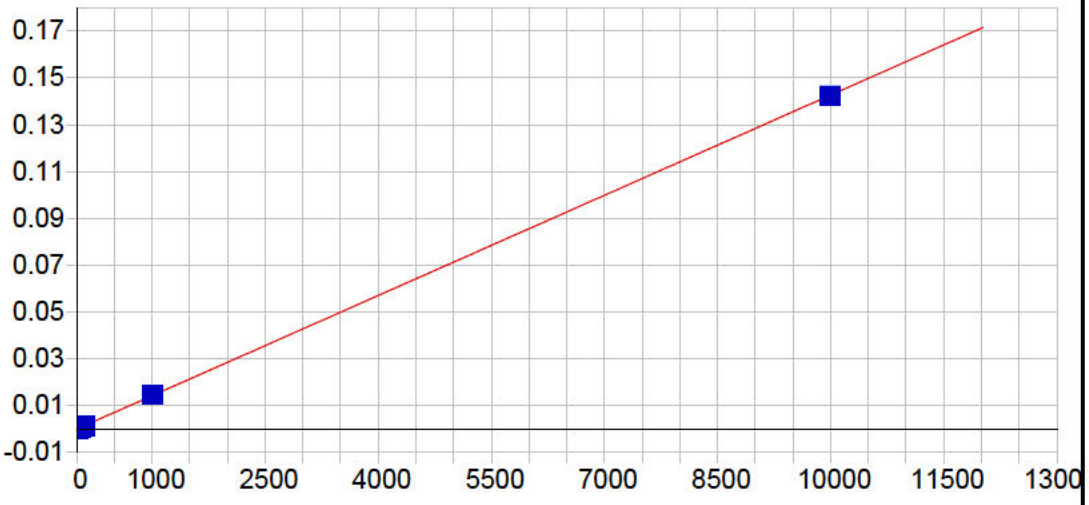



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.552953 | | |
| Predicted MQL: | 1.843176 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00395 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9971.0 | -29.0 | -.290 | .16133 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.49 | 1.49 | 1.49 | .00164 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.5 | 27.5 | 2.75 | .01662 | .000 | 1 |

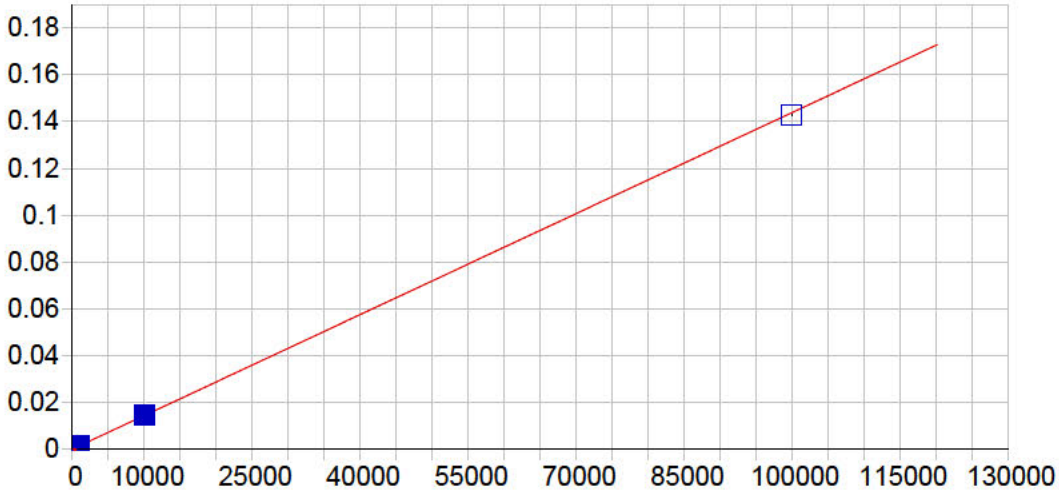



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999949 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.567234 | | |
| Predicted MQL: | 1.890780 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00039 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.996 | .996 | 1.99 | .00073 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.76 | 1.76 | 1.76 | .00145 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5985 | -.402 | -8.03 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.3 | 27.3 | 2.73 | .01465 | .000 | 1 |
| CalStd3=1 | 1.0000 | .56834 | -.432 | -43.2 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9970.2 | -29.8 | -.298 | .14252 | .000 | 1 |

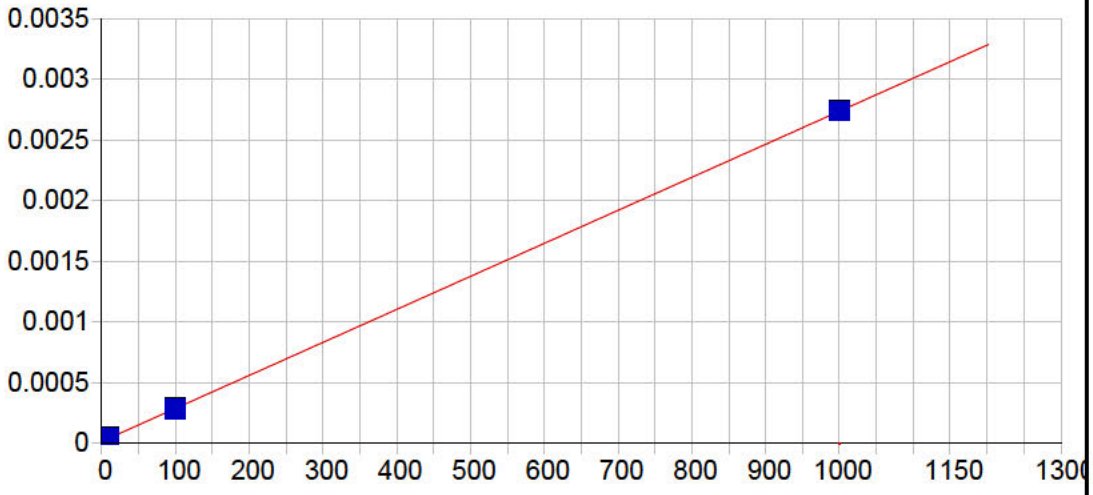



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999876 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 4.959368 | | |
| Predicted MQL: | 16.531227 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.5869 | -7.59 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1045.4 | 45.4 | 4.54 | .00153 | .000 | 1 |
| CalStd10=10 | 10000. | 10130. | 130. | 1.30 | .01458 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.817 | -1.18 | -1.18 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 3.8107 | -6.19 | -61.9 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99323. | -677. | -.677 | .14281 | .000 | 1 |

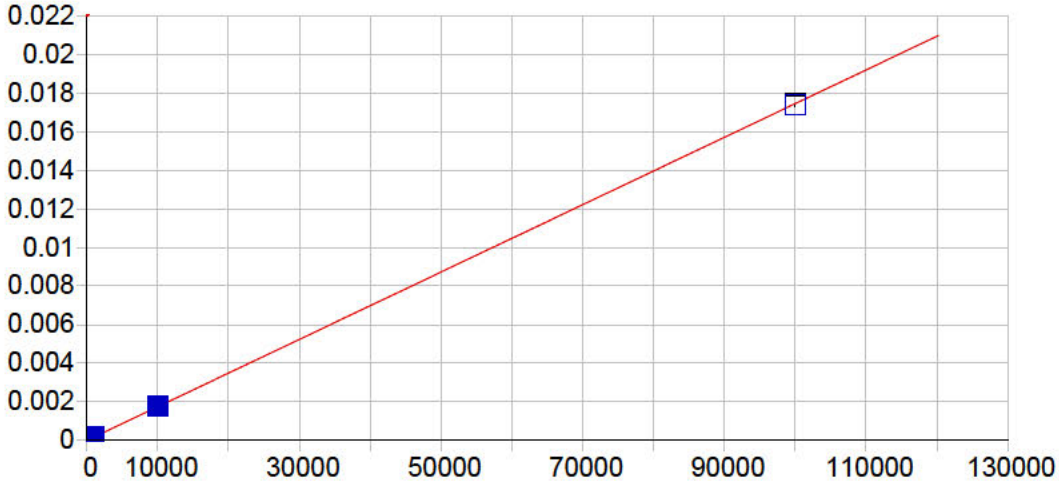



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 3.272954 | | |
| Predicted MQL: | 10.909846 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.1321 | 1.13 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.163 | .163 | 1.63 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.971 | -1.03 | -1.03 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6736 | -.326 | -6.53 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .048 | .005 | .00274 | .000 | 1 |

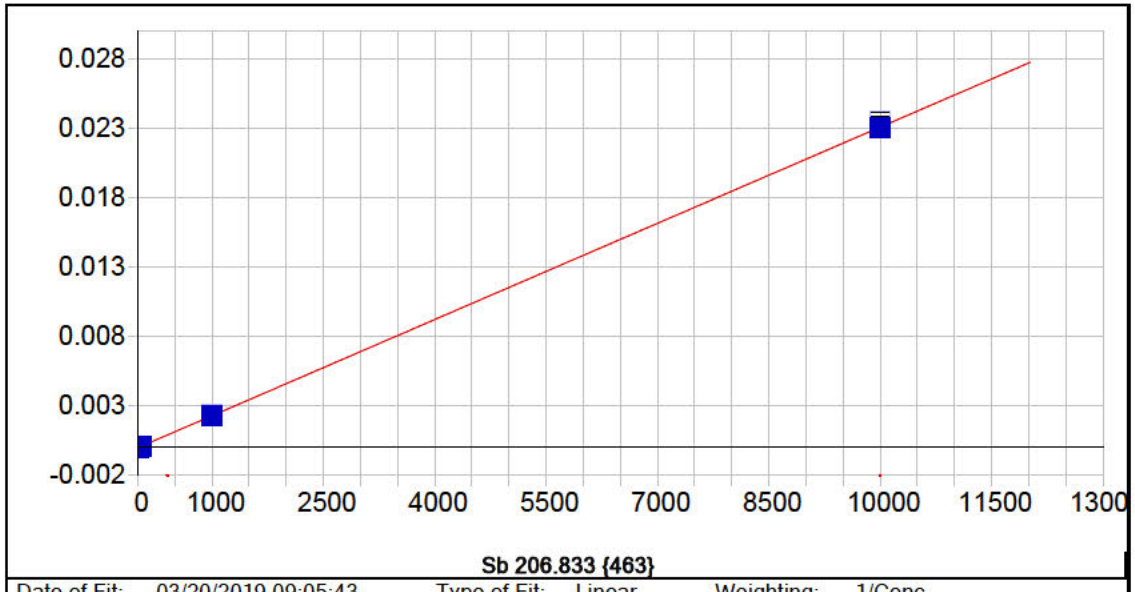



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999929 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.642640 | | |
| Predicted MQL: | 18.808800 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00903 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1060.9 | 60.9 | 6.09 | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 10325. | 325. | 3.25 | .00180 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.08 | .075 | .075 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99614. | -386. | -.386 | .01738 | .000 | 1 |

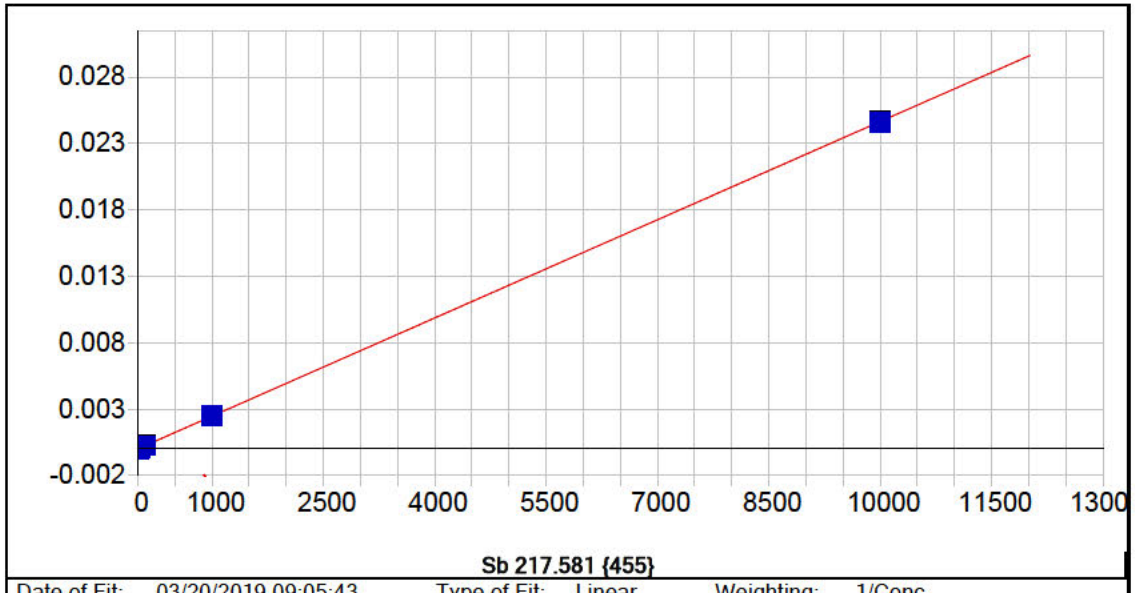



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.411982 | | |
| Predicted MQL: | 8.039941 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00117 | -.001 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.6 | 11.6 | 1.16 | .00237 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.240 | 1.24 | 12.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.123 | -.877 | -1.75 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.0 | -12.0 | -.120 | .02345 | .000 | 1 |

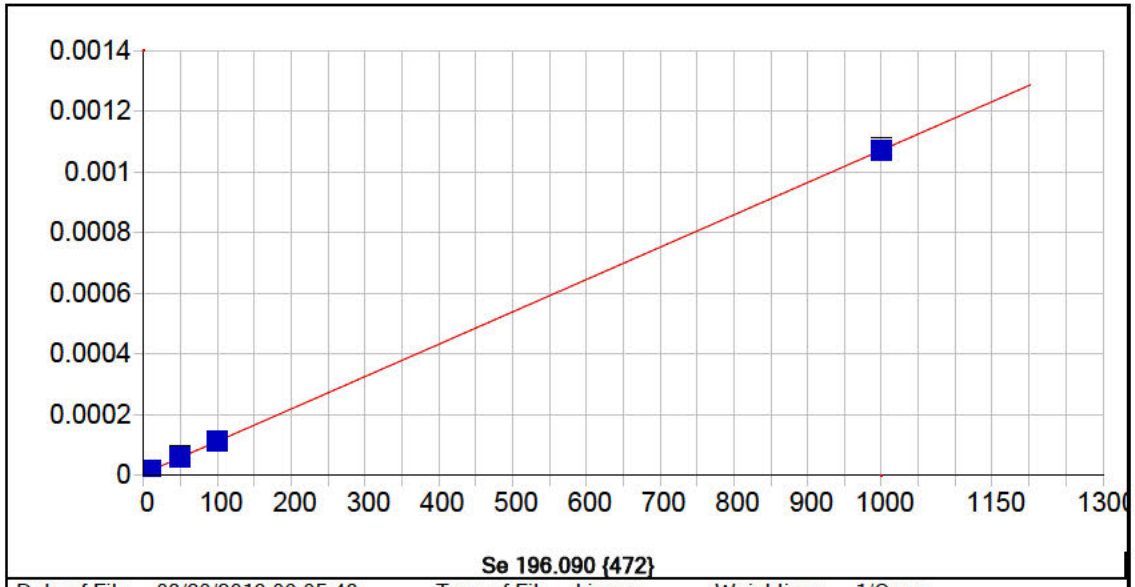



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999975 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.525762 | | |
| Predicted MQL: | 8.419206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00129 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.3 | 13.3 | 1.33 | .00250 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.526 | .526 | 2.63 | .00006 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7435 | -.257 | -2.57 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.144 | -1.86 | -1.86 | .00025 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.7406 | -1.26 | -25.2 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.6 | -10.4 | -.104 | .02462 | .000 | 1 |

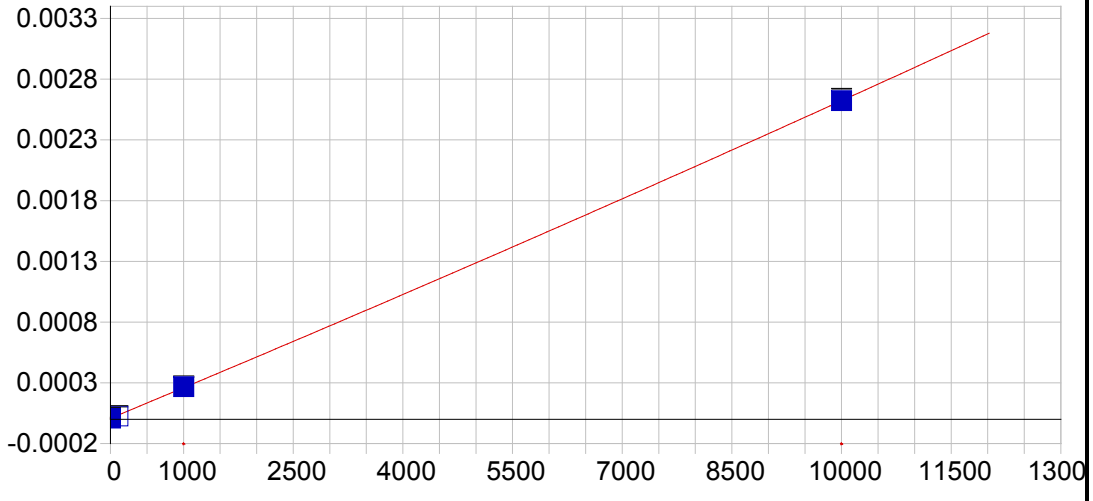



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.222920 | | |
| Predicted MQL: | 14.076400 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00018 | .000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.416 | .416 | .832 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.75 | -1.25 | -.125 | .00107 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6314 | -.369 | -3.69 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.20 | 1.20 | 1.20 | .00011 | .000 | 1 |

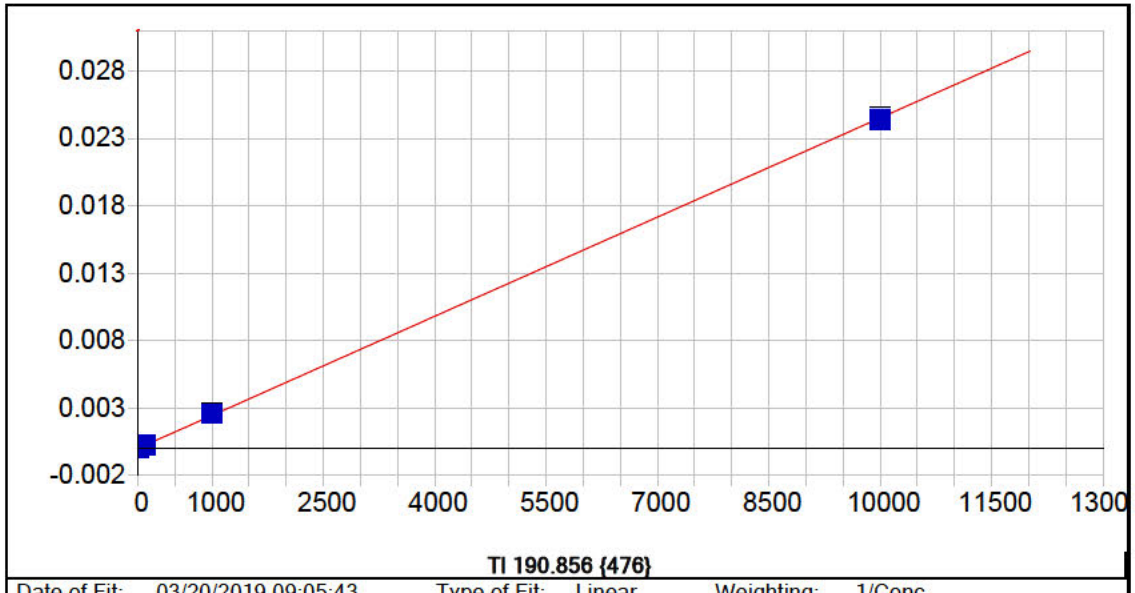



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999633 | Status: | Warning Positive Curvature |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.878305 | | |
| Predicted MQL: | 79.594349 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02505 | .025 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.6 | 30.6 | 3.06 | .00027 | .000 | 1 |
| CalStd10=10 | 10000. | 9997.4 | -2.57 | -.026 | .00263 | .000 | 1 |
| CalStd8=100 | 100.00 | 71.917 | -28.1 | -28.1 | .00003 | .000 | 1 |

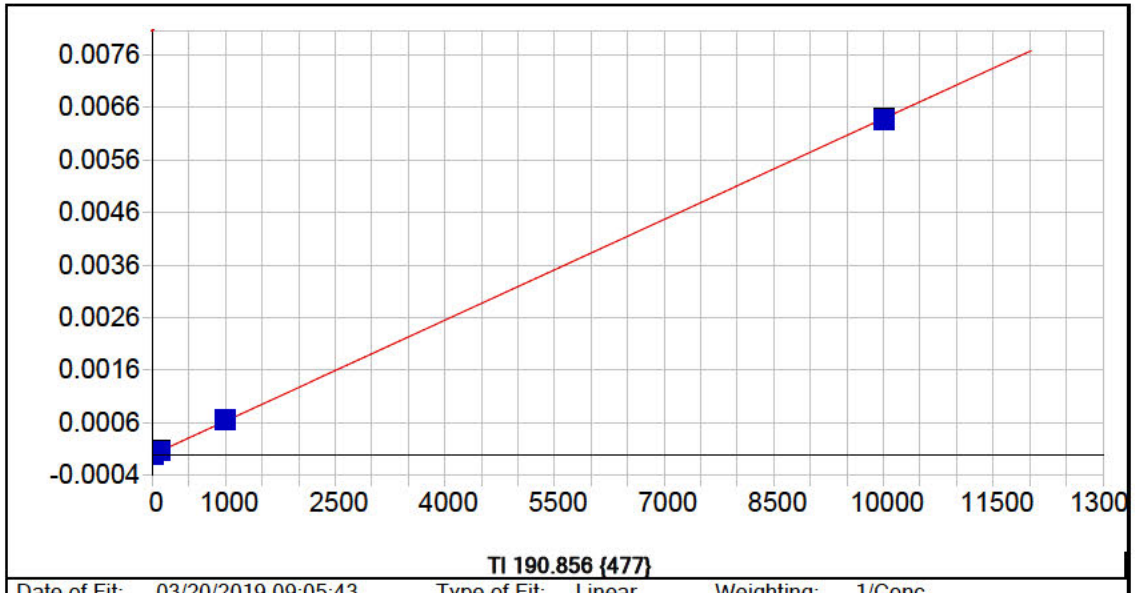



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999860 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.253934 | | |
| Predicted MQL: | 7.513114 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00092 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1049.1 | 49.1 | 4.91 | .00259 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.01 | 4.01 | 4.01 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.2440 | -1.76 | -17.6 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9948.7 | -51.3 | -.513 | .02452 | .000 | 1 |

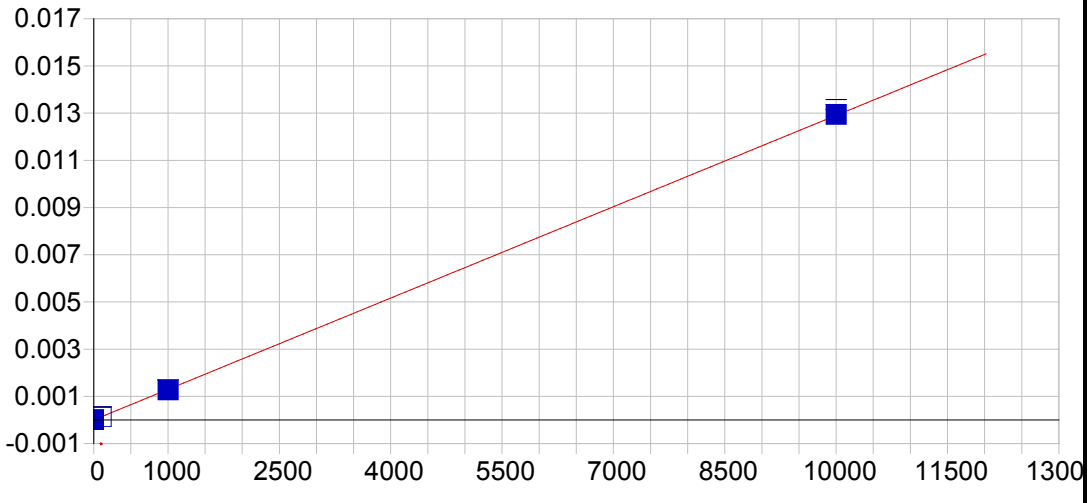



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999886 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.018407 | | |
| Predicted MQL: | 23.394691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00007 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1045.0 | 45.0 | 4.50 | .00066 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.43 | 4.43 | 4.43 | .00006 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.0886 | -.911 | -9.11 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9951.5 | -48.5 | -.485 | .00636 | .000 | 1 |

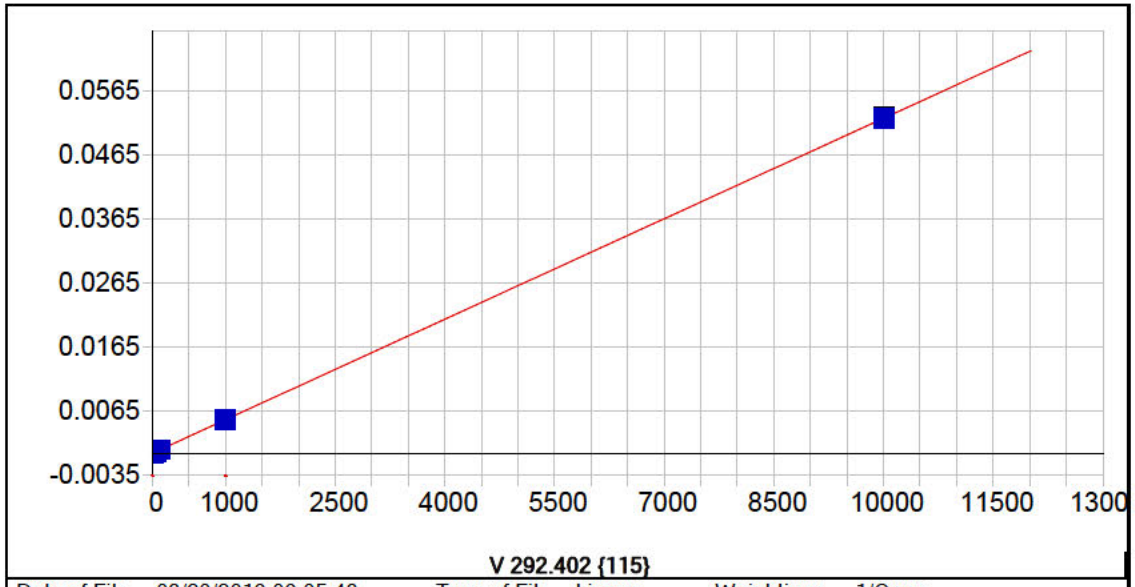



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.394293 | | |
| Predicted MQL: | 17.980976 | | |

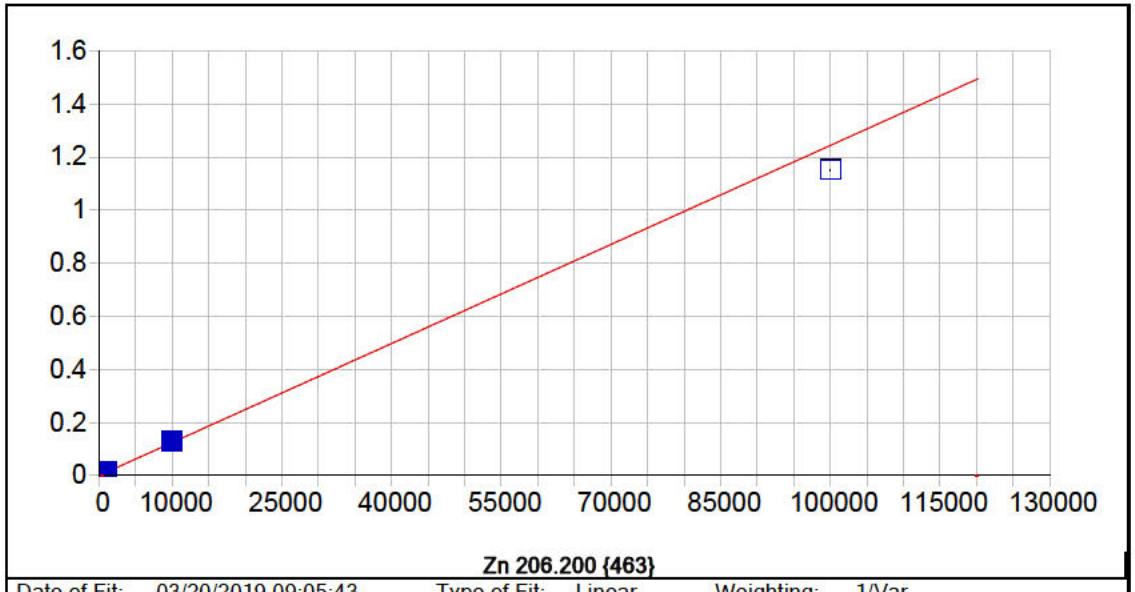
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00673 | .007 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 978.53 | -21.5 | -2.15 | .00127 | .000 | 1 |
| CalStd10=10 | 10000. | 10026. | 26.3 | .263 | .01294 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.159 | -4.84 | -4.84 | .00013 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.761629 | | |
| Predicted MQL: | 2.538762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00007 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.128 | -.872 | -1.74 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .789 | .079 | .00521 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.026 | .026 | .130 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.423 | .423 | 4.23 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.958 | -2.04 | -2.04 | .00051 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.67 | .017 | .05223 | .000 | 1 |

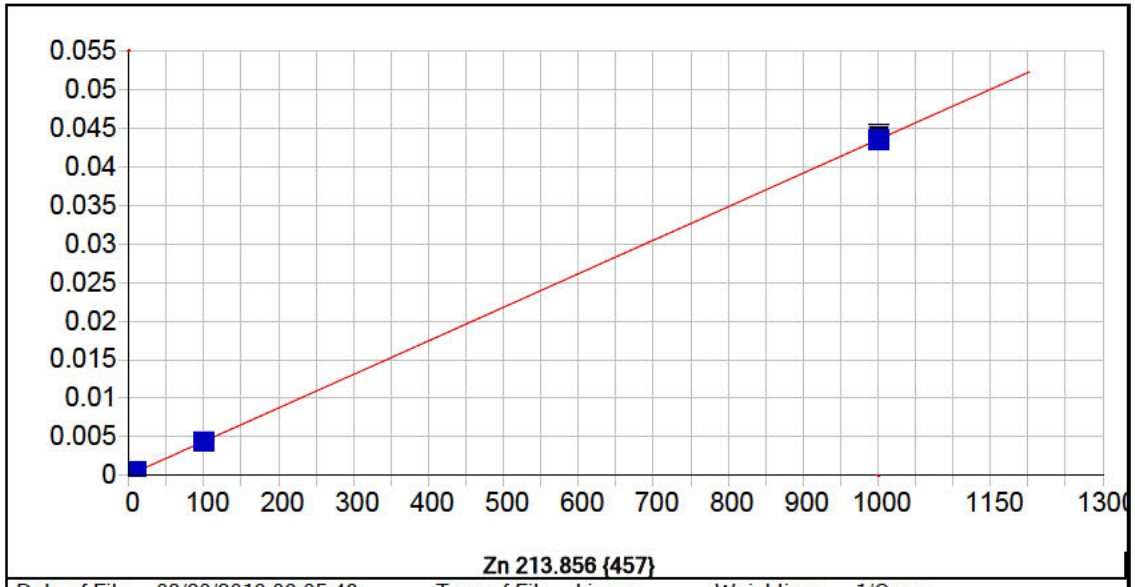



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000031 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997423 | Status: | OK. |
| Std Error of Est: | 0.000261 | | |
| Predicted MDL: | 0.444178 | | |
| Predicted MQL: | 1.480593 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10591. | 591. | 5.91 | .13171 | .000 | 1 |
| Blank | .00000 | -1.9901 | -1.99 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01347 | .000 | 1 |
| CalStd12=10 | 100000. | 92581. | -7420. | -7.42 | 1.1511 | .002 | 1 |
| CalStd5=10 | 10.000 | 8.9123 | -1.09 | -10.9 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.91 | 4.91 | 4.91 | .00133 | .000 | 1 |

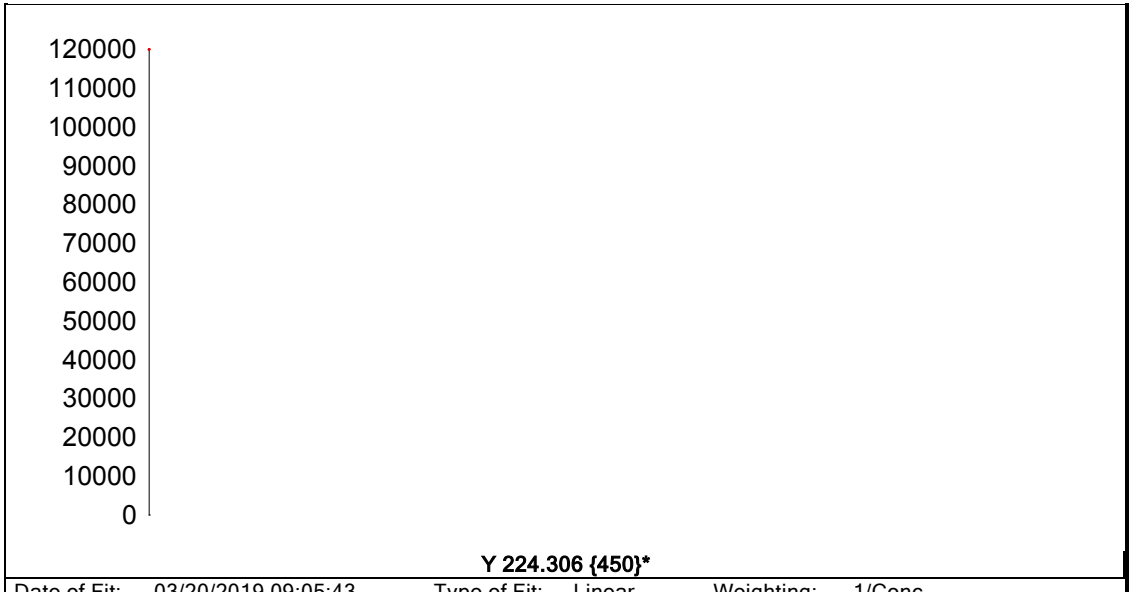



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000067 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000043 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.148778 | | |
| Predicted MQL: | 0.495927 | | |

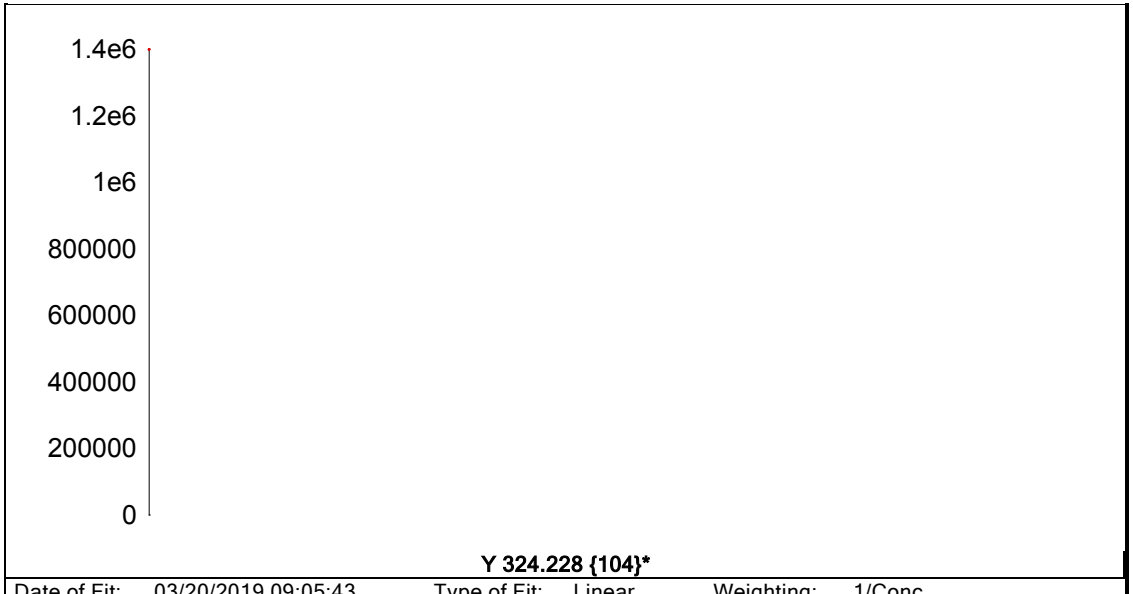
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00006 | .000 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.1 | 1.08 | .108 | .04396 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.044 | .044 | .444 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.875 | -1.12 | -1.12 | .00440 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

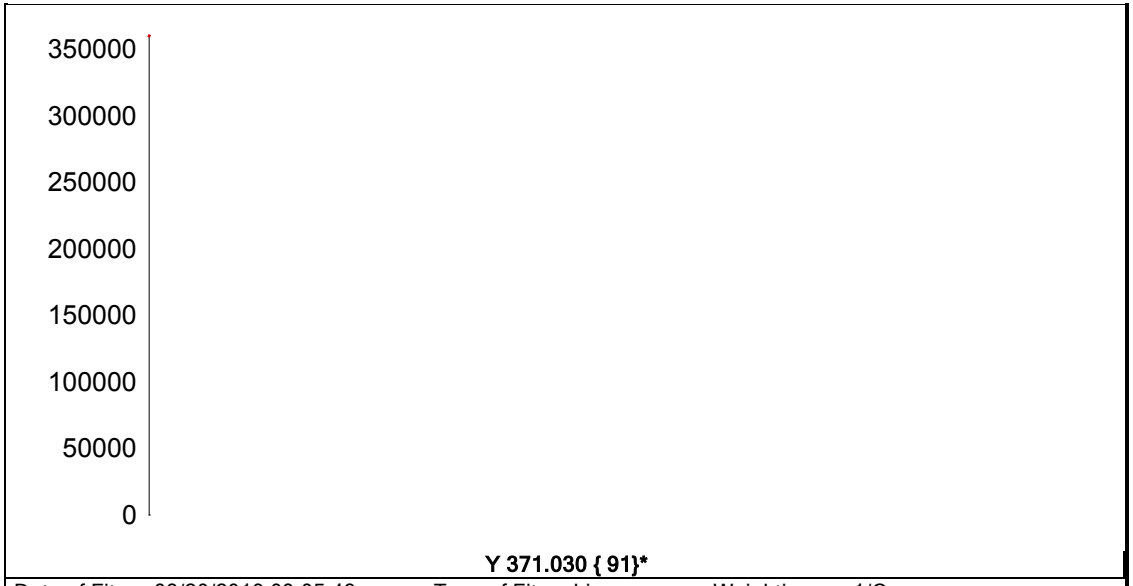
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 109670. | 224. | 1 |




**Y 324.228 {104}***

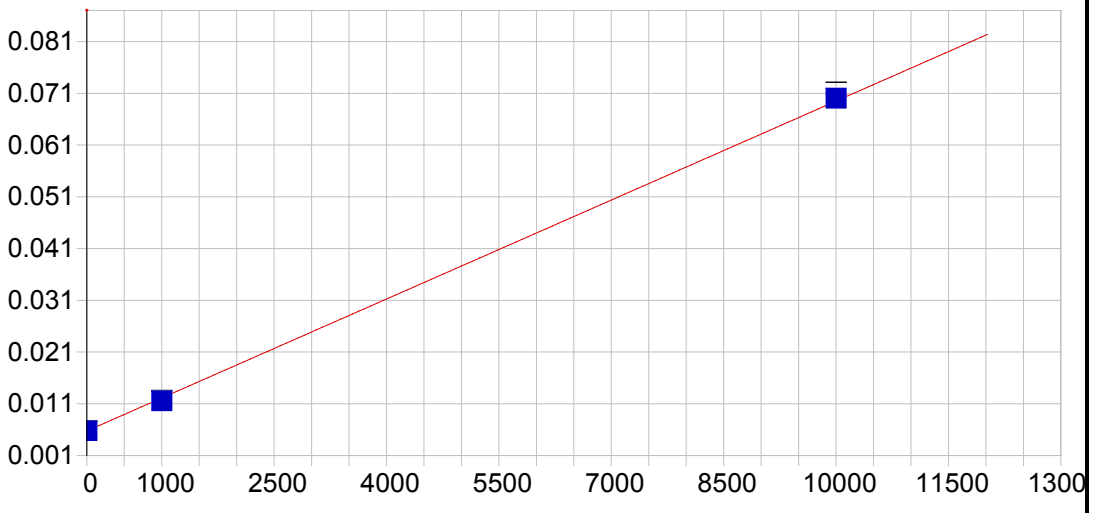
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1296500. | 19100. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 336120. | 2680. | 1 |

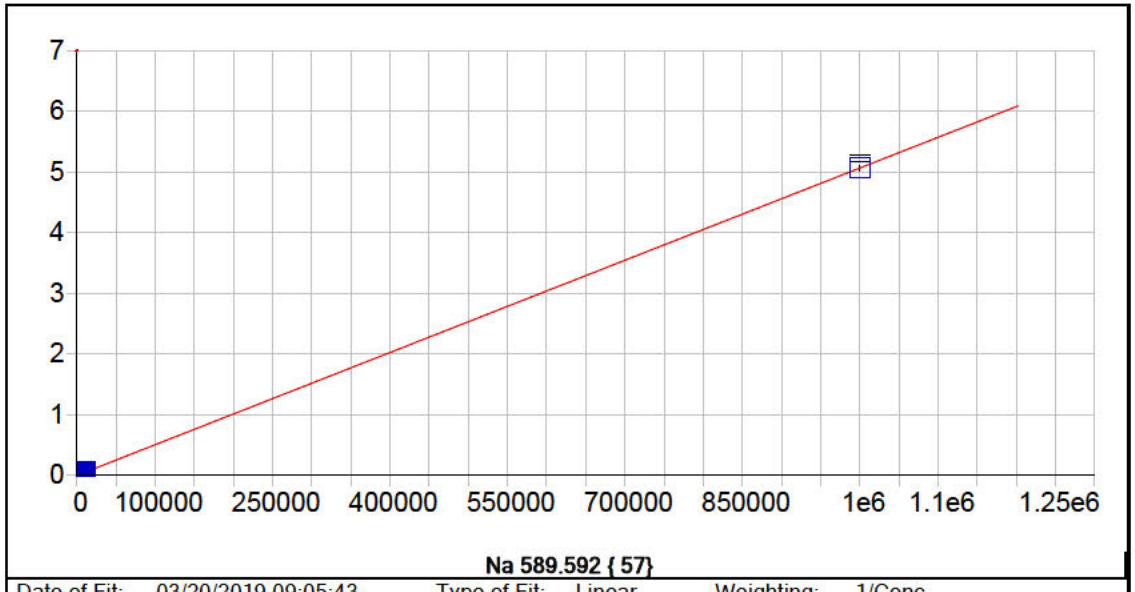



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005748 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999631 | Status: | OK. |
| Std Error of Est: | 0.000031 | | |
| Predicted MDL: | 7.195826 | | |
| Predicted MQL: | 23.986086 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .07727 | .077 | .000 | .00575 | .000 | 1 |
| CalStd9=100 | 1000.0 | 914.15 | -85.9 | -8.59 | .01158 | .000 | 1 |
| CalStd10=10 | 10000. | 10086. | 85.9 | .859 | .07005 | .001 | 1 |

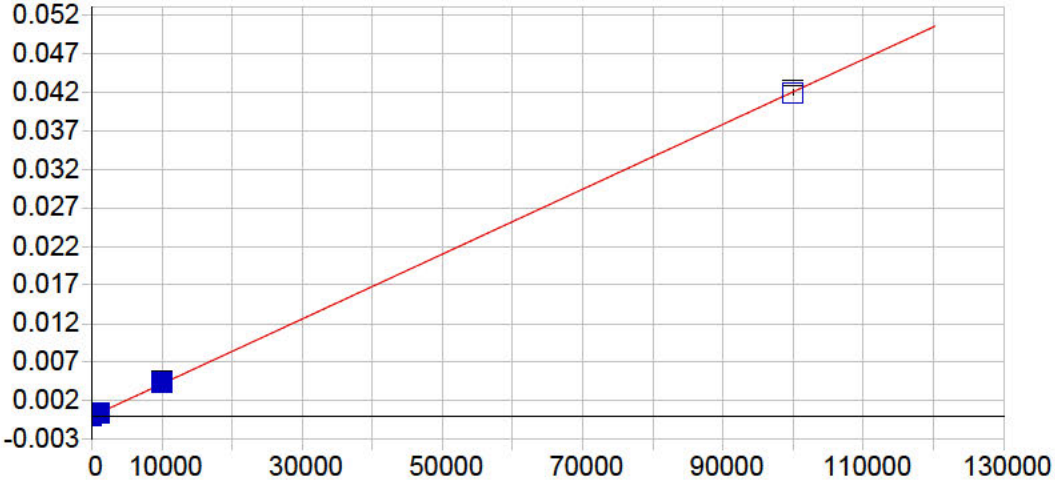



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000193 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 6.101412 | | |
| Predicted MQL: | 20.338040 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02600 | .026 | .000 | .00019 | .000 | 1 |
| CalStd9=100 | 1000.0 | 965.11 | -34.9 | -3.49 | .00508 | .000 | 1 |
| CalStd10=10 | 10000. | 10089. | 89.4 | .894 | .05131 | .001 | 1 |
| CalibStd15= | 1000000. | 999950. | -54.6 | -.005 | 5.0665 | .048 | 1 |

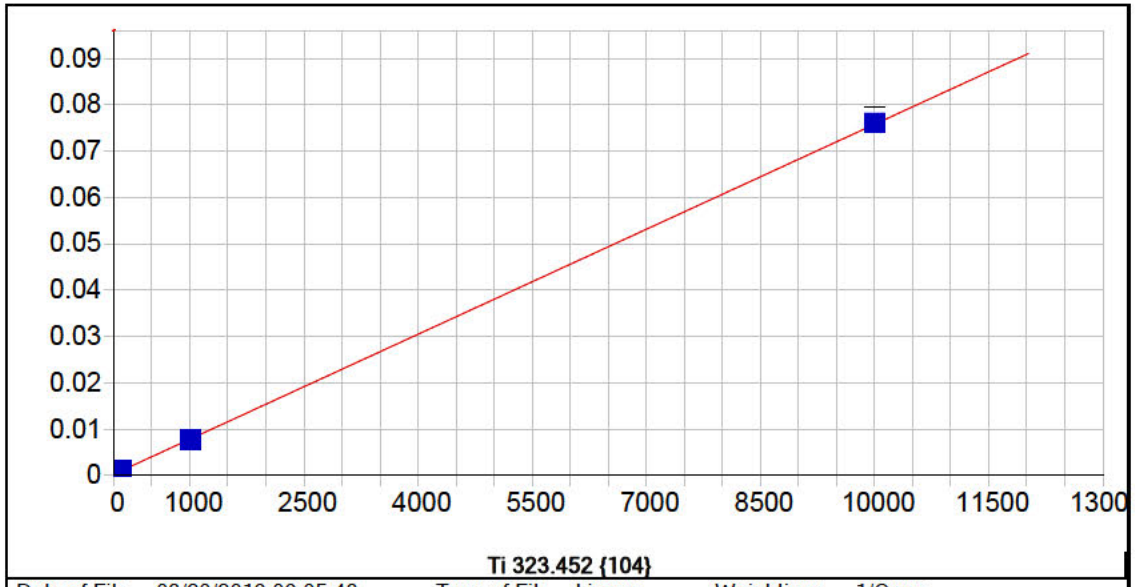



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999956 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 11.615978 | | |
| Predicted MQL: | 38.719926 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01258 | .013 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 962.11 | -37.9 | -3.79 | .00043 | .000 | 1 |
| CalStd10=10 | 10000. | 10278. | 278. | 2.78 | .00448 | .000 | 1 |
| CalibStd15= | 100000. | 99752. | -248. | -.248 | .04190 | .000 | 1 |

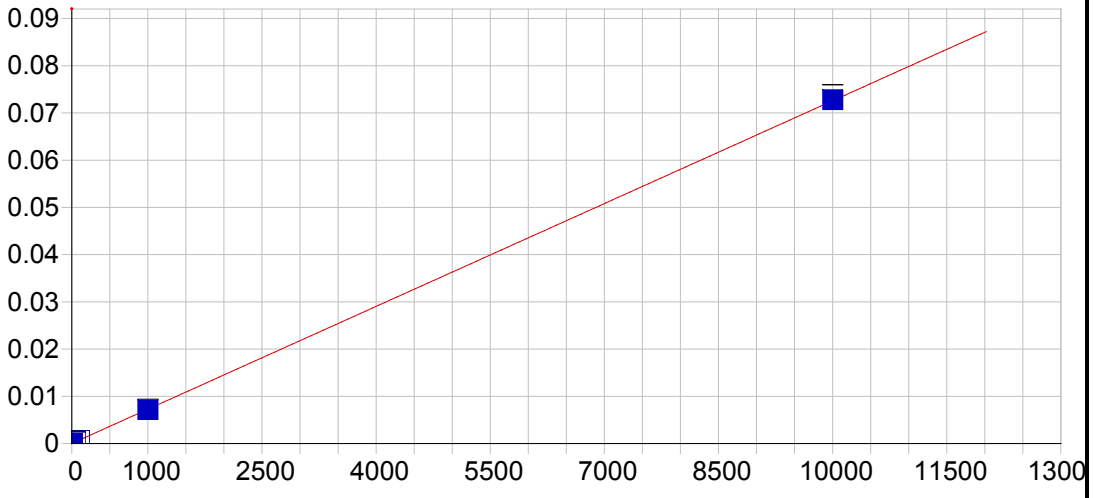



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000290 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999926 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.442328 | | |
| Predicted MQL: | 4.807762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00104 | .001 | .000 | .00029 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.721 | 1.72 | 17.2 | .00038 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.751 | -3.25 | -3.25 | .00102 | .000 | 1 |
| CalStd9=100 | 1000.0 | 977.64 | -22.4 | -2.24 | .00767 | .000 | 1 |
| CalStd10=10 | 10000. | 10029. | 29.3 | .293 | .07606 | .001 | 1 |
| CalStd7=50 | 50.000 | 45.747 | -4.25 | -8.51 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.7854 | -1.21 | -24.3 | .00032 | .000 | 1 |

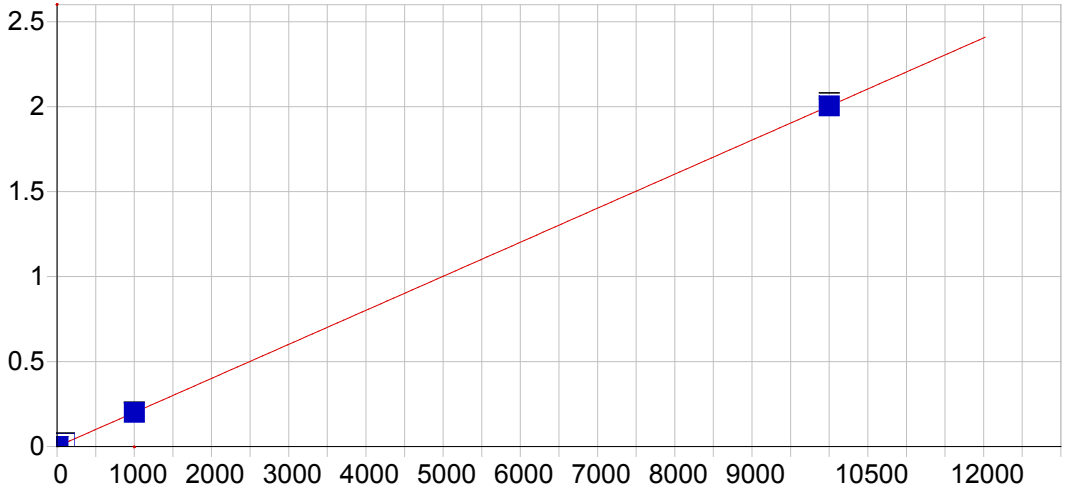



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999895 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.118009 | | |
| Predicted MQL: | 3.726695 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00410 | .004 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9311 | -2.07 | -20.7 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.109 | -2.89 | -2.89 | .00072 | .000 | 1 |
| CalStd9=100 | 1000.0 | 984.57 | -15.4 | -1.54 | .00716 | .000 | 1 |
| CalStd10=10 | 10000. | 10027. | 26.7 | .267 | .07279 | .001 | 1 |
| CalStd7=50 | 50.000 | 46.141 | -3.86 | -7.72 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5334 | -2.47 | -49.3 | .00003 | .000 | 1 |

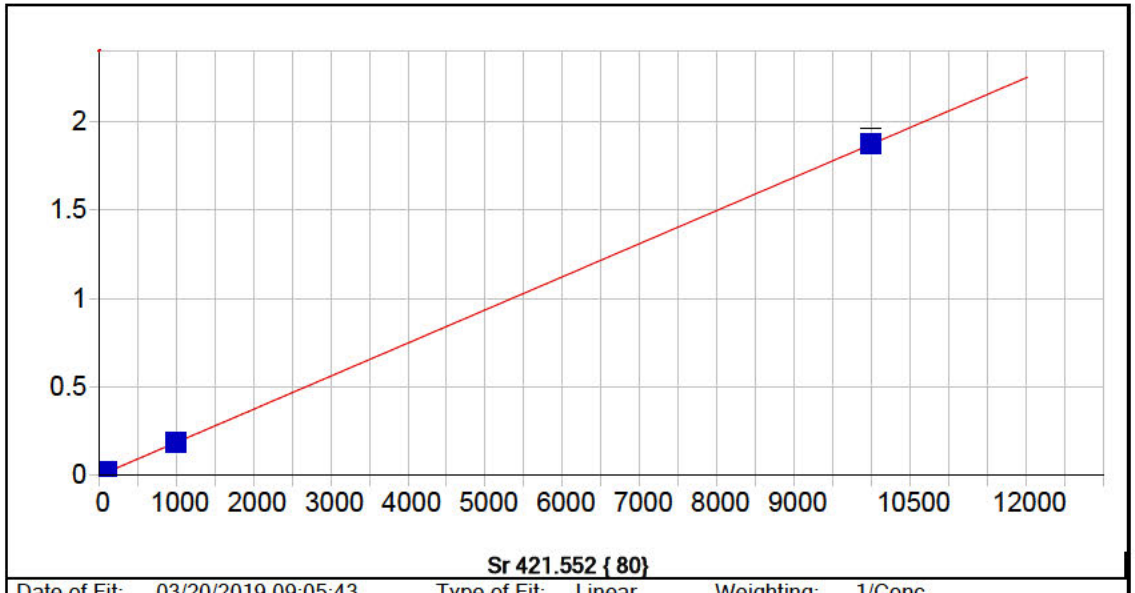



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000086 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000200 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.085554 | | |
| Predicted MQL: | 0.285181 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00006 | .000 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .94037 | -.060 | -5.96 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6927 | -.307 | -6.15 | .00103 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.505 | .505 | 5.05 | .00219 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.86 | .856 | .856 | .02029 | .001 | 1 |
| CalStd9=100 | 1000.0 | 998.68 | -1.32 | -.132 | .20025 | .002 | 1 |
| CalStd10=10 | 10000. | 10000. | .321 | .003 | 2.0044 | .018 | 1 |

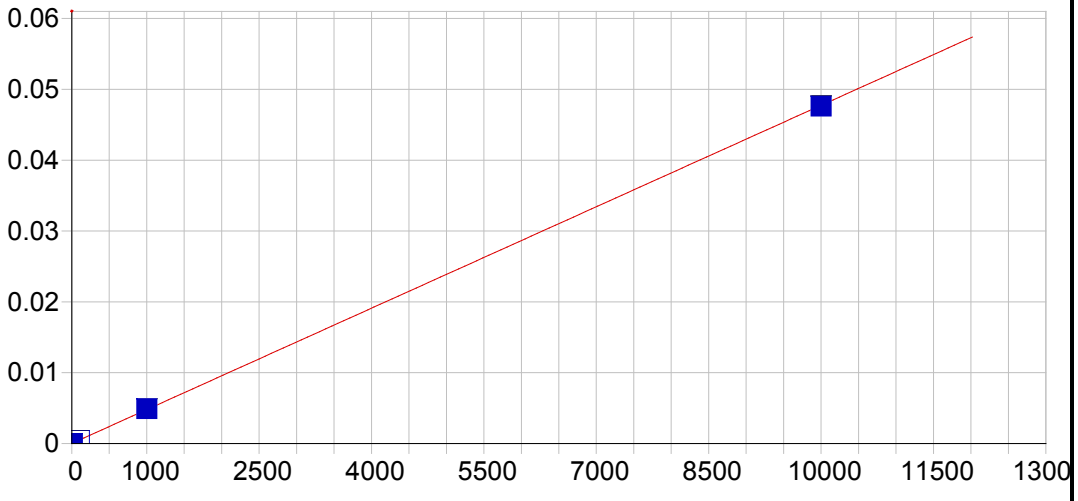



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000187 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.091972 | | |
| Predicted MQL: | 0.306573 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00009 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .90240 | -.098 | -9.76 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7367 | -.263 | -5.27 | .00089 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.519 | .519 | 5.19 | .00198 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.95 | .953 | .953 | .01890 | .001 | 1 |
| CalStd9=100 | 1000.0 | 999.76 | -.239 | -.024 | .18710 | .002 | 1 |
| CalStd10=10 | 10000. | 9999.1 | -.872 | -.009 | 1.8713 | .034 | 1 |

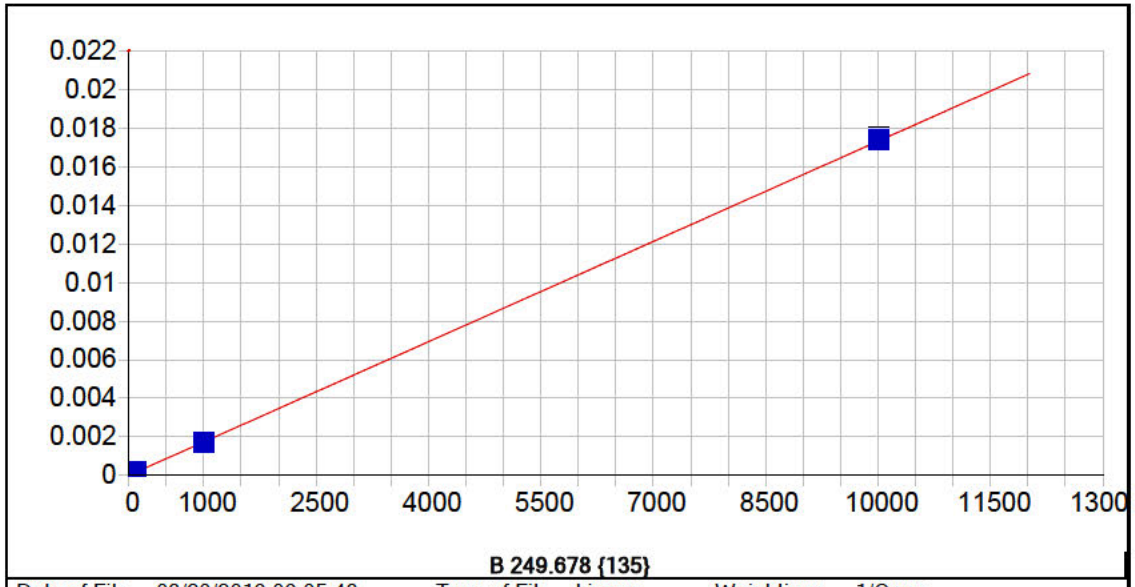



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999965 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.963694 | | |
| Predicted MQL: | 3.212313 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9975.6 | -24.4 | -.244 | .04763 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.0 | 26.0 | 2.60 | .00491 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.937 | -1.06 | -1.06 | .00049 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4402 | -.560 | -5.60 | .00006 | .000 | 1 |

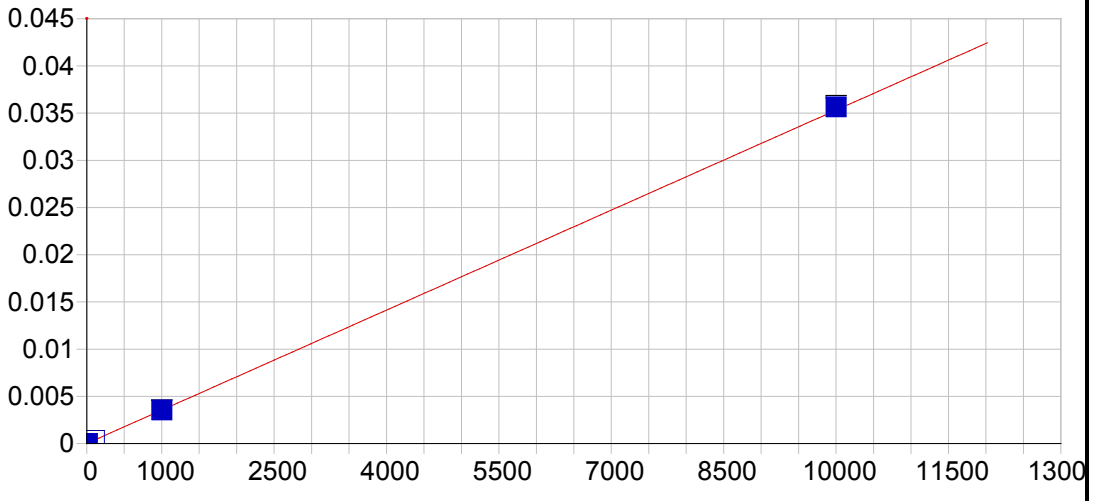



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999940 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.227164 | | |
| Predicted MQL: | 4.090546 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00328 | .003 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 93.997 | -6.00 | -6.00 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.4618 | -2.54 | -25.4 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 983.32 | -16.7 | -1.67 | .00172 | .000 | 1 |
| CalStd10=10 | 10000. | 10025. | 25.2 | .252 | .01743 | .000 | 1 |

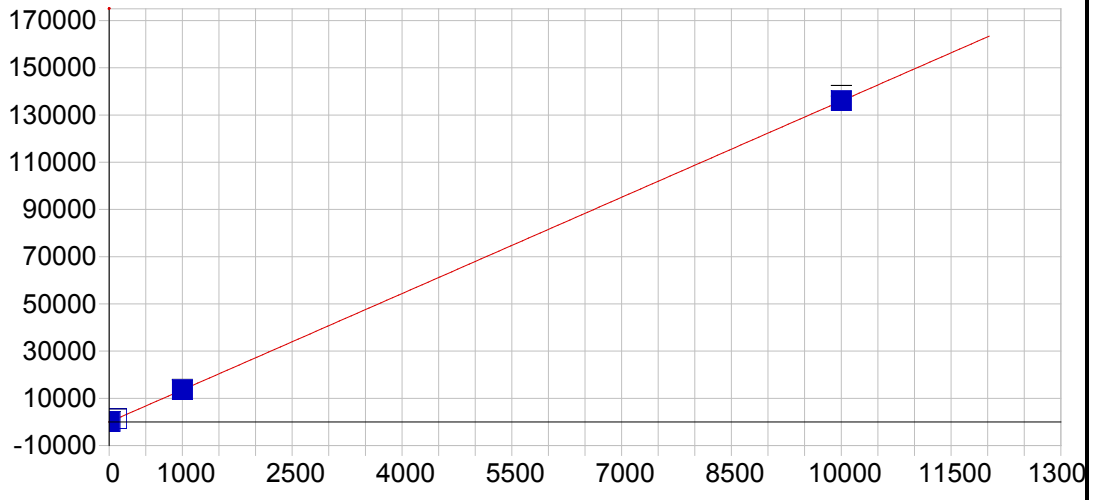



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999783 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.583302 | | |
| Predicted MQL: | 1.944341 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.2098 | 2.21 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.926 | -3.07 | -3.07 | .00035 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.5427 | -1.46 | -14.6 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.9 | 2.86 | .286 | .00355 | .000 | 1 |
| CalStd10=10 | 10000. | 10094. | 94.1 | .941 | .03566 | .000 | 1 |

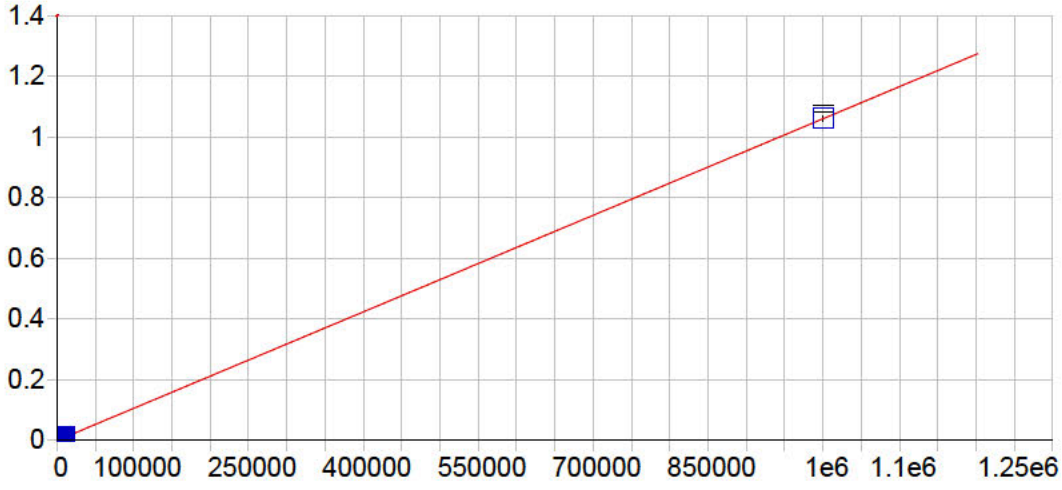



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -20.134015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 13.595726 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 4.600640 | | |
| Predicted MDL: | 0.936491 | | |
| Predicted MQL: | 3.121638 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.15865 | -.159 | .000 | -22.291 | 8.24 | 1 |
| CalStd5=10 | 10.000 | 10.061 | .061 | .611 | 116.65 | 3.68 | 1 |
| CalStd8=100 | 100.00 | 97.859 | -2.14 | -2.14 | 1310.3 | 30.2 | 1 |
| CalStd9=100 | 1000.0 | 1002.7 | 2.71 | .271 | 13612. | 124. | 1 |
| CalStd10=10 | 10000. | 10006. | 6.46 | .065 | 136030. | 2270. | 1 |

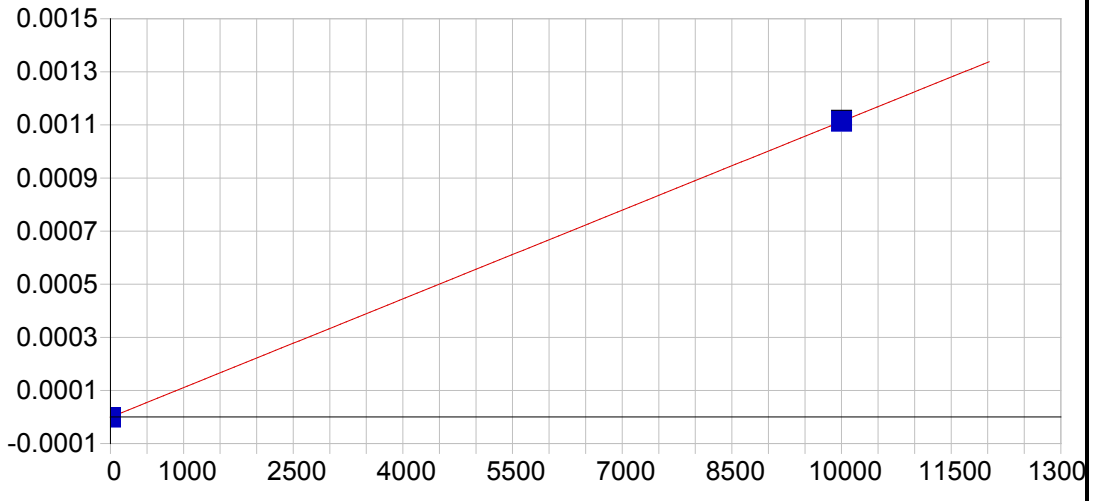



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000122 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 36.777301 | | |
| Predicted MQL: | 122.591002 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .12410 | .124 | .000 | .00012 | .000 | 1 |
| CalStd9=100 | 1000.0 | 890.79 | -109. | -10.9 | .00107 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.5 | -151. | -1.51 | .01056 | .000 | 1 |
| CalibStd15= | 1000000. | 1000300. | 261. | .026 | 1.0607 | .010 | 1 |

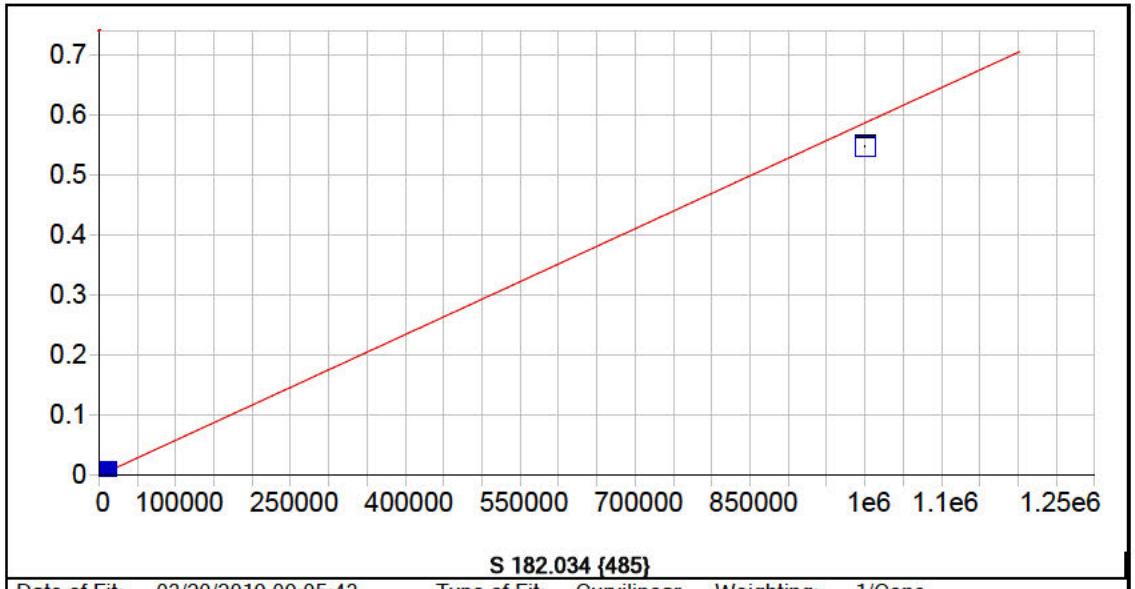



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.600645 | | |
| Predicted MQL: | 15.335484 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00111 | .000 | 1 |

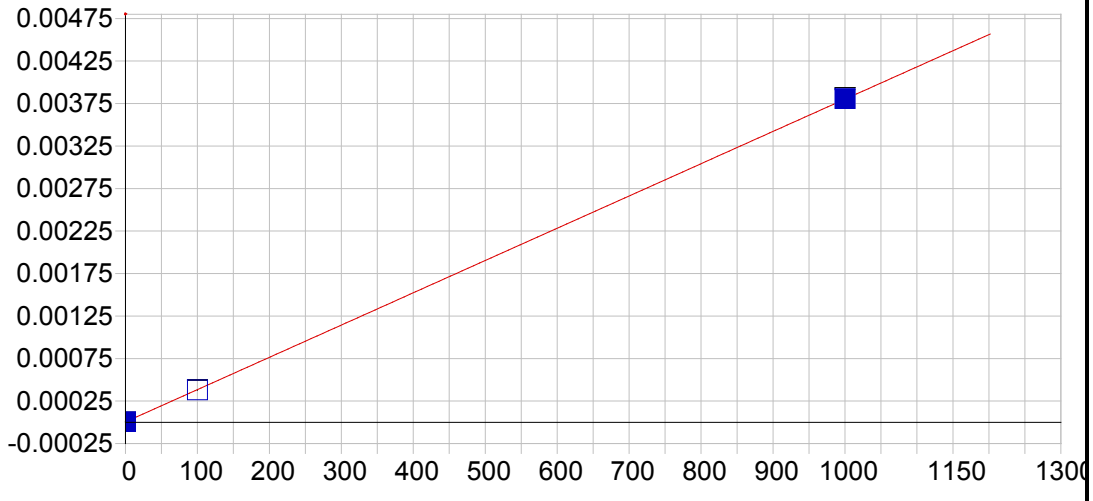



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 6.010699 | | |
| Predicted MQL: | 20.035664 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01890 | .019 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 978.91 | -21.1 | -2.11 | .00059 | .000 | 1 |
| CalStd10=10 | 10000. | 10015. | 14.6 | .146 | .00590 | .000 | 1 |
| CalibStd15= | 1000000. | 933420. | -66600. | -6.66 | .54783 | .002 | 1 |

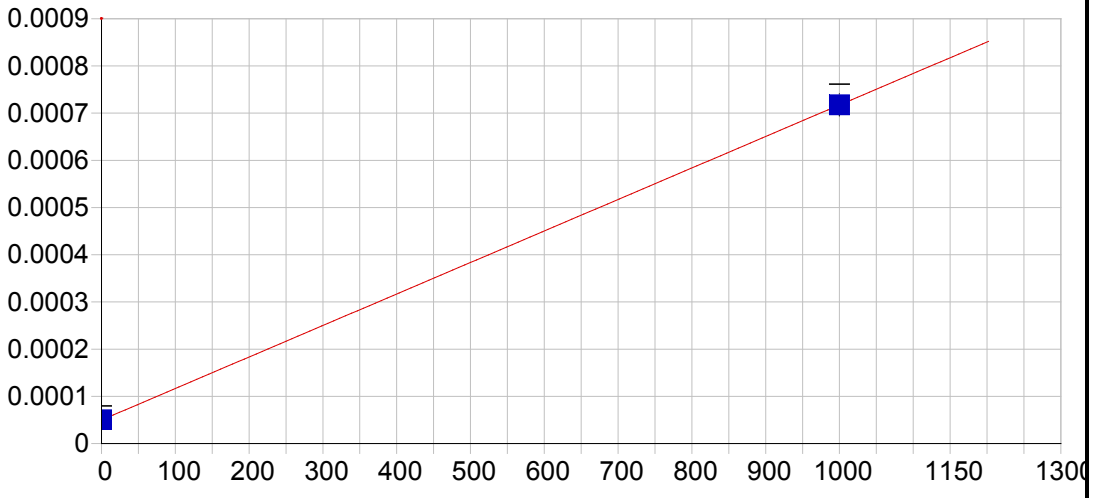



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.153275 | | |
| Predicted MQL: | 3.844250 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00101 | .001 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.882 | -1.12 | -1.12 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.1 | 1.12 | .112 | .00381 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/20/2019 09:05:43 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000050 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 25.194462 | | |
| Predicted MQL: | 83.981540 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.00 | .000 | .000 | .00072 | .000 | 1 |

Sample Name: Blank Acquired: 03/19/2019 12:34:43 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.228** | **-.074** | **.000** | **.008** | **-.001** | **-.000** | **.000** | **.004** | **-.000** |
| Stddev | .000 | .000 | .000 | .166 | .384 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 14.6 | 12.7 | 522. | 72.7 | 519. | 108. | .683 | 1.59 | 65700. | 4.84 | 24.5 | 176. |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **9.19** | **.000** | **.000** | **.000** | **-.000** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | 3.05 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 21.7 | 20.9 | 20.1 | 758. | 101. | .683 | 33.2 | 8.37 | 12.1 | 21.5 | 243. | 41.5 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 40.6 | 89.7 | 43.4 | 489. | 573. | 44.1 | 38.5 | 91.1 | 109. | 52.7 | 116. | 111. |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 133. | 485. | 60.4 | 6.90 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109670.** | **1296500.** | **336120.** |
| Stddev | 224. | 19066. | 2676. |
| %RSD | .20437 | 1.4706 | .79613 |

Sample Name: CalStd2=0.5 Acquired: 03/19/2019 12:41:02 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.001** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | 14.2 | 5.94 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **108800.** | **1275700.** |
| Stddev | 96. | 9200. |
| %RSD | .08802 | .72116 |

Sample Name: CalStd3=1 Acquired: 03/19/2019 12:47:18 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.001** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 15.3 | 43.9 | 1.16 | 15.9 | 7.08 | 21.4 | 28.5 | 40.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108720.** | **1279300.** | **332460.** |
| Stddev | 274. | 4383. | 3958. |
| %RSD | .25187 | .34259 | 1.1905 |

Sample Name: CalStd4=5 Acquired: 03/19/2019 12:53:33 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **9.92** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .76 | .000 | .000 | .000 | .000 |
| %RSD | 2.69 | 1.06 | 3.12 | 3.33 | 3.10 | 6.52 | 9.35 | 7.67 | .698 | 3.10 | 6.73 | 7.62 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 12.3 | 32.7 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108840.** | **1276700.** | **333920.** |
| Stddev | 180. | 4194. | 2666. |
| %RSD | .16518 | .32852 | .79849 |

Sample Name: CalStd5=10 Acquired: 03/19/2019 12:59:50 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.716** | **.747** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .462 | .412 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.14 | 9.00 | 64.5 | 55.2 | 5.08 | 3.40 | 2.36 | 1.31 | 1.65 | 1.24 | 6.91 | 2.32 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **13.4** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.6 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.5 | 1.13 | 1.92 | 1.81 | 5.34 | 15.8 | 8.78 | 8.80 | 17.3 | 9.29 | 22.5 | 2.19 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.001** |
| Stddev | .000 | .000 |
| %RSD | 5.26 | 1.15 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108920.** | **1273000.** | **328330.** |
| Stddev | 280. | 7485. | 2580. |
| %RSD | .25689 | .58797 | .78570 |

Sample Name: CalStd6=20 Acquired: 03/19/2019 13:06:07 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **17.8** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | 2.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.97 | .728 | 12.1 | 1.25 | 2.25 | 3.92 | 5.21 | 4.02 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107980.** | **1282000.** | **342800.** |
| Stddev | 160. | 5166. | 4271. |
| %RSD | .14818 | .40296 | 1.2459 |

Sample Name: CalStd7=50 Acquired: 03/19/2019 13:12:18 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3.93** | **3.86** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **.000** | **36.9** | **.001** | **.000** |
| Stddev | .48 | .52 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1.0 | .000 | .000 |
| %RSD | 12.2 | 13.4 | 1.30 | .688 | .491 | .848 | .524 | 1.25 | 3.02 | 2.74 | .330 | 1.07 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.23 | 1.10 | 7.36 | 7.96 | 1.78 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107900.** | **1288800.** | **341050.** |
| Stddev | 277. | 3608. | 2074. |
| %RSD | .25667 | .27992 | .60814 |

Sample Name: CalStd8=100 Acquired: 03/19/2019 13:18:26 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .000 | .000 | 8.08 | 6.60 | .001 | .014 | .006 | .000 | .016 | .003 | .005 | .002 |
| Stddev | .000 | .000 | .53 | .24 | .000 | .001 | .000 | .000 | .001 | .000 | .000 | .000 |
| %RSD | .896 | .862 | 6.50 | 3.63 | .255 | 5.27 | 1.12 | 6.10 | 7.56 | .384 | .121 | .621 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .000 | .001 | .000 | .001 | 66.1 | .004 | .001 | .001 | .001 | .001 | .000 | .000 |
| Stddev | .000 | .000 | .000 | .000 | 2.5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.22 | .488 | 1.05 | 5.62 | 3.71 | .725 | .551 | .363 | .724 | .339 | 1.32 | 4.43 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .000 | .000 | .000 | .000 | .000 | .001 | .001 | .004 |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.40 | 1.51 | 24.8 | 1.67 | 8.72 | .634 | .658 | .462 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 107680. | 1284800. | 334840. |
| Stddev | 213. | 5074. | 15324. |
| %RSD | .19802 | .39489 | 4.5766 |

Sample Name: CalStd9=1000 Acquired: 03/19/2019 13:24:33 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.002** | **84.5** | **73.1** | **.010** | **.071** | **.063** | **.004** | **.000** | **.147** | **.028** | **.052** |
| Stddev | .000 | .000 | .4 | .3 | .000 | .001 | .000 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .892 | 1.68 | .455 | .365 | .137 | 1.04 | .589 | 1.68 | .754 | 1.05 | .079 | .175 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.004** | **.003** | **582.** | **.001** | **.000** | **.001** | **.000** | **.035** | **.012** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 7. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .479 | .542 | .216 | .758 | .798 | 1.22 | .849 | 1.35 | 1.33 | 3.60 | .556 | .426 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.009** | **.006** | **.015** | **.002** | **.003** | **.002** | **.003** | **.001** | **.000** | **.003** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.13 | .219 | .251 | .133 | .473 | .310 | .222 | .417 | .881 | 1.75 | .491 | 1.05 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.013** | **.044** |
| Stddev | .000 | .000 | .000 |
| %RSD | .158 | .206 | .334 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107690.** | **1282900.** | **342480.** |
| Stddev | 412. | 5111. | 2321. |
| %RSD | .38265 | .39839 | .67776 |

Sample Name: CalStd10=10000 Acquired: 03/19/2019 13:30:13 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.017** | **720.** | **.643** | **.003** | **1.44** | **.201** | **.022** | **.145** | **.036** | **.028** | **5690.** | **.005** |
| Stddev | .000 | 1. | .013 | .000 | .04 | .001 | .000 | .000 | .000 | .000 | 51. | .000 |
| %RSD | 1.69 | .091 | 2.07 | 1.61 | 2.45 | .334 | .627 | .149 | .655 | 1.56 | .887 | .580 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.015** | **.000** | **.325** | **.119** | **.048** | **.062** | **.143** | **.015** | **.023** | **.025** | **.003** |
| Stddev | .000 | .000 | .000 | .002 | .001 | .001 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.58 | 1.86 | 2.01 | .501 | .482 | 1.35 | .095 | .166 | .378 | .176 | .250 | .570 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.025** | **.013** | **.052** | **.132** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .167 | 1.64 | .361 | .172 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106120.** | **1247800.** | **336960.** |
| Stddev | 279. | 4442. | 3514. |
| %RSD | .26331 | .35597 | 1.0429 |

Sample Name: CalStd12=100K  Acquired: 03/19/2019 13:37:01  Type: Cal
Method: DOD Calibration Updated 060614(v3268)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.26** | **.262** | **54600.** | **.443** | **.143** | **1.15** |
| Stddev | .00 | .007 | 787. | .012 | .000 | .00 |
| %RSD | .082 | 2.64 | 1.44 | 2.65 | .162 | .157 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106550.** | **1265800.** | **339580.** |
| Stddev | 74. | 4992. | 6760. |
| %RSD | .06905 | .39436 | 1.9907 |

Sample Name: CalStd13=100000 Acquired: 03/19/2019 13:43:32 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.156** | **.026** | **.045** | **.046** | **.135** | **.005** |
| Stddev | .002 | .000 | .000 | .001 | .002 | .000 |
| %RSD | 1.34 | 1.73 | .337 | 1.72 | 1.53 | 1.60 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104270.** | **1233000.** | **339570.** |
| Stddev | 275. | 2764. | 2637. |
| %RSD | .26342 | .22420 | .77646 |

Sample Name: CalStd14=500000 Acquired: 03/19/2019 13:49:50 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.815** | **.129** | **.219** | **.632** | **.026** |
| Stddev | .018 | .002 | .003 | .010 | .000 |
| %RSD | 2.26 | 1.18 | 1.27 | 1.54 | 1.39 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **96485.** | **324250.** |
| Stddev | 207. | 2034. |
| %RSD | .21490 | .62738 |

Sample Name: CalibStd15=1000k Acquired: 03/19/2019 13:56:34 Type: Cal
Method: DOD Calibration Updated 060614(v3268) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.69** | **.258** | **.416** | **.051** |
| Stddev | .04 | .002 | .004 | .000 |
| %RSD | 2.40 | .960 | .914 | .961 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **86823.** | **299760.** |
| Stddev | 451. | 1839. |
| %RSD | .51974 | .61348 |

Sample Name: icv Acquired: 03/19/2019 14:16:35 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.4** | **11700.** | **1920.** | **1950.** | **1890.** | **45.6** | **9800.** | **47.0** | **487.** | **190.** | **238.** | **4750.** |
| Stddev | .2 | 22. | 6. | 13. | . | .3 | 43. | .1 | 2. | 2. | 1. | 25. |
| %RSD | .506 | .187 | .309 | .680 | .018 | .672 | .441 | .180 | .318 | .929 | .567 | .520 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4870.** | **10100.** | **493.** | **495.** | **497.** | **486.** | **473.** | **505.** | **482.** | **478.** | **2000.** | **1970.** |
| Stddev | 41. | 21. | 3. | 1. | 2. | 1. | . | 4. | 4. | 5. | 7. | 2. |
| %RSD | .841 | .212 | .634 | .264 | .404 | .145 | .053 | .709 | .894 | 1.13 | .340 | .114 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Avg | **461.** | **472.** | **510.** |
| Stddev | 7. | 2. | 1. |
| %RSD | 1.55 | .324 | .183 |
| Check ? | None | None | None |
| Value | | | |
| Range | | | |

Sample Name: icv Acquired: 03/19/2019 14:16:35 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107680.** | **1273800.** | **341720.** |
| Stddev | 194. | 4351. | 1848. |
| %RSD | .18023 | .34161 | .54066 |

Sample Name: ICVLL Acquired: 03/19/2019 14:22:47 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **31.9** | **1200.** | **1270.** | **64.3** | **29.4** | **11.7** | **1480.** | **15.3** | **29.2** | **30.0** | **34.4** | **919.** |
| Stddev | .8 | 6. | 9. | 2.1 | .3 | .2 | 10. | .2 | .1 | .5 | 5.1 | 4. |
| %RSD | 2.39 | .528 | .724 | 3.29 | .941 | 1.31 | .693 | 1.54 | .485 | 1.61 | 14.7 | .482 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1550.** | **32.7** | **31.3** | **30.1** | **29.6** | **62.3** | **61.9** | **61.7** | **30.3** | **29.6** |
| Stddev | 12. | .3 | .6 | .1 | 2.5 | 2.3 | 2.4 | 1.3 | .6 | .2 |
| %RSD | .802 | .965 | 2.06 | .325 | 8.47 | 3.67 | 3.94 | 2.02 | 1.99 | .571 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107690.** | **1270800.** | **340270.** |
| Stddev | 159. | 4816. | 1901. |
| %RSD | .14725 | .37893 | .55862 |

Sample Name: icb Acquired: 03/19/2019 14:35:10 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.14** | **1.57** | **-1.41** | **-.290** | **-.131** | **-16.2** | **.041** | **-.098** | **-.709** | **-.479** | **-2.47** | **-.136** |
| Stddev | .80 | 2.32 | 2.72 | .266 | .188 | .3 | .181 | .244 | .496 | 2.52 | 1.26 | .212 |
| %RSD | 70.5 | 148. | 192. | 91.7 | 143. | 2.03 | 440. | 250. | 69.9 | 527. | 51.3 | 156. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.528** | **-.441** | **-.759** | **-1.12** | **-1.12** | **1.22** | **-.667** | **-.260** | **-.629** |
| Stddev | .083 | .487 | .298 | 4.31 | 1.31 | 5.45 | 2.26 | .436 | .017 |
| %RSD | 15.8 | 110. | 39.2 | 385. | 117. | 447. | 338. | 167. | 2.73 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107400.** | **1276300.** | **339670.** |
| Stddev | 408. | 4251. | 1882. |
| %RSD | .38031 | .33310 | .55391 |

Sample Name: MRL/LLOQ Acquired: 03/19/2019 14:41:26 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.68** | **424.** | **21.9** | **9.77** | **3.97** | **500.** | **5.20** | **9.95** | **9.51** | **9.28** | **308.** | **535.** |
| Stddev | .92 | 2. | 4.2 | .31 | .05 | 4. | .09 | .13 | .55 | 7.95 | 2. | 1. |
| %RSD | 9.50 | .571 | 19.0 | 3.17 | 1.33 | .756 | 1.63 | 1.28 | 5.76 | 85.6 | .549 | .247 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **10.3** | **9.68** | **10.1** | **12.1** | **19.7** | **23.1** | **21.2** | **10.4** | **10.7** |
| Stddev | .1 | .14 | .3 | 4.0 | 1.0 | 2.0 | 2.6 | .6 | .1 |
| %RSD | 1.19 | 1.43 | 2.47 | 33.0 | 4.86 | 8.43 | 12.2 | 6.09 | .633 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107290.** | **1277800.** | **338820.** |
| Stddev | 161. | 3946. | 539. |
| %RSD | .14964 | .30878 | .15899 |

Sample Name: ICSA Acquired: 03/19/2019 14:47:39 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.194** | **555000.** | **14.1** | **.854** | **-.511** | **527000.** | **.009** | **-1.86** | **-.684** | **1.32** | **509000.** |
| Stddev | .816 | 9350. | 19.1 | .704 | .041 | 3000. | 1.79 | .65 | .291 | 8.67 | 2570. |
| %RSD | 420. | 1.68 | 135. | 82.5 | 8.04 | .569 | 19500. | 35.2 | 42.5 | 657. | .505 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **528000.** | **-2.90** | **1.27** | **-.744** | **2.59** | **-1.88** | **-.000** | **-6.10** | **10200.** | **-14.1** |
| Stddev | 4370. | .13 | .76 | 1.27 | 6.11 | 5.83 | 4.33 | 2.98 | 108. | .6 |
| %RSD | .828 | 4.42 | 60.0 | 171. | 236. | 309. | 2090000. | 48.9 | 1.06 | 4.43 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **95843.** | **1145800.** | **323730.** |
| Stddev | 241. | 4010. | 3187. |
| %RSD | .25181 | .34998 | .98458 |

Sample Name: ICSAB Acquired: 03/19/2019 14:54:34 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **521000.** | **554.** | **476.** | **458.** | **465.** | **499000.** | **458.** | **461.** | **476.** | **484.** |
| Stddev | 3. | 11300. | 13. | 2. | 5. | 5. | 4350. | 1. | 1. | 4. | 6. |
| %RSD | .656 | 2.16 | 2.36 | .341 | 1.02 | 1.16 | .872 | .161 | .238 | .788 | 1.20 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **489000.** | **499000.** | **500.** | **479.** | **489.** | **453.** | **441.** | **458.** | **497.** | **483.** | **475.** |
| Stddev | 4520. | 4060. | 1. | 2. | 1. | 1. | 4. | 5. | 2. | 1. | 3. |
| %RSD | .925 | .813 | .254 | .434 | .219 | .278 | .911 | 1.03 | .430 | .134 | .709 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **490.** | **508.** | **502.** | **475.** |
| Stddev | 4. | 3. | 1. | 1. |
| %RSD | .867 | .678 | .208 | .174 |
| Check ? | None | None | None | None |
| Value | | | | |
| Range | | | | |

Sample Name: ICSAB Acquired: 03/19/2019 14:54:34 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **95913.** | **1143100.** | **326120.** |
| Stddev | 96. | 2191. | 1304. |
| %RSD | .10003 | .19164 | .39977 |

Sample Name: ccv1 Acquired: 03/19/2019 16:12:25 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **417.** | **4980.** | **4540.** | **4680.** | **470.** | **4860.** | **494.** | **4600.** | **5090.** | **4740.** | **4590.** | **4770.** |
| Stddev | 3. | 69. | 14. | 77. | 8. | 25. | 1. | 34. | 4. | 82. | 29. | 85. |
| %RSD | .834 | 1.38 | .320 | 1.64 | 1.74 | .508 | .109 | .748 | .085 | 1.73 | .639 | 1.77 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4990.** | **4860.** | **4650.** | **4680.** | **4670.** | **4670.** | **4880.** | **4680.** | **4570.** | **4990.** |
| Stddev | 72. | 72. | 7. | 1. | 15. | 8. | 18. | 9. | 65. | 11. |
| %RSD | 1.45 | 1.48 | .143 | .029 | .323 | .181 | .361 | .200 | 1.43 | .226 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103150.** | **1234500.** | **326430.** |
| Stddev | 189. | 6888. | 1895. |
| %RSD | .18309 | .55798 | .58036 |

Sample Name: ccv2 Acquired: 03/19/2019 16:18:13 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.7** | **511.** | **464.** | **477.** | **495.** | **47.9** | **480.** | **50.1** | **510.** | **489.** | **466.** | **484.** |
| Stddev | .4 | 6. | 1. | . | 11. | .3 | 9. | .2 | 3. | 2. | 8. | 3. |
| %RSD | .731 | 1.14 | .304 | .070 | 2.14 | .540 | 1.97 | .468 | .629 | .402 | 1.78 | .644 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **510.** | **507.** | **485.** | **486.** | **501.** | **495.** | **477.** | **487.** | **486.** | **484.** | **511.** | **476.** |
| Stddev | 4. | 3. | 1. | 1. | 1. | 6. | 1. | 3. | 4. | 5. | 2. | 11. |
| %RSD | .827 | .649 | .298 | .301 | .215 | 1.23 | .314 | .624 | .777 | 1.03 | .376 | 2.32 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **500.** | **524.** | **501.** |
| Stddev | 4. | . | 3. |
| %RSD | .808 | .091 | .570 |
| Check ? | Chk Pass | Chk Pass | Chk Pass |
| Value | | | |
| Range | | | |

Sample Name: ccv2 Acquired: 03/19/2019 16:18:13 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **105420.** | **1267000.** | **329150.** |
| Stddev | 163. | 5406. | 4399. |
| %RSD | .15496 | .42669 | 1.3363 |

Sample Name: ccb Acquired: 03/19/2019 16:23:59 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.681** | **-7.39** | **-2.30** | **-.229** | **.150** | **-20.3** | **.026** | **.030** | **-.241** | **-.016** | **-8.05** | **-5.64** |
| Stddev | 1.04 | .30 | .58 | .255 | .116 | .5 | .180 | .210 | .044 | 5.46 | .83 | .05 |
| %RSD | 153. | 4.06 | 25.4 | 111. | 77.5 | 2.45 | 696. | 705. | 18.4 | 34100. | 10.3 | .892 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.328** | **1.10** | **-.059** | **-1.50** | **.768** | **1.71** | **.502** | **.448** | **-.263** |
| Stddev | .040 | .55 | .527 | 2.25 | 2.72 | 1.59 | .412 | .677 | .046 |
| %RSD | 12.4 | 49.7 | 888. | 150. | 354. | 93.4 | 82.0 | 151. | 17.5 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **105240.** | **1268300.** | **328660.** |
| Stddev | 397. | 7938. | 3962. |
| %RSD | .37696 | .62590 | 1.2053 |

Sample Name: lcss71076 Acquired: 03/19/2019 16:56:27 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **112.** | **759.** | **1690.** | **1770.** | **175.** | **189.** | **.534** | **19600.** | **.287** | **1.19** | **102.** | **73.3** |
| Stddev | 1. | 8. | 18. | 15. | 1. | 3. | .088 | 325. | .076 | .51 | . | 3.1 |
| %RSD | .873 | 1.09 | 1.06 | .835 | .838 | 1.80 | 16.5 | 1.66 | 26.3 | 42.7 | .141 | 4.25 |

| Elem | Fe2343 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8810.** | **9310.** | **6510.** | **2000.** | **2030.** | **6.04** | **24.4** | **15.2** | **3.15** | **9.77** | **-1.26** | **2.41** |
| Stddev | 39. | 128. | 112. | 6. | 23. | 1.08 | .6 | 2.7 | 1.36 | 4.00 | 1.90 | .40 |
| %RSD | .442 | 1.38 | 1.72 | .311 | 1.15 | 17.9 | 2.30 | 17.5 | 43.3 | 40.9 | 151. | 16.6 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **131.** |
| Stddev | 1. |
| %RSD | 1.08 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101870.** | **1227600.** | **320800.** |
| Stddev | 601. | 2943. | 3923. |
| %RSD | .59044 | .23974 | 1.2229 |

Sample Name: mbs71076 Acquired: 03/19/2019 17:02:59 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **125.** | **2540.** | **-2.05** | **456.** | **486.** | **1.28** | **32100.** | **.457** | **2.03** | **69.0** | **99.4** | **14200.** |
| Stddev | 1. | 25. | 4.12 | 1. | 4. | .08 | 114. | .248 | .31 | 1.3 | 6.4 | 75. |
| %RSD | .574 | .990 | 201. | .241 | .878 | 6.09 | .355 | 54.3 | 15.3 | 1.87 | 6.41 | .527 |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **15000.** | **7290.** | **199.** | **.864** | **18.5** | **22.1** | **-.272** | **12.7** | **-1.83** | **6.24** | **191.** |
| Stddev | 42. | 97. | 1. | .439 | .2 | 2.8 | .550 | 3.9 | 1.39 | .97 | . |
| %RSD | .280 | 1.33 | .568 | 50.8 | 1.29 | 12.7 | 202. | 30.9 | 75.8 | 15.5 | .257 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101720.** | **1228400.** | **318640.** |
| Stddev | 184. | 2824. | 3233. |
| %RSD | .18100 | .22990 | 1.0147 |

Sample Name: 250740 Acquired: 03/19/2019 17:09:25 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.88** | **228000.** | **335.** | **1610.** | **39.1** | **56100.** | **-4.41** | **93.8** | **460.** | **442.** | **392000.** |
| Stddev | .63 | 1540. | 15. | 18. | .1 | 427. | .40 | .7 | 2. | 6. | 1240. |
| %RSD | 10.7 | .674 | 4.46 | 1.13 | .171 | .761 | 8.98 | .739 | .543 | 1.46 | .316 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **32400.** | **7430.** | **3.47** | **189.** | **1900.** | **-7.40** | **14.8** | **38.1** | **870.** | **941.** | **1920.** |
| Stddev | 120. | 27. | 1.32 | 2. | 12. | 5.49 | 3.1 | 2.2 | 12. | 4. | 14. |
| %RSD | .369 | .361 | 38.1 | 1.08 | .617 | 74.2 | 20.7 | 5.89 | 1.38 | .394 | .721 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101380.** | **1211500.** | **319920.** |
| Stddev | 474. | 7071. | 3267. |
| %RSD | .46737 | .58367 | 1.0211 |

Sample Name: 250741 Acquired: 03/19/2019 17:15:47 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.57** | **258000.** | **364.** | **1500.** | **43.1** | **46100.** | **-7.06** | **98.7** | **483.** | **473.** | **438000.** |
| Stddev | .76 | 2040. | 8. | 12. | .3 | 558. | 1.30 | .6 | 3. | 6. | 4540. |
| %RSD | 48.7 | .794 | 2.26 | .782 | .782 | 1.21 | 18.4 | .562 | .598 | 1.22 | 1.04 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **31000.** | **5920.** | **.284** | **182.** | **1390.** | **-11.4** | **16.2** | **40.7** | **884.** | **956.** | **1430.** |
| Stddev | 416. | 67. | .504 | 1. | 13. | 1.4 | 4.1 | 2.0 | 14. | 6. | 4. |
| %RSD | 1.34 | 1.13 | 178. | .423 | .955 | 12.0 | 25.2 | 4.92 | 1.54 | .677 | .253 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101740.** | **1219900.** | **319840.** |
| Stddev | 232. | 2590. | 2527. |
| %RSD | .22769 | .21232 | .78996 |

Sample Name: 250742 Acquired: 03/19/2019 17:22:10 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.34** | **155000.** | **140.** | **5160.** | **43.2** | **66700.** | **4.06** | **127.** | **500.** | **1560.** | **448000.** |
| Stddev | .44 | 955. | 12. | 29. | .6 | 883. | 1.86 | . | 2. | 11. | 5690. |
| %RSD | 19.0 | .617 | 8.71 | .571 | 1.29 | 1.32 | 45.9 | .380 | .483 | .688 | 1.27 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **25500.** | **6010.** | **-1.51** | **228.** | **20400.** | **-15.6** | **6.69** | **43.7** | **1160.** | **9450.** |
| Stddev | 286. | 72. | .12 | . | 49. | 1.9 | 4.81 | 3.0 | 15. | 18. |
| %RSD | 1.12 | 1.19 | 8.03 | .115 | .239 | 12.1 | 71.9 | 6.78 | 1.28 | .193 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101170.** | **1219100.** | **316060.** |
| Stddev | 207. | 5434. | 2573. |
| %RSD | .20508 | .44575 | .81393 |

Sample Name: 250743 Acquired: 03/19/2019 17:28:22 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.51** | **159000.** | **192.** | **6210.** | **38.0** | **56600.** | **5.45** | **127.** | **521.** | **1950.** | **396000.** |
| Stddev | .30 | 1010. | 10. | 60. | .3 | 807. | 1.08 | . | 4. | 18. | 3550. |
| %RSD | 11.9 | .636 | 5.42 | .967 | .748 | 1.42 | 19.8 | .366 | .783 | .934 | .898 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **25000.** | **6050.** | **1.75** | **248.** | **21400.** | **70.8** | **10.4** | **37.9** | **1220.** | **10700.** |
| Stddev | 290. | 56. | .70 | 1. | 13. | 2.1 | 5.3 | 1.2 | 7. | 6. |
| %RSD | 1.16 | .931 | 40.1 | .291 | .060 | 3.02 | 51.1 | 3.24 | .567 | .054 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102010.** | **1226300.** | **316230.** |
| Stddev | 99. | 5174. | 1244. |
| %RSD | .09728 | .42188 | .39332 |

Sample Name: ccv1 Acquired: 03/19/2019 17:34:44 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **423.** | **5160.** | **4510.** | **4770.** | **480.** | **4960.** | **498.** | **4630.** | **5020.** | **4800.** | **4700.** | **5150.** |
| Stddev | 2. | 51. | 10. | 102. | 8. | 64. | 1. | 22. | 6. | 93. | 18. | 257. |
| %RSD | .360 | .995 | .215 | 2.14 | 1.59 | 1.28 | .103 | .466 | .116 | 1.93 | .373 | 4.98 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **5160.** | **4910.** | **4620.** | **4730.** | **4610.** | **4650.** | **4880.** | **4680.** | **4620.** | **5030.** |
| Stddev | 92. | 84. | 7. | 7. | 13. | 11. | 30. | 9. | 65. | 7. |
| %RSD | 1.78 | 1.71 | .162 | .150 | .282 | .238 | .609 | .202 | 1.41 | .148 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103630.** | **1245400.** | **320840.** |
| Stddev | 167. | 4954. | 4066. |
| %RSD | .16141 | .39776 | 1.2673 |

Sample Name: ccv2 Acquired: 03/19/2019 17:40:35 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **51.1** | **520.** | **456.** | **474.** | **507.** | **47.9** | **493.** | **49.5** | **517.** | **493.** | **465.** | **491.** |
| Stddev | .7 | 2. | 2. | 2. | 7. | .4 | 5. | .1 | 2. | 4. | 8. | 4. |
| %RSD | 1.31 | .394 | .459 | .474 | 1.37 | .933 | 1.10 | .290 | .385 | .749 | 1.74 | .771 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **517.** | **515.** | **484.** | **485.** | **501.** | **490.** | **474.** | **487.** | **487.** | **486.** | **511.** | **485.** |
| Stddev | 5. | 5. | 2. | 1. | . | 7. | 2. | 1. | 2. | 1. | 2. | 9. |
| %RSD | .915 | .899 | .493 | .291 | .099 | 1.33 | .451 | .119 | .497 | .251 | .434 | 1.89 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **510.** | **523.** | **506.** |
| Stddev | 5. | . | 1. |
| %RSD | .997 | .032 | .270 |
| Check ? | Chk Pass | Chk Pass | Chk Pass |
| Value | | | |
| Range | | | |

Sample Name: ccv2 Acquired: 03/19/2019 17:40:35 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **105570.** | **1267700.** | **322780.** |
| Stddev | 189. | 3436. | 3322. |
| %RSD | .17907 | .27105 | 1.0291 |

Sample Name: ccb Acquired: 03/19/2019 17:46:20 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.331** | **-6.09** | **-.306** | **-.141** | **.166** | **-19.5** | **.180** | **.372** | **.183** | **-3.45** | **-5.36** | **-4.64** |
| Stddev | .456 | .38 | 4.64 | .159 | .086 | .7 | .156 | .471 | .422 | 4.14 | 1.33 | .07 |
| %RSD | 138. | 6.15 | 1510. | 113. | 51.4 | 3.73 | 86.7 | 127. | 231. | 120. | 24.9 | 1.47 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.269** | **.984** | **-.152** | **-1.67** | **-.508** | **5.57** | **-.384** | **-.108** | **-.058** |
| Stddev | .078 | .486 | .417 | 3.36 | 1.17 | 2.97 | 1.28 | 1.07 | .067 |
| %RSD | 29.0 | 49.4 | 274. | 201. | 231. | 53.3 | 333. | 991. | 115. |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **105290.** | **1270700.** | **324680.** |
| Stddev | 397. | 4251. | 3498. |
| %RSD | .37663 | .33451 | 1.0773 |

Sample Name: 250744 Acquired: 03/19/2019 17:52:36 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.29** | **342000.** | **565.** | **2330.** | **52.8** | **173000.** | **-3.18** | **154.** | **584.** | **700.** | **508000.** |
| Stddev | .35 | 5060. | 16. | 34. | .9 | 4060. | 3.77 | 2. | 4. | 2. | 9610. |
| %RSD | 15.5 | 1.48 | 2.80 | 1.46 | 1.69 | 2.35 | 119. | 1.06 | .707 | .319 | 1.89 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **63900.** | **13600.** | **-2.51** | **250.** | **1620.** | **-8.80** | **21.0** | **49.4** | **998.** | **1610.** |
| Stddev | 1300. | 225. | .67 | 1. | 27. | 1.80 | 6.6 | 2.1 | 20. | 8. |
| %RSD | 2.03 | 1.65 | 26.5 | .301 | 1.65 | 20.4 | 31.5 | 4.30 | 2.01 | .478 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **99299.** | **1182400.** | **316140.** |
| Stddev | 582. | 3743. | 2085. |
| %RSD | .58636 | .31660 | .65958 |

Sample Name: 250745 Acquired: 03/19/2019 17:58:56 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.18** | **399000.** | **372.** | **1910.** | **59.2** | **99800.** | **-8.75** | **172.** | **572.** | **376.** | **577000.** |
| Stddev | .71 | 3250. | 16. | 15. | .9 | 1990. | 2.76 | 2. | 2. | 10. | 9570. |
| %RSD | 32.8 | .814 | 4.36 | .788 | 1.56 | 1.99 | 31.5 | 1.03 | .348 | 2.57 | 1.66 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **50500.** | **8310.** | **-6.41** | **303.** | **523.** | **-16.2** | **13.8** | **58.9** | **977.** | **1020.** | **963.** |
| Stddev | 842. | 118. | 1.43 | 1. | 9. | 4.5 | 3.7 | 4.2 | 8. | 2. | 5. |
| %RSD | 1.67 | 1.42 | 22.3 | .324 | 1.67 | 27.9 | 26.4 | 7.18 | .788 | .214 | .568 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **100530.** | **1195300.** | **315440.** |
| Stddev | 383. | 4891. | 4160. |
| %RSD | .38055 | .40914 | 1.3189 |

Sample Name: 250746 Acquired: 03/19/2019 18:05:15 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.37** | **265000.** | **476.** | **2360.** | **38.0** | **323000.** | **-3.22** | **74.7** | **477.** | **382.** | **374000.** |
| Stddev | .16 | 2790. | 19. | 26. | .5 | 5360. | 1.16 | .5 | 2. | 3. | 4870. |
| %RSD | 12.0 | 1.05 | 3.92 | 1.10 | 1.40 | 1.66 | 36.0 | .665 | .518 | .887 | 1.30 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **76800.** | **16300.** | **-.174** | **194.** | **485.** | **673.** | **-10.8** | **17.1** | **36.0** | **1080.** | **1040.** |
| Stddev | 1000. | 248. | .617 | . | 9. | 5. | 6.1 | 7.7 | 1.5 | 23. | 1. |
| %RSD | 1.31 | 1.53 | 355. | .163 | 1.75 | .683 | 56.4 | 45.0 | 4.09 | 2.13 | .078 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **98747.** | **1179200.** | **312730.** |
| Stddev | 170. | 2741. | 2601. |
| %RSD | .17225 | .23247 | .83179 |

Sample Name: 250747 Acquired: 03/19/2019 18:11:32 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.61** | **231000.** | **411.** | **1620.** | **37.1** | **367000.** | **-4.08** | **74.0** | **461.** | **378.** | **376000.** |
| Stddev | .69 | 3850. | 18. | 31. | .2 | 3130. | 1.04 | .6 | 2. | 10. | 2920. |
| %RSD | 42.7 | 1.66 | 4.29 | 1.89 | .419 | .851 | 25.5 | .837 | .495 | 2.56 | .778 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **72900.** | **9010.** | **-3.57** | **151.** | **525.** | **-12.2** | **14.6** | **36.7** | **912.** | **982.** | **797.** |
| Stddev | 696. | 108. | .56 | 1. | 4. | 5.7 | 2.2 | 2.4 | 22. | 4. | 1. |
| %RSD | .955 | 1.20 | 15.6 | .338 | .834 | 46.7 | 14.9 | 6.45 | 2.38 | .423 | .115 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **775.** |
| Stddev | 1. |
| %RSD | .187 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **98249.** | **1174800.** | **310590.** |
| Stddev | 145. | 3561. | 4250. |
| %RSD | .14807 | .30308 | 1.3685 |

Sample Name: 251121 Acquired: 03/19/2019 18:17:44 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.14** | **410000.** | **433.** | **3900.** | **68.3** | **18600.** | **-10.5** | **303.** | **602.** | **1050.** | **872.** |
| Stddev | 1.11 | 3890. | 4. | 47. | .7 | 260. | 2.4 | 1. | 1. | 8. | 10. |
| %RSD | 21.5 | .949 | .984 | 1.20 | .989 | 1.40 | 22.6 | .282 | .210 | .788 | 1.11 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **635000.** | **35900.** | **26200.** | **15.0** | **267.** | **1240.** | **-14.1** | **24.1** | **61.1** | **1230.** | **1420.** |
| Stddev | 7310. | 436. | 226. | .7 | 2. | 15. | 3.2 | 7.8 | 4.6 | 9. | 4. |
| %RSD | 1.15 | 1.21 | .864 | 4.82 | .635 | 1.24 | 22.6 | 32.5 | 7.60 | .768 | .291 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101140.** | **1208200.** | **313670.** |
| Stddev | 374. | 8073. | 2789. |
| %RSD | .36973 | .66817 | .88901 |

Sample Name: I251121 Acquired: 03/19/2019 18:24:20 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.520** | **87500.** | **100.** | **811.** | **836.** | **15.7** | **4110.** | **-4.61** | **69.4** | **134.** | **201.** |
| Stddev | .677 | 779. | 7. | 1. | 11. | .0 | 42. | .40 | .4 | 1. | 6. |
| %RSD | 130. | .891 | 7.35 | .133 | 1.31 | .112 | 1.01 | 8.74 | .566 | .424 | 3.10 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **146000.** | **8300.** | **5880.** | **2.25** | **60.5** | **349.** | **-4.23** | **3.89** | **12.7** | **272.** | **284.** |
| Stddev | 406. | 79. | 30. | 1.12 | .5 | 2. | 3.79 | 4.09 | 1.5 | 7. | 2. |
| %RSD | .278 | .952 | .515 | 49.8 | .904 | .650 | 89.5 | 105. | 11.7 | 2.64 | .529 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **310.** |
| Stddev | 1. |
| %RSD | .481 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106490.** | **1268900.** | **327850.** |
| Stddev | 258. | 2694. | 2484. |
| %RSD | .24230 | .21230 | .75751 |

Sample Name: 1dup251121 Acquired: 03/19/2019 18:30:44 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.75** | **402000.** | **429.** | **3950.** | **67.5** | **18100.** | **-10.0** | **302.** | **592.** | **1070.** | **888.** |
| Stddev | .66 | 3130. | 12. | 31. | .7 | 323. | 2.0 | 1. | 4. | 5. | 7. |
| %RSD | 14.0 | .777 | 2.73 | .791 | 1.04 | 1.79 | 19.9 | .264 | .649 | .500 | .791 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **626000.** | **35300.** | **26300.** | **15.8** | **261.** | **1250.** | **-14.6** | **23.2** | **60.4** | **1220.** | **1410.** |
| Stddev | 7070. | 357. | 305. | 1.8 | 2. | 9. | 3.4 | 5.9 | 5.4 | 16. | 2. |
| %RSD | 1.13 | 1.01 | 1.16 | 11.6 | .639 | .687 | 23.6 | 25.6 | 8.89 | 1.28 | .163 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101270.** | **1200700.** | **313990.** |
| Stddev | 172. | 4876. | 1850. |
| %RSD | .16967 | .40611 | .58905 |

Sample Name: 2dup251121 Acquired: 03/19/2019 18:37:21 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.14** | **401000.** | **284.** | **3220.** | **71.2** | **12800.** | **-13.7** | **194.** | **563.** | **436.** | **648000.** |
| Stddev | .60 | 2340. | 21. | 13. | .5 | 150. | 2.2 | 1. | 3. | 9. | 7320. |
| %RSD | 28.3 | .583 | 7.42 | .403 | .660 | 1.17 | 16.3 | .446 | .554 | 2.14 | 1.13 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **28200.** | **14100.** | **6.93** | **215.** | **468.** | **785.** | **-18.9** | **16.2** | **59.2** | **1130.** | **1030.** |
| Stddev | 270. | 151. | 1.01 | 1. | 10. | 5. | 5.3 | 10.0 | .8 | 6. | 4. |
| %RSD | .958 | 1.07 | 14.6 | .291 | 2.19 | .592 | 27.9 | 61.5 | 1.32 | .533 | .354 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **926.** |
| Stddev | 4. |
| %RSD | .453 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102970.** | **1214900.** | **319620.** |
| Stddev | 390. | 5120. | 2024. |
| %RSD | .37904 | .42147 | .63309 |

Sample Name: mss251121 Acquired: 03/19/2019 18:44:02 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.54** | **439000.** | **16500.** | **3870.** | **69.3** | **17900.** | **-11.6** | **302.** | **631.** | **1040.** | **862.** |
| Stddev | 1.08 | 1710. | 16. | 20. | .4 | 207. | 1.4 | 1. | 11. | 9. | 7. |
| %RSD | 23.7 | .389 | .095 | .524 | .580 | 1.16 | 11.7 | .293 | 1.81 | .844 | .805 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **642000.** | **37300.** | **25700.** | **15.1** | **280.** | **19100.** | **-29.3** | **24.8** | **63.7** | **1260.** | **1470.** |
| Stddev | 4060. | 311. | 167. | .8 | 1. | 34. | 3.6 | 1.9 | 4.1 | 7. | 2. |
| %RSD | .633 | .833 | .649 | 5.40 | .209 | .178 | 12.4 | 7.46 | 6.46 | .558 | .165 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102070.** | **1194700.** | **317190.** |
| Stddev | 122. | 22900. | 2230. |
| %RSD | .11960 | 1.9168 | .70304 |

Sample Name: msds251121 Acquired: 03/19/2019 18:50:32 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.90** | **360000.** | **16500.** | **3720.** | **62.7** | **17600.** | **-7.91** | **286.** | **548.** | **1000.** | **856.** |
| Stddev | .34 | 3580. | 77. | 35. | .4 | 276. | 1.74 | 1. | 11. | 7. | 9. |
| %RSD | 8.69 | .996 | .468 | .941 | .705 | 1.56 | 22.0 | .251 | 1.95 | .743 | 1.03 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **566000.** | **32600.** | **25600.** | **13.0** | **244.** | **19900.** | **-24.7** | **21.9** | **53.0** | **1100.** | **1300.** |
| Stddev | 7050. | 403. | 366. | .8 | 1. | 57. | 2.8 | 5.7 | 2.0 | 15. | 3. |
| %RSD | 1.25 | 1.24 | 1.43 | 5.86 | .358 | .289 | 11.4 | 25.9 | 3.67 | 1.37 | .236 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102320.** | **1222300.** | **323210.** |
| Stddev | 315. | 22255. | 2728. |
| %RSD | .30826 | 1.8207 | .84407 |

Sample Name: ccv1 Acquired: 03/19/2019 18:57:04 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **415.** | **5070.** | **4610.** | **4610.** | **473.** | **4910.** | **492.** | **4650.** | **5090.** | **4680.** | **4660.** | **5190.** |
| Stddev | 2. | 177. | 25. | 30. | 2. | 18. | 1. | 22. | 6. | 13. | 21. | 495. |
| %RSD | .432 | 3.49 | .542 | .658 | .396 | .365 | .128 | .471 | .118 | .270 | .447 | 9.55 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **5030.** | **4940.** | **4620.** | **4630.** | **4620.** | **4610.** | **4730.** | **4640.** | **4590.** | **5010.** |
| Stddev | 52. | 24. | 5. | 5. | 22. | 11. | 26. | 4. | 32. | 11. |
| %RSD | 1.03 | .480 | .110 | .116 | .470 | .229 | .546 | .087 | .701 | .224 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106020.** | **1250800.** | **331040.** |
| Stddev | 411. | 5405. | 2981. |
| %RSD | .38728 | .43213 | .90062 |

Sample Name: ccv2 Acquired: 03/19/2019 19:02:49 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.4** | **499.** | **475.** | **483.** | **490.** | **48.5** | **478.** | **50.4** | **497.** | **486.** | **474.** | **484.** |
| Stddev | .3 | 5. | 3. | 4. | 3. | .3 | 4. | .3 | 2. | 5. | 3. | 3. |
| %RSD | .619 | .925 | .692 | .841 | .619 | .710 | .794 | .638 | .424 | 1.09 | .537 | .668 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **506.** | **503.** | **486.** | **488.** | **495.** | **497.** | **483.** | **488.** | **486.** | **476.** | **510.** | **478.** |
| Stddev | 5. | 5. | 2. | 1. | 2. | 3. | 2. | 2. | 3. | 9. | 1. | 7. |
| %RSD | 1.08 | .910 | .372 | .269 | .391 | .543 | .380 | .424 | .552 | 1.87 | .226 | 1.42 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **493.** | **523.** | **490.** |
| Stddev | 4. | 4. | 2. |
| %RSD | .796 | .690 | .498 |
| Check ? | Chk Pass | Chk Pass | Chk Pass |
| Value | | | |
| Range | | | |

Sample Name: ccv2 Acquired: 03/19/2019 19:02:49 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 107260. | 1270900. | 331370. |
| Stddev | 265. | 2667. | 2407. |
| %RSD | .24717 | .20987 | .72632 |

Sample Name: ccb Acquired: 03/19/2019 19:08:34 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.828** | **-6.06** | **-.290** | **.368** | **-.065** | **-19.0** | **.326** | **.488** | **.064** | **-6.06** | **-6.06** | **-4.21** |
| Stddev | .674 | .95 | 4.92 | .532 | .026 | .7 | .117 | .242 | .154 | 4.01 | 1.88 | .02 |
| %RSD | 81.4 | 15.6 | 1690. | 145. | 39.1 | 3.43 | 35.8 | 49.6 | 241. | 66.2 | 31.1 | .510 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.090** | **1.58** | **.403** | **-1.49** | **.648** | **2.05** | **-.736** | **.389** | **.009** |
| Stddev | .022 | .42 | .280 | .89 | 1.91 | 2.36 | .741 | .226 | .062 |
| %RSD | 25.0 | 26.5 | 69.6 | 59.8 | 295. | 115. | 101. | 58.2 | 708. |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107840.** | **1269300.** | **331340.** |
| Stddev | 308. | 5266. | 1406. |
| %RSD | .28536 | .41491 | .42428 |

Sample Name: pdss251121 Acquired: 03/19/2019 19:14:50 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **53.6** | **398000.** | **3070.** | **7340.** | **45.3** | **375000.** | **65.3** | **976.** | **855.** | **1470.** | **582000.** |
| Stddev | .4 | 4980. | 10. | 441. | 15.3 | 44900. | 3.3 | 1. | 7. | 56. | 12600. |
| %RSD | .796 | 1.25 | .338 | 6.00 | 33.7 | 12.0 | 5.00 | .132 | .792 | 3.84 | 2.16 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **208000.** | **25600.** | **17.4** | **923.** | **2050.** | **681.** | **720.** | **2440.** | **2520.** | **2000.** | **2030.** |
| Stddev | 22400. | 425. | .7 | 2. | 9. | 8. | 7. | 16. | 10. | 99. | 4. |
| %RSD | 10.8 | 1.66 | 4.31 | .218 | .447 | 1.13 | .957 | .660 | .391 | 4.93 | .207 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **98480.** | **1150900.** | **318300.** |
| Stddev | 142. | 6238. | 1696. |
| %RSD | .14428 | .54198 | .53292 |

Sample Name: 251124 Acquired: 03/19/2019 19:21:43 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.33** | **425000.** | **278.** | **3500.** | **62.7** | **15900.** | **-11.4** | **195.** | **562.** | **445.** | **562000.** |
| Stddev | .81 | 3640. | 17. | 36. | .3 | 132. | .9 | 1. | 2. | 9. | 3470. |
| %RSD | 34.7 | .857 | 6.19 | 1.04 | .485 | .833 | 7.64 | .748 | .275 | 1.98 | .618 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **30100.** | **15200.** | **7.34** | **228.** | **440.** | **796.** | **-12.1** | **25.4** | **53.9** | **1100.** | **1060.** |
| Stddev | 163. | 78. | .54 | 1. | 14. | 3. | 3.5 | 12.0 | 2.5 | 12. | 2. |
| %RSD | .541 | .515 | 7.32 | .632 | 3.25 | .436 | 28.7 | 47.2 | 4.54 | 1.09 | .174 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **925.** |
| Stddev | 5. |
| %RSD | .531 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105010.** | **1209900.** | **329660.** |
| Stddev | 400. | 4816. | 4646. |
| %RSD | .38094 | .39799 | 1.4093 |

Sample Name: 251125 Acquired: 03/19/2019 19:28:25 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.86** | **277000.** | **866.** | **1880.** | **42.9** | **36700.** | **-7.36** | **110.** | **458.** | **649.** | **411000.** |
| Stddev | .49 | 2900. | 8. | 20. | .4 | 552. | 1.58 | . | 3. | 8. | 5580. |
| %RSD | 26.4 | 1.05 | .903 | 1.04 | 1.03 | 1.50 | 21.5 | .431 | .655 | 1.24 | 1.36 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **28800.** | **15900.** | **10.5** | **215.** | **870.** | **-4.62** | **24.9** | **42.6** | **789.** | **814.** | **1280.** |
| Stddev | 386. | 170. | .8 | 1. | 8. | 2.16 | 5.0 | 3.1 | 5. | 7. | 5. |
| %RSD | 1.34 | 1.07 | 7.69 | .375 | .929 | 46.7 | 20.0 | 7.24 | .599 | .873 | .428 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105390.** | **1215600.** | **330140.** |
| Stddev | 325. | 10565. | 1365. |
| %RSD | .30804 | .86911 | .41356 |

Sample Name: 251126 Acquired: 03/19/2019 19:34:57 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.16** | **296000.** | **560.** | **2080.** | **45.5** | **46900.** | **-7.34** | **109.** | **495.** | **575.** | **442000.** |
| Stddev | .49 | 2930. | 18. | 25. | .1 | 167. | .72 | 1. | 8. | 15. | 1850. |
| %RSD | 22.9 | .991 | 3.22 | 1.22 | .318 | .357 | 9.82 | .600 | 1.62 | 2.58 | .419 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **31600.** | **15100.** | **10.1** | **314.** | **778.** | **976.** | **-4.70** | **22.9** | **42.7** | **856.** | **890.** |
| Stddev | 226. | 76. | .4 | 2. | 6. | 4. | 3.15 | 6.6 | 4.1 | 10. | 12. |
| %RSD | .715 | .503 | 4.08 | .547 | .707 | .449 | 67.1 | 28.8 | 9.54 | 1.18 | 1.38 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1270.** |
| Stddev | 5. |
| %RSD | .359 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105400.** | **1216700.** | **331170.** |
| Stddev | 417. | 3553. | 2985. |
| %RSD | .39517 | .29200 | .90142 |

Sample Name: 251127 Acquired: 03/19/2019 19:41:29 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.51** | **327000.** | **367.** | **1640.** | **51.7** | **25500.** | **-10.2** | **112.** | **522.** | **388.** | **508000.** |
| Stddev | .85 | 4470. | 13. | 26. | .5 | 361. | 1.8 | 1. | 2. | 7. | 6150. |
| %RSD | 56.2 | 1.37 | 3.41 | 1.55 | 1.02 | 1.41 | 17.6 | .666 | .417 | 1.72 | 1.21 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **35500.** | **7520.** | **2.10** | **240.** | **605.** | **-8.65** | **18.6** | **47.5** | **891.** | **910.** | **1070.** |
| Stddev | 400. | 96. | .28 | 1. | 4. | 2.10 | 9.0 | 3.5 | 7. | 4. | 3. |
| %RSD | 1.13 | 1.28 | 13.3 | .310 | .721 | 24.2 | 48.5 | 7.41 | .755 | .423 | .236 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **904.** |
| Stddev | 3. |
| %RSD | .307 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107070.** | **1220900.** | **338310.** |
| Stddev | 161. | 1340. | 2173. |
| %RSD | .15065 | .10978 | .64225 |

Sample Name: 251128 Acquired: 03/19/2019 19:48:03 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.359** | **256000.** | **501.** | **2530.** | **44.6** | **95200.** | **-5.71** | **102.** | **461.** | **590.** | **414000.** |
| Stddev | .430 | 2460. | 12. | 32. | .1 | 712. | .72 | . | 2. | 6. | 1220. |
| %RSD | 120. | .964 | 2.41 | 1.28 | .215 | .748 | 12.6 | .426 | .426 | .947 | .296 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **30200.** | **34600.** | **5.10** | **195.** | **953.** | **-6.38** | **17.2** | **37.6** | **844.** | **845.** | **1240.** |
| Stddev | 117. | 186. | .57 | 1. | 5. | 2.55 | 5.2 | 2.9 | 13. | 2. | 5. |
| %RSD | .388 | .537 | 11.2 | .542 | .570 | 40.0 | 30.5 | 7.71 | 1.52 | .288 | .393 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105920.** | **1207800.** | **334380.** |
| Stddev | 278. | 3959. | 3721. |
| %RSD | .26268 | .32774 | 1.1128 |

Sample Name: 251129 Acquired: 03/19/2019 19:54:22 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.577** | **347000.** | **337.** | **1600.** | **53.3** | **21200.** | **-11.2** | **116.** | **554.** | **413.** | **526000.** |
| Stddev | .758 | 3380. | 18. | 14. | .3 | 221. | .7 | 1. | 4. | 7. | 4180. |
| %RSD | 132. | .975 | 5.29 | .891 | .619 | 1.04 | 6.04 | .510 | .740 | 1.78 | .794 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **36300.** | **6840.** | **2.47** | **285.** | **551.** | **-9.99** | **21.6** | **46.8** | **907.** | **920.** | **1040.** |
| Stddev | 295. | 69. | .63 | 1. | 4. | 2.93 | 8.9 | 3.4 | 11. | 7. | 3. |
| %RSD | .811 | 1.00 | 25.6 | .317 | .676 | 29.3 | 41.1 | 7.17 | 1.18 | .735 | .288 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **865.** |
| Stddev | 2. |
| %RSD | .196 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108080.** | **1216900.** | **340510.** |
| Stddev | 139. | 8040. | 1837. |
| %RSD | .12840 | .66068 | .53954 |

Sample Name: 251130 Acquired: 03/19/2019 20:00:54 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.499** | **374000.** | **409.** | **1850.** | **55.2** | **32500.** | **-10.5** | **117.** | **591.** | **450.** | **537000.** |
| Stddev | .828 | 4310. | 13. | 30. | .4 | 519. | 2.1 | 1. | 2. | 11. | 6460. |
| %RSD | 166. | 1.15 | 3.28 | 1.63 | .695 | 1.60 | 19.7 | .589 | .304 | 2.43 | 1.20 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **40600.** | **8930.** | **.029** | **269.** | **499.** | **-9.16** | **20.7** | **53.0** | **946.** | **951.** | **1060.** |
| Stddev | 455. | 111. | 1.10 | 1. | 6. | 4.19 | 6.5 | 1.6 | 14. | 3. | 4. |
| %RSD | 1.12 | 1.25 | 3850. | .445 | 1.21 | 45.7 | 31.4 | 2.96 | 1.48 | .309 | .335 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **882.** |
| Stddev | 2. |
| %RSD | .179 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107780.** | **1214700.** | **342220.** |
| Stddev | 357. | 5204. | 2580. |
| %RSD | .33156 | .42841 | .75392 |

Sample Name: 251131 Acquired: 03/19/2019 20:07:23 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.421** | **413000.** | **397.** | **2210.** | **57.7** | **136000.** | **18.0** | **169.** | **825.** | **756.** | **567000.** |
| Stddev | 1.06 | 3530. | 13. | 18. | .6 | 2140. | 1.3 | 1. | 2. | 5. | 6000. |
| %RSD | 250. | .856 | 3.30 | .820 | 1.06 | 1.57 | 7.28 | .346 | .263 | .596 | 1.06 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71000.** | **40000.** | **20.6** | **566.** | **1820.** | **-9.66** | **13.9** | **54.6** | **1140.** | **7780.** |
| Stddev | 920. | 511. | .7 | 1. | 12. | 2.02 | 4.5 | 2.7 | 19. | 20. |
| %RSD | 1.29 | 1.28 | 3.56 | .169 | .632 | 20.9 | 32.2 | 5.01 | 1.66 | .251 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105500.** | **1196500.** | **339750.** |
| Stddev | 212. | 3223. | 1231. |
| %RSD | .20081 | .26935 | .36232 |

Sample Name: 1dup251131 Acquired: 03/19/2019 20:13:41 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.118** | **381000.** | **340.** | **2120.** | **55.0** | **141000.** | **20.2** | **161.** | **756.** | **724.** | **537000.** |
| Stddev | .532 | 3360. | 5. | 15. | .7 | 2710. | 2.3 | . | 6. | 4. | 7800. |
| %RSD | 450. | .883 | 1.36 | .687 | 1.22 | 1.93 | 11.6 | .173 | .808 | .561 | 1.45 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **69900.** | **38300.** | **14.2** | **541.** | **1880.** | **-9.48** | **17.7** | **51.4** | **1060.** | **8110.** |
| Stddev | 1040. | 599. | .6 | . | 15. | 8.65 | 4.4 | 3.2 | 16. | 12. |
| %RSD | 1.50 | 1.56 | 4.29 | .068 | .781 | 91.2 | 24.9 | 6.24 | 1.55 | .150 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105310.** | **1194600.** | **337390.** |
| Stddev | 150. | 5917. | 2453. |
| %RSD | .14279 | .49531 | .72700 |

Sample Name: ccv1 Acquired: 03/19/2019 20:19:58 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **403.** | **4950.** | **4800.** | **4500.** | **472.** | **4900.** | **484.** | **4700.** | **5230.** | **4640.** | **4660.** | **5180.** |
| Stddev | 2. | 103. | 41. | 70. | 8. | 66. | 7. | 43. | 83. | 80. | 40. | 424. |
| %RSD | .375 | 2.09 | .855 | 1.56 | 1.72 | 1.34 | 1.54 | .904 | 1.59 | 1.71 | .862 | 8.18 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4880.** | **5060.** | **4650.** | **4540.** | **4620.** | **4570.** | **4630.** | **4570.** | **4650.** | **5050.** |
| Stddev | 86. | 71. | 72. | 74. | 83. | 75. | 74. | 70. | 63. | 72. |
| %RSD | 1.77 | 1.40 | 1.55 | 1.63 | 1.80 | 1.65 | 1.60 | 1.54 | 1.36 | 1.43 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110090.** | **1254500.** | **344310.** |
| Stddev | 924. | 5785. | 3402. |
| %RSD | .83939 | .46110 | .98816 |

Sample Name: ccv2 Acquired: 03/19/2019 20:25:39 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **464.** | **509.** | **489.** | **476.** | **51.2** | **464.** | **50.6** | **462.** | **484.** | **495.** | **488.** |
| Stddev | .7 | 2. | 8. | 2. | 12. | .3 | 10. | .2 | 1. | 2. | 9. | 2. |
| %RSD | 1.41 | .376 | 1.54 | .353 | 2.58 | .560 | 2.11 | .453 | .194 | .369 | 1.74 | .449 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **499.** | **496.** | **488.** | **488.** | **484.** | **494.** | **493.** | **480.** | **476.** | **469.** | **499.** | **491.** |
| Stddev | 3. | 2. | 1. | 1. | 1. | 7. | 1. | 2. | 2. | 4. | 3. | 11. |
| %RSD | .519 | .434 | .126 | .267 | .269 | 1.50 | .199 | .518 | .515 | .938 | .700 | 2.21 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **471.** | **526.** | **458.** |
| Stddev | 1. | 2. | 1. |
| %RSD | .212 | .398 | .314 |
| Check ? | Chk Pass | Chk Pass | Chk Pass |
| Value | | | |
| Range | | | |

Sample Name: ccv2 Acquired: 03/19/2019 20:25:39 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111430.** | **1273200.** | **344670.** |
| Stddev | 252. | 5230. | 5413. |
| %RSD | .22656 | .41077 | 1.5704 |

Sample Name: ccb Acquired: 03/19/2019 20:31:24 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.770** | **-5.18** | **2.23** | **.155** | **-.200** | **-18.5** | **.152** | **.535** | **.313** | **-.766** | **-4.92** | **-3.93** |
| Stddev | .673 | .21 | 4.67 | .094 | .091 | .7 | .079 | .355 | .403 | 2.36 | 1.00 | .04 |
| %RSD | 87.4 | 4.08 | 209. | 61.0 | 45.6 | 3.54 | 52.3 | 66.3 | 129. | 308. | 20.4 | .956 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **.051** | **1.55** | **.068** | **1.97** | **2.21** | **1.24** | **-.184** | **.783** | **-.022** |
| Stddev | .121 | .38 | .152 | 3.72 | 2.04 | 4.44 | 1.86 | .260 | .121 |
| %RSD | 236. | 24.5 | 224. | 189. | 92.0 | 357. | 1010. | 33.2 | 542. |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110820.** | **1275300.** | **346510.** |
| Stddev | 338. | 5471. | 690. |
| %RSD | .30530 | .42897 | .19919 |

Sample Name: 2dup251131 Acquired: 03/19/2019 20:37:40 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.074** | **339000.** | **293.** | **2070.** | **51.4** | **137000.** | **22.2** | **155.** | **708.** | **712.** | **497000.** |
| Stddev | .733 | 6670. | 8. | 44. | .8 | 3120. | 2.8 | 1. | 8. | 6. | 9230. |
| %RSD | 992. | 1.97 | 2.81 | 2.14 | 1.46 | 2.28 | 12.7 | .372 | 1.14 | .867 | 1.86 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **67200.** | **37700.** | **13.8** | **532.** | **1890.** | **-10.5** | **11.6** | **48.4** | **974.** | **997.** | **7840.** |
| Stddev | 1360. | 757. | .7 | 1. | 15. | 5.2 | 5.8 | 4.7 | 12. | 6. | 18. |
| %RSD | 2.03 | 2.01 | 5.01 | .235 | .785 | 49.5 | 50.2 | 9.63 | 1.18 | .583 | .231 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104210.** | **1185600.** | **338330.** |
| Stddev | 308. | 5408. | 3161. |
| %RSD | .29602 | .45612 | .93417 |

Sample Name: 251132 Acquired: 03/19/2019 20:43:56 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.352** | **383000.** | **314.** | **1840.** | **59.7** | **41400.** | **-8.65** | **166.** | **631.** | **498.** | **565000.** |
| Stddev | 1.01 | 3710. | 8. | 15. | .8 | 702. | 3.31 | 1. | 6. | 6. | 9160. |
| %RSD | 288. | .968 | 2.50 | .827 | 1.27 | 1.70 | 38.3 | .359 | .956 | 1.29 | 1.62 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **42200.** | **13000.** | **2.52** | **289.** | **634.** | **-11.3** | **14.8** | **50.6** | **957.** | **989.** | **1120.** |
| Stddev | 663. | 166. | 1.39 | 1. | 5. | 4.1 | 3.5 | 2.1 | 15. | 4. | 2. |
| %RSD | 1.57 | 1.28 | 55.2 | .292 | .850 | 35.9 | 23.4 | 4.12 | 1.56 | .449 | .158 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **935.** |
| Stddev | 6. |
| %RSD | .670 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107210.** | **1203300.** | **343570.** |
| Stddev | 424. | 6343. | 2528. |
| %RSD | .39566 | .52714 | .73569 |

Sample Name: 251133 Acquired: 03/19/2019 20:50:37 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.119** | **361000.** | **354.** | **1930.** | **54.8** | **54400.** | **-7.52** | **143.** | **646.** | **732.** | **543000.** |
| Stddev | .635 | 1180. | 21. | 5. | .3 | 385. | 1.41 | 1. | 8. | 8. | 2060. |
| %RSD | 535. | .326 | 5.83 | .256 | .467 | .708 | 18.8 | .579 | 1.20 | 1.07 | .380 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **42000.** | **25000.** | **12.9** | **296.** | **728.** | **975.** | **-7.71** | **19.7** | **51.3** | **1100.** | **1750.** |
| Stddev | 289. | 154. | .4 | 1. | 14. | 7. | .96 | 8.3 | 4.9 | 17. | 4. |
| %RSD | .687 | .615 | 3.39 | .407 | 1.92 | .735 | 12.5 | 42.3 | 9.58 | 1.57 | .232 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107110.** | **1206200.** | **338560.** |
| Stddev | 273. | 7548. | 3231. |
| %RSD | .25491 | .62577 | .95446 |

Sample Name: 251134 Acquired: 03/19/2019 20:57:16 Type: Unk
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.297** | **351000.** | **269.** | **1900.** | **59.0** | **87100.** | **-8.59** | **152.** | **655.** | **484.** | **557000.** |
| Stddev | .901 | 4020. | 11. | 23. | .5 | 957. | 1.37 | 1. | 3. | 5. | 5400. |
| %RSD | 303. | 1.15 | 3.89 | 1.21 | .858 | 1.10 | 16.0 | .451 | .461 | .940 | .969 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **48300.** | **20800.** | **3.22** | **348.** | **463.** | **731.** | **-11.0** | **16.3** | **51.2** | **981.** | **986.** |
| Stddev | 539. | 229. | .72 | 1. | 4. | 5. | 3.4 | 7.7 | 4.1 | 17. | 8. |
| %RSD | 1.11 | 1.10 | 22.4 | .224 | .767 | .685 | 31.2 | 47.1 | 7.94 | 1.69 | .772 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1180.** | **978.** |
| Stddev | 3. | 5. |
| %RSD | .232 | .522 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107290.** | **1195700.** | **339700.** |
| Stddev | 384. | 4231. | 3361. |
| %RSD | .35813 | .35381 | .98948 |

Sample Name: ccv1 Acquired: 03/19/2019 21:09:55 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **399.** | **4800.** | **4790.** | **4500.** | **461.** | **4740.** | **479.** | **4710.** | **5280.** | **4670.** | **4610.** | **4650.** |
| Stddev | 2. | 44. | 18. | 38. | 5. | 37. | 1. | 23. | 7. | 40. | 26. | 42. |
| %RSD | .495 | .923 | .382 | .836 | 1.06 | .772 | .177 | .493 | .124 | .863 | .567 | .902 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4720.** | **5050.** | **4660.** | **4510.** | **4640.** | **4570.** | **4620.** | **4550.** | **4600.** | **5010.** |
| Stddev | 124. | 34. | 2. | 7. | 12. | 9. | 29. | 7. | 34. | 8. |
| %RSD | 2.62 | .672 | .047 | .165 | .263 | .206 | .620 | .159 | .737 | .168 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **109860.** | **1245600.** | **350030.** |
| Stddev | 3. | 6227. | 2014. |
| %RSD | .00300 | .49994 | .57546 |

Sample Name: ccv2 Acquired: 03/19/2019 21:15:36 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.7** | **453.** | **513.** | **491.** | **459.** | **51.0** | **448.** | **51.2** | **454.** | **480.** | **495.** | **481.** |
| Stddev | .8 | 2. | 9. | 1. | 6. | .3 | 5. | .4 | 1. | 2. | 9. | 4. |
| %RSD | 1.73 | .332 | 1.83 | .159 | 1.31 | .553 | 1.09 | .688 | .238 | .351 | 1.73 | .879 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **490.** | **488.** | **490.** | **492.** | **481.** | **496.** | **493.** | **479.** | **476.** | **465.** | **500.** | **479.** |
| Stddev | 2. | 2. | 1. | 1. | . | 2. | 4. | 3. | 2. | . | 2. | 8. |
| %RSD | .505 | .384 | .211 | .177 | .089 | .410 | .861 | .547 | .501 | .095 | .343 | 1.64 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **461.** | **524.** | **450.** |
| Stddev | 2. | 1. | 2. |
| %RSD | .358 | .172 | .373 |
| Check ? | Chk Pass | Chk Pass | Chk Pass |
| Value | | | |
| Range | | | |

Sample Name: ccv2 Acquired: 03/19/2019 21:15:36 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111830.** | **1278800.** | **353680.** |
| Stddev | 116. | 6356. | 4086. |
| %RSD | .10330 | .49707 | 1.1552 |

Sample Name: ccb Acquired: 03/19/2019 21:21:21 Type: QC
Method: DOD Calibration Updated 060614(v3268) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.584** | **-4.64** | **3.71** | **.571** | **-.350** | **-18.2** | **.202** | **.779** | **.278** | **.822** | **-3.83** | **-3.85** |
| Stddev | .871 | .41 | 5.85 | .070 | .039 | .6 | .193 | .400 | .397 | 4.08 | 1.15 | .03 |
| %RSD | 149. | 8.76 | 158. | 12.2 | 11.1 | 3.06 | 95.7 | 51.3 | 142. | 496. | 30.0 | .816 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **.266** | **1.88** | **.684** | **-.488** | **.807** | **3.97** | **1.25** | **.707** | **.166** |
| Stddev | .067 | .55 | .255 | 1.07 | 2.48 | 3.19 | 1.24 | .584 | .099 |
| %RSD | 25.2 | 29.4 | 37.3 | 219. | 307. | 80.3 | 99.6 | 82.6 | 59.7 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

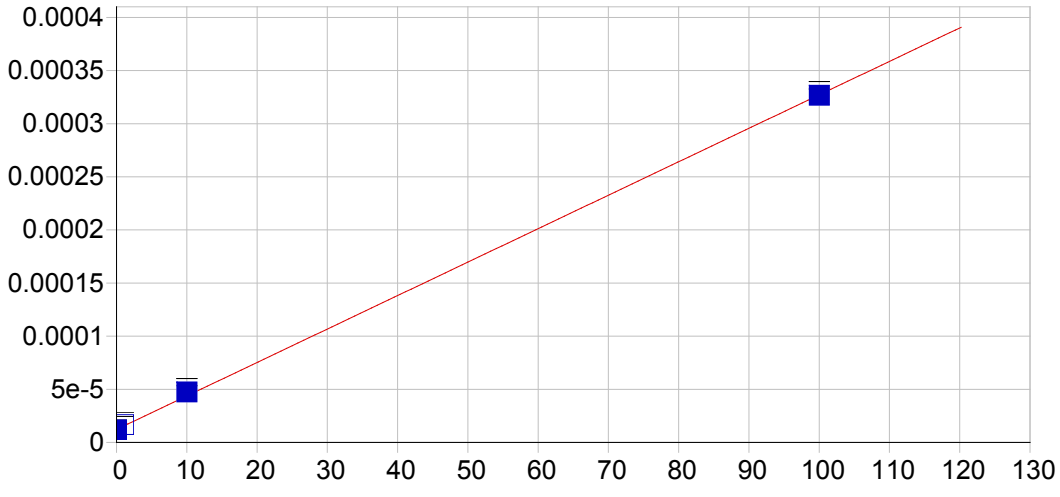
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111280.** | **1278600.** | **348740.** |
| Stddev | 273. | 3547. | 4133. |
| %RSD | .24563 | .27745 | 1.1851 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 03/21/2019 14:39:45 | 03/20/2019 12:22:53 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999862 | 0.000001 | 0.913793 | 3.045977 |
| Ag 338.289 {100} | 03/21/2019 14:39:45 | 03/20/2019 12:28:33 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.985114 | 0.000002 | 13.294505 | 44.315015 |
| Al 167.079 {501} | 03/21/2019 14:39:45 | 03/20/2019 12:28:33 | Linear | 1/Conc | 0.000019 | 0.000002 | 0.000000 | 1.000000 | 0.999018 | 0.000000 | 1.179881 | 3.932938 |
| Al 308.215 {109} | 03/21/2019 14:39:45 | 03/20/2019 12:48:04 | Linear | 1/Var | 0.000061 | 0.000000 | 0.000000 | 1.000000 | 0.999894 | 0.000013 | 27.286797 | 90.955989 |
| Al 396.152 { 85} | 03/21/2019 14:39:45 | 03/20/2019 13:02:29 | Curvili | 1/Conc | -0.000017 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000017 | 10.619501 | 35.398337 |
| As 193.759 {474} | 03/21/2019 14:39:45 | 03/20/2019 12:28:34 | Linear | 1/Var | -0.211973 | 0.099278 | 0.000000 | 1.000000 | 0.999997 | 0.034379 | 4.931289 | 16.437631 |
| As 197.262 {471} | 03/21/2019 14:39:45 | 03/20/2019 12:35:21 | Linear | 1/Conc | -0.183340 | 0.074823 | 0.000000 | 1.000000 | 0.999979 | 0.006338 | 6.720030 | 22.400101 |
| Ba 233.527 {445} | 03/21/2019 14:39:45 | 03/20/2019 12:28:34 | Linear | 1/Conc | -0.000001 | 0.000011 | 0.000000 | 1.000000 | 0.999979 | 0.000000 | 0.407154 | 1.357179 |
| Ba 455.403 { 74} | 03/21/2019 14:39:45 | 03/20/2019 12:35:21 | Linear | 1/Conc | 0.000069 | 0.000045 | 0.000000 | 1.000000 | 0.999981 | 0.000001 | 0.367100 | 1.223666 |
| Ba 493.409 { 68} | 03/21/2019 14:39:45 | 03/20/2019 12:35:21 | Linear | 1/Conc | 0.006882 | 0.000059 | 0.000000 | 1.000000 | 0.999976 | 0.000019 | 0.622340 | 2.074467 |
| Be 313.042 {108} | 03/21/2019 14:39:45 | 03/20/2019 12:28:35 | Linear | 1/Conc | -0.000232 | 0.000079 | 0.000000 | 1.000000 | 0.999972 | 0.000001 | 0.046293 | 0.154311 |
| Be 234.861 {144} | 03/21/2019 14:39:45 | 03/20/2019 12:28:35 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999981 | 0.000000 | 0.816542 | 2.721806 |
| Ca 315.887 {107} | 03/21/2019 14:39:45 | 03/20/2019 13:02:29 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.999941 | 0.000008 | 15.322590 | 51.075301 |
| Ca 317.933 {106} | 03/21/2019 14:39:45 | 03/20/2019 13:02:29 | Linear | 1/Conc | 0.004067 | 0.000001 | 0.000000 | 1.000000 | 0.999871 | 0.000020 | 6.565091 | 21.883637 |
| Ca 393.366 { 86} | 03/21/2019 14:39:45 | 03/20/2019 12:28:35 | Linear | 1/Var | 0.003488 | 0.000258 | 0.000000 | 1.000000 | 0.999781 | 0.001594 | 0.046348 | 0.154493 |
| Ca 396.847 { 85} | 03/21/2019 14:39:45 | 03/20/2019 12:35:21 | Linear | 1/Conc | 0.003076 | 0.000133 | 0.000000 | 1.000000 | 0.999952 | 0.000061 | 0.088775 | 0.295918 |
| Cd 226.502 {449} | 03/21/2019 14:39:45 | 03/20/2019 12:28:36 | Linear | 1/Conc | -0.000002 | 0.000029 | 0.000000 | 1.000000 | 0.999975 | 0.000000 | 0.223249 | 0.744162 |
| Cd 228.802 {447} | 03/21/2019 14:39:45 | 03/20/2019 12:28:36 | Linear | 1/Conc | 0.000026 | 0.000051 | 0.000000 | 1.000000 | 0.999944 | 0.000000 | 0.161546 | 0.538486 |
| Co 228.616 {447} | 03/21/2019 14:39:45 | 03/20/2019 12:35:22 | Linear | 1/Conc | 0.000009 | 0.000016 | 0.000000 | 1.000000 | 0.999919 | 0.000001 | 0.468814 | 1.562713 |
| Co 238.892 {141} | 03/21/2019 14:39:45 | 03/20/2019 12:35:22 | Linear | 1/Conc | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999939 | 0.000001 | 1.530415 | 5.101383 |
| Cr 205.560 {464} | 03/21/2019 14:39:45 | 03/20/2019 12:41:46 | Linear | 1/Var | 0.000006 | 0.000016 | 0.000000 | 1.000000 | 0.999938 | 0.000029 | 0.329206 | 1.097353 |
| Cr 267.716 {126} | 03/21/2019 14:39:45 | 03/20/2019 12:35:22 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999978 | 0.000000 | 0.718632 | 2.395440 |
| Cu 224.700 {450} | 03/21/2019 14:39:45 | 03/20/2019 12:41:46 | Linear | 1/Var | -0.000037 | 0.000009 | 0.000000 | 1.000000 | 0.999301 | 0.000084 | 0.511654 | 1.705513 |
| Cu 324.754 {104} | 03/21/2019 14:39:45 | 03/20/2019 12:41:46 | Linear | 1/Conc | 0.000215 | 0.000002 | 0.000000 | 1.000000 | 0.999926 | 0.000001 | 3.144849 | 10.482831 |
| Cu 327.396 {103} | 03/21/2019 14:39:45 | 03/20/2019 12:41:46 | Linear | 1/Conc | 13.454914 | 0.882975 | 0.000000 | 1.000000 | 0.999896 | 0.339379 | 5.415580 | 18.051932 |
| Fe 234.349 {144} | 03/21/2019 14:39:45 | 03/20/2019 12:48:05 | Curvili | 1/Var | 0.000024 | 0.000001 | 0.000000 | 1.000000 | 0.999999 | 0.000000 | 1.690352 | 5.634508 |
| Fe 239.562 {140} | 03/21/2019 14:39:45 | 03/20/2019 13:02:29 | Linear | 1/Var | 0.000023 | 0.000000 | 0.000000 | 1.000000 | 0.999096 | 0.000089 | 8.861019 | 29.536729 |
| Fe 259.940 {129} | 03/21/2019 14:39:45 | 03/20/2019 12:55:00 | Curvili | 1/Var | 0.000044 | 0.000001 | 0.000000 | 1.000000 | 0.999864 | 0.000036 | 3.446935 | 11.489785 |
| Mg 202.582 {466} | 03/21/2019 14:39:45 | 03/20/2019 13:02:29 | Linear | 1/Var | 0.000030 | 0.000002 | 0.000000 | 1.000000 | 0.998581 | 0.000282 | 2.742438 | 9.141461 |
| Mg 279.079 {121} | 03/21/2019 14:39:45 | 03/20/2019 13:02:30 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.030000 | 0.999979 | 0.000001 | 73.671146 | 245.57048 |
| Mg 280.270 {120} | 03/21/2019 14:39:45 | 03/20/2019 12:35:23 | Linear | 1/Var | 0.000338 | 0.000032 | 0.000000 | 1.000000 | 0.999478 | 0.000087 | 0.043435 | 0.144783 |
| Mn 257.610 {131} | 03/21/2019 14:39:45 | 03/20/2019 12:35:24 | Linear | 1/Conc | 0.000004 | 0.000011 | 0.000000 | 1.000000 | 0.999873 | 0.000002 | 0.116204 | 0.387346 |
| Mn 259.373 {130} | 03/21/2019 14:39:45 | 03/20/2019 12:41:47 | Linear | 1/Conc | 0.000007 | 0.000005 | 0.000000 | 1.000000 | 0.999703 | 0.000054 | 1.009802 | 3.366007 |
| Mo 202.030 {466} | 03/21/2019 14:39:45 | 03/20/2019 12:28:40 | Linear | None | -0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.999997 | 0.000009 | 0.447089 | 1.490296 |
| Mo 203.844 {465} | 03/21/2019 14:39:45 | 03/20/2019 12:28:40 | Linear | 1/Var | 0.000010 | 0.000006 | 0.000000 | 1.000000 | 0.999913 | 0.000003 | 0.883931 | 2.946438 |
| Mo 204.598 {464} | 03/21/2019 14:39:45 | 03/20/2019 12:35:24 | Linear | 1/Var | -0.000004 | 0.000005 | 0.000000 | 1.000000 | 0.999950 | 0.000003 | 0.884529 | 2.948428 |
| Ni 221.647 {452} | 03/21/2019 14:39:45 | 03/20/2019 12:35:24 | Linear | 1/Conc | -0.000011 | 0.000016 | 0.000000 | 1.000000 | 0.999921 | 0.000010 | 0.522629 | 1.742097 |
| Ni 231.604 {445} | 03/21/2019 14:39:45 | 03/20/2019 12:35:24 | Linear | 1/Conc | -0.000004 | 0.000013 | 0.000000 | 1.000000 | 0.999918 | 0.000001 | 0.576076 | 1.920253 |
| Pb 216.999 {455} | 03/21/2019 14:39:45 | 03/20/2019 12:41:47 | Linear | 1/Var | 0.000017 | 0.000002 | 0.000000 | 1.000000 | 0.999913 | 0.000011 | 4.460220 | 14.867401 |
| Pb 220.353 {453} | 03/21/2019 14:39:45 | 03/20/2019 12:28:42 | Linear | 1/Conc | 0.000017 | 0.000003 | 0.000000 | 1.000000 | 0.999746 | 0.000000 | 2.838682 | 9.462274 |
| Pb 220.353 {153} | 03/21/2019 14:39:45 | 03/20/2019 12:41:47 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000000 | 6.507413 | 21.691377 |
| Sb 206.833 {463} | 03/21/2019 14:39:45 | 03/20/2019 12:35:25 | Linear | 1/Conc | -0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 2.327923 | 7.759745 |
| Sb 217.581 {455} | 03/21/2019 14:39:45 | 03/20/2019 12:35:25 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999957 | 0.000000 | 3.970151 | 13.233836 |
| Se 196.090 {472} | 03/21/2019 14:39:45 | 03/20/2019 12:28:42 | Linear | 1/Conc | 0.000007 | 0.000000 | 0.000000 | 1.000000 | 0.997458 | 0.000000 | 8.937673 | 29.792245 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 03/21/2019 14:39:45 | 03/20/2019 12:35:25 | Curvili | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.999966 | 0.000000 | 24.315215 | 81.050716 |
| Tl 190.856 {476} | 03/21/2019 14:39:45 | 03/20/2019 12:35:25 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999817 | 0.000001 | 2.188898 | 7.296327 |
| Tl 190.856 {477} | 03/21/2019 14:39:45 | 03/20/2019 12:35:25 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999821 | 0.000000 | 5.683323 | 18.944410 |
| V 290.882 {116} | 03/21/2019 14:39:45 | 03/20/2019 12:35:25 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.999999 | 0.000000 | 4.877327 | 16.257758 |
| V 292.402 {115} | 03/21/2019 14:39:45 | 03/20/2019 12:35:26 | Linear | 1/Conc | 0.000001 | 0.000005 | 0.000000 | 1.000000 | 0.999980 | 0.000000 | 0.941184 | 3.137280 |
| Zn 206.200 {463} | 03/21/2019 14:39:45 | 03/20/2019 12:41:47 | Linear | 1/Var | 0.000017 | 0.000013 | 0.000000 | 1.000000 | 0.998584 | 0.000065 | 0.413390 | 1.377966 |
| Zn 213.856 {457} | 03/21/2019 14:39:45 | 03/20/2019 12:28:44 | Linear | 1/Conc | 0.000059 | 0.000049 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 0.126212 | 0.420707 |
| Y 224.306 {450}* | 03/21/2019 14:39:45 | 03/20/2019 11:38:58 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 03/21/2019 14:39:45 | 03/20/2019 11:38:58 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 03/21/2019 14:39:45 | 03/20/2019 11:38:58 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 03/21/2019 14:39:45 | 03/20/2019 12:35:26 | Linear | 1/Conc | 0.005324 | 0.000006 | 0.000000 | 1.000000 | 0.999883 | 0.000016 | 7.223238 | 24.077459 |
| Na 589.592 { 57} | 03/21/2019 14:39:45 | 03/20/2019 13:02:30 | Linear | 1/Conc | 0.000103 | 0.000005 | 0.000000 | 1.000000 | 0.999996 | 0.000017 | 6.203643 | 20.678809 |
| Si 251.611 {134} | 03/21/2019 14:39:45 | 03/20/2019 13:02:30 | Linear | 1/Conc | 0.000017 | 0.000000 | 0.000000 | 1.000000 | 0.999379 | 0.000007 | 10.786550 | 35.955167 |
| Ti 323.452 {104} | 03/21/2019 14:39:45 | 03/20/2019 12:35:26 | Linear | 1/Conc | 0.000261 | 0.000008 | 0.000000 | 1.000000 | 0.999898 | 0.000001 | 1.315649 | 4.385497 |
| Ti 334.941 {101} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Conc | 0.000015 | 0.000006 | 0.000000 | 1.000000 | 0.999931 | 0.000001 | 1.284621 | 4.282071 |
| Sr 407.771 { 83} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Conc | 0.000079 | 0.000177 | 0.000000 | 1.000000 | 0.999984 | 0.000004 | 0.088157 | 0.293855 |
| Sr 421.552 { 80} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Conc | 0.000011 | 0.000172 | 0.000000 | 1.000000 | 0.999998 | 0.000001 | 0.090853 | 0.302843 |
| Sn 189.989 {477} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Conc | 0.000012 | 0.000004 | 0.000000 | 1.000000 | 0.999941 | 0.000001 | 0.997387 | 3.324624 |
| B 249.678 {135} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Conc | 0.000008 | 0.000002 | 0.000000 | 1.000000 | 0.999979 | 0.000000 | 1.184751 | 3.949171 |
| B 249.773 {135} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.999708 | 0.000006 | 0.645616 | 2.152054 |
| Li 670.784 { 50} | 03/21/2019 14:39:45 | 03/20/2019 12:35:27 | Linear | 1/Var | -15.162715 | 13.821356 | 0.000000 | 1.000000 | 0.999982 | 6.704289 | 0.910746 | 3.035821 |
| K 766.490 { 44} | 03/21/2019 14:39:45 | 03/20/2019 13:02:30 | Linear | 1/Conc | 0.000076 | 0.000001 | 0.000000 | 1.000000 | 0.999999 | 0.000002 | 33.082740 | 110.27580 |
| P 213.618 {457} | 03/21/2019 14:39:45 | 03/20/2019 12:35:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.617499 | 15.391662 |
| S 182.034 {485} | 03/21/2019 14:39:45 | 03/20/2019 13:02:30 | Curvili | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.252313 | 20.841043 |
| Hg 184.950 {482} | 03/21/2019 14:39:45 | 03/20/2019 12:28:46 | Linear | 1/Conc | 0.000008 | 0.000004 | 0.000000 | 1.000000 | 0.999985 | 0.000000 | 1.064074 | 3.546914 |
| Ce 404.076 { 83} | 03/21/2019 14:39:45 | 03/20/2019 12:28:46 | Linear | 1/Conc | 0.000026 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 20.334810 | 67.782699 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

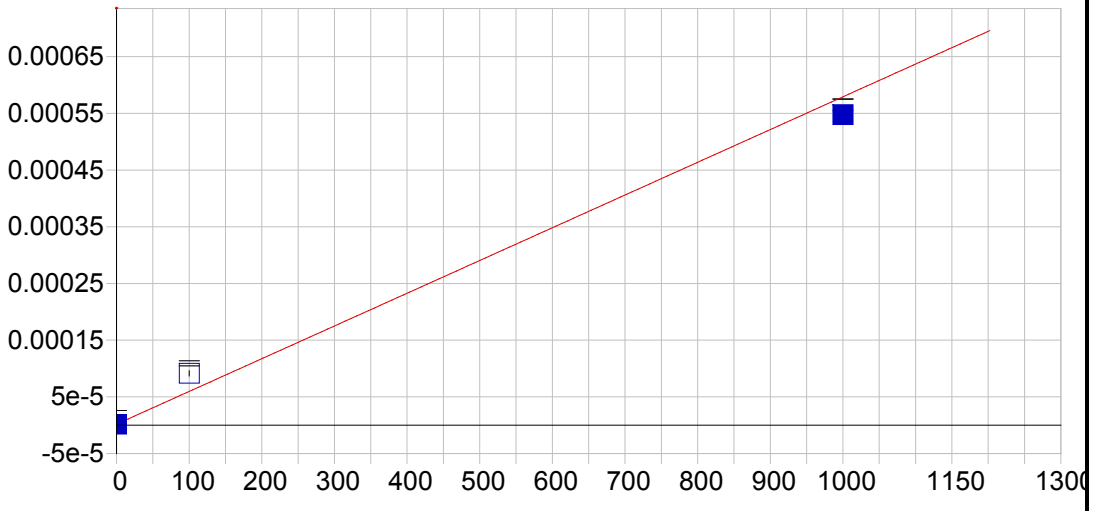



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999862 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.913793 | | |
| Predicted MQL: | 3.045977 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.16117 | -.161 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.153 | 1.15 | 11.5 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.855 | -.145 | -.145 | .00033 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4079 | .408 | 40.8 | .00002 | .000 | 1 |

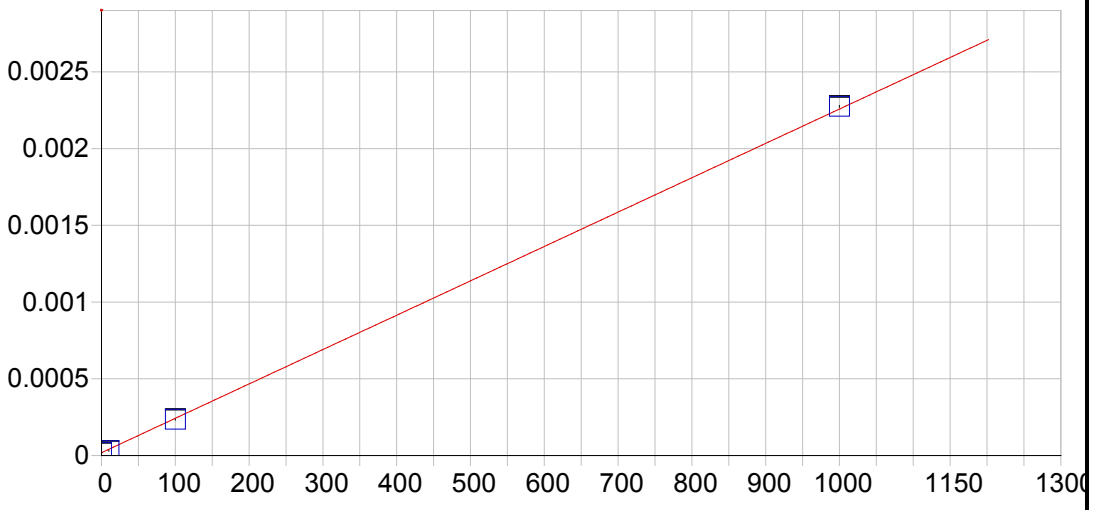



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.985114 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 13.294505 | | |
| Predicted MQL: | 44.315015 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04964 | -.050 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 155.16 | 55.2 | 55.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 944.85 | -55.2 | -5.52 | .00055 | .000 | 1 |

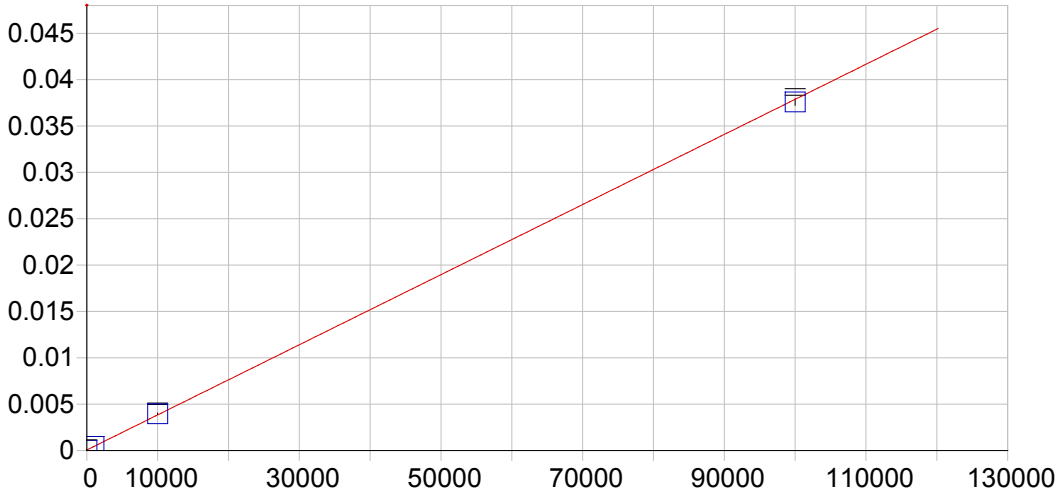



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999018 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.179881 | | |
| Predicted MQL: | 3.932938 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00474 | .005 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.6 | 7.56 | .756 | .00227 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.4938 | -4.51 | -45.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.944 | -3.06 | -3.06 | .00024 | .000 | 1 |

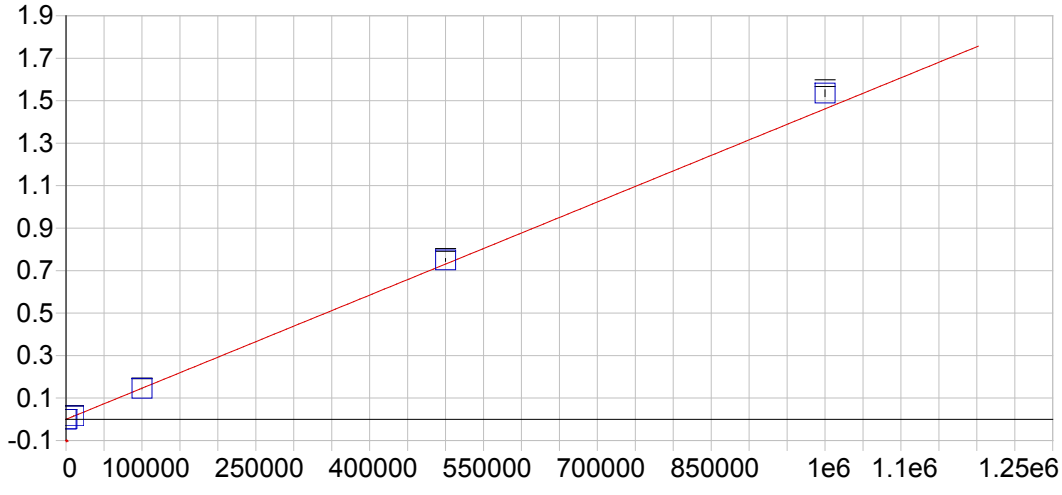



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999894 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 27.286797 | | |
| Predicted MQL: | 90.955989 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.053 | -10.1 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10299. | 299. | 2.99 | .00396 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.1 | 5.08 | .508 | .00044 | .000 | 1 |
| CalStd13=10 | 100000. | 99239. | -761. | -.761 | .03759 | .000 | 1 |

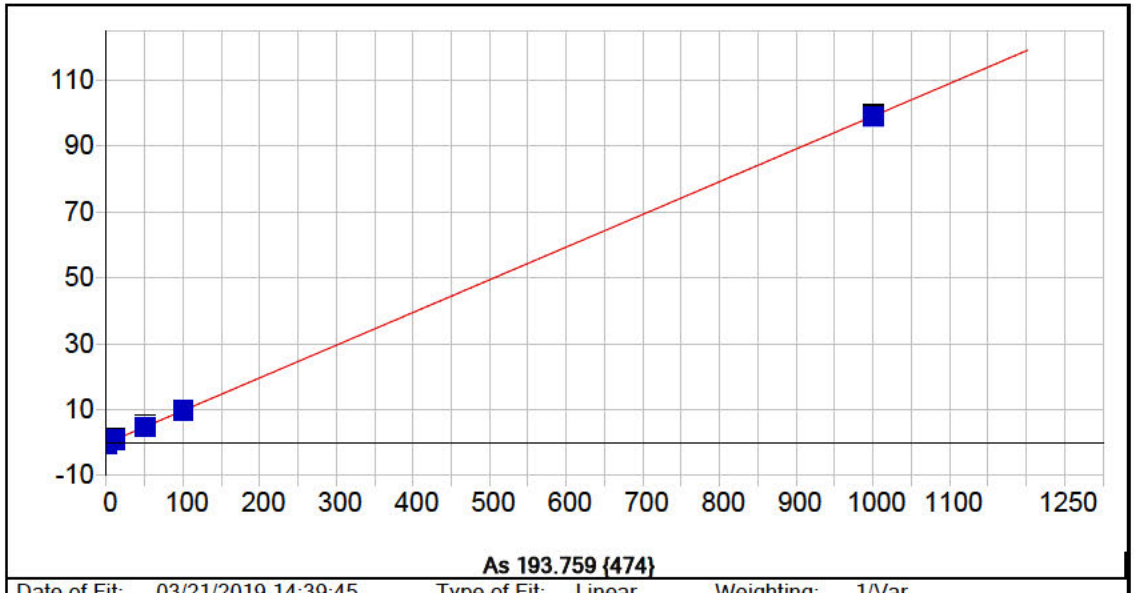



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000017 | | |
| Predicted MDL: | 10.619501 | | |
| Predicted MQL: | 35.398337 | | |

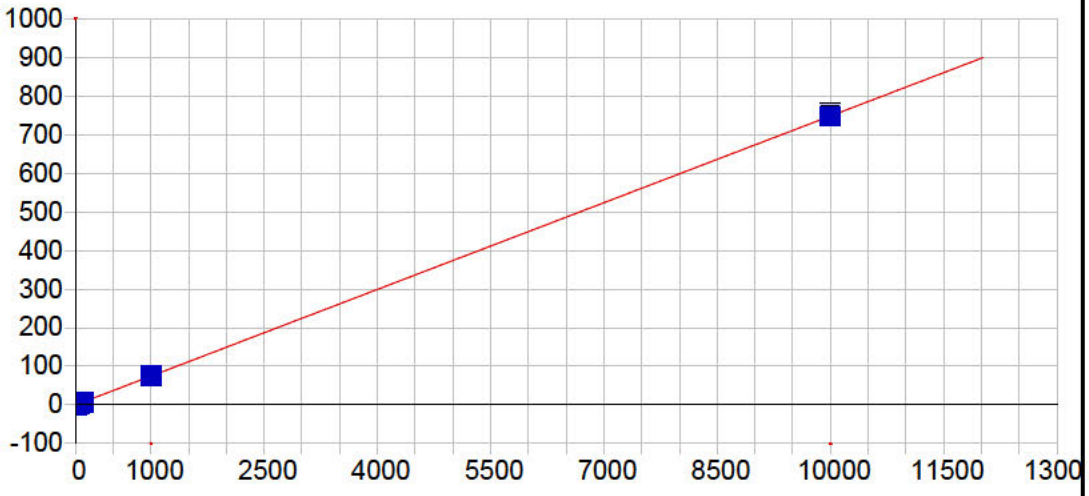
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14340 | -.143 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 513180. | 13200. | 2.64 | .75007 | .006 | 1 |
| CalStd13=10 | 100000. | 99393. | -607. | -.607 | .14526 | .001 | 1 |
| CalStd10=10 | 10000. | 10672. | 672. | 6.72 | .01558 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1087.0 | 87.0 | 8.70 | .00157 | .000 | 1 |
| CalibStd15= | 1000000. | 1050500. | 50500. | 5.05 | 1.5355 | .016 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.211973 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.099278 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.034379 | | |
| Predicted MDL: | 4.931289 | | |
| Predicted MQL: | 16.437631 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.1207 | -1.12 | .000 | -.32323 | .317 | 1 |
| CalStd9=100 | 1000.0 | 999.57 | -.429 | -.043 | 98.690 | .528 | 1 |
| CalStd7=50 | 50.000 | 49.430 | -.570 | -1.14 | 4.6840 | .585 | 1 |
| CalStd5=10 | 10.000 | 9.3740 | -.626 | -6.26 | .71604 | .549 | 1 |
| CalStd8=100 | 100.00 | 100.08 | .077 | .077 | 9.6902 | .069 | 1 |

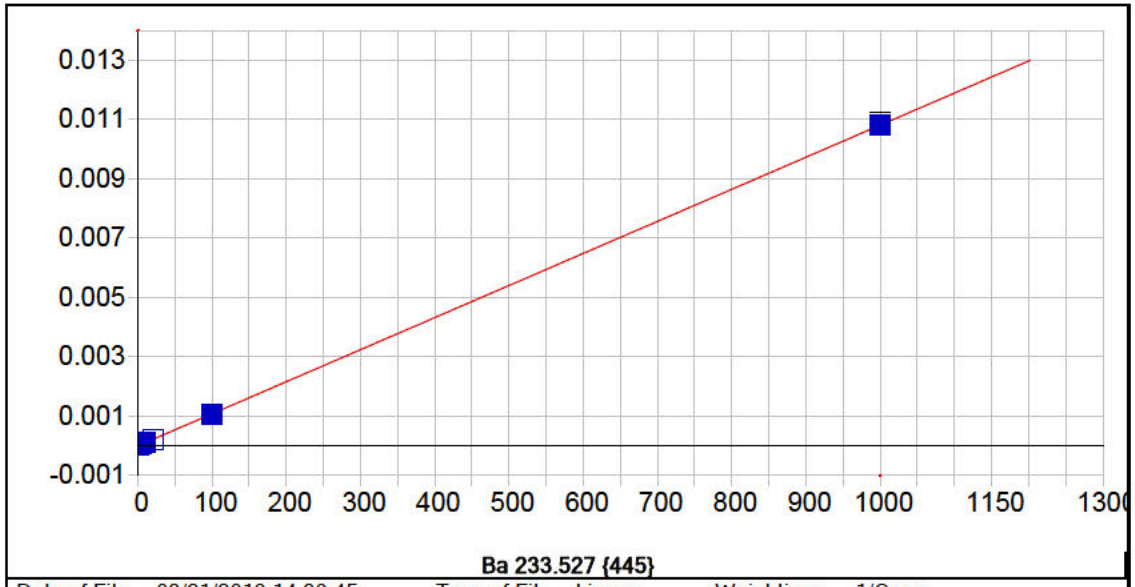



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.183340 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.074823 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.006338 | | |
| Predicted MDL: | 6.720030 | | |
| Predicted MQL: | 22.400101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00190 | -.002 | .000 | -.18348 | .364 | 1 |
| CalStd9=100 | 1000.0 | 1010.5 | 10.5 | 1.05 | 75.891 | .861 | 1 |
| CalStd7=50 | 50.000 | 53.305 | 3.31 | 6.61 | 3.8051 | .577 | 1 |
| CalStd5=10 | 10.000 | 11.113 | 1.11 | 11.1 | .64813 | .491 | 1 |
| CalStd8=100 | 100.00 | 100.39 | .389 | .389 | 7.3743 | .431 | 1 |
| CalStd10=10 | 10000. | 9984.7 | -15.3 | -.153 | 751.59 | 2.83 | 1 |

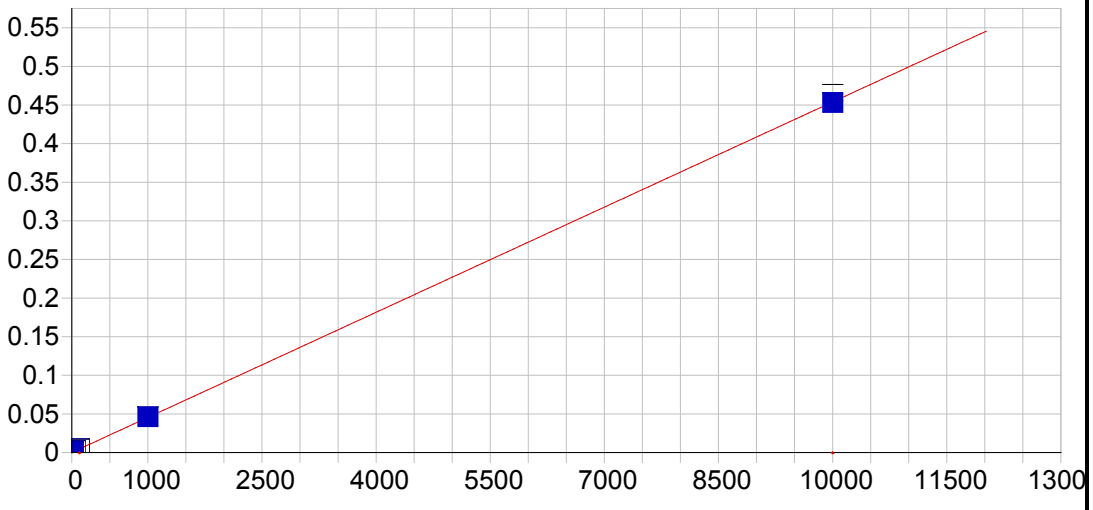



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.407154 | | |
| Predicted MQL: | 1.357179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00006 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.487 | .487 | 4.87 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.944 | -.056 | -.278 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.849 | -1.15 | -1.15 | .00107 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8381 | -.162 | -3.24 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .941 | .094 | .01082 | .000 | 1 |
| CalStd3=1 | 1.0000 | .94093 | -.059 | -5.91 | .00001 | .000 | 1 |

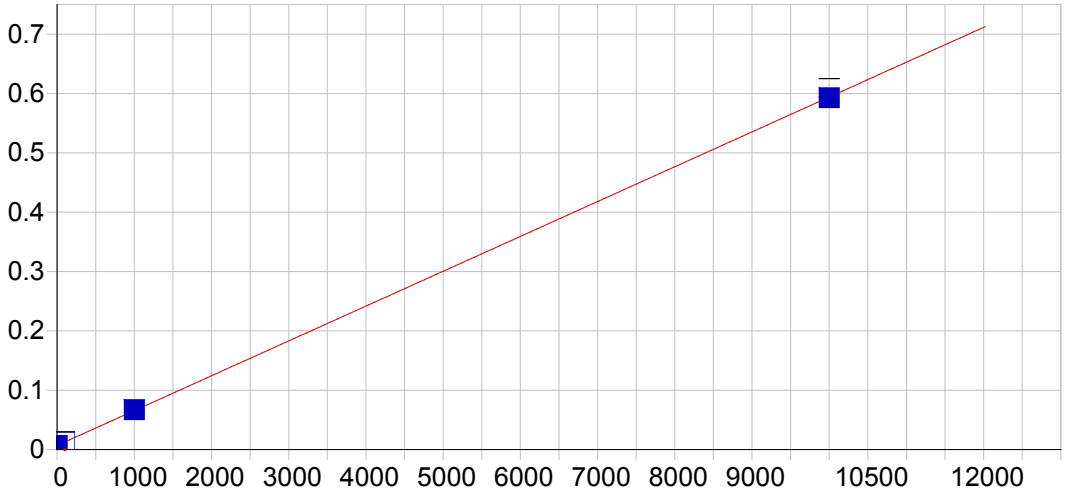



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000069 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000045 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.367100 | | |
| Predicted MQL: | 1.223666 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00003 | .000 | .000 | .00007 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.942 | -.058 | -.116 | .00234 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.544 | .544 | 5.44 | .00055 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.056 | .056 | .281 | .00098 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.75 | 1.75 | 1.75 | .00469 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8670 | -.133 | -2.66 | .00029 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.9 | 17.9 | 1.79 | .04627 | .000 | 1 |
| CalStd3=1 | 1.0000 | .90643 | -.094 | -9.36 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.1 | -19.9 | -.199 | .45304 | .011 | 1 |

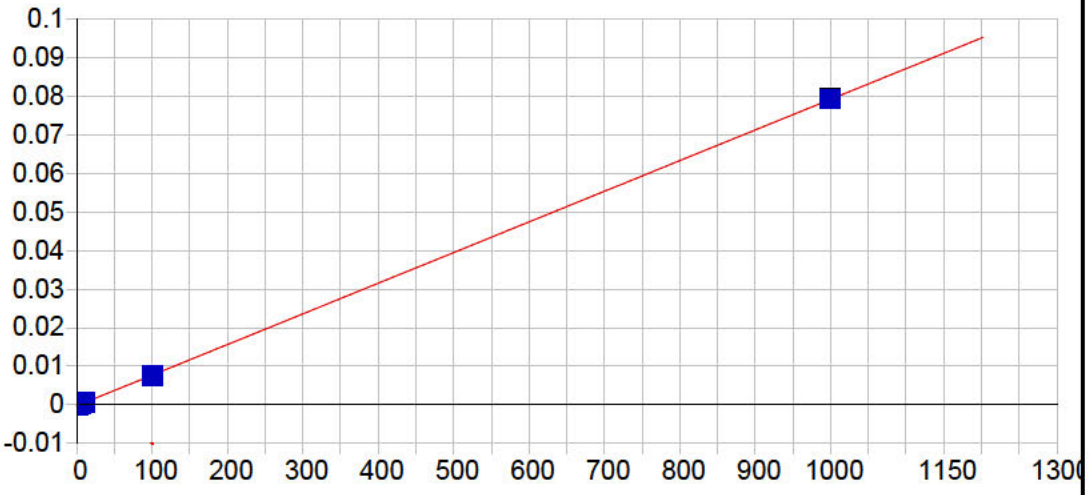



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.006882 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000059 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.622340 | | |
| Predicted MQL: | 2.074467 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00321 | -.003 | .000 | .00688 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.3 | 21.3 | 2.13 | .06686 | .001 | 1 |
| CalStd8=100 | 100.00 | 101.30 | 1.30 | 1.30 | .01283 | .000 | 1 |
| CalStd10=10 | 10000. | 9977.4 | -22.6 | -.226 | .59278 | .015 | 1 |

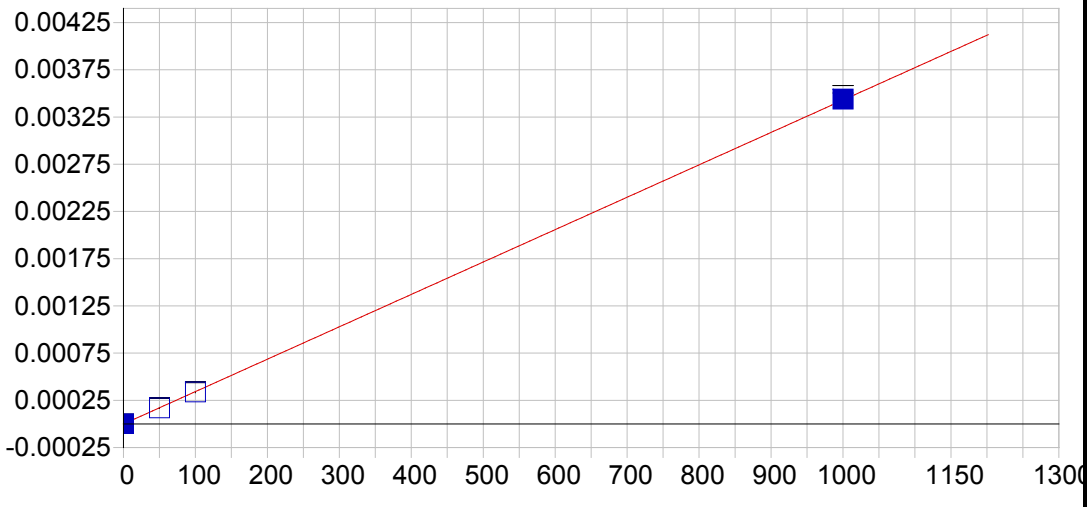



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000232 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000079 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.046293 | | |
| Predicted MQL: | 0.154311 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.705 | .705 | 7.05 | .00062 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.161 | -.839 | -.839 | .00764 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47106 | -.029 | -5.79 | -.00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9339 | -.066 | -1.32 | .00016 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .174 | .017 | .07916 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0542 | .054 | 5.42 | -.00015 | .000 | 1 |

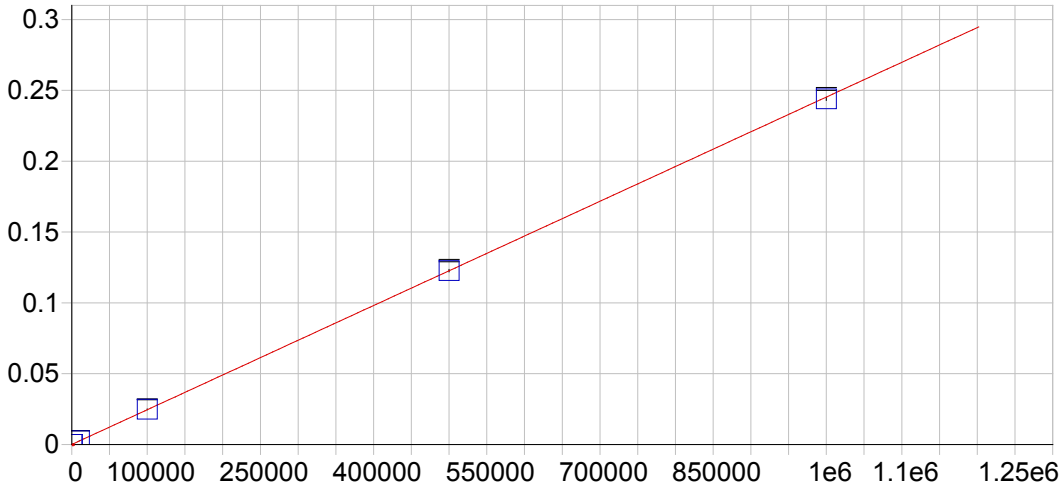



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.816542 | | |
| Predicted MQL: | 2.721806 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00147 | .001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.4 | 2.41 | .241 | .00344 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.372 | -1.63 | -1.63 | .00034 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.219 | -.781 | -1.56 | .00017 | .000 | 1 |

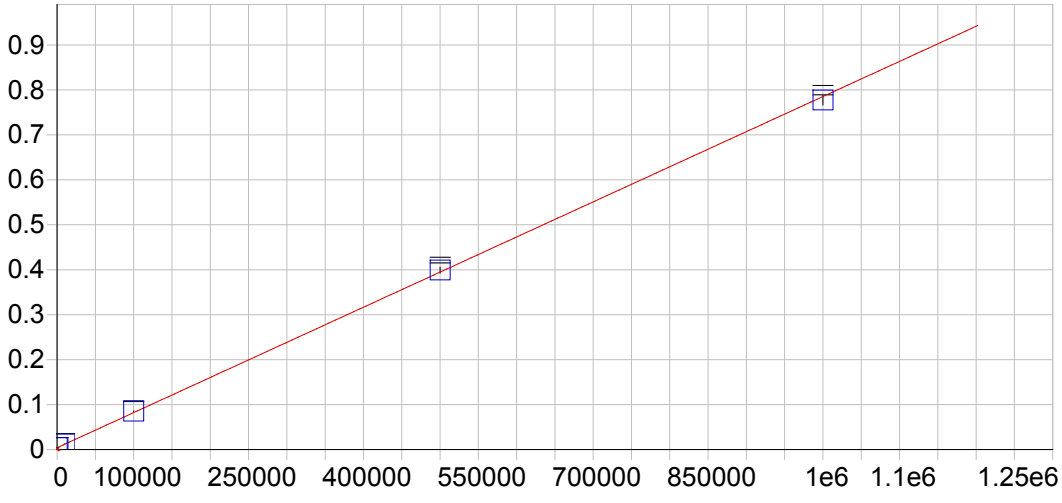



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999941 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 15.322590 | | |
| Predicted MQL: | 51.075301 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.4267 | -6.43 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 10505. | 505. | 5.05 | .00262 | .000 | 1 |
| CalStd13=10 | 100000. | 100970. | 974. | .974 | .02481 | .000 | 1 |
| CalStd14=50 | 500000. | 500320. | 320. | .064 | .12275 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1013.4 | 13.4 | 1.34 | .00030 | .000 | 1 |
| CalibStd15= | 1000000. | 994550. | -5450. | -.545 | .24396 | .001 | 1 |

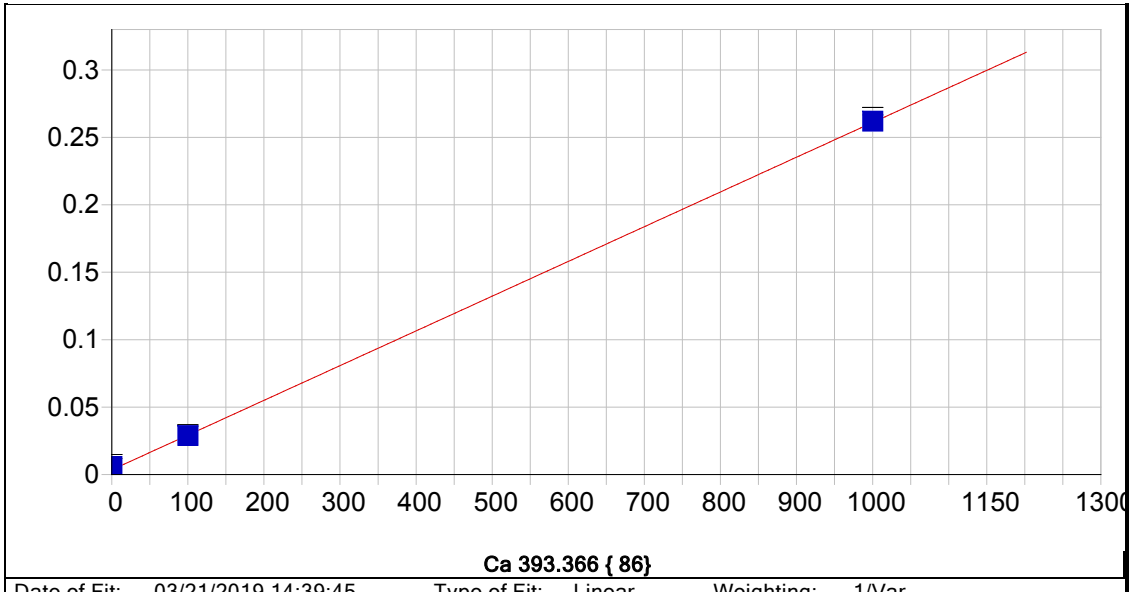



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004067 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 6.565091 | | |
| Predicted MQL: | 21.883637 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.27791 | -.278 | .000 | .00407 | .000 | 1 |
| CalStd10=10 | 10000. | 10976. | 976. | 9.76 | .01264 | .000 | 1 |
| CalStd13=10 | 100000. | 103620. | 3620. | 3.62 | .08502 | .001 | 1 |
| CalStd14=50 | 500000. | 505610. | 5610. | 1.12 | .39906 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1143.3 | 143. | 14.3 | .00496 | .000 | 1 |
| CalibStd15= | 1000000. | 989650. | -10300. | -1.03 | .77721 | .011 | 1 |

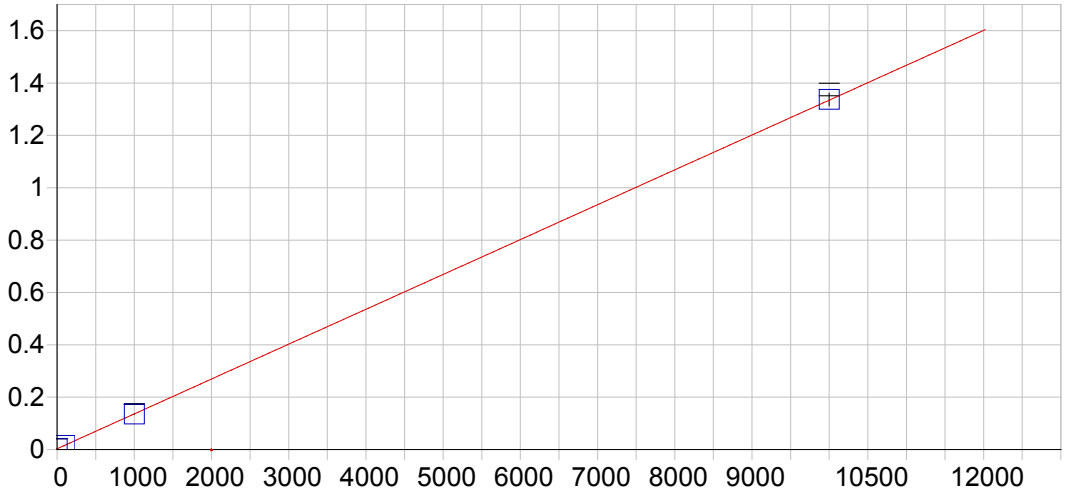



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003488 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000258 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 0.001594 | | |
| Predicted MDL: | 0.046348 | | |
| Predicted MQL: | 0.154493 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 9.4148 | 9.41 | .000 | .00591 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1003.5 | 3.55 | .355 | .26198 | .003 | 1 |
| CalStd8=100 | 100.00 | 98.536 | -1.46 | -1.46 | .02887 | .001 | 1 |

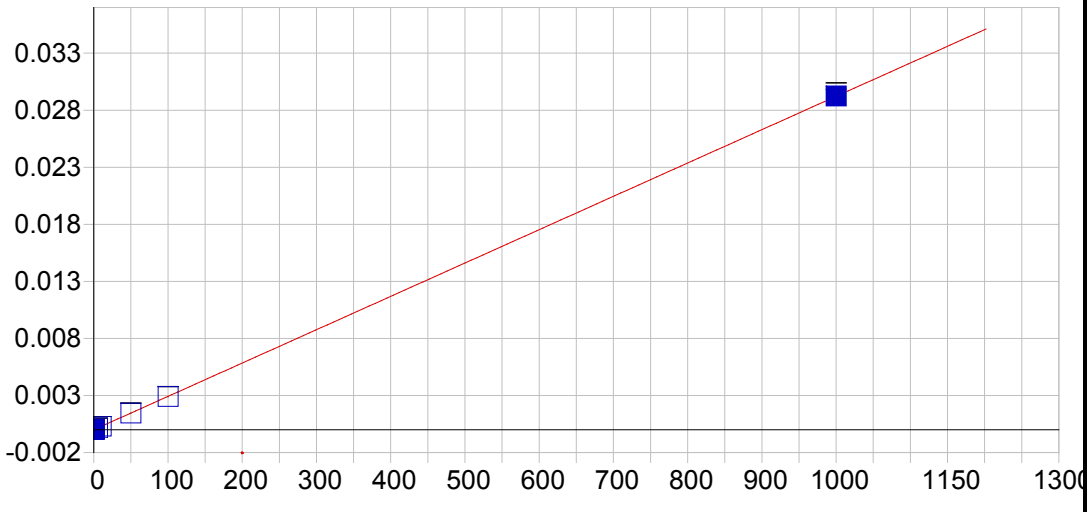



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003076 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000133 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999952 | Status: | OK. |
| Std Error of Est: | 0.000061 | | |
| Predicted MDL: | 0.088775 | | |
| Predicted MQL: | 0.295918 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01047 | .010 | .000 | .00308 | .001 | 1 |
| CalStd10=10 | 10000. | 10017. | 17.1 | .171 | 1.3370 | .024 | 1 |
| CalStd8=100 | 100.00 | 90.078 | -9.92 | -9.92 | .01507 | .000 | 1 |
| CalStd9=100 | 1000.0 | 992.85 | -7.15 | -.715 | .13529 | .001 | 1 |

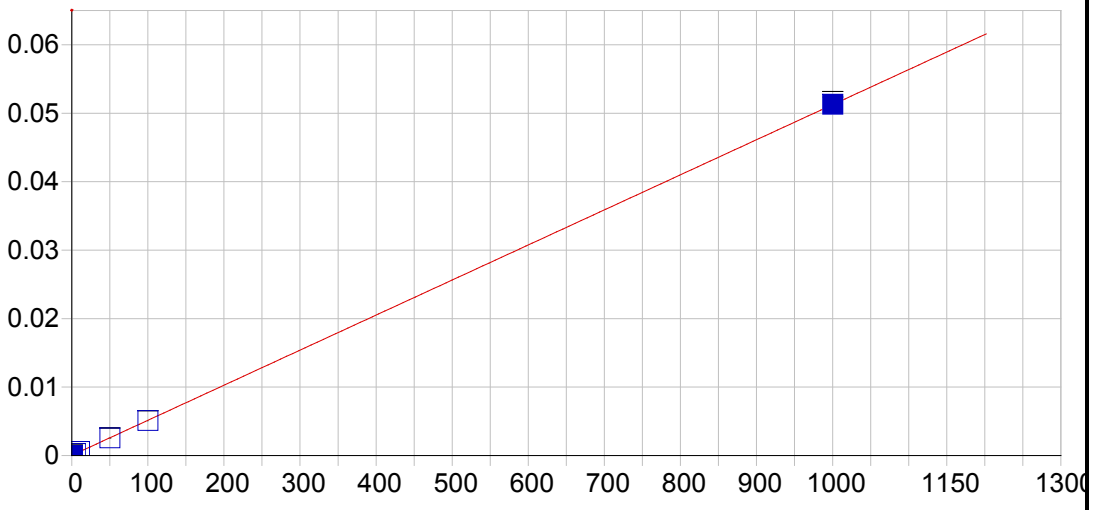



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000029 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999975 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.223249 | | |
| Predicted MQL: | 0.744162 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00004 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.689 | -.311 | -.622 | .00145 | .000 | 1 |
| CalStd3=1 | 1.0000 | .93685 | -.063 | -6.31 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .45823 | -.042 | -8.35 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0727 | .073 | 1.45 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.216 | -.784 | -.784 | .00290 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.640 | .640 | 6.40 | .00031 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .487 | .049 | .02924 | .000 | 1 |

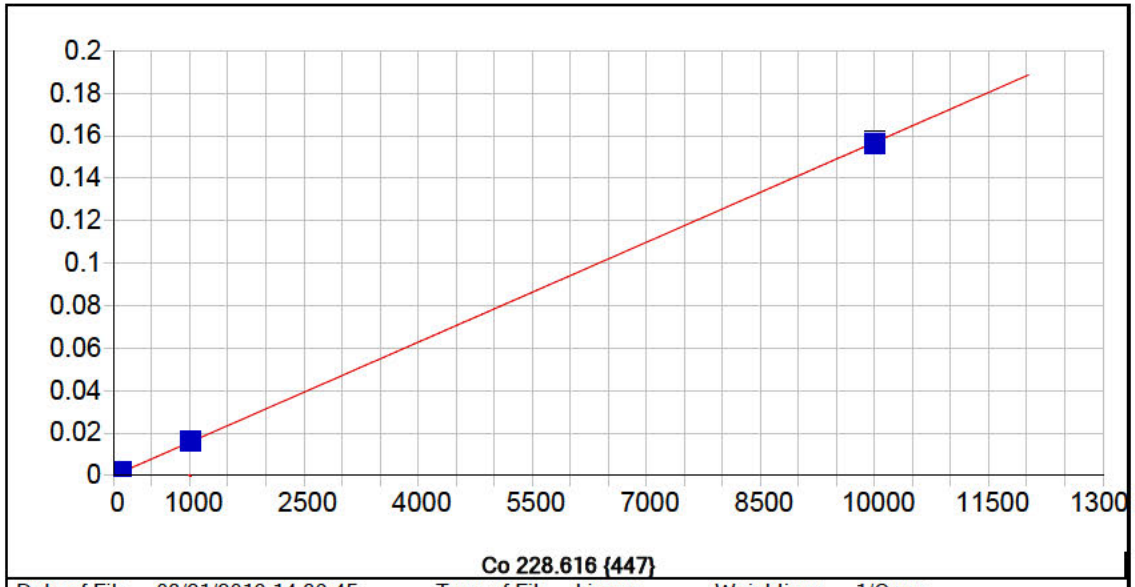



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000051 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999944 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.161546 | | |
| Predicted MQL: | 0.538486 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00020 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.358 | -.642 | -1.28 | .00255 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0306 | .031 | 3.06 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .66767 | .168 | 33.5 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8849 | -.115 | -2.30 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.918 | -1.08 | -1.08 | .00509 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.702 | .702 | 7.02 | .00057 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .938 | .094 | .05129 | .000 | 1 |

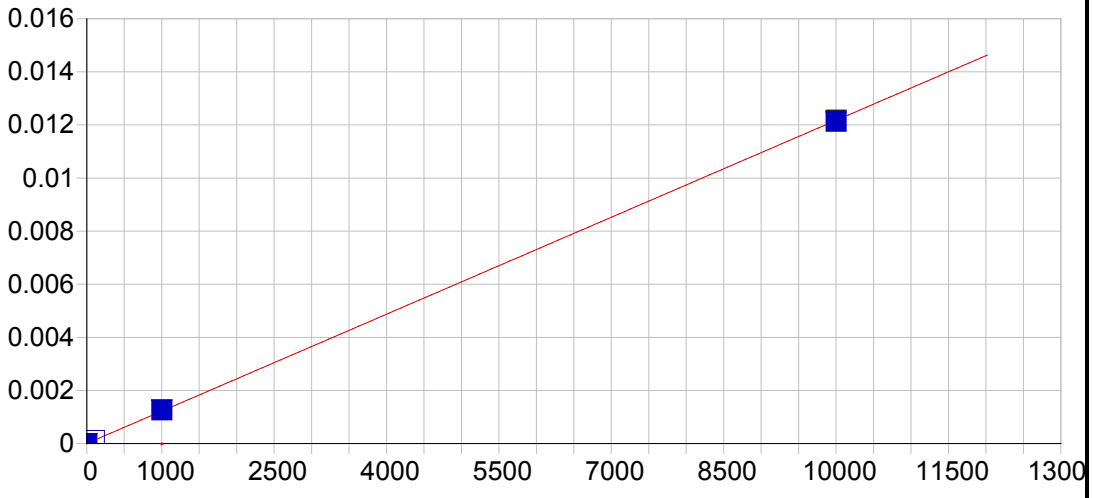



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999919 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.468814 | | |
| Predicted MQL: | 1.562713 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00012 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.781 | .781 | 1.56 | .00081 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.964 | .964 | 9.64 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6952 | -.305 | -6.10 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.86 | .857 | .857 | .00159 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1038.9 | 38.9 | 3.89 | .01634 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0250 | .025 | 2.50 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.8 | -41.2 | -.412 | .15668 | .001 | 1 |

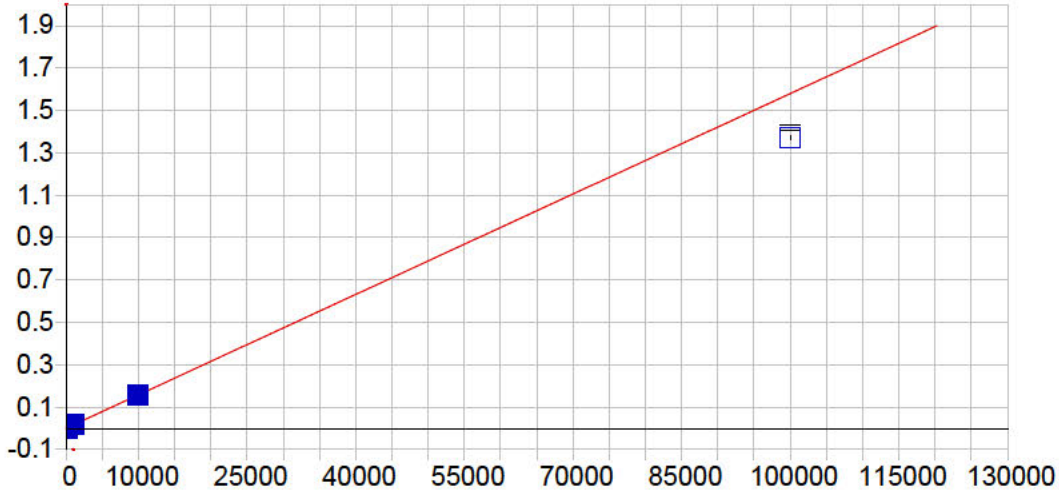



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.530415 | | |
| Predicted MQL: | 5.101383 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00564 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.9 | 33.9 | 3.39 | .00126 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.5 | -36.5 | -.365 | .01213 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.62 | 2.62 | 2.62 | .00013 | .000 | 1 |

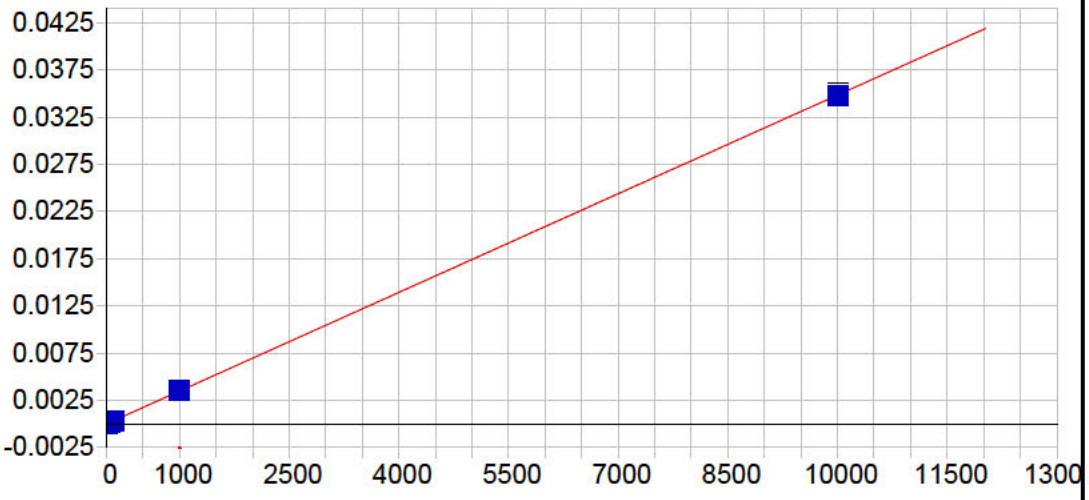



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999938 | Status: | OK. |
| Std Error of Est: | 0.000029 | | |
| Predicted MDL: | 0.329206 | | |
| Predicted MQL: | 1.097353 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.27251 | -.273 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.178 | .178 | 1.78 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.634 | .634 | 1.27 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.7 | 30.7 | 3.07 | .01629 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.83 | .832 | .832 | .00160 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3544 | -.646 | -12.9 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .65031 | -.350 | -35.0 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.68 | .017 | .15802 | .000 | 1 |
| CalStd12=10 | 100000. | 86785. | -13200. | -13.2 | 1.3711 | .010 | 1 |

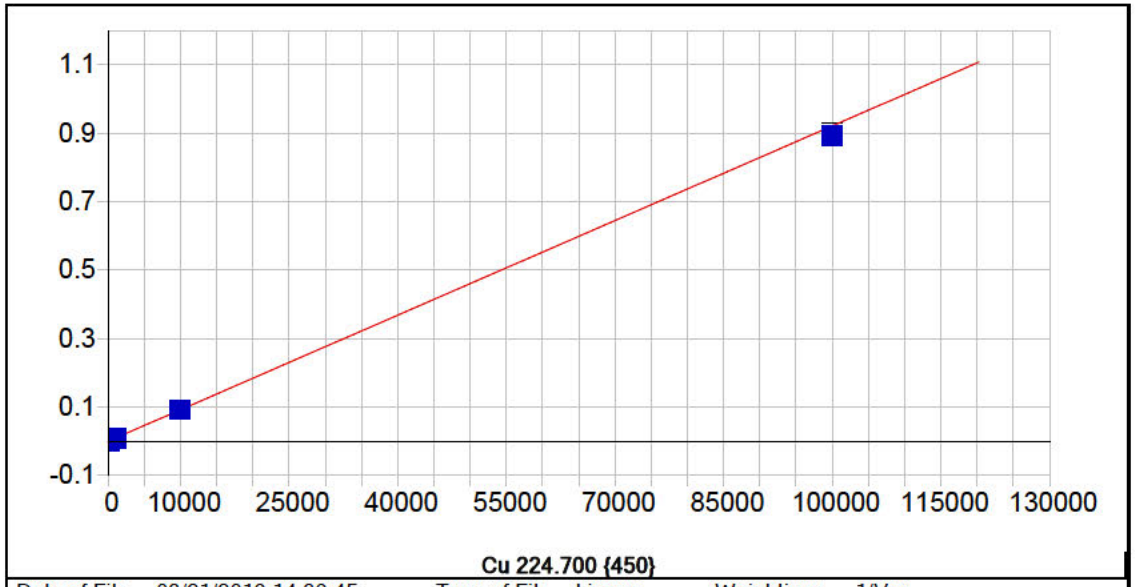



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.718632 | | |
| Predicted MQL: | 2.395440 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00072 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.856 | .856 | 8.56 | .00004 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.260 | .260 | .520 | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.2 | 19.2 | 1.92 | .00355 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.28 | .284 | .284 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1652 | .165 | 3.30 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.2 | -20.8 | -.208 | .03476 | .000 | 1 |

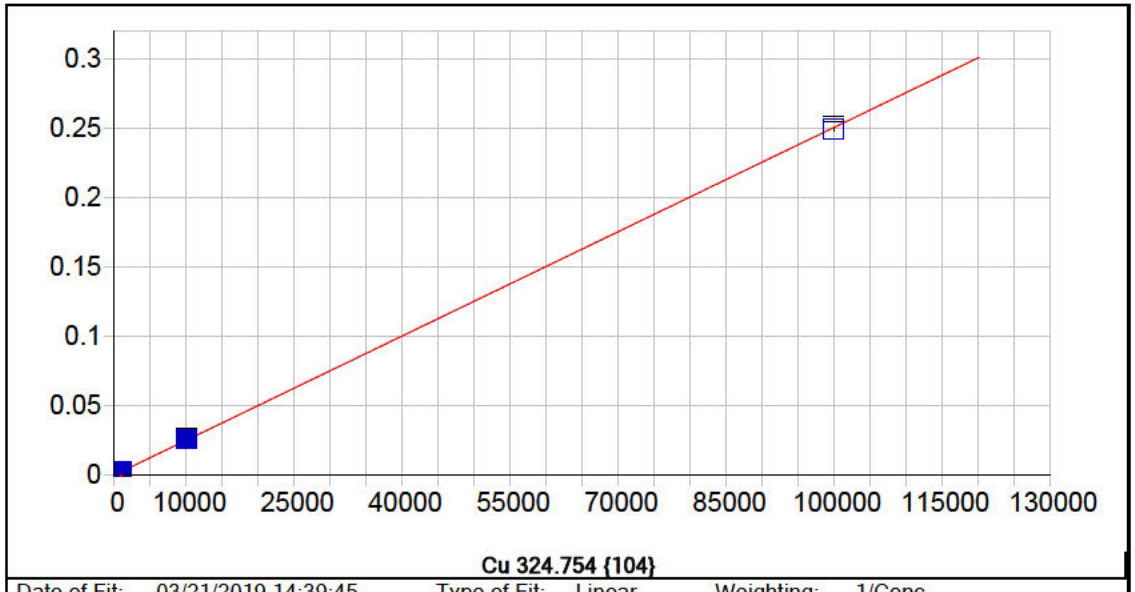



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999301 | Status: | OK. |
| Std Error of Est: | 0.000084 | | |
| Predicted MDL: | 0.511654 | | |
| Predicted MQL: | 1.705513 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 4.0852 | 4.09 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.5 | 37.5 | 3.75 | .00952 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.427 | -26.6 | -53.1 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 74.493 | -25.5 | -25.5 | .00065 | .000 | 1 |
| CalStd6=20 | 20.000 | 9.1743 | -10.8 | -54.1 | .00005 | .000 | 1 |
| CalStd12=10 | 100000. | 96877. | -3120. | -3.12 | .89253 | .009 | 1 |
| CalStd10=10 | 10000. | 10027. | 27.4 | .274 | .09235 | .000 | 1 |

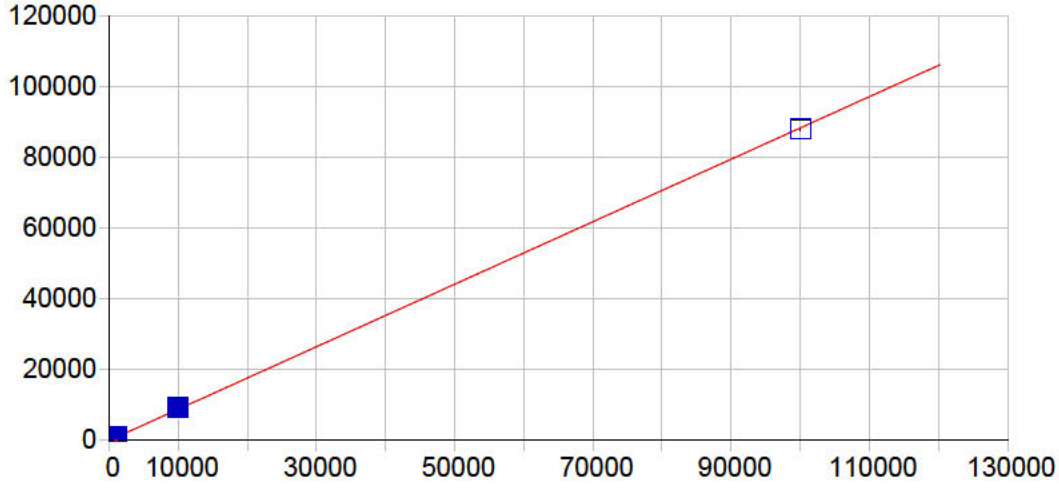



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000215 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999926 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 3.144849 | | |
| Predicted MQL: | 10.482831 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00476 | -.005 | .000 | .00022 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1034.8 | 34.8 | 3.48 | .00280 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.64 | 6.64 | 6.64 | .00048 | .000 | 1 |
| CalStd10=10 | 10000. | 10354. | 354. | 3.54 | .02609 | .001 | 1 |
| CalStd12=10 | 100000. | 99598. | -402. | -.402 | .24918 | .002 | 1 |
| CalStd5=10 | 10.000 | 12.036 | 2.04 | 20.4 | .00025 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.126 | 2.13 | 10.6 | .00027 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.691 | 1.69 | 3.38 | .00034 | .000 | 1 |

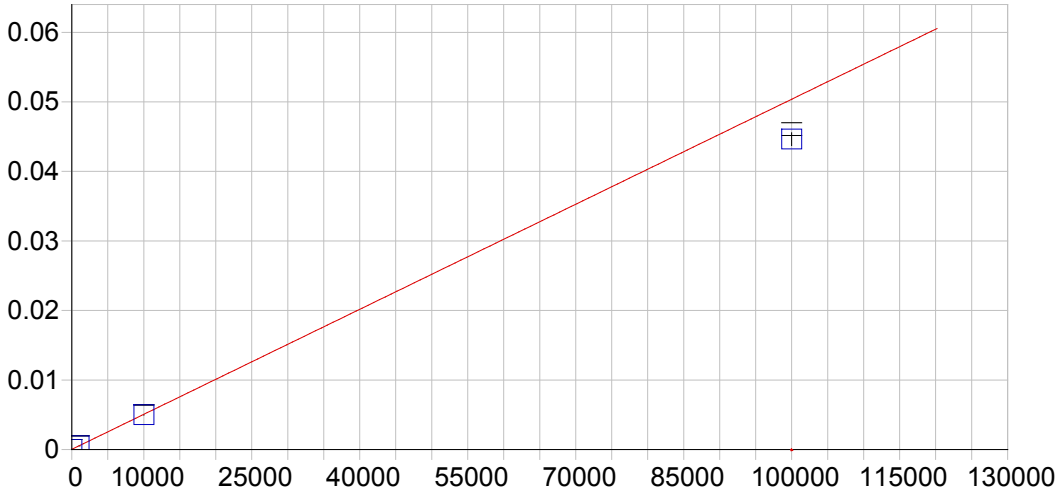



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 13.454914 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.882975 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999896 | Status: | OK. |
| Std Error of Est: | 0.339379 | | |
| Predicted MDL: | 5.415580 | | |
| Predicted MQL: | 18.051932 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00112 | .001 | .000 | 13.456 | 4.83 | 1 |
| CalStd6=20 | 20.000 | 20.795 | .795 | 3.98 | 31.806 | 7.19 | 1 |
| CalStd7=50 | 50.000 | 52.284 | 2.28 | 4.57 | 59.595 | 3.68 | 1 |
| CalStd8=100 | 100.00 | 101.29 | 1.29 | 1.29 | 102.84 | 3.10 | 1 |
| CalStd9=100 | 1000.0 | 1040.4 | 40.4 | 4.04 | 931.55 | 12.5 | 1 |
| CalStd10=10 | 10000. | 10414. | 414. | 4.14 | 9209.0 | 31.9 | 1 |
| CalStd12=10 | 100000. | 99542. | -458. | -.458 | 87907. | 316. | 1 |
| CalStd4=5 | 5.0000 | 2.1182 | -2.88 | -57.6 | 15.323 | 2.56 | 1 |
| CalStd5=10 | 10.000 | 11.778 | 1.78 | 17.8 | 23.849 | 2.72 | 1 |

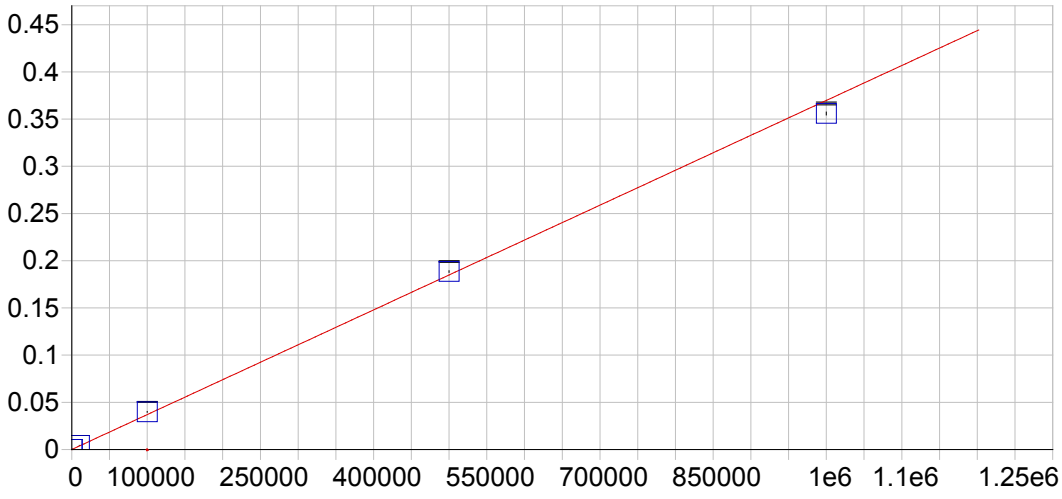



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.690352 | | |
| Predicted MQL: | 5.634508 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00981 | -.010 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9849.8 | -150. | -1.50 | .00498 | .000 | 1 |
| CalStd13=10 | 100000. | 88600. | -11400. | -11.4 | .04464 | .001 | 1 |
| CalStd9=100 | 1000.0 | 999.25 | -.754 | -.075 | .00053 | .000 | 1 |

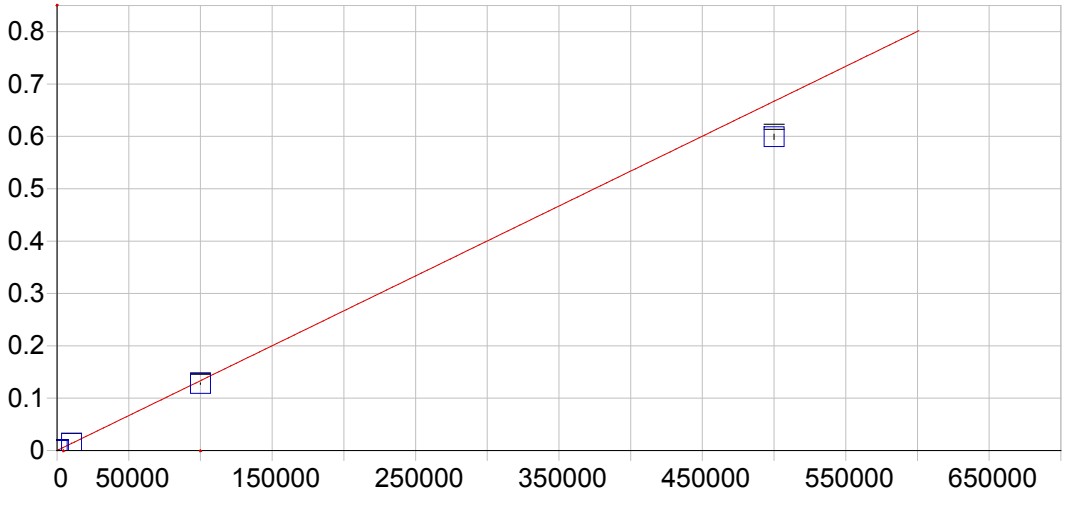



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999096 | Status: | OK. |
| Std Error of Est: | 0.000089 | | |
| Predicted MDL: | 8.861019 | | |
| Predicted MQL: | 29.536729 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -26.499 | -26.5 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11624. | 1620. | 16.2 | .00432 | .000 | 1 |
| CalStd13=10 | 100000. | 107870. | 7870. | 7.87 | .03991 | .000 | 1 |
| CalStd14=50 | 500000. | 509760. | 9760. | 1.95 | .18850 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1106.0 | 106. | 10.6 | .00043 | .000 | 1 |
| CalibStd15= | 1000000. | 962620. | -37400. | -3.74 | .35594 | .002 | 1 |

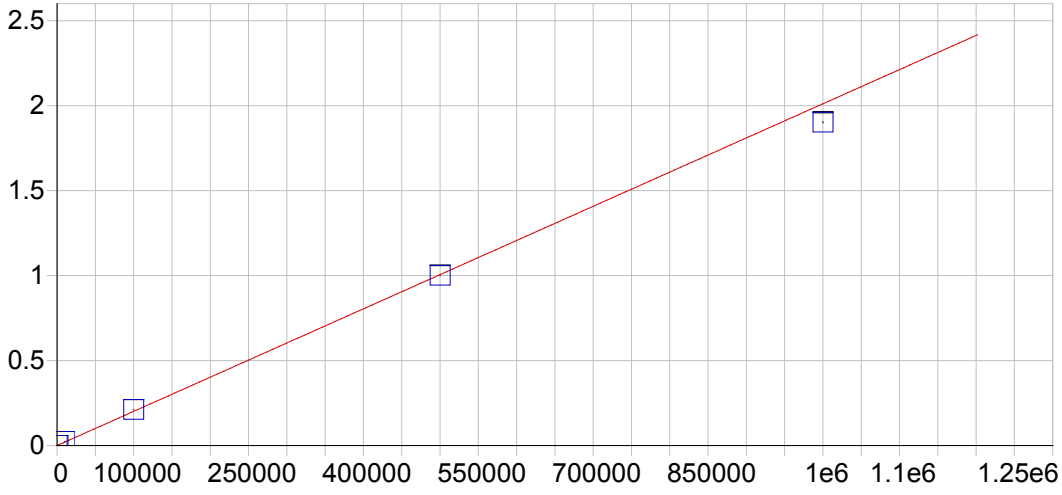



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999864 | Status: | OK. |
| Std Error of Est: | 0.000036 | | |
| Predicted MDL: | 3.446935 | | |
| Predicted MQL: | 11.489785 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.3104 | -7.31 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 10302. | 302. | 3.02 | .01379 | .000 | 1 |
| CalStd13=10 | 100000. | 95817. | -4180. | -4.18 | .12788 | .001 | 1 |
| CalStd14=50 | 500000. | 449160. | -50800. | -10.2 | .59929 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1007.2 | 7.15 | .715 | .00139 | .000 | 1 |

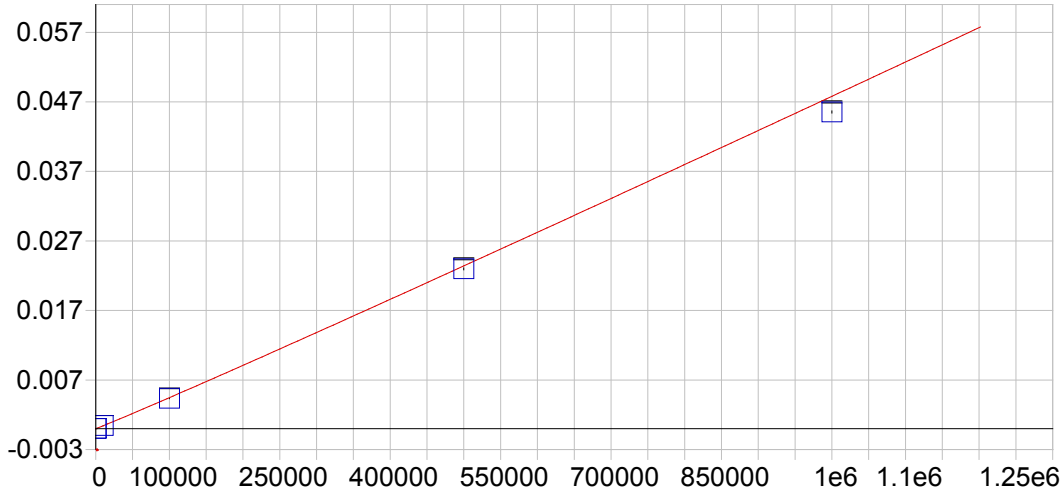



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998581 | Status: | OK. |
| Std Error of Est: | 0.000282 | | |
| Predicted MDL: | 2.742438 | | |
| Predicted MQL: | 9.141461 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -9.2776 | -9.28 | .000 | .00001 | .000 | 1 |
| CalStd13=10 | 100000. | 105170. | 5170. | 5.17 | .21153 | .001 | 1 |
| CalStd10=10 | 10000. | 11480. | 1480. | 14.8 | .02312 | .000 | 1 |
| CalStd14=50 | 500000. | 497960. | -2040. | -.409 | 1.0014 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1215.0 | 215. | 21.5 | .00247 | .000 | 1 |
| CalibStd15= | 1000000. | 945860. | -54100. | -5.41 | 1.9022 | .004 | 1 |

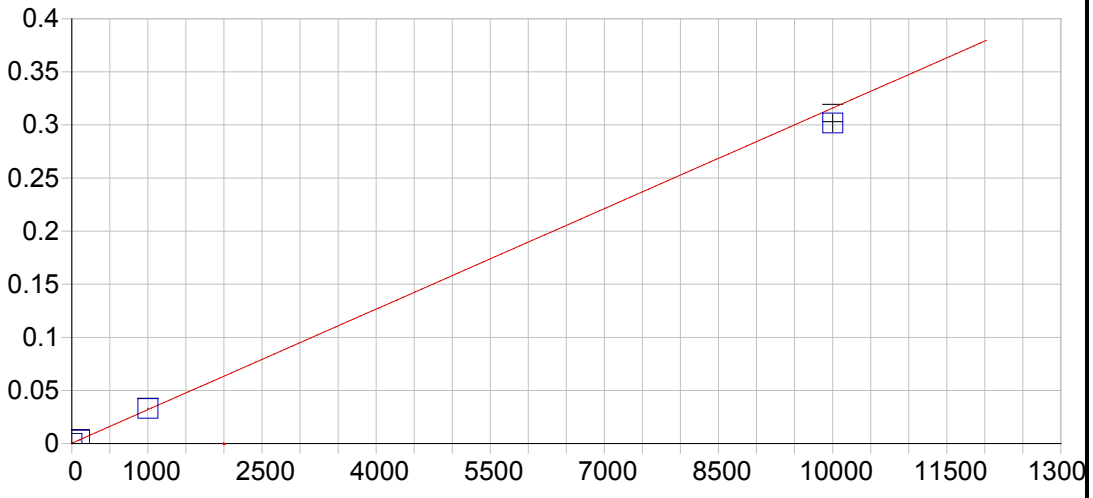



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.030000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 73.671146 | | |
| Predicted MQL: | 245.570488 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97694. | -2310. | -2.31 | .00435 | .000 | 1 |
| CalStd10=10 | 10000. | 10394. | 394. | 3.94 | .00043 | .000 | 1 |
| CalStd14=50 | 500000. | 491320. | -8680. | -1.74 | .02299 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1085.3 | 85.3 | 8.53 | .00004 | .000 | 1 |
| CalibStd15= | 1000000. | 954130. | -45900. | -4.59 | .04554 | .000 | 1 |

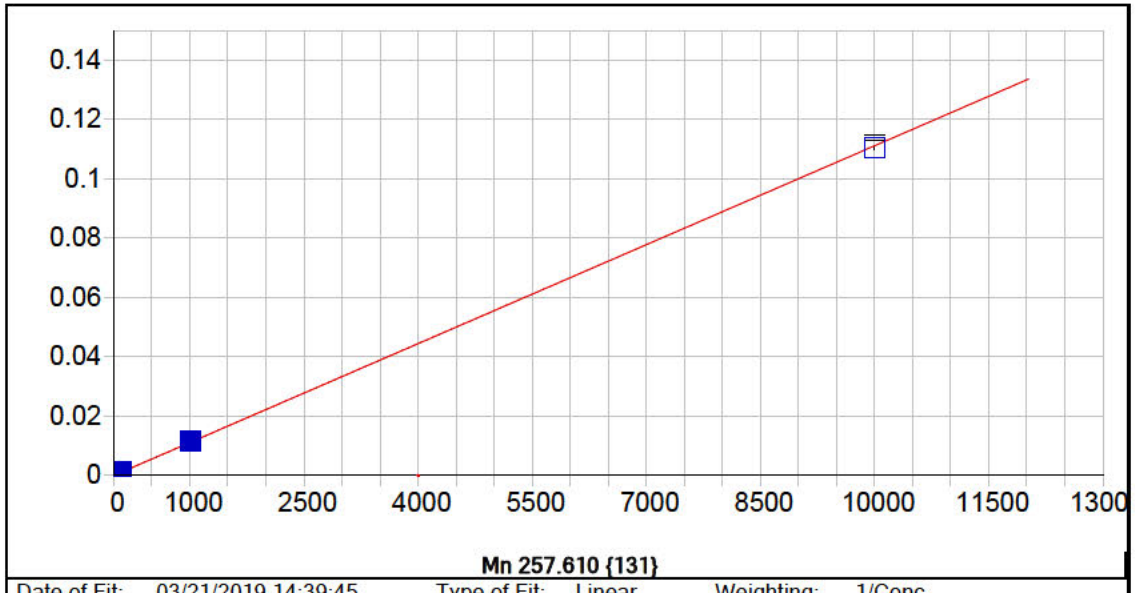



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000338 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000032 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999478 | Status: | OK. |
| Std Error of Est: | 0.000087 | | |
| Predicted MDL: | 0.043435 | | |
| Predicted MQL: | 0.144783 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.7482 | 1.75 | .000 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.3 | 36.3 | 3.63 | .03303 | .000 | 1 |
| CalStd10=10 | 10000. | 9553.5 | -446. | -4.46 | .30178 | .008 | 1 |
| CalStd8=100 | 100.00 | 99.182 | -.818 | -.818 | .00347 | .000 | 1 |

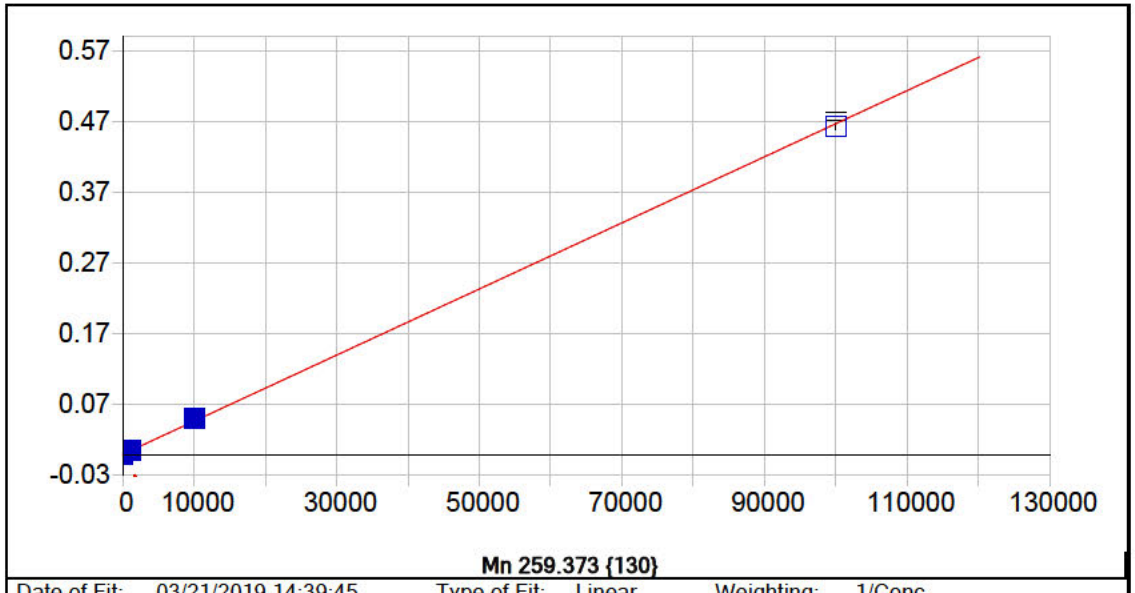



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999873 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.116204 | | |
| Predicted MQL: | 0.387346 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00139 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.966 | .966 | 9.66 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.309 | 2.31 | 4.62 | .00059 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.034 | 1.03 | 5.17 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.69 | 3.69 | 3.69 | .00116 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0294 | .029 | .588 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.3 | 46.3 | 4.63 | .01163 | .000 | 1 |
| CalStd10=10 | 10000. | 9945.6 | -54.4 | -.544 | .11055 | .001 | 1 |

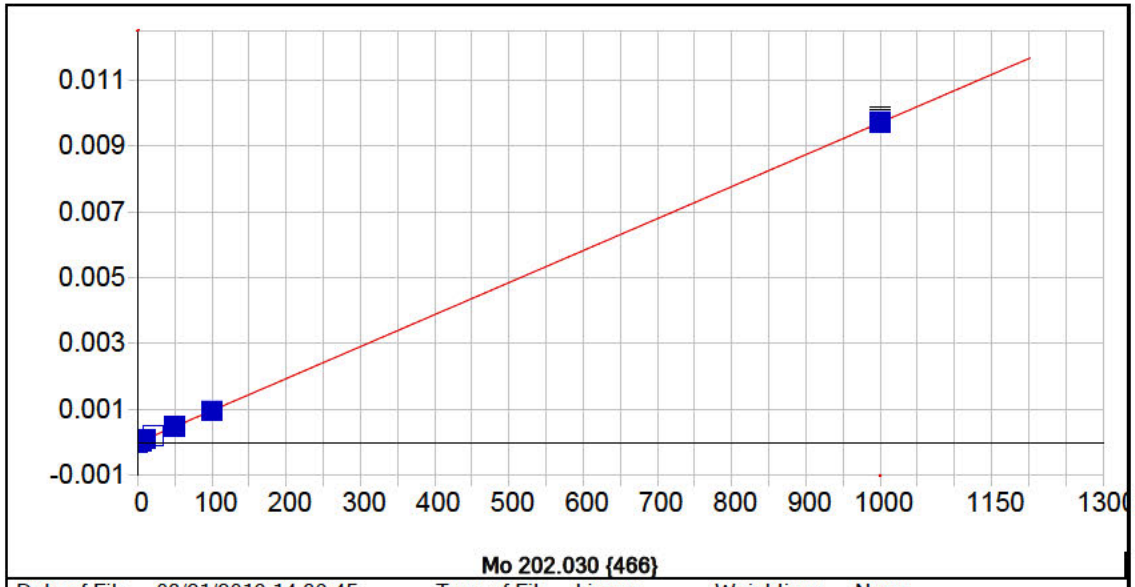



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999703 | Status: | OK. |
| Std Error of Est: | 0.000054 | | |
| Predicted MDL: | 1.009802 | | |
| Predicted MQL: | 3.366007 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14452 | -.145 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10728. | 728. | 7.28 | .05014 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1079.8 | 79.8 | 7.98 | .00505 | .000 | 1 |
| CalStd12=10 | 100000. | 99191. | -809. | -.809 | .46293 | .005 | 1 |

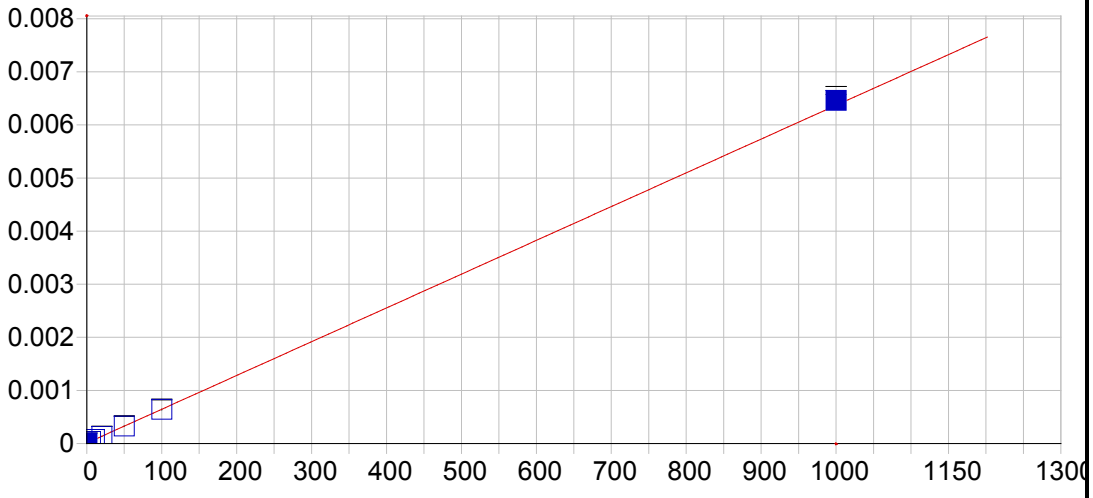



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.447089 | | |
| Predicted MQL: | 1.490296 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.0388 | 1.04 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.245 | -.755 | -1.51 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.288 | .288 | 1.44 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.844 | .844 | 8.44 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.490 | -1.51 | -1.51 | .00096 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9190 | -.081 | -1.62 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .175 | .018 | .00976 | .000 | 1 |

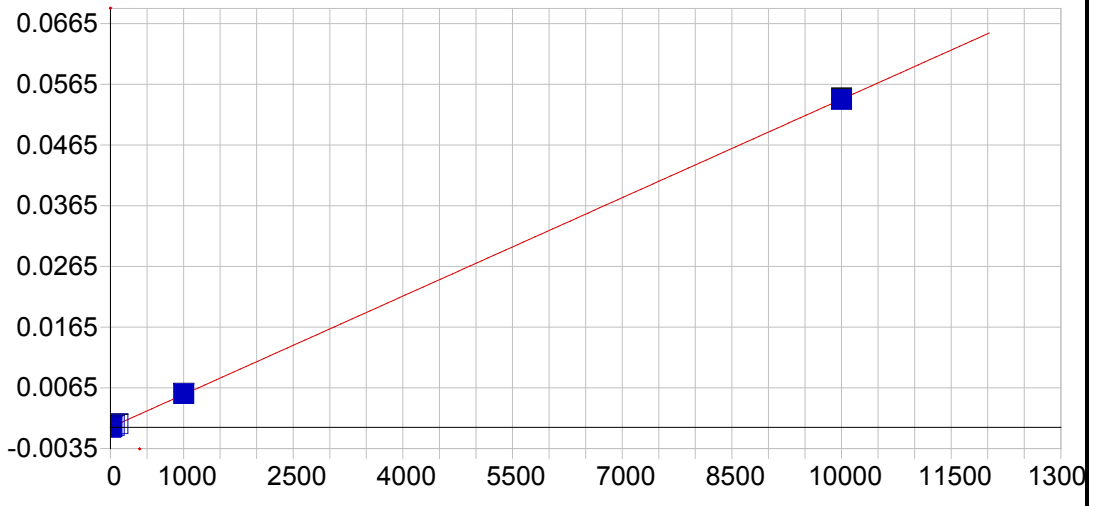



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999913 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.883931 | | |
| Predicted MQL: | 2.946438 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .17416 | .174 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.054 | .054 | .108 | .00033 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.650 | -.350 | -1.75 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.296 | .296 | 2.96 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.221 | -.779 | -.779 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7192 | -.281 | -5.62 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1014.1 | 14.1 | 1.41 | .00646 | .000 | 1 |

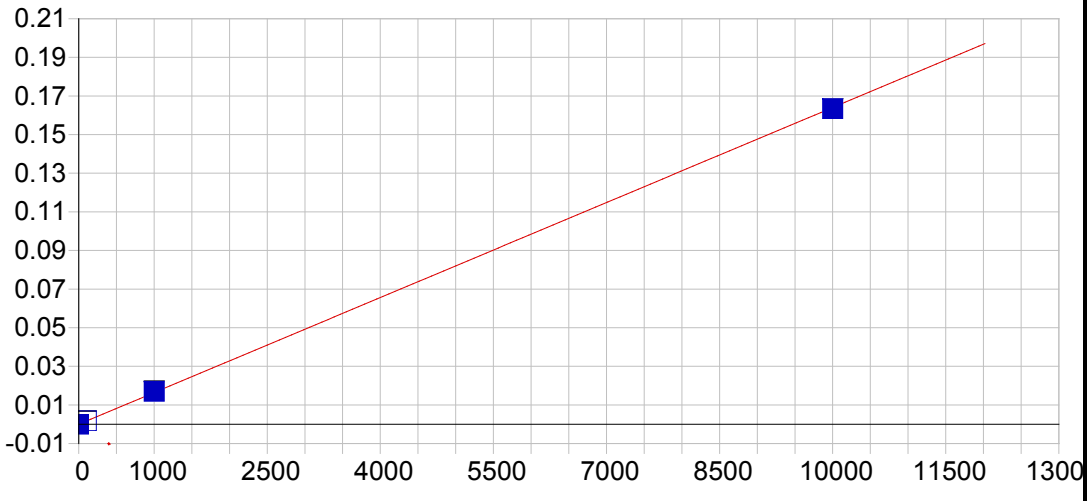



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999950 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.884529 | | |
| Predicted MQL: | 2.948428 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .54651 | .547 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.399 | .399 | .798 | .00027 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.790 | -.210 | -1.05 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.8683 | -.132 | -1.32 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.188 | -.812 | -.812 | .00053 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9978 | -.002 | -.043 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.8 | 21.8 | 2.18 | .00552 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.0 | -6.98 | -.070 | .05400 | .000 | 1 |

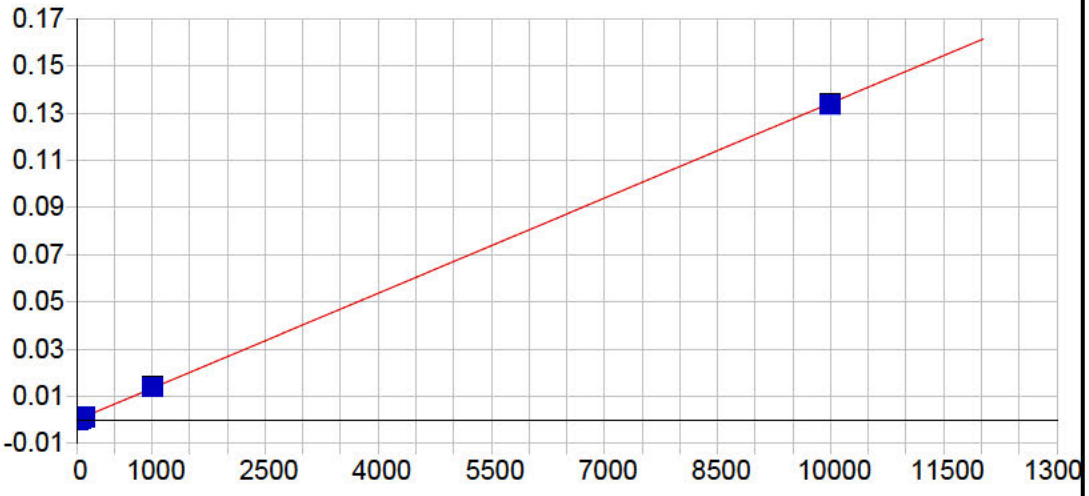



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999921 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.522629 | | |
| Predicted MQL: | 1.742097 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00669 | -.007 | .000 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.4 | -41.6 | -.416 | .16335 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.27 | 3.27 | 3.27 | .00168 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1038.3 | 38.3 | 3.83 | .01702 | .000 | 1 |

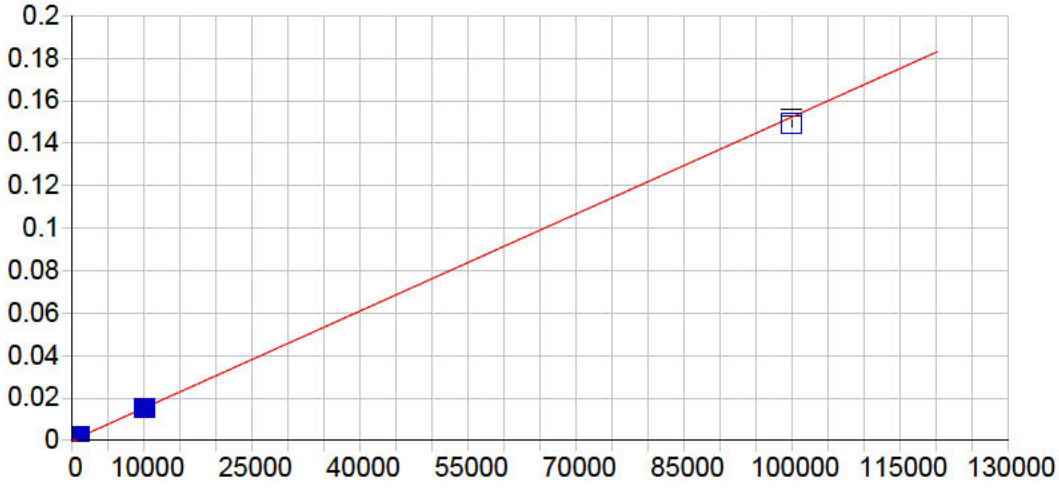



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000013 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.576076 | | |
| Predicted MQL: | 1.920253 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00027 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.727 | 1.73 | 3.45 | .00069 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.113 | 1.11 | 11.1 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.27 | 2.27 | 2.27 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6899 | -.310 | -6.20 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.1 | 37.1 | 3.71 | .01390 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1257 | .126 | 12.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.0 | -42.0 | -.420 | .13346 | .000 | 1 |

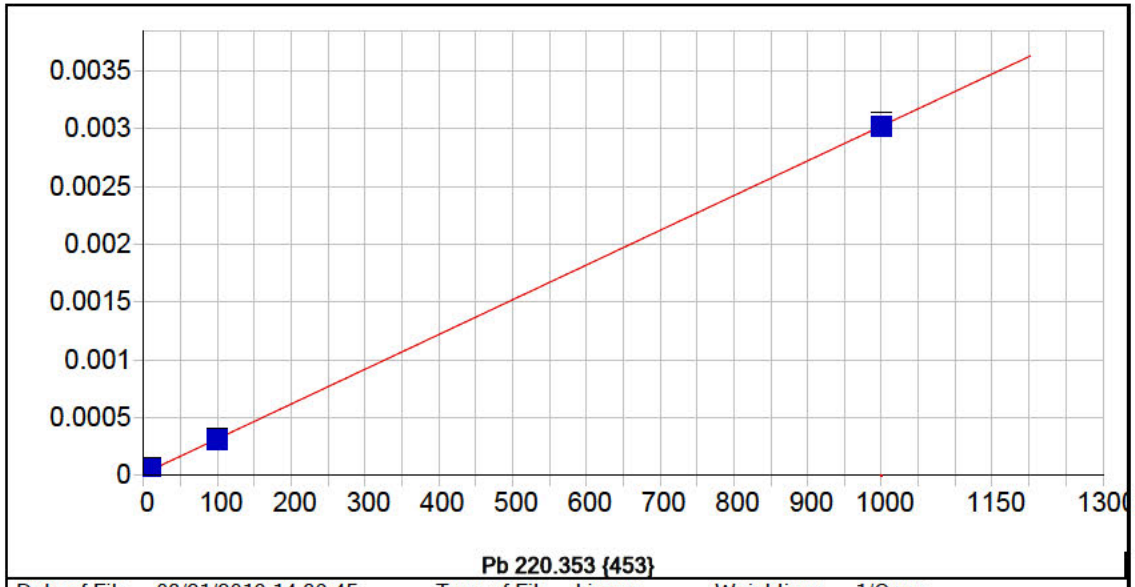



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999913 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 4.460220 | | |
| Predicted MQL: | 14.867401 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.37185 | -.372 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.2 | 37.2 | 3.72 | .00160 | .000 | 1 |
| CalStd10=10 | 10000. | 9978.9 | -21.1 | -.211 | .01521 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.501 | -2.50 | -2.50 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4754 | -.525 | -5.25 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 98191. | -1810. | -1.81 | .14950 | .002 | 1 |

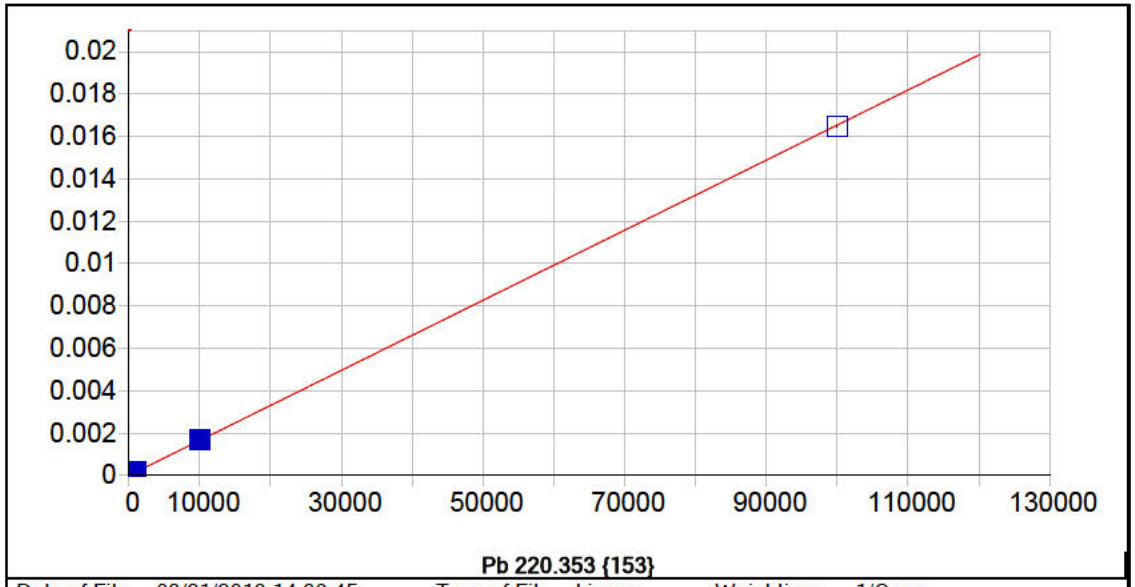



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.838682 | | |
| Predicted MQL: | 9.462274 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00070 | -.001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.260 | 2.26 | 22.6 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.205 | -1.80 | -1.80 | .00031 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6600 | -.340 | -6.80 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.88 | -.123 | -.012 | .00302 | .000 | 1 |

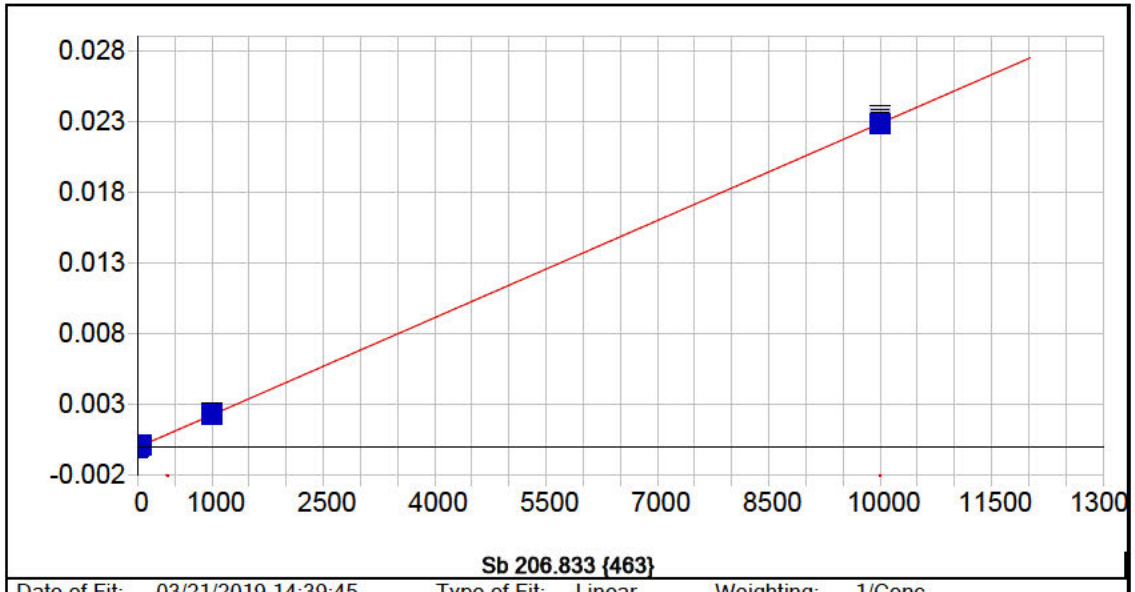



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.507413 | | |
| Predicted MQL: | 21.691377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01901 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1076.5 | 76.5 | 7.65 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10254. | 254. | 2.54 | .00170 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.16 | 9.16 | 9.16 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99660. | -340. | -.340 | .01648 | .000 | 1 |

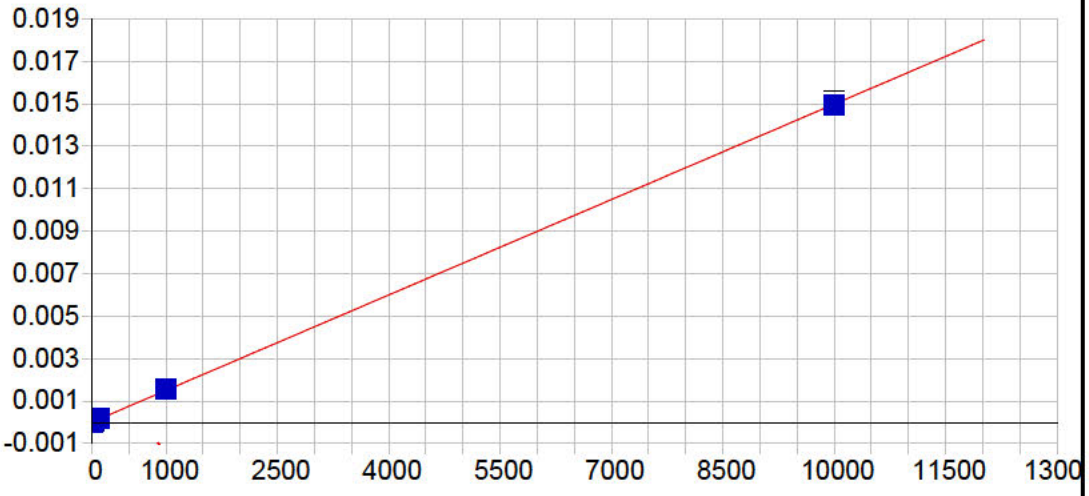



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.327923 | | |
| Predicted MQL: | 7.759745 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00255 | -.003 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.1 | 18.1 | 1.81 | .00237 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.015 | 2.02 | 20.2 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.897 | 1.90 | 3.79 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9978.0 | -22.0 | -.220 | .02324 | .000 | 1 |

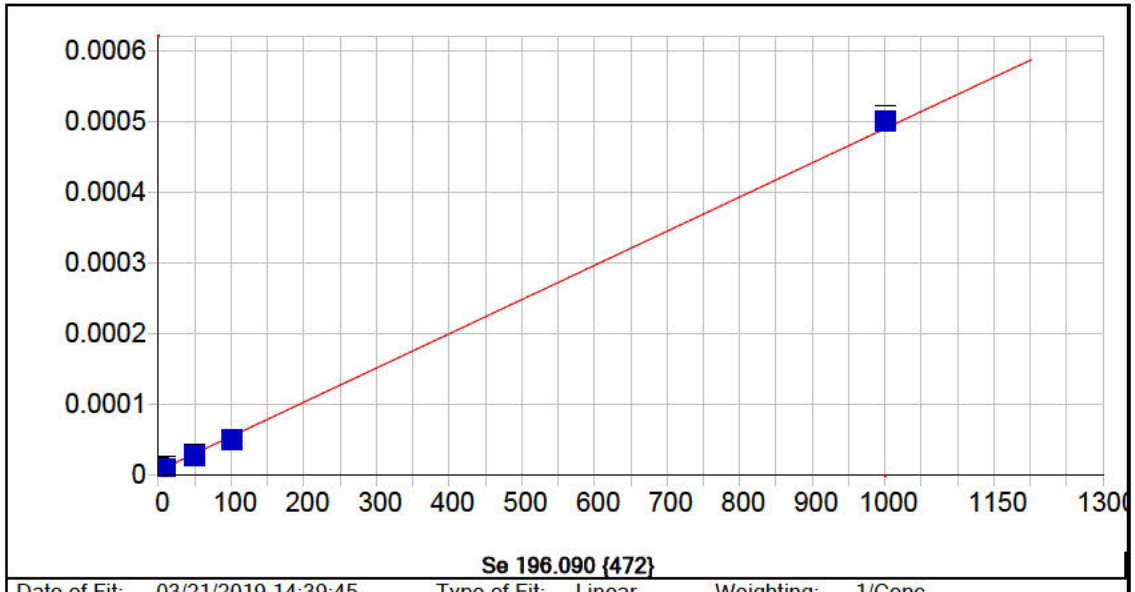



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999957 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 3.970151 | | |
| Predicted MQL: | 13.233836 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00051 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.6 | 26.6 | 2.66 | .00154 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.240 | .240 | 1.20 | .00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8027 | -1.20 | -12.0 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.912 | -2.09 | -2.09 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0136 | .014 | .272 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9976.5 | -23.5 | -.235 | .01494 | .000 | 1 |

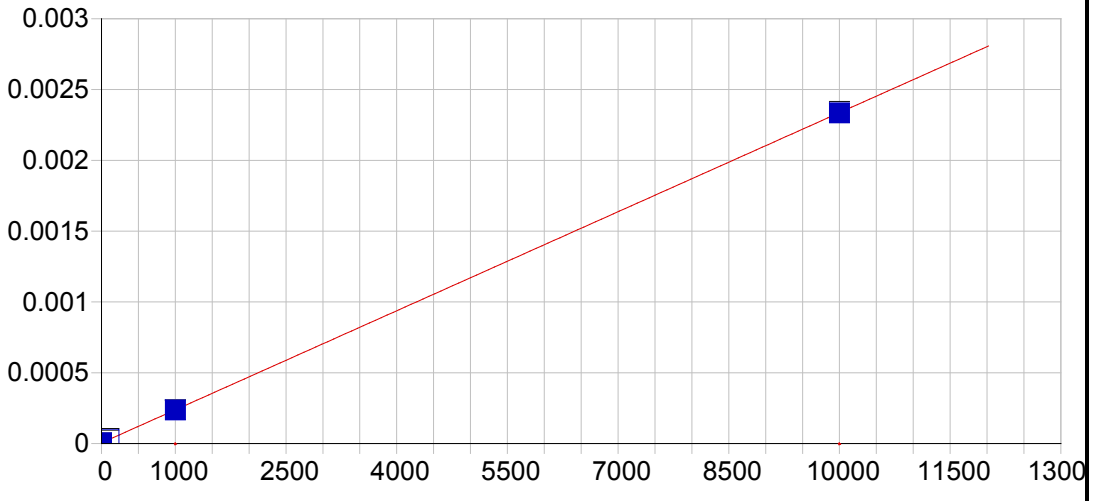



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997458 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.937673 | | |
| Predicted MQL: | 29.792245 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00791 | .008 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 43.880 | -6.12 | -12.2 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.2 | 23.2 | 2.32 | .00050 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.2185 | -5.78 | -57.8 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 88.672 | -11.3 | -11.3 | .00005 | .000 | 1 |

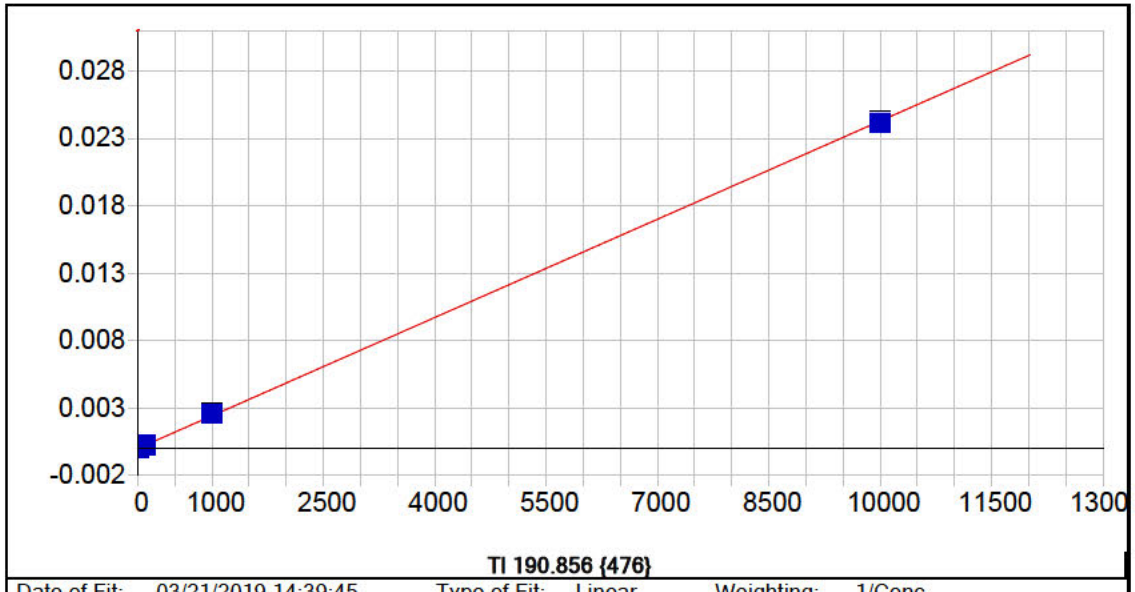



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 24.315215 | | |
| Predicted MQL: | 81.050716 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00731 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.86 | -9.14 | -.914 | .00024 | .000 | 1 |
| CalStd10=10 | 10000. | 9987.2 | -12.8 | -.128 | .00234 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.20 | 8.20 | 8.20 | .00003 | .000 | 1 |

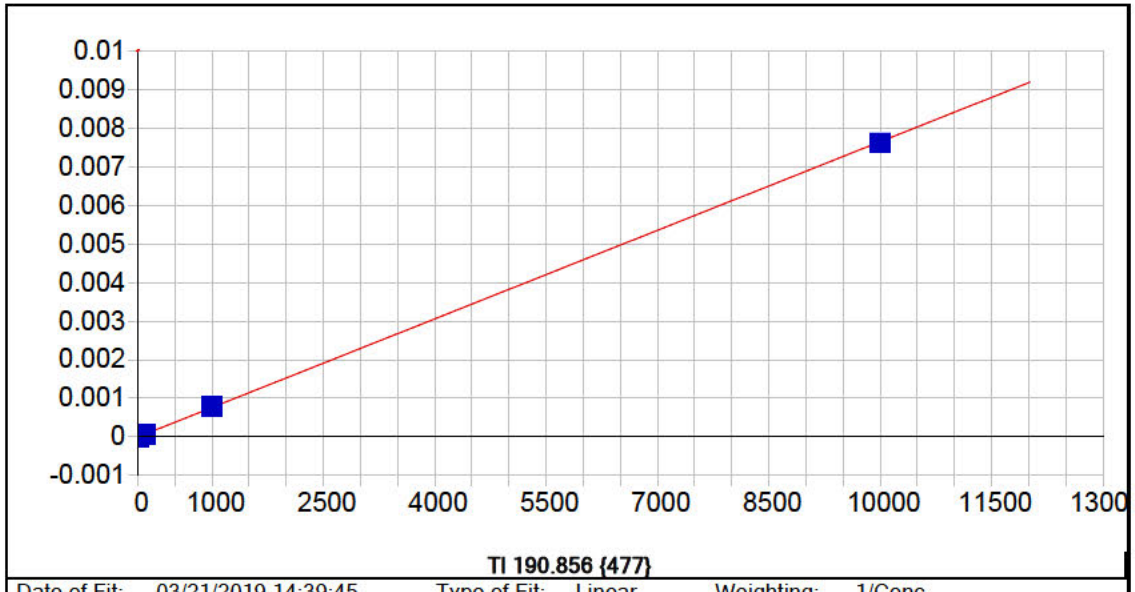



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999817 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.188898 | | |
| Predicted MQL: | 7.296327 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00150 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1058.0 | 58.0 | 5.80 | .00258 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.42 | 5.42 | 5.42 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.442 | .442 | 4.42 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9936.2 | -63.8 | -.638 | .02418 | .000 | 1 |

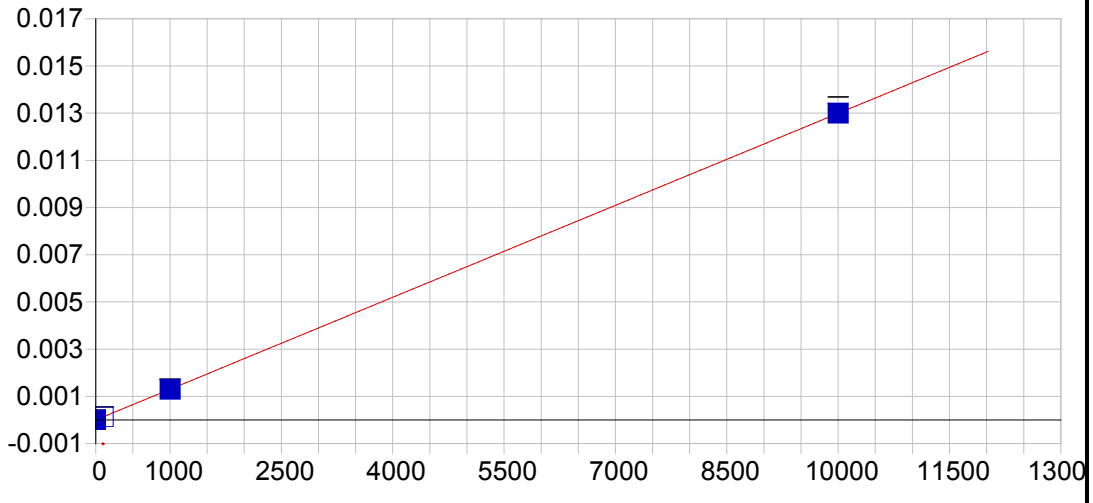



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999821 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.683323 | | |
| Predicted MQL: | 18.944410 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00279 | .003 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1048.1 | 48.1 | 4.81 | .00080 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.71 | 3.71 | 3.71 | .00008 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4095 | -3.59 | -35.9 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9951.7 | -48.3 | -.483 | .00761 | .000 | 1 |

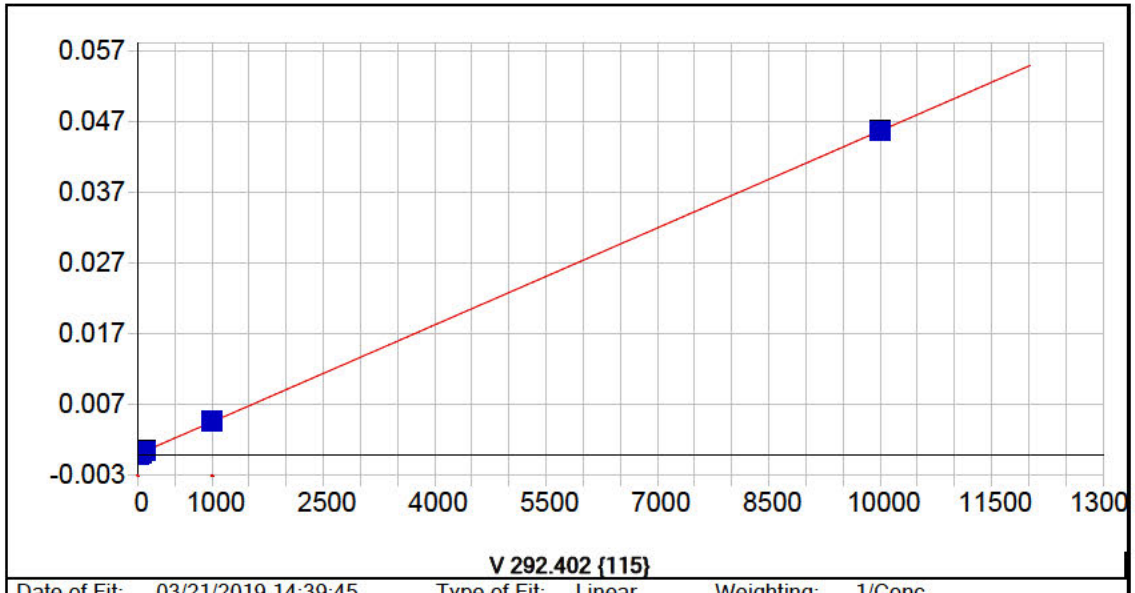



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.877327 | | |
| Predicted MQL: | 16.257758 | | |

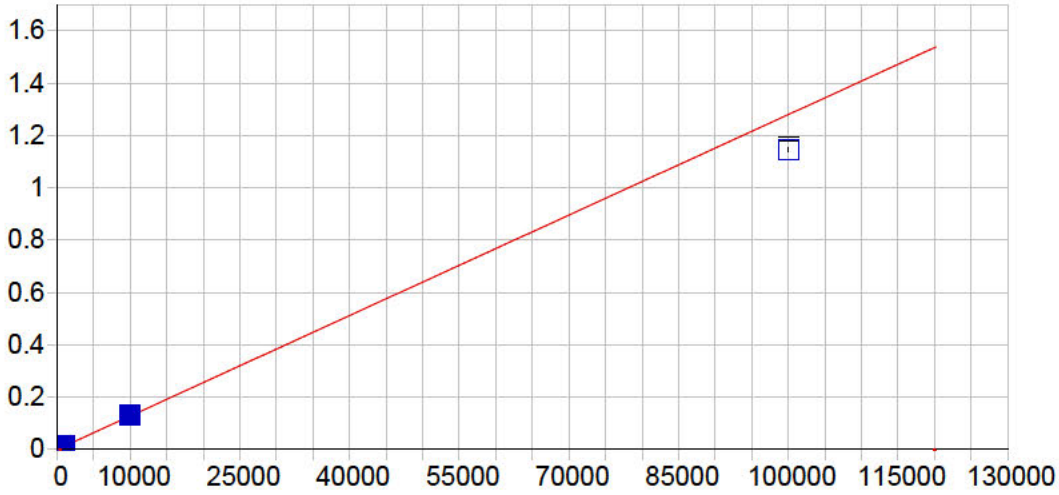
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00124 | .001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.62 | -2.38 | -.238 | .00130 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.42 | .034 | .01300 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.960 | -1.04 | -1.04 | .00013 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.941184 | | |
| Predicted MQL: | 3.137280 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00105 | .001 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.246 | -1.75 | -3.51 | .00022 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.9 | 16.9 | 1.69 | .00463 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.816 | -.184 | -.922 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4398 | -.560 | -5.60 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.981 | -2.02 | -2.02 | .00045 | .000 | 1 |
| CalStd10=10 | 10000. | 9987.6 | -12.4 | -.124 | .04562 | .000 | 1 |

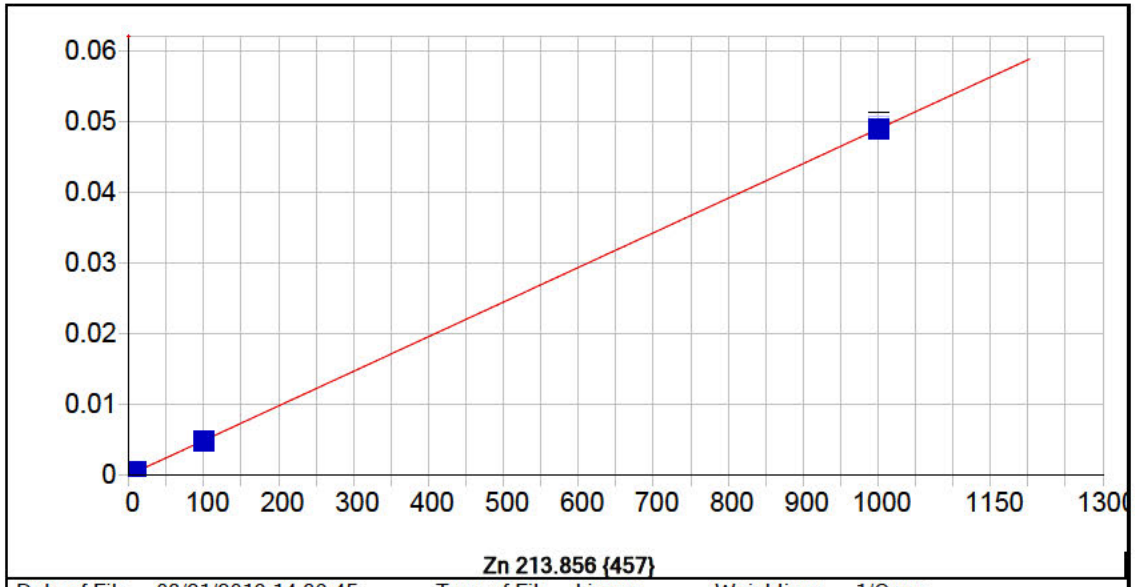



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000013 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998584 | Status: | OK. |
| Std Error of Est: | 0.000065 | | |
| Predicted MDL: | 0.413390 | | |
| Predicted MQL: | 1.377966 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10139. | 139. | 1.39 | .12973 | .000 | 1 |
| Blank | .00000 | -1.0368 | -1.04 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | .01346 | .000 | 1 |
| CalStd12=10 | 100000. | 89634. | -10400. | -10.4 | 1.1468 | .007 | 1 |
| CalStd5=10 | 10.000 | 9.7292 | -.271 | -2.71 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.75 | 2.75 | 2.75 | .00133 | .000 | 1 |

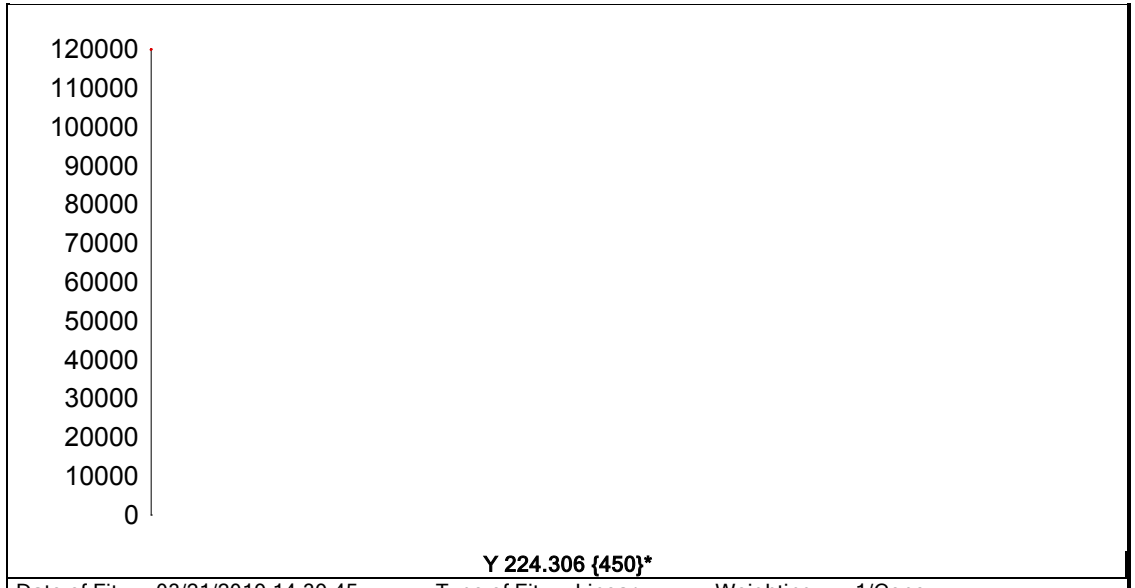



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

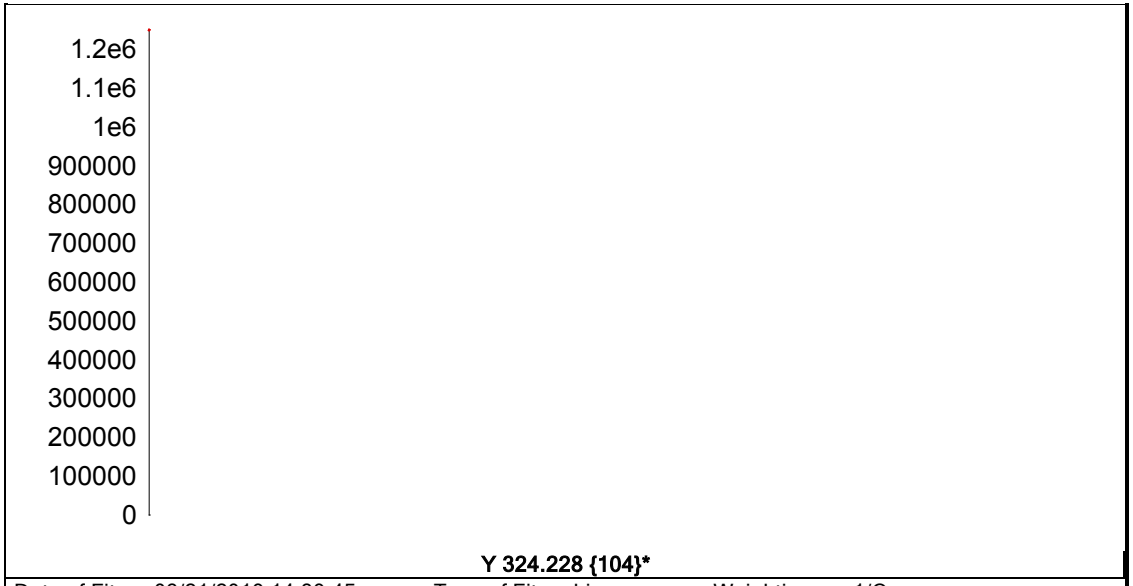
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000049 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.126212 | | |
| Predicted MQL: | 0.420707 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00010 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .836 | .084 | .04938 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.192 | .192 | 1.92 | .00056 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.973 | -1.03 | -1.03 | .00494 | .000 | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

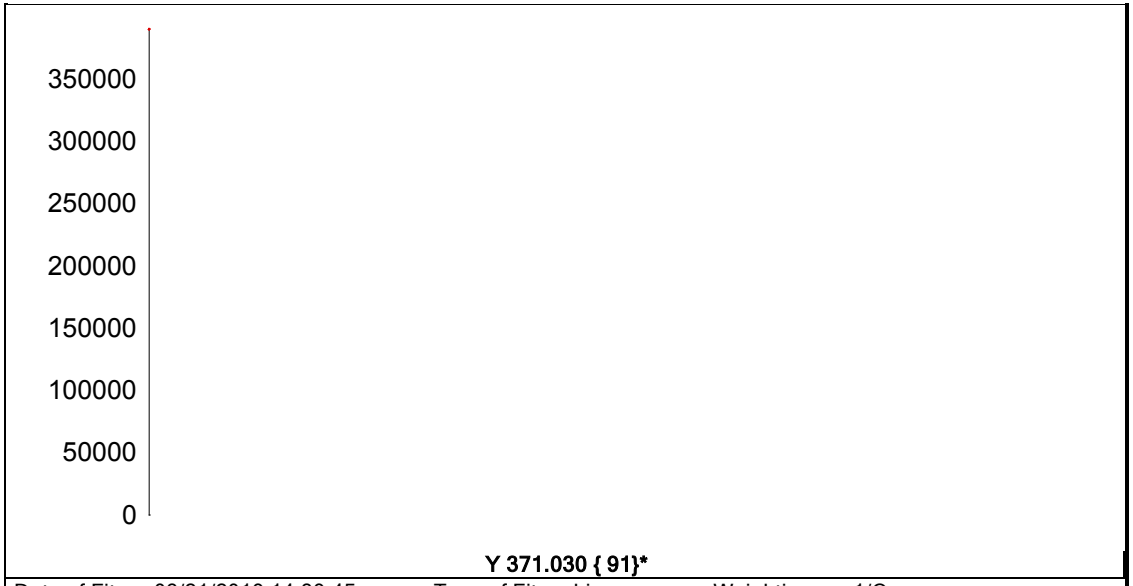
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 112060. | 447. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

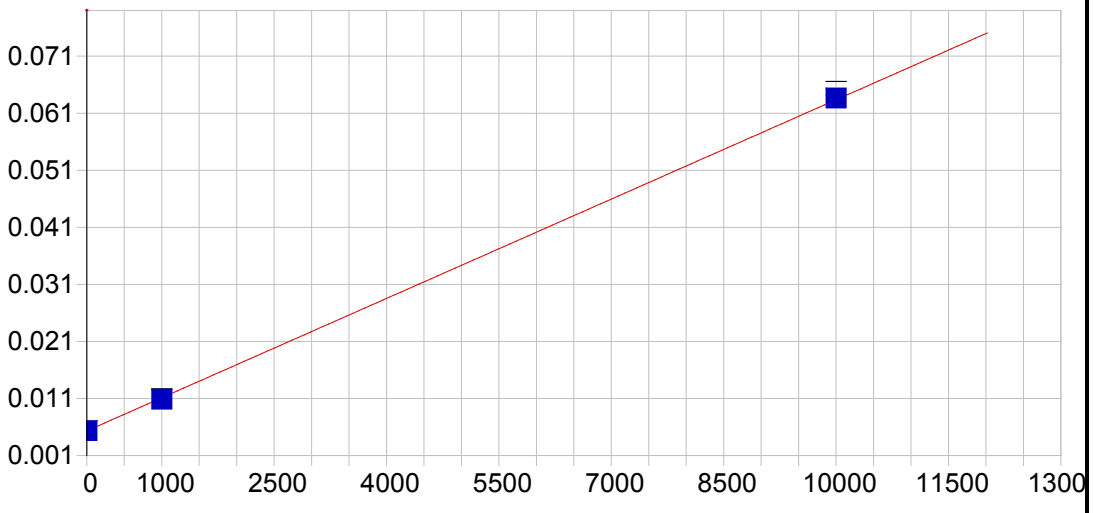
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1174800. | 5690. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 366360. | 1650. | 1 |

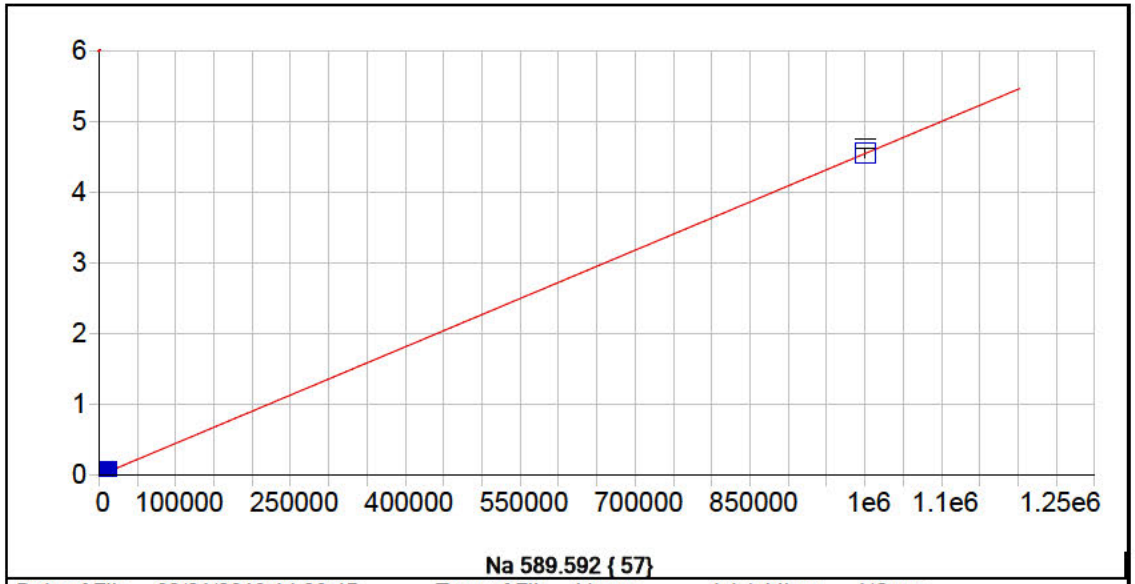



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005324 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999883 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 7.223238 | | |
| Predicted MQL: | 24.077459 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .04357 | .044 | .000 | .00532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 951.59 | -48.4 | -4.84 | .01085 | .000 | 1 |
| CalStd10=10 | 10000. | 10048. | 48.4 | .484 | .06364 | .001 | 1 |

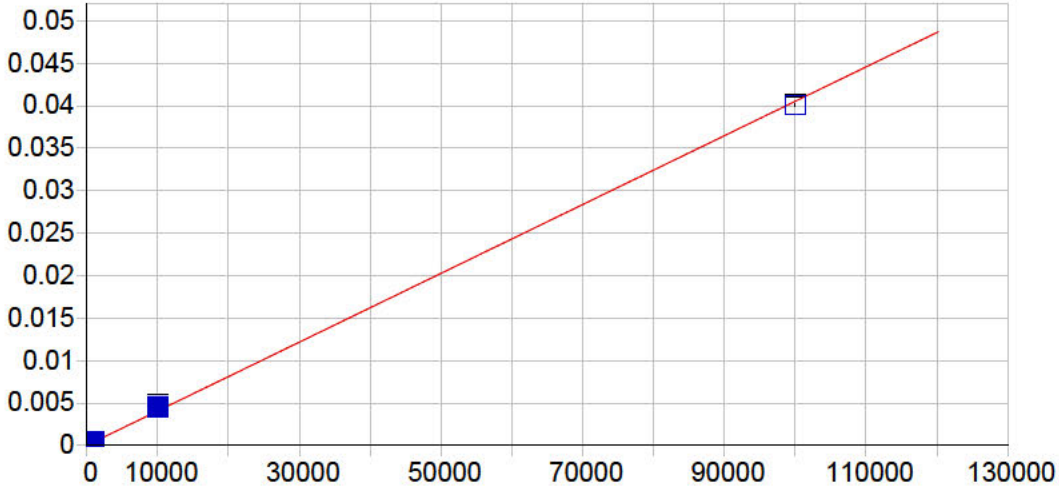



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000103 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000017 | | |
| Predicted MDL: | 6.203643 | | |
| Predicted MQL: | 20.678809 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02855 | -.029 | .000 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.94 | .194 | .00466 | .000 | 1 |
| CalStd10=10 | 10000. | 10269. | 269. | 2.69 | .04679 | .001 | 1 |
| CalibStd15= | 1000000. | 999730. | -271. | -.027 | 4.5456 | .063 | 1 |

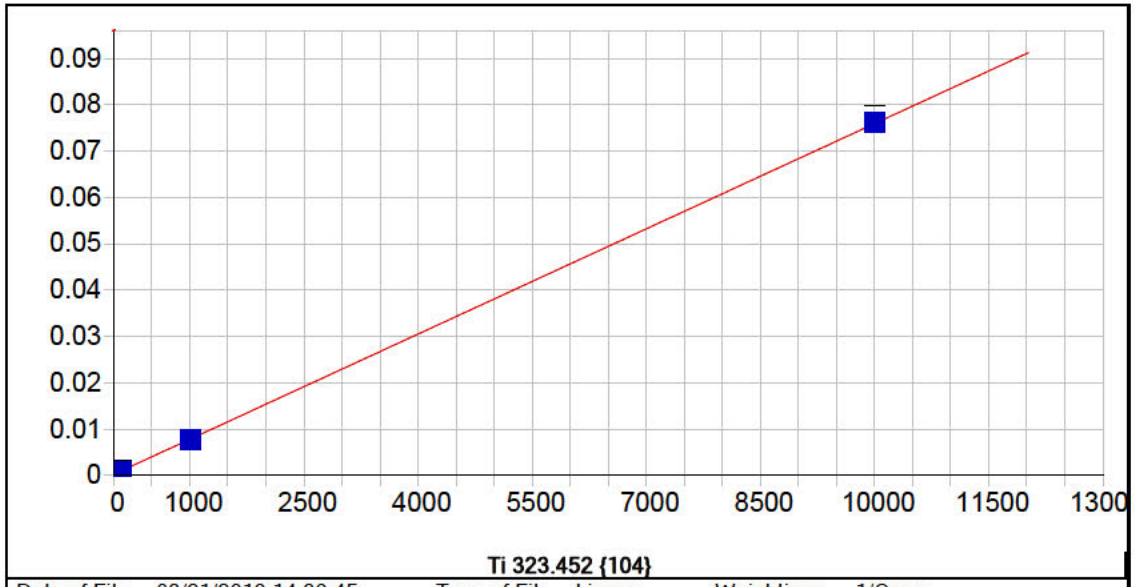



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999379 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 10.786550 | | |
| Predicted MQL: | 35.955167 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.07092 | -.071 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 970.28 | -29.7 | -2.97 | .00043 | .000 | 1 |
| CalStd10=10 | 10000. | 11119. | 1120. | 11.2 | .00467 | .000 | 1 |
| CalibStd15= | 100000. | 98870. | -1130. | -1.13 | .04005 | .000 | 1 |

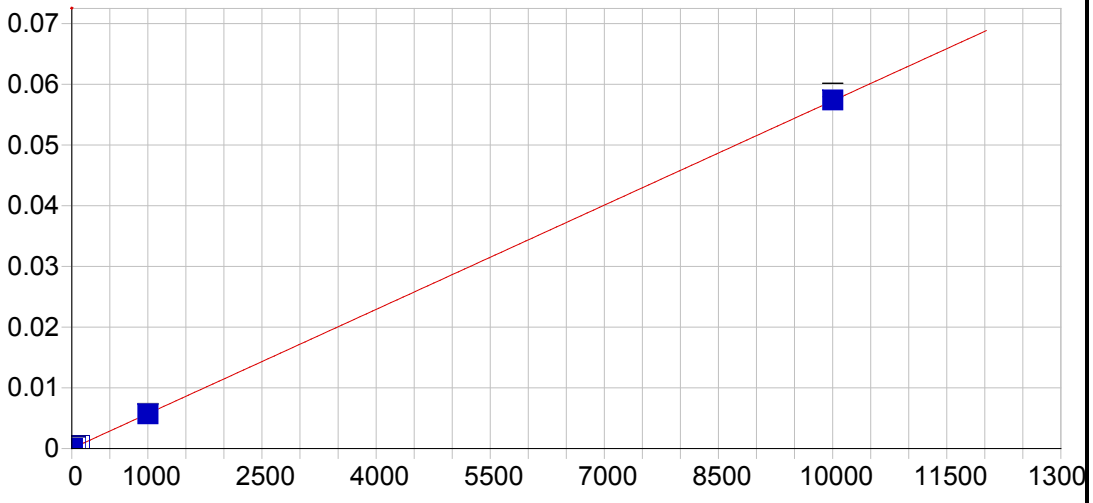



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000261 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999898 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.315649 | | |
| Predicted MQL: | 4.385497 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00398 | .004 | .000 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.4299 | -1.57 | -15.7 | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 94.629 | -5.37 | -5.37 | .00098 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.06 | -8.94 | -.894 | .00776 | .000 | 1 |
| CalStd10=10 | 10000. | 10023. | 23.0 | .230 | .07617 | .001 | 1 |
| CalStd7=50 | 50.000 | 45.273 | -4.73 | -9.45 | .00060 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5790 | -2.42 | -48.4 | .00028 | .000 | 1 |

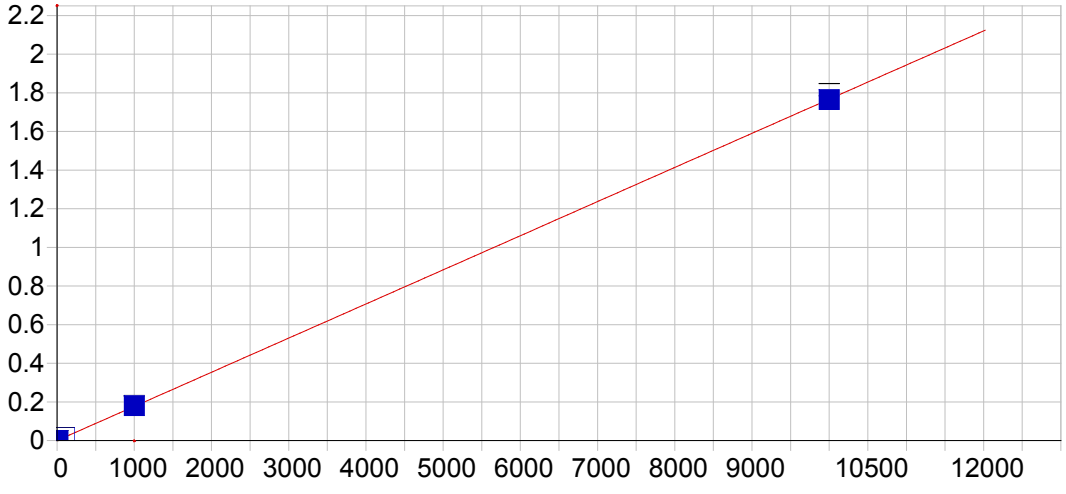



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999931 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.284621 | | |
| Predicted MQL: | 4.282071 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00320 | .003 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9384 | -2.06 | -20.6 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 94.671 | -5.33 | -5.33 | .00056 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.72 | -9.28 | -.928 | .00569 | .000 | 1 |
| CalStd10=10 | 10000. | 10022. | 21.6 | .216 | .05742 | .001 | 1 |
| CalStd7=50 | 50.000 | 46.548 | -3.45 | -6.90 | .00028 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.4788 | -1.52 | -30.4 | .00003 | .000 | 1 |

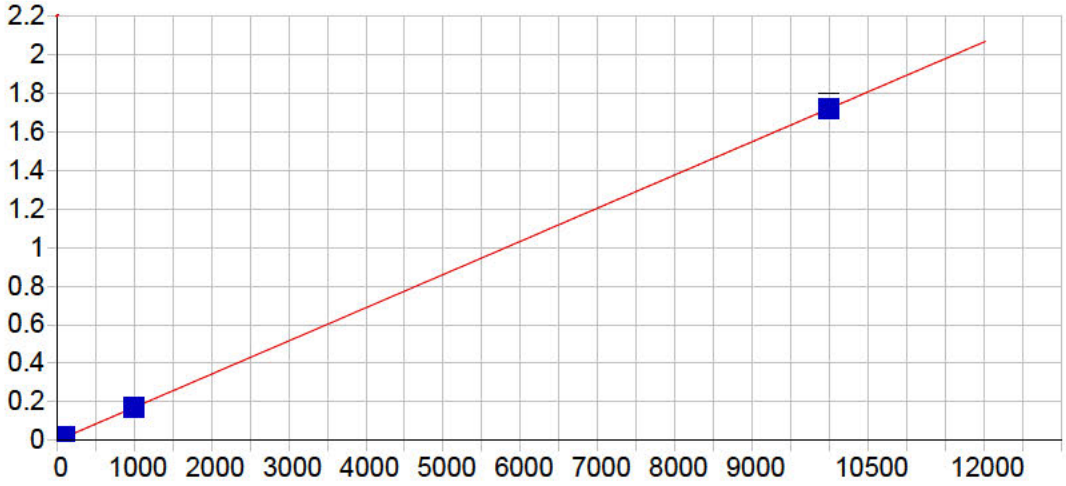



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000079 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000177 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.088157 | | |
| Predicted MQL: | 0.293855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00008 | .000 | .000 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | .90300 | -.097 | -9.70 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7011 | -.299 | -5.98 | .00091 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.497 | .497 | 4.97 | .00193 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.16 | 1.16 | 1.16 | .01795 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.9 | 15.9 | 1.59 | .17963 | .002 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | 1.7645 | .032 | 1 |

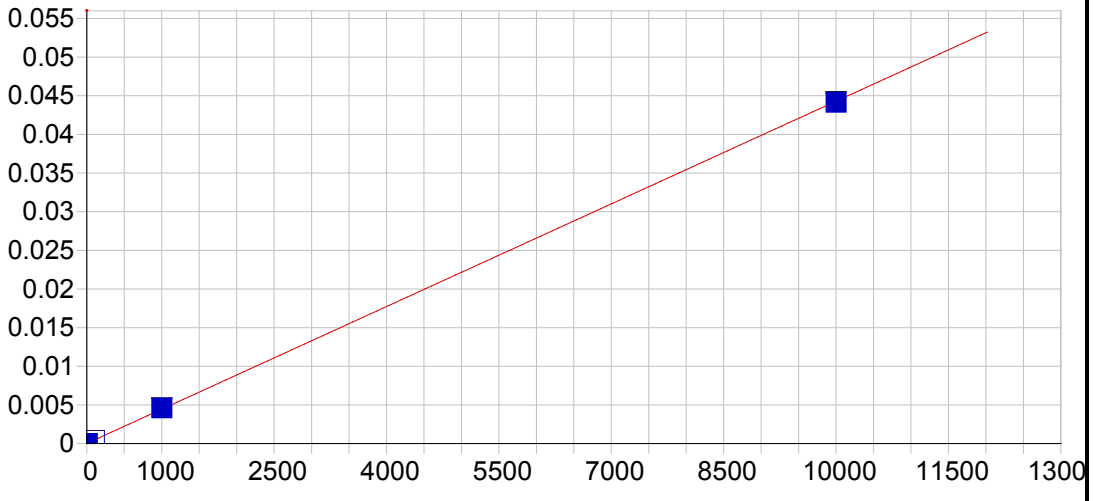



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000172 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.090853 | | |
| Predicted MQL: | 0.302843 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00010 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .91402 | -.086 | -8.60 | .00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6998 | -.300 | -6.00 | .00082 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.424 | .424 | 4.24 | .00180 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.896 | -.104 | -.104 | .01719 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.0 | 1.99 | .199 | .17228 | .002 | 1 |
| CalStd10=10 | 10000. | 9998.1 | -1.92 | -.019 | 1.7189 | .029 | 1 |

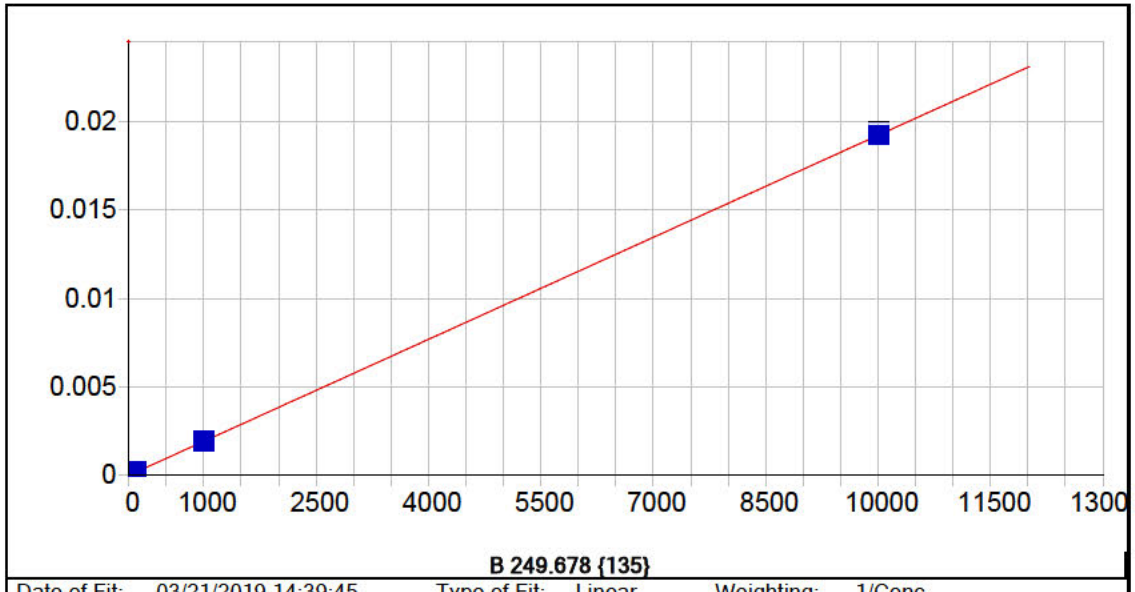



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999941 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.997387 | | |
| Predicted MQL: | 3.324624 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00044 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9966.1 | -33.9 | -.339 | .04415 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1034.6 | 34.6 | 3.46 | .00459 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.183 | -.817 | -.817 | .00045 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.212 | .212 | 2.12 | .00006 | .000 | 1 |

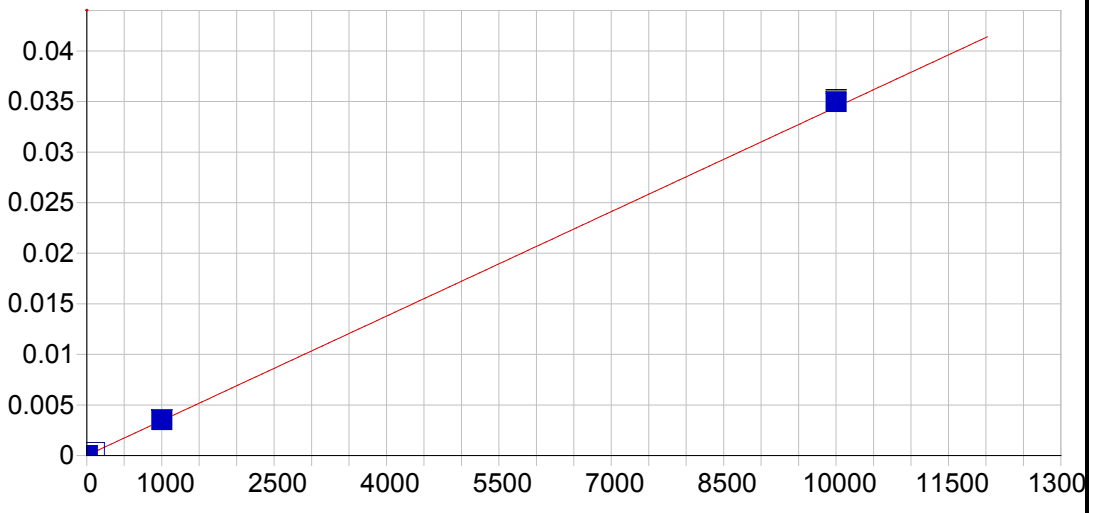



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.184751 | | |
| Predicted MQL: | 3.949171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00211 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.180 | -3.82 | -3.82 | .00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.2978 | -1.70 | -17.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.14 | -3.86 | -.386 | .00193 | .000 | 1 |
| CalStd10=10 | 10000. | 10009. | 9.38 | .094 | .01931 | .000 | 1 |

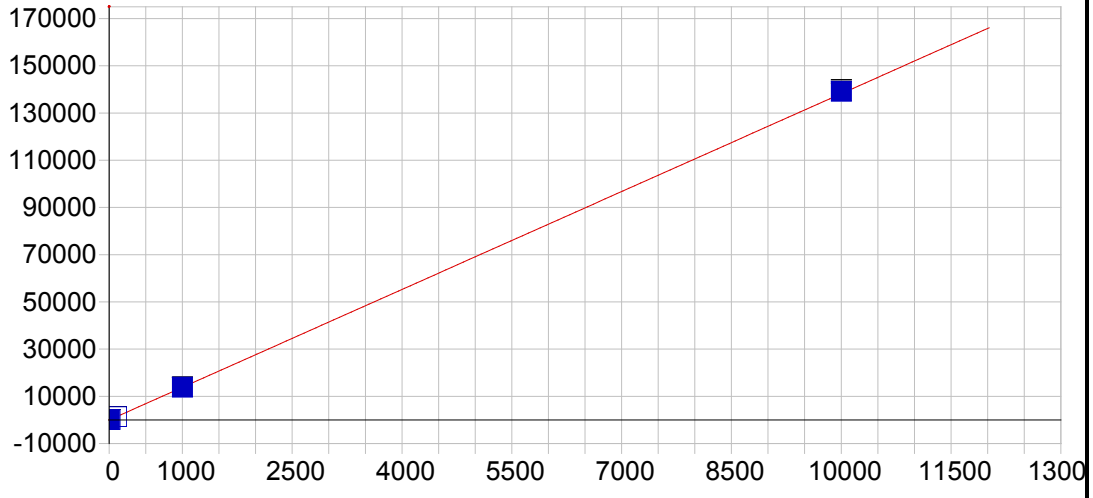



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999708 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.645616 | | |
| Predicted MQL: | 2.152054 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .45147 | .451 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.546 | -2.45 | -2.45 | .00035 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.4051 | -1.59 | -15.9 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1020.7 | 20.7 | 2.07 | .00353 | .000 | 1 |
| CalStd10=10 | 10000. | 10154. | 154. | 1.54 | .03499 | .000 | 1 |

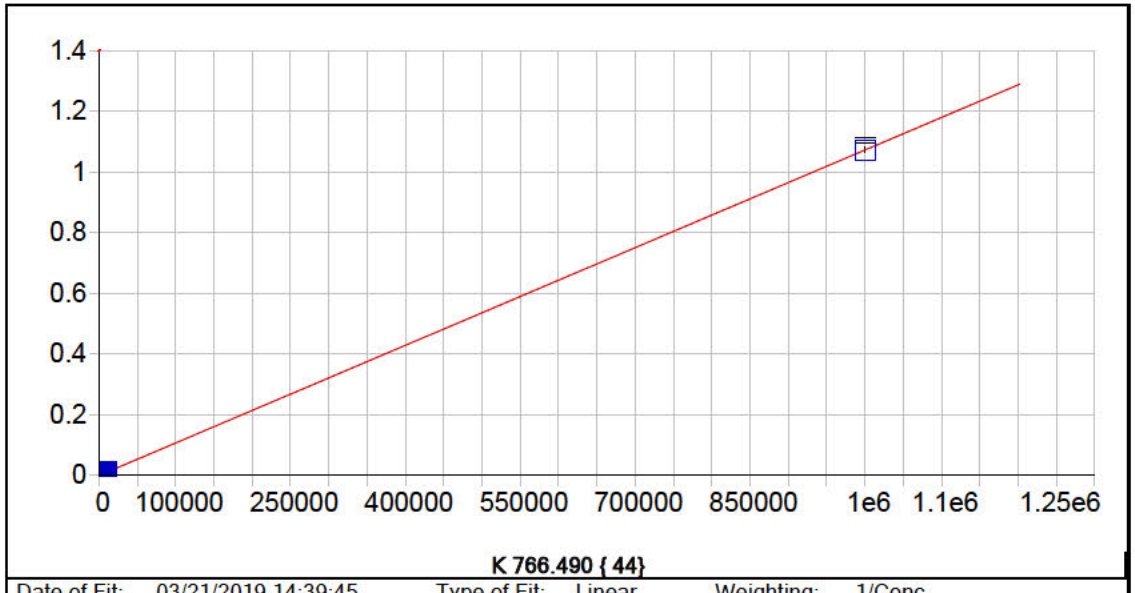



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -15.162715 | Re-Slope: | 1.000000 |
| A1 (Gain): | 13.821356 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999982 | Status: | OK. |
| Std Error of Est: | 6.704289 | | |
| Predicted MDL: | 0.910746 | | |
| Predicted MQL: | 3.035821 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .22294 | .223 | .000 | -12.081 | 12.8 | 1 |
| CalStd5=10 | 10.000 | 10.255 | .255 | 2.55 | 126.58 | 4.08 | 1 |
| CalStd8=100 | 100.00 | 99.742 | -.258 | -.258 | 1363.4 | 3.90 | 1 |
| CalStd9=100 | 1000.0 | 1003.2 | 3.16 | .316 | 13850. | 138. | 1 |
| CalStd10=10 | 10000. | 10069. | 68.9 | .689 | 139150. | 706. | 1 |

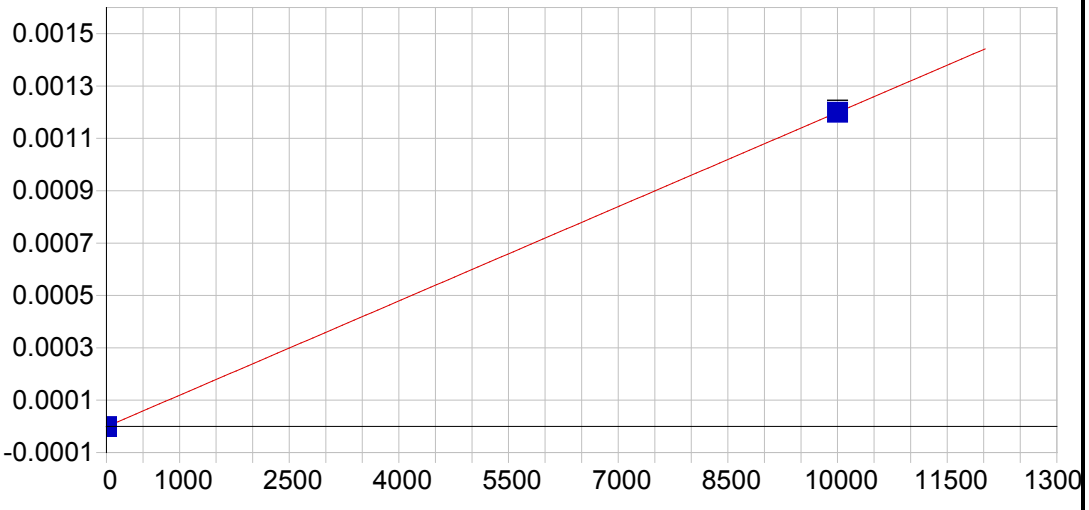



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000076 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 33.082740 | | |
| Predicted MQL: | 110.275801 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.43 | -11.6 | -1.16 | .00114 | .000 | 1 |
| CalStd10=10 | 10000. | 10112. | 112. | 1.12 | .01092 | .000 | 1 |
| CalibStd15= | 1000000. | 999900. | -101. | -.010 | 1.0727 | .009 | 1 |

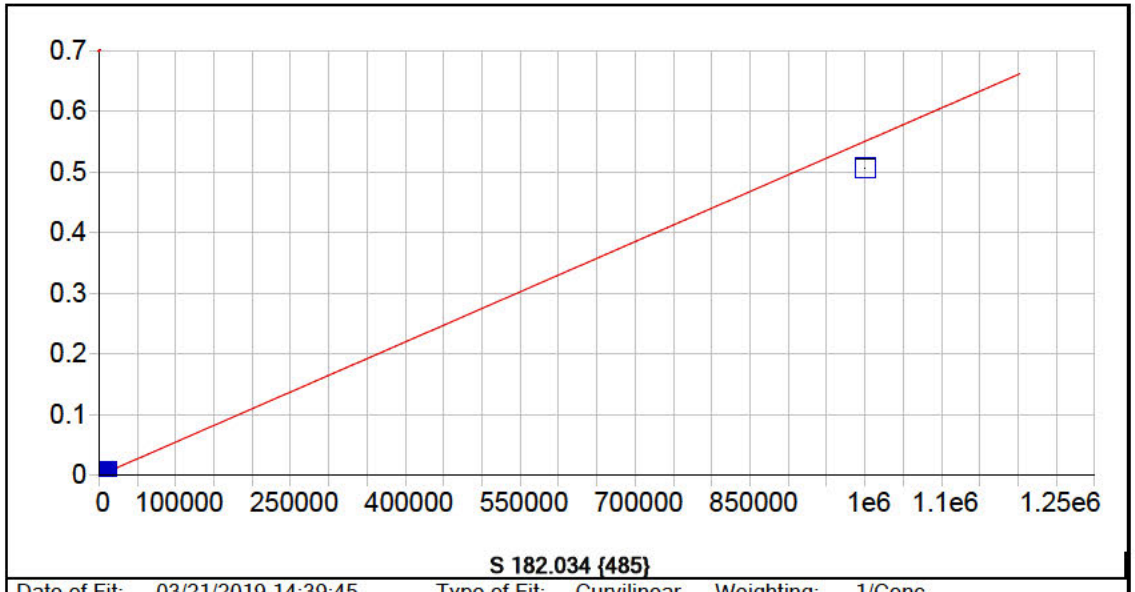



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.617499 | | |
| Predicted MQL: | 15.391662 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | -.000 | -.000 | .00120 | .000 | 1 |

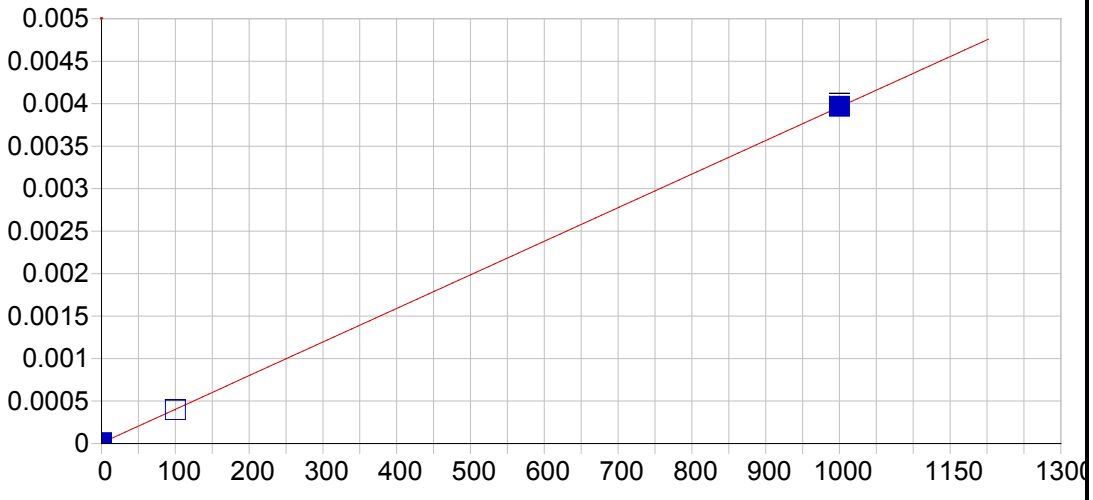



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.252313 | | |
| Predicted MQL: | 20.841043 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00043 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .398 | .040 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9991.5 | -8.51 | -.085 | .00552 | .000 | 1 |
| CalibStd15= | 1000000. | 919720. | -80300. | -8.03 | .50641 | .000 | 1 |

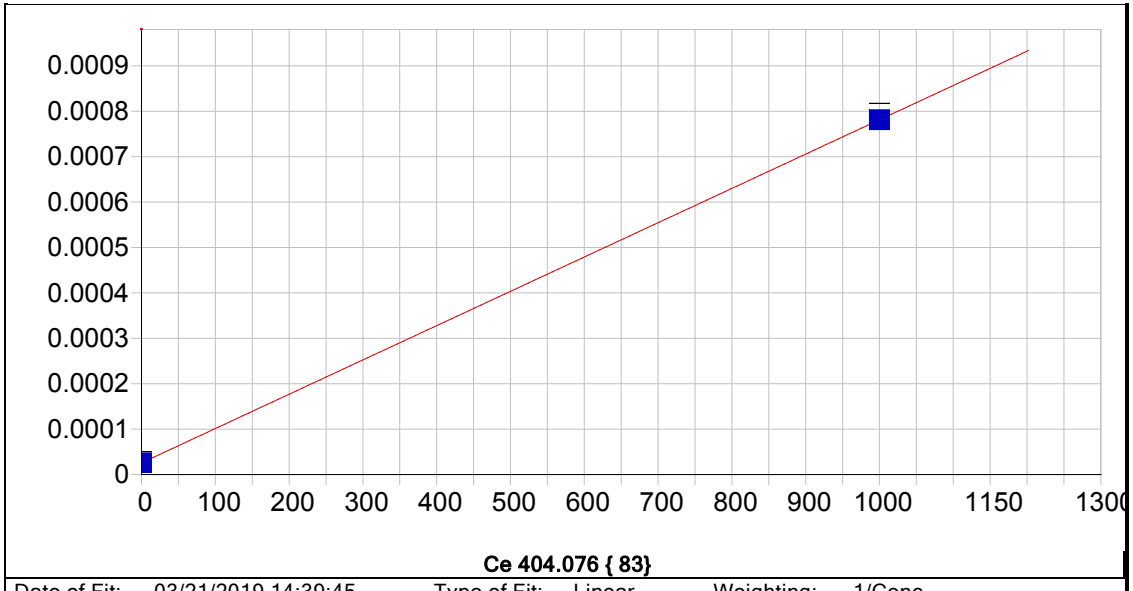



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.064074 | | |
| Predicted MQL: | 3.546914 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00156 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.266 | -1.73 | -1.73 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.7 | 1.73 | .173 | .00397 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/21/2019 14:39:45 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 20.334810 | | |
| Predicted MQL: | 67.782699 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00078 | .000 | 1 |

Sample Name: Blank Acquired: 03/20/2019 11:32:43 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.323** | **-.183** | **-.000** | **.007** | **-.000** | **-.000** | **.000** | **.003** | **-.000** |
| Stddev | .000 | .000 | .000 | .317 | .364 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 7.23 | 18.4 | 54.5 | 98.1 | 199. | 585. | .743 | 1.55 | 263. | 5.32 | 25.1 | 292. |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **13.5** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | 4.8 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 34.1 | 77.1 | 36.2 | 104. | 169. | 2.80 | 35.9 | 1.05 | 38.9 | 29.1 | 107. | 3.77 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 24.9 | 105. | 37.5 | 154. | 104. | 22.7 | 24.0 | 74.7 | 102. | 67.4 | 42.8 | 173. |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 56000. | 599. | 87.1 | 15.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112060.** | **1174800.** | **366360.** |
| Stddev | 447. | 5686. | 1652. |
| %RSD | .39873 | .48398 | .45093 |

Sample Name: CalStd2=0.5 Acquired: 03/20/2019 11:39:02 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.001** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .776 | 27.9 | 16.0 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **111700.** | **1162400.** |
| Stddev | 175. | 4751. |
| %RSD | .15667 | .40870 |

Sample Name: CalStd3=1 Acquired: 03/20/2019 11:45:34 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.5 | 34.1 | 1.68 | 31.0 | 12.3 | 14.7 | 45.1 | 73.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111760.** | **1175000.** | **362480.** |
| Stddev | 141. | 4869. | 4567. |
| %RSD | .12655 | .41433 | 1.2598 |

Sample Name: CalStd4=5 Acquired: 03/20/2019 11:51:49 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **9.66** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.82 | .000 | .000 | .000 | .000 |
| %RSD | 9.01 | .922 | 3.02 | 5.70 | 4.95 | 8.49 | 11.3 | 39.6 | 1.07 | 8.56 | 9.84 | 8.81 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 15.5 | 47.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111980.** | **1171000.** | **362570.** |
| Stddev | 269. | 1578. | 1826. |
| %RSD | .23984 | .13478 | .50355 |

Sample Name: CalStd5=10 Acquired: 03/20/2019 11:58:06 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.716** | **.648** | **.000** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .549 | .491 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 7.12 | 9.37 | 76.7 | 75.8 | 3.20 | .563 | 1.18 | .414 | 4.12 | 5.31 | 10.5 | 4.34 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **23.8** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 11.4 | .635 | 2.08 | 7.51 | 6.36 | 10.9 | 18.4 | 37.4 | 28.5 | 38.0 | 20.6 | 4.89 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.001** |
| Stddev | .000 | .000 |
| %RSD | 3.80 | .167 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111860.** | **1166900.** | **360920.** |
| Stddev | 190. | 5771. | 3937. |
| %RSD | .16955 | .49457 | 1.0907 |

Sample Name: CalStd6=20 Acquired: 03/20/2019 12:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **31.8** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | 7.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.12 | 3.01 | 22.6 | .859 | .812 | 1.68 | 18.9 | 2.31 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111960.** | **1169600.** | **362800.** |
| Stddev | 193. | 6255. | 2565. |
| %RSD | .17280 | .53481 | .70696 |

Sample Name: CalStd7=50 Acquired: 03/20/2019 12:10:34 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.68** | **3.81** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **.000** | **40.8** | **.001** | **.000** |
| Stddev | .58 | .58 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.9 | .000 | .000 |
| %RSD | 12.5 | 15.2 | 3.52 | .650 | .578 | .704 | .318 | 1.74 | 2.69 | 9.61 | .766 | .515 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .691 | 3.09 | 7.36 | 2.24 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110900.** | **1177100.** | **369800.** |
| Stddev | 300. | 6238. | 2190. |
| %RSD | .27061 | .52998 | .59209 |

Sample Name: CalStd8=100 Acquired: 03/20/2019 12:16:54 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **9.69** | **7.37** | **.001** | **.013** | **.008** | **.000** | **.015** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .07 | .43 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.09 | 1.87 | .709 | 5.84 | 1.14 | 1.56 | .567 | 1.78 | 1.66 | .414 | .247 | .578 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **.000** | **103.** | **.003** | **.001** | **.001** | **.001** | **.001** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | 3. | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.31 | .263 | .824 | 1.72 | 3.01 | .276 | .347 | .493 | .734 | .708 | 3.73 | 1.98 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.67 | 3.37 | 16.3 | 2.33 | 4.83 | 1.23 | .392 | .358 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111300.** | **1171900.** | **367020.** |
| Stddev | 427. | 6317. | 4738. |
| %RSD | .38357 | .53899 | 1.2910 |

Sample Name: CalStd9=1000 Acquired: 03/20/2019 12:23:05 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.002** | **98.7** | **75.9** | **.011** | **.067** | **.079** | **.003** | **.000** | **.135** | **.029** | **.051** |
| Stddev | .000 | .000 | .5 | .9 | .000 | .001 | .000 | .000 | .000 | .001 | .000 | .000 |
| %RSD | .228 | 1.27 | .535 | 1.13 | .887 | .886 | .377 | 1.14 | 1.33 | 1.02 | .962 | .791 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.016** | **.001** | **.016** | **.004** | **.003** | **932.** | **.001** | **.000** | **.001** | **.000** | **.033** | **.012** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 13. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .453 | .690 | 1.05 | .514 | .532 | 1.35 | .293 | 2.84 | .730 | 3.21 | .588 | .554 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.010** | **.006** | **.014** | **.002** | **.003** | **.002** | **.002** | **.001** | **.000** | **.003** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .950 | 1.04 | 1.04 | .792 | 1.01 | .947 | 1.00 | .697 | 1.42 | 1.59 | 1.13 | 1.01 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.013** | **.049** |
| Stddev | .000 | .000 | .000 |
| %RSD | .619 | .797 | .869 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110490.** | **1175700.** | **367650.** |
| Stddev | 344. | 2659. | 1667. |
| %RSD | .31134 | .22612 | .45355 |

Sample Name: CalStd10=10000 Acquired: 03/20/2019 12:28:49 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.016** | **752.** | **.389** | **.003** | **.768** | **.157** | **.012** | **.158** | **.035** | **.026** | **6300.** | **.005** |
| Stddev | .000 | 3. | .011 | .000 | .011 | .001 | .000 | .000 | .000 | .001 | 37. | .000 |
| %RSD | 2.12 | .377 | 2.95 | 1.78 | 1.48 | .608 | .350 | .053 | .939 | 2.11 | .585 | .871 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.014** | **.000** | **.302** | **.111** | **.050** | **.054** | **.133** | **.015** | **.017** | **.015** | **.001** |
| Stddev | .000 | .000 | .000 | .008 | .001 | .001 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.08 | 1.86 | 1.60 | 2.69 | .749 | 1.95 | .438 | .240 | .367 | .928 | 1.17 | 1.14 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.016** | **.013** | **.046** | **.130** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .846 | 2.04 | .436 | .365 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109150.** | **1150600.** | **365890.** |
| Stddev | 514. | 5485. | 5992. |
| %RSD | .47061 | .47670 | 1.6377 |

Sample Name: CalStd12=100K Acquired: 03/20/2019 12:35:32 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **.249** | **60200.** | **.463** | **.149** | **1.15** |
| Stddev | .01 | .002 | 283. | .005 | .002 | .01 |
| %RSD | .736 | .742 | .470 | 1.19 | 1.10 | .618 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108950.** | **1160100.** | **367260.** |
| Stddev | 696. | 2261. | 2240. |
| %RSD | .63840 | .19489 | .60998 |

Sample Name: CalStd13=100000 Acquired: 03/20/2019 12:41:51 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.145** | **.025** | **.045** | **.040** | **.128** | **.004** |
| Stddev | .001 | .000 | .001 | .000 | .001 | .000 |
| %RSD | 1.00 | 1.02 | 2.07 | .890 | .925 | .879 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107330.** | **1136200.** | **368190.** |
| Stddev | 201. | 6152. | 2019. |
| %RSD | .18734 | .54146 | .54846 |

Sample Name: CalStd14=500000 Acquired: 03/20/2019 12:48:10 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.750** | **.123** | **.189** | **.599** | **.023** |
| Stddev | .006 | .001 | .001 | .005 | .000 |
| %RSD | .853 | .694 | .424 | .815 | .589 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **99571.** | **351080.** |
| Stddev | 159. | 1404. |
| %RSD | .15968 | .39996 |

Sample Name: CalibStd15=1000k Acquired: 03/20/2019 12:55:05 Type: Cal
Method: DOD Calibration Updated 060614(v3269) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.54** | **.244** | **.356** | **.046** |
| Stddev | .02 | .001 | .002 | .000 |
| %RSD | 1.04 | .431 | .422 | .318 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **89410.** | **326050.** |
| Stddev | 154. | 1713. |
| %RSD | .17267 | .52526 |

Sample Name: icv Acquired: 03/20/2019 13:08:54 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.6** | **11600.** | **1900.** | **1940.** | **1920.** | **46.8** | **46.8** | **9830.** | **46.0** | **54.6** | **494.** | **191.** |
| Stddev | .6 | 193. | 7. | 5. | 34. | .2 | .7 | 29. | .2 | .1 | 2. | 2. |
| %RSD | 1.23 | 1.66 | .347 | .232 | 1.76 | .341 | 1.56 | .299 | .402 | .253 | .431 | 1.15 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **238.** | **4740.** | **4860.** | **9960.** | **500.** | **485.** | **496.** | **484.** | **465.** | **462.** | **480.** | **481.** |
| Stddev | 2. | 29. | 36. | 16. | 3. | 1. | 2. | 1. | 4. | 3. | 3. | 1. |
| %RSD | .977 | .606 | .750 | .165 | .590 | .110 | .311 | .200 | .941 | .711 | .662 | .144 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Avg | **1960.** | **1960.** | **467.** | **484.** | **486.** | **467.** |
| Stddev | 7. | 6. | 6. | 2. | 1. | . |
| %RSD | .378 | .289 | 1.39 | .359 | .261 | .041 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

Sample Name: icv Acquired: 03/20/2019 13:08:54 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110540.** | **1169300.** | **366610.** |
| Stddev | 262. | 2966. | 2385. |
| %RSD | .23701 | .25366 | .65043 |

Sample Name: ICVLL Acquired: 03/20/2019 13:21:24 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **32.3** | **1180.** | **1260.** | **61.4** | **28.9** | **11.7** | **11.4** | **1460.** | **14.9** | **15.1** | **29.5** | **30.7** |
| Stddev | .6 | 4. | 10. | 5.0 | .3 | .2 | .4 | 9. | .2 | .1 | .2 | 1.2 |
| %RSD | 1.96 | .335 | .795 | 8.13 | 1.05 | 1.41 | 3.64 | .630 | 1.06 | .623 | .541 | 4.03 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **31.4** | **911.** | **1520.** | **33.3** | **31.5** | **30.7** | **29.9** | **63.0** | **56.9** | **59.4** | **30.2** | **29.5** |
| Stddev | 3.3 | 9. | 22. | .5 | .4 | .5 | 3.2 | 3.3 | 11.8 | 1.2 | .4 | .1 |
| %RSD | 10.4 | 1.01 | 1.44 | 1.60 | 1.18 | 1.53 | 10.8 | 5.30 | 20.7 | 1.95 | 1.47 | .248 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **109980.** | **1169700.** | **368080.** |
| Stddev | 123. | 8167. | 1309. |
| %RSD | .11195 | .69817 | .35575 |

Sample Name: icb Acquired: 03/20/2019 13:27:31 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.427** | **.963** | **-1.19** | **.193** | **.049** | **-.098** | **-14.3** | **-.050** | **.042** | **.033** | **-.176** | **-.905** |
| Stddev | .872 | .827 | 4.26 | .244 | .045 | .615 | 1.6 | .184 | .092 | .283 | .358 | 2.33 |
| %RSD | 205. | 85.8 | 359. | 127. | 91.7 | 626. | 11.0 | 370. | 219. | 862. | 204. | 258. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.70** | **-3.10** | **-.269** | **.976** | **-.327** | **-1.94** | **-1.99** | **-.630** | **-.599** | **-.549** | **-.430** |
| Stddev | 1.80 | .08 | .011 | .379 | .476 | 1.25 | 3.83 | 10.3 | 1.62 | .293 | .077 |
| %RSD | 106. | 2.69 | 4.19 | 38.8 | 146. | 64.7 | 193. | 1640. | 270. | 53.5 | 17.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110900.** | **1178200.** | **367520.** |
| Stddev | 287. | 7661. | 3155. |
| %RSD | .25910 | .65024 | .85857 |

Sample Name: MRL/LLOQ Acquired: 03/20/2019 13:39:42 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.9** | **396.** | **18.5** | **9.66** | **3.86** | **3.69** | **465.** | **4.96** | **4.80** | **9.47** | **9.79** | **12.9** |
| Stddev | .3 | 3. | 1.2 | .24 | .05 | .82 | 12. | .26 | .17 | .42 | .86 | 3.7 |
| %RSD | 2.62 | .799 | 6.60 | 2.47 | 1.37 | 22.3 | 2.50 | 5.23 | 3.51 | 4.46 | 8.79 | 28.4 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **294.** | **499.** | **10.2** | **10.3** | **9.72** | **11.9** | **19.4** | **19.9** | **17.0** | **9.24** | **9.95** |
| Stddev | 5. | 5. | .2 | .3 | .40 | 2.5 | 1.5 | 7.0 | 2.4 | .54 | .05 |
| %RSD | 1.59 | 1.00 | 2.20 | 3.38 | 4.10 | 21.2 | 7.84 | 35.2 | 14.1 | 5.79 | .529 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110880.** | **1178900.** | **369100.** |
| Stddev | 82. | 8078. | 4765. |
| %RSD | .07369 | .68522 | 1.2909 |

Sample Name: ICSA Acquired: 03/20/2019 13:45:54 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.388** | **529000.** | **1.95** | **.000** | **-.485** | **-.000** | **507000.** | **.003** | **.671** | **1.40** | **-1.86** |
| Stddev | 1.48 | 13100. | 12.7 | .399 | .029 | .611 | 1220. | .634 | .182 | .25 | 1.16 |
| %RSD | 381. | 2.49 | 649. | 246000. | 6.08 | 2890000. | .241 | 19300. | 27.1 | 18.0 | 62.5 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4.86** | **506000.** | **505000.** | **-2.09** | **-1.13** | **-.744** | **1.27** | **-7.95** | **.003** | **-.059** | **9680.** |
| Stddev | 3.20 | 1740. | 2190. | .14 | .58 | .861 | 5.06 | 9.69 | 8.78 | 2.91 | 29. |
| %RSD | 65.8 | .344 | .433 | 6.72 | 51.8 | 116. | 399. | 122. | 251000. | 4940. | .299 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **-1.13** |
| Stddev | .44 |
| %RSD | 38.9 |
| Check ? | Chk Pass |
| High Limit | |
| Low Limit | |

Sample Name: ICSA Acquired: 03/20/2019 13:45:54 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **98833.** | **1060700.** | **348290.** |
| Stddev | 150. | 3613. | 1183. |
| %RSD | .15220 | .34060 | .33976 |

Sample Name: ICSAB Acquired: 03/20/2019 13:52:43 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **454.** | **527000.** | **568.** | **472.** | **465.** | **516.** | **506000.** | **501.** | **465.** | **477.** | **484.** |
| Stddev | 2. | 6500. | 12. | 2. | 4. | 2. | 3160. | 1. | 2. | 3. | 10. |
| %RSD | .428 | 1.23 | 2.14 | .349 | .753 | .442 | .625 | .219 | .330 | .582 | 2.05 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **511000.** | **501000.** | **504.** | **477.** | **493.** | **450.** | **430.** | **454.** | **496.** | **493.** | **489.** |
| Stddev | 1840. | 2610. | 2. | 2. | 2. | 1. | 7. | 4. | 6. | 6. | 7. |
| %RSD | .360 | .520 | .446 | .424 | .330 | .248 | 1.59 | .859 | 1.20 | 1.24 | 1.34 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **481.** | **533.** | **478.** | **481.** |
| Stddev | 9. | 3. | 2. | 1. |
| %RSD | 1.93 | .562 | .315 | .223 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | |
| Range | | | | |

Sample Name: ICSAB Acquired: 03/20/2019 13:52:43 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **99150.** | **1052800.** | **350120.** |
| Stddev | 140. | 5371. | 1623. |
| %RSD | .14169 | .51014 | .46364 |

Sample Name: icvLL ag  Acquired: 03/20/2019 14:05:11  Type: Unk
Method: DOD Calibration Updated 060614(v3269)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.81** | **-.414** | **-2.03** | **-.321** | **.051** | **-.057** | **-8.10** | **.126** | **-.061** | **-.059** | **-.439** | **1.29** |
| Stddev | .58 | 1.07 | .59 | .185 | .040 | .477 | 1.72 | .182 | .208 | .295 | .632 | 3.14 |
| %RSD | 5.91 | 258. | 28.9 | 57.6 | 79.2 | 835. | 21.2 | 145. | 343. | 504. | 144. | 243. |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.56** | **-4.54** | **-.045** | **.504** | **-.176** | **-.632** | **-2.50** | **-4.49** | **-.906** | **-.751** | **-.423** |
| Stddev | 3.80 | .22 | .125 | .422 | .244 | 2.08 | 1.42 | 3.98 | .781 | .861 | .033 |
| %RSD | 83.4 | 4.72 | 275. | 83.8 | 138. | 330. | 56.7 | 88.6 | 86.2 | 115. | 7.84 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110670.** | **1173700.** | **371540.** |
| Stddev | 297. | 6689. | 4070. |
| %RSD | .26832 | .56994 | 1.0954 |

Sample Name: ccv1 Acquired: 03/20/2019 15:06:58 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **407.** | **5010.** | **4670.** | **4650.** | **471.** | **4840.** | **474.** | **4620.** | **4670.** | **4710.** | **4580.** | **4810.** |
| Stddev | 3. | 132. | 9. | 19. | 6. | 26. | . | 44. | 5. | 17. | 36. | 26. |
| %RSD | .820 | 2.63 | .199 | .402 | 1.17 | .540 | .068 | .950 | .100 | .368 | .775 | .531 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4890.** | **4980.** | **4640.** | **4600.** | **4570.** | **4610.** | **4660.** | **4620.** | **4600.** | **4800.** | **4540.** |
| Stddev | 75. | 34. | 2. | 1. | 3. | 6. | 21. | 7. | 21. | 9. | 3. |
| %RSD | 1.53 | .674 | .047 | .020 | .074 | .137 | .459 | .156 | .455 | .185 | .061 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110030.** | **1155800.** | **367570.** |
| Stddev | 145. | 7950. | 1967. |
| %RSD | .13215 | .68780 | .53510 |

Sample Name: ccv2 Acquired: 03/20/2019 15:12:38 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.3** | **470.** | **487.** | **478.** | **481.** | **50.3** | **49.2** | **458.** | **49.6** | **51.0** | **481.** | **484.** |
| Stddev | .7 | 4. | 5. | 1. | 4. | .2 | .5 | 3. | .3 | .3 | 1. | 3. |
| %RSD | 1.41 | .851 | 1.04 | .287 | .857 | .357 | 1.02 | .729 | .686 | .534 | .248 | .588 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **490.** | **478.** | **488.** | **499.** | **481.** | **487.** | **489.** | **487.** | **478.** | **483.** | **474.** | **467.** |
| Stddev | 5. | 2. | 3. | 3. | 1. | 1. | 1. | 8. | 2. | 3. | 4. | 14. |
| %RSD | .957 | .512 | .590 | .645 | .281 | .277 | .228 | 1.59 | .476 | .636 | .935 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **505.** | **471.** | **481.** | **499.** | **476.** |
| Stddev | 3. | 8. | 4. | 1. | . |
| %RSD | .561 | 1.68 | .771 | .155 | .074 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 03/20/2019 15:12:38 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111520.** | **1170800.** | **374250.** |
| Stddev | 318. | 5050. | 4226. |
| %RSD | .28547 | .43132 | 1.1293 |

Sample Name: ccb Acquired: 03/20/2019 15:18:23 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.696** | **-4.39** | **1.63** | **.484** | **-.022** | **-.820** | **-19.2** | **-.018** | **.005** | **.335** | **-.003** | **3.54** |
| Stddev | .639 | 1.01 | 2.93 | .237 | .063 | .242 | .6 | .065 | .102 | .590 | .280 | 4.58 |
| %RSD | 91.9 | 23.0 | 180. | 49.1 | 288. | 29.5 | 3.17 | 362. | 2250. | 176. | 10200. | 130. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.12** | **-7.82** | **.060** | **2.66** | **.219** | **-1.19** | **.573** | **-7.36** | **-.926** | **-.509** | **-.171** |
| Stddev | 1.71 | .06 | .087 | .35 | .230 | .21 | 4.76 | 5.11 | 1.78 | .340 | .170 |
| %RSD | 21.1 | .705 | 144. | 13.2 | 105. | 17.7 | 830. | 69.4 | 192. | 66.8 | 99.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111400.** | **1169700.** | **376430.** |
| Stddev | 243. | 9761. | 2464. |
| %RSD | .21797 | .83449 | .65452 |

Sample Name: lcss71092 Acquired: 03/20/2019 15:42:10 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **81.6** | **633.** | **1850.** | **1840.** | **171.** | **171.** | **-.040** | **-.191** | **19200.** | **.102** | **7.67** | **.704** |
| Stddev | 1.3 | 4. | 6. | 6. | 1. | 5. | .030 | .488 | 201. | .086 | .08 | .145 |
| %RSD | 1.58 | .615 | .311 | .313 | .587 | 2.65 | 74.6 | 256. | 1.05 | 84.9 | 1.06 | 20.6 |

| Elem | Cr2677 | Cu3273 | Fe2343 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **101.** | **87.2** | **8610.** | **8970.** | **6230.** | **1980.** | **2070.** | **3.02** | **24.1** | **15.9** | **1.14** | **2.81** |
| Stddev | 1. | 4.3 | 58. | 113. | 86. | 10. | 23. | .07 | .3 | 2.5 | .74 | 7.95 |
| %RSD | .535 | 4.98 | .671 | 1.25 | 1.38 | .488 | 1.10 | 2.17 | 1.41 | 15.9 | 64.8 | 283. |

| Elem | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **1.38** | **1.12** | **123.** |
| Stddev | 1.06 | 1.30 | . |
| %RSD | 76.5 | 115. | .118 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109740.** | **1151800.** | **368440.** |
| Stddev | 84. | 7490. | 5624. |
| %RSD | .07635 | .65026 | 1.5264 |

Sample Name: mbs71092 Acquired: 03/20/2019 15:48:42 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **90.8** | **2600.** | **7.20** | **467.** | **474.** | **-.065** | **.184** | **31900.** | **.180** | **.461** | **.849** | **66.0** |
| Stddev | .8 | 30. | 2.97 | 2. | 6. | .031 | .936 | 511. | .172 | .103 | .236 | 1.6 |
| %RSD | .865 | 1.17 | 41.3 | .425 | 1.17 | 47.7 | 509. | 1.60 | 95.9 | 22.3 | 27.8 | 2.49 |

| Elem | Cu3273 | Fe2343 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **101.** | **13600.** | **14200.** | **7130.** | **207.** | **-.243** | **18.0** | **22.6** | **.465** | **7.10** | **-.186** | **6.37** |
| Stddev | 3. | 126. | 183. | 99. | 2. | .014 | .7 | 2.4 | 3.22 | 4.84 | 2.20 | .35 |
| %RSD | 3.05 | .928 | 1.28 | 1.39 | .758 | 5.57 | 3.71 | 10.5 | 694. | 68.2 | 1190. | 5.51 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **175.** |
| Stddev | 1. |
| %RSD | .335 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108200.** | **1128000.** | **363990.** |
| Stddev | 296. | 1069. | 3511. |
| %RSD | .27368 | .09479 | .96467 |

Sample Name: 251135 Acquired: 03/20/2019 15:55:09 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.36** | **280000.** | **259.** | **2070.** | **59.8** | **125000.** | **15.4** | **151.** | **606.** | **695.** | **437000.** |
| Stddev | 1.82 | 3250. | 13. | 23. | .8 | 1960. | .8 | 1. | 2. | 8. | 5290. |
| %RSD | 77.0 | 1.16 | 5.02 | 1.10 | 1.26 | 1.57 | 5.46 | .336 | .391 | 1.13 | 1.21 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **58500.** | **41200.** | **9.50** | **388.** | **1020.** | **-8.03** | **9.81** | **95.5** | **842.** | **902.** | **1710.** |
| Stddev | 887. | 507. | .84 | 1. | 12. | 2.27 | 4.85 | 2.3 | 12. | 5. | 4. |
| %RSD | 1.51 | 1.23 | 8.87 | .383 | 1.16 | 28.3 | 49.4 | 2.44 | 1.36 | .586 | .226 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1590.** |
| Stddev | 1. |
| %RSD | .061 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106050.** | **1098700.** | **359290.** |
| Stddev | 316. | 2821. | 2261. |
| %RSD | .29752 | .25679 | .62918 |

Sample Name: 251136 Acquired: 03/20/2019 16:01:24 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.056** | **97300.** | **540.** | **1300.** | **29.3** | **12500.** | **21.9** | **67.1** | **297.** | **2320.** | **194000.** |
| Stddev | .603 | 1810. | 8. | 31. | .3 | 189. | .6 | .6 | 2. | 35. | 2870. |
| %RSD | 1080. | 1.86 | 1.55 | 2.37 | 1.16 | 1.51 | 2.80 | .957 | .550 | 1.52 | 1.48 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9140.** | **35700.** | **12.3** | **173.** | **2180.** | **3.58** | **6.61** | **54.3** | **315.** | **344.** | **2470.** |
| Stddev | 184. | 477. | .1 | 1. | 12. | 4.67 | 15.3 | 2.1 | 3. | 2. | 2. |
| %RSD | 2.01 | 1.34 | 1.22 | .504 | .561 | 130. | 232. | 3.94 | 1.09 | .676 | .064 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **2270.** |
| Stddev | 5. |
| %RSD | .201 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109110.** | **1146300.** | **365760.** |
| Stddev | 147. | 4029. | 4110. |
| %RSD | .13430 | .35146 | 1.1237 |

Sample Name: 251137 Acquired: 03/20/2019 16:07:48 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.09** | **108000.** | **311.** | **2020.** | **28.7** | **10200.** | **26.9** | **68.5** | **321.** | **1820.** | **176000.** |
| Stddev | .46 | 583. | 6. | 15. | .2 | 156. | .5 | .7 | 6. | 3. | 1860. |
| %RSD | 41.9 | .539 | 1.78 | .727 | .646 | 1.52 | 1.92 | .950 | 2.00 | .188 | 1.05 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9300.** | **47400.** | **15.0** | **159.** | **3930.** | **7.64** | **7.40** | **62.3** | **356.** | **373.** | **2640.** |
| Stddev | 57. | 384. | .5 | 1. | 13. | 4.21 | 6.09 | 4.1 | 4. | 7. | 3. |
| %RSD | .610 | .810 | 3.24 | .373 | .320 | 55.1 | 82.4 | 6.51 | 1.03 | 1.82 | .119 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **2420.** |
| Stddev | 8. |
| %RSD | .314 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109260.** | **1152200.** | **364240.** |
| Stddev | 192. | 21047. | 2627. |
| %RSD | .17537 | 1.8267 | .72115 |

Sample Name: 251138 Acquired: 03/20/2019 16:14:11 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.86** | **263000.** | **175.** | **1850.** | **64.1** | **67600.** | **10.9** | **136.** | **498.** | **422.** | **463000.** |
| Stddev | .96 | 2920. | 10. | 17. | .6 | 768. | .6 | 1. | 3. | 10. | 4700. |
| %RSD | 24.9 | 1.11 | 5.72 | .902 | .991 | 1.14 | 5.63 | .833 | .622 | 2.33 | 1.01 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **40200.** | **18300.** | **-.271** | **292.** | **566.** | **721.** | **-15.7** | **3.18** | **83.8** | **734.** | **802.** |
| Stddev | 463. | 192. | .329 | 1. | 11. | 5. | 6.6 | 5.02 | 4.5 | 6. | 1. |
| %RSD | 1.15 | 1.05 | 121. | .227 | 2.01 | .697 | 42.2 | 158. | 5.38 | .775 | .074 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1000.** | **902.** |
| Stddev | 3. | 7. |
| %RSD | .261 | .779 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107610.** | **1111700.** | **365500.** |
| Stddev | 365. | 1855. | 836. |
| %RSD | .33888 | .16683 | .22883 |

Sample Name: 251139 Acquired: 03/20/2019 16:20:42 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.633** | **103000.** | **189.** | **1350.** | **27.3** | **16000.** | **25.3** | **62.6** | **417.** | **1650.** | **171000.** |
| Stddev | .755 | 751. | 8. | 13. | .1 | 119. | .2 | .3 | 1. | 17. | 671. |
| %RSD | 119. | .732 | 4.07 | .928 | .420 | .742 | .790 | .404 | .193 | 1.02 | .393 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **12300.** | **30900.** | **11.3** | **170.** | **2130.** | **6.50** | **6.31** | **45.0** | **330.** | **349.** | **2880.** |
| Stddev | 83. | 196. | .7 | 1. | 9. | 4.34 | 6.57 | 5.4 | 2. | 2. | 3. |
| %RSD | .677 | .634 | 6.18 | .611 | .416 | 66.8 | 104. | 12.1 | .702 | .582 | .097 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **2630.** |
| Stddev | 5. |
| %RSD | .172 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109780.** | **1144900.** | **365610.** |
| Stddev | 288. | 1369. | 6098. |
| %RSD | .26259 | .11955 | 1.6678 |

Sample Name: ccv1 Acquired: 03/20/2019 16:27:05 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **407.** | **4900.** | **4720.** | **4620.** | **477.** | **4920.** | **473.** | **4630.** | **4690.** | **4690.** | **4650.** | **4880.** |
| Stddev | 4. | 34. | 10. | 30. | 5. | 61. | 1. | 32. | 11. | 36. | 27. | 64. |
| %RSD | 1.08 | .698 | .208 | .656 | 1.00 | 1.24 | .252 | .690 | .232 | .762 | .580 | 1.31 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4880.** | **5050.** | **4620.** | **4600.** | **4560.** | **4600.** | **4660.** | **4610.** | **4650.** | **4820.** | **4530.** |
| Stddev | 73. | 59. | 8. | 8. | 13. | 11. | 27. | 15. | 53. | 7. | 9. |
| %RSD | 1.50 | 1.17 | .178 | .165 | .293 | .229 | .588 | .321 | 1.15 | .141 | .191 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110990.** | **1146400.** | **368590.** |
| Stddev | 137. | 4367. | 3254. |
| %RSD | .12307 | .38088 | .88272 |

Sample Name: ccv2 Acquired: 03/20/2019 16:32:45 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.3** | **468.** | **489.** | **481.** | **484.** | **51.1** | **50.9** | **460.** | **50.0** | **51.1** | **477.** | **489.** |
| Stddev | .6 | 1. | 3. | 1. | 7. | .2 | 1.1 | 6. | .1 | .3 | 1. | 2. |
| %RSD | 1.12 | .208 | .634 | .176 | 1.48 | .336 | 2.15 | 1.36 | .290 | .665 | .124 | .464 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **488.** | **483.** | **492.** | **501.** | **482.** | **486.** | **490.** | **491.** | **478.** | **483.** | **469.** | **469.** |
| Stddev | 9. | 5. | 3. | 4. | 2. | 2. | 1. | 4. | 1. | 1. | 5. | 6. |
| %RSD | 1.82 | 1.05 | .668 | .736 | .420 | .404 | .161 | .865 | .287 | .173 | .972 | 1.21 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **505.** | **488.** | **481.** | **504.** | **478.** |
| Stddev | 2. | 6. | 5. | 3. | . |
| %RSD | .479 | 1.29 | .977 | .517 | .096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 03/20/2019 16:32:45 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112240.** | **1164500.** | **371270.** |
| Stddev | 206. | 7891. | 2117. |
| %RSD | .18393 | .67760 | .57010 |

Sample Name: ccb Acquired: 03/20/2019 16:38:30 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.073** | **-3.69** | **2.75** | **.576** | **-.077** | **-.186** | **-18.6** | **.108** | **.011** | **.562** | **.827** | **-.777** |
| Stddev | .536 | .62 | 2.28 | .168 | .043 | .447 | .7 | .182 | .126 | .252 | .404 | 4.59 |
| %RSD | 729. | 16.8 | 82.7 | 29.2 | 54.9 | 240. | 3.71 | 169. | 1090. | 44.9 | 48.9 | 591. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-6.38** | **-7.33** | **.176** | **2.82** | **-.089** | **-.354** | **-2.11** | **-2.98** | **-1.28** | **-.232** | **-.113** |
| Stddev | .80 | .09 | .105 | .46 | .366 | 3.27 | 1.73 | 4.12 | .36 | .769 | .165 |
| %RSD | 12.6 | 1.26 | 59.5 | 16.4 | 410. | 922. | 82.0 | 138. | 28.2 | 332. | 146. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112400.** | **1172200.** | **373930.** |
| Stddev | 278. | 5697. | 2990. |
| %RSD | .24758 | .48599 | .79965 |

Sample Name: 251140 Acquired: 03/20/2019 16:44:46 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.335** | **112000.** | **295.** | **1290.** | **29.7** | **17300.** | **22.9** | **69.1** | **268.** | **1140.** | **191000.** |
| Stddev | .822 | 1030. | 7. | 11. | .3 | 202. | .5 | .7 | 2. | 13. | 2340. |
| %RSD | 245. | .921 | 2.43 | .814 | .959 | 1.17 | 2.12 | 1.04 | .737 | 1.10 | 1.22 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8940.** | **17800.** | **7.22** | **169.** | **1340.** | **1.05** | **3.96** | **42.2** | **327.** | **348.** | **1900.** |
| Stddev | 92. | 217. | .23 | 1. | 18. | 3.88 | 5.85 | 6.3 | 6. | 4. | 17. |
| %RSD | 1.03 | 1.22 | 3.24 | .502 | 1.33 | 368. | 148. | 14.8 | 1.91 | 1.20 | .871 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1730.** |
| Stddev | 12. |
| %RSD | .713 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109300.** | **1133000.** | **366630.** |
| Stddev | 511. | 6998. | 3001. |
| %RSD | .46712 | .61760 | .81842 |

Sample Name: 251141 Acquired: 03/20/2019 16:51:13 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.596** | **106000.** | **181.** | **1110.** | **27.0** | **6700.** | **14.3** | **57.9** | **449.** | **853.** | **174000.** |
| Stddev | .515 | 1660. | 7. | 14. | .3 | 100. | .3 | .6 | 3. | 16. | 2390. |
| %RSD | 86.4 | 1.56 | 3.72 | 1.30 | 1.21 | 1.49 | 2.17 | 1.08 | .563 | 1.82 | 1.37 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8050.** | **14800.** | **9.91** | **169.** | **3290.** | **-2.09** | **7.74** | **38.3** | **308.** | **322.** | **1420.** |
| Stddev | 117. | 232. | .78 | . | 13. | 4.64 | 9.59 | 2.3 | 9. | 1. | 4. |
| %RSD | 1.46 | 1.57 | 7.88 | .128 | .407 | 222. | 124. | 6.00 | 2.85 | .240 | .302 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1280.** |
| Stddev | 6. |
| %RSD | .463 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110000.** | **1149300.** | **369400.** |
| Stddev | 395. | 5683. | 2913. |
| %RSD | .35942 | .49442 | .78858 |

Sample Name: 1dup251141 Acquired: 03/20/2019 16:57:39 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.761** | **100000.** | **174.** | **1050.** | **27.6** | **6730.** | **14.5** | **56.4** | **258.** | **697.** | **179000.** |
| Stddev | .514 | 930. | 5. | 9. | .3 | 143. | .8 | .6 | 1. | 7. | 2800. |
| %RSD | 67.5 | .927 | 3.01 | .862 | .941 | 2.12 | 5.55 | 1.00 | .507 | 1.03 | 1.56 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7580.** | **14400.** | **5.53** | **149.** | **3380.** | **1.36** | **4.73** | **39.1** | **317.** | **334.** | **1370.** |
| Stddev | 116. | 209. | .79 | . | 3. | 1.65 | 8.33 | 5.5 | 3. | 5. | 2. |
| %RSD | 1.53 | 1.45 | 14.2 | .245 | .085 | 121. | 176. | 14.1 | .919 | 1.64 | .117 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1230.** |
| Stddev | 3. |
| %RSD | .225 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110170.** | **1149600.** | **369370.** |
| Stddev | 162. | 2746. | 3201. |
| %RSD | .14667 | .23883 | .86660 |

Sample Name: 2dup251141 Acquired: 03/20/2019 17:04:05 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.356** | **96800.** | **159.** | **1000.** | **26.8** | **6410.** | **13.6** | **53.2** | **201.** | **743.** | **178000.** |
| Stddev | .401 | 894. | 3. | 10. | .3 | 66. | .5 | .5 | 1. | 7. | 1950. |
| %RSD | 113. | .924 | 2.15 | .961 | .976 | 1.03 | 3.93 | .979 | .542 | .876 | 1.10 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7370.** | **13700.** | **5.48** | **140.** | **2850.** | **1.40** | **.690** | **36.2** | **276.** | **289.** | **1290.** |
| Stddev | 75. | 179. | .43 | 1. | 13. | 2.08 | 5.00 | 1.3 | 2. | 2. | 4. |
| %RSD | 1.01 | 1.30 | 7.82 | .640 | .449 | 148. | 724. | 3.53 | .559 | .750 | .343 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1150.** |
| Stddev | 1. |
| %RSD | .110 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110590.** | **1151200.** | **368470.** |
| Stddev | 402. | 2227. | 1950. |
| %RSD | .36368 | .19340 | .52907 |

Sample Name: 251142 Acquired: 03/20/2019 17:10:33 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.570** | **115000.** | **134.** | **1190.** | **28.7** | **13300.** | **13.0** | **59.1** | **282.** | **660.** | **186000.** |
| Stddev | .699 | 773. | 5. | 6. | .3 | 262. | .2 | .3 | 3. | 3. | 2120. |
| %RSD | 123. | .672 | 3.59 | .468 | .933 | 1.97 | 1.37 | .446 | 1.11 | .382 | 1.14 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **12300.** | **17600.** | **6.28** | **147.** | **858.** | **895.** | **2.79** | **14.5** | **40.1** | **334.** | **354.** |
| Stddev | 119. | 230. | .32 | 1. | 10. | 6. | 2.71 | 6.3 | 6.6 | 11. | 2. |
| %RSD | .970 | 1.31 | 5.11 | .357 | 1.14 | .649 | 97.1 | 43.4 | 16.4 | 3.14 | .683 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1690.** | **1530.** |
| Stddev | 5. | 4. |
| %RSD | .320 | .231 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110190.** | **1145800.** | **368930.** |
| Stddev | 259. | 6938. | 1674. |
| %RSD | .23534 | .60553 | .45379 |

Sample Name: 251663 Acquired: 03/20/2019 17:17:00 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7.31** | **292000.** | **211.** | **2440.** | **69.0** | **31100.** | **11.7** | **185.** | **473.** | **760.** | **447000.** |
| Stddev | .46 | 1980. | 7. | 13. | .6 | 315. | .6 | 1. | 4. | 7. | 4300. |
| %RSD | 6.35 | .679 | 3.37 | .531 | .841 | 1.02 | 5.07 | .550 | .864 | .877 | .961 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **38600.** | **16300.** | **3.35** | **323.** | **1200.** | **-5.73** | **5.73** | **70.0** | **774.** | **826.** | **1360.** |
| Stddev | 345. | 96. | .30 | 1. | 6. | 4.19 | 10.1 | 4.2 | 8. | 5. | 4. |
| %RSD | .893 | .593 | 9.02 | .240 | .460 | 73.1 | 176. | 6.02 | 1.03 | .587 | .305 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1210.** |
| Stddev | 5. |
| %RSD | .444 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109080.** | **1117600.** | **370610.** |
| Stddev | 220. | 4680. | 987. |
| %RSD | .20199 | .41873 | .26640 |

Sample Name: 251664 Acquired: 03/20/2019 17:23:28 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.92** | **394000.** | **175.** | **2140.** | **88.2** | **28500.** | **13.4** | **172.** | **585.** | **414.** | **625000.** |
| Stddev | .96 | 4490. | 11. | 27. | .8 | 384. | 1.7 | 1. | 1. | 10. | 7830. |
| %RSD | 19.5 | 1.14 | 6.53 | 1.24 | .918 | 1.35 | 12.6 | .510 | .146 | 2.41 | 1.25 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **49500.** | **9290.** | **-4.05** | **351.** | **505.** | **-12.9** | **-9.65** | **96.4** | **906.** | **969.** | **1160.** |
| Stddev | 613. | 120. | .69 | 1. | 2. | 2.2 | 6.46 | 3.0 | 12. | 3. | 3. |
| %RSD | 1.24 | 1.30 | 17.1 | .175 | .343 | 17.4 | 66.9 | 3.07 | 1.36 | .341 | .291 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1000.** |
| Stddev | 3. |
| %RSD | .275 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108950.** | **1110100.** | **367470.** |
| Stddev | 308. | 2716. | 3775. |
| %RSD | .28304 | .24462 | 1.0273 |

Sample Name: 251665 Acquired: 03/20/2019 17:29:57 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.08** | **236000.** | **499.** | **2340.** | **50.7** | **182000.** | **10.3** | **138.** | **627.** | **652.** | **315000.** |
| Stddev | .66 | 3910. | 11. | 44. | .6 | 3120. | .8 | 1. | 3. | 14. | 5020. |
| %RSD | 13.0 | 1.66 | 2.14 | 1.86 | 1.23 | 1.71 | 8.14 | .571 | .495 | 2.14 | 1.59 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **73500.** | **33700.** | **1.71** | **292.** | **1040.** | **2.23** | **1.45** | **67.6** | **735.** | **775.** | **1290.** |
| Stddev | 1170. | 515. | .59 | 1. | 17. | 10.1 | 23.2 | 2.7 | 11. | 5. | 4. |
| %RSD | 1.60 | 1.53 | 34.3 | .258 | 1.63 | 451. | 1600. | 4.00 | 1.43 | .628 | .311 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1170.** |
| Stddev | 5. |
| %RSD | .403 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106930.** | **1094900.** | **366190.** |
| Stddev | 172. | 6082. | 5285. |
| %RSD | .16079 | .55550 | 1.4433 |

Sample Name: 251666 Acquired: 03/20/2019 17:36:07 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.26** | **364000.** | **699.** | **2230.** | **80.2** | **78300.** | **13.7** | **158.** | **707.** | **387.** | **548000.** |
| Stddev | .48 | 5700. | 19. | 39. | 1.4 | 1890. | 2.2 | 1. | 4. | 9. | 11100. |
| %RSD | 9.14 | 1.57 | 2.65 | 1.73 | 1.68 | 2.41 | 16.2 | .707 | .527 | 2.35 | 2.02 |

| Elem | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **62500.** | **16600.** | **-5.24** | **359.** | **565.** | **-12.0** | **-1.00** | **90.3** | **861.** | **926.** | **1200.** |
| Stddev | 1250. | 292. | 1.39 | 1. | 5. | 3.2 | 14.0 | 5.8 | 18. | 1. | 2. |
| %RSD | 1.99 | 1.76 | 26.5 | .293 | .836 | 27.0 | 1400. | 6.46 | 2.06 | .071 | .144 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1060.** |
| Stddev | 3. |
| %RSD | .245 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108360.** | **1109100.** | **370690.** |
| Stddev | 285. | 1657. | 5106. |
| %RSD | .26268 | .14935 | 1.3775 |

Sample Name: 251667 Acquired: 03/20/2019 17:42:31 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.87** | **175000.** | **468.** | **916.** | **847.** | **53.3** | **177000.** | **9.66** | **104.** | **396.** | **358.** |
| Stddev | 1.16 | 2140. | 7. | 2. | 7. | .6 | 2350. | .93 | 1. | 3. | 5. |
| %RSD | 29.9 | 1.22 | 1.45 | .250 | .795 | 1.13 | 1.33 | 9.64 | .536 | .661 | 1.49 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **410000.** | **60100.** | **6420.** | **6.31** | **224.** | **623.** | **682.** | **-7.79** | **2.18** | **67.0** | **679.** |
| Stddev | 4190. | 738. | 88. | .37 | 1. | 10. | 4. | 3.79 | 13.7 | 7.2 | 9. |
| %RSD | 1.02 | 1.23 | 1.37 | 5.93 | .362 | 1.65 | .519 | 48.6 | 629. | 10.8 | 1.28 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **717.** | **854.** | **762.** |
| Stddev | 4. | 2. | 3. |
| %RSD | .519 | .278 | .380 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106930.** | **1107900.** | **363520.** |
| Stddev | 381. | 7884. | 1465. |
| %RSD | .35651 | .71165 | .40288 |

Sample Name: ccv1 Acquired: 03/20/2019 17:48:41 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **396.** | **4810.** | **4800.** | **4510.** | **464.** | **4840.** | **471.** | **4520.** | **4730.** | **4620.** | **4640.** | **4800.** |
| Stddev | 1. | 77. | 20. | 47. | 5. | 39. | 1. | 7. | 5. | 46. | 17. | 136. |
| %RSD | .217 | 1.60 | .421 | 1.05 | 1.01 | .813 | .209 | .155 | .095 | .998 | .361 | 2.84 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4800.** | **5010.** | **4610.** | **4610.** | **4560.** | **4600.** | **4580.** | **4590.** | **4590.** | **4860.** | **4530.** |
| Stddev | 6. | 28. | 8. | 4. | 13. | 9. | 5. | 10. | 26. | 2. | 5. |
| %RSD | .127 | .566 | .182 | .077 | .275 | .201 | .115 | .227 | .559 | .048 | .110 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112500.** | **1167200.** | **382000.** |
| Stddev | 74. | 6002. | 2797. |
| %RSD | .06588 | .51422 | .73209 |

Sample Name: ccv2 Acquired: 03/20/2019 17:54:22 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.5** | **471.** | **500.** | **480.** | **476.** | **51.0** | **49.4** | **452.** | **50.1** | **50.9** | **478.** | **488.** |
| Stddev | .4 | 2. | 6. | 2. | 7. | .3 | 1.5 | 5. | .4 | .3 | 2. | 4. |
| %RSD | .907 | .416 | 1.27 | .378 | 1.51 | .575 | 2.98 | 1.07 | .863 | .547 | .363 | .803 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **494.** | **485.** | **489.** | **499.** | **481.** | **484.** | **491.** | **487.** | **480.** | **483.** | **468.** | **468.** |
| Stddev | 5. | 6. | 3. | 3. | 2. | 2. | 1. | 4. | 3. | 3. | 5. | 7. |
| %RSD | 1.03 | 1.21 | .658 | .633 | .372 | .344 | .126 | .723 | .640 | .520 | 1.10 | 1.54 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **507.** | **484.** | **475.** | **506.** | **477.** |
| Stddev | 1. | 11. | 4. | 1. | 1. |
| %RSD | .273 | 2.31 | .892 | .255 | .164 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 03/20/2019 17:54:22 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113810.** | **1186300.** | **380760.** |
| Stddev | 173. | 3762. | 3940. |
| %RSD | .15175 | .31713 | 1.0347 |

Sample Name: ccb Acquired: 03/20/2019 18:00:06 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.192** | **-2.12** | **.958** | **.484** | **.131** | **-17.7** | **.277** | **.704** | **.567** | **1.61** | **-4.06** | **-6.84** |
| Stddev | .469 | .76 | 3.93 | .354 | .158 | .7 | .151 | .211 | .506 | 7.37 | .84 | .02 |
| %RSD | 245. | 36.0 | 410. | 73.0 | 121. | 4.04 | 54.4 | 30.0 | 89.2 | 458. | 20.7 | .269 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **.460** | **1.94** | **.353** | **-.690** | **-3.53** | **-6.34** | **-.300** | **-.010** | **.063** |
| Stddev | .080 | .28 | .377 | 1.54 | 2.59 | 3.37 | 2.37 | 1.25 | .129 |
| %RSD | 17.5 | 14.6 | 107. | 223. | 73.3 | 53.1 | 790. | 13000. | 203. |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113330.** | **1181600.** | **372640.** |
| Stddev | 270. | 5538. | 1555. |
| %RSD | .23804 | .46866 | .41726 |

Sample Name: I251667 Acquired: 03/20/2019 18:06:22 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.326** | **38500.** | **101.** | **201.** | **192.** | **10.2** | **39000.** | **4.19** | **23.8** | **86.7** | **82.4** | **77500.** |
| Stddev | 1.32 | 694. | 4. | . | 8. | .2 | 610. | .38 | .5 | .8 | 5.5 | 984. |
| %RSD | 406. | 1.80 | 4.31 | .207 | 3.93 | 2.09 | 1.56 | 9.11 | 2.24 | .946 | 6.71 | 1.27 |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **83400.** | **13800.** | **1250.** | **.925** | **49.8** | **157.** | **-6.99** | **1.03** | **13.8** | **153.** | **156.** | **186.** |
| Stddev | 1460. | 271. | 14. | .816 | .4 | 3. | 3.72 | 3.40 | 1.6 | 2. | 2. | 1. |
| %RSD | 1.75 | 1.96 | 1.15 | 88.2 | .748 | 2.01 | 53.2 | 330. | 11.6 | 1.43 | 1.02 | .435 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111100.** | **1171100.** | **374910.** |
| Stddev | 269. | 6852. | 5364. |
| %RSD | .24210 | .58509 | 1.4307 |

Sample Name: dup251667 Acquired: 03/20/2019 18:12:48 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.64** | **182000.** | **456.** | **918.** | **925.** | **53.8** | **176000.** | **10.5** | **105.** | **403.** | **355.** |
| Stddev | .53 | 1320. | 11. | 1. | 11. | .6 | 2260. | 1.1 | 1. | 2. | 6. |
| %RSD | 14.6 | .729 | 2.42 | .144 | 1.16 | 1.05 | 1.29 | 10.1 | .913 | .426 | 1.77 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **416000.** | **60700.** | **6520.** | **6.87** | **228.** | **608.** | **679.** | **-10.5** | **5.42** | **67.9** | **688.** |
| Stddev | 4340. | 512. | 65. | .37 | 1. | 5. | 2. | 4.4 | 7.91 | 3.1 | 6. |
| %RSD | 1.04 | .843 | .998 | 5.36 | .612 | .824 | .340 | 41.7 | 146. | 4.52 | .921 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **740.** | **859.** | **794.** |
| Stddev | 2. | 2. | 2. |
| %RSD | .273 | .188 | .224 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104990.** | **1092300.** | **354240.** |
| Stddev | 538. | 4706. | 2556. |
| %RSD | .51223 | .43088 | .72142 |

Sample Name: mss251667 Acquired: 03/20/2019 18:19:01 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.28** | **186000.** | **17300.** | **933.** | **936.** | **52.7** | **177000.** | **10.1** | **106.** | **391.** | **363.** |
| Stddev | .52 | 2830. | 43. | 1. | 12. | .7 | 3340. | 1.0 | 1. | 2. | 11. |
| %RSD | 22.8 | 1.52 | .252 | .090 | 1.26 | 1.35 | 1.89 | 9.44 | .568 | .636 | 3.07 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **404000.** | **60800.** | **25900.** | **5.52** | **227.** | **597.** | **681.** | **-8.91** | **6.23** | **78.3** | **671.** |
| Stddev | 5530. | 1030. | 446. | .43 | 1. | 2. | 2. | 6.42 | 4.02 | 5.0 | 13. |
| %RSD | 1.37 | 1.69 | 1.72 | 7.80 | .375 | .318 | .307 | 72.0 | 64.6 | 6.42 | 1.93 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **723.** | **865.** | **794.** |
| Stddev | 5. | 3. | 5. |
| %RSD | .647 | .332 | .618 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105370.** | **1096100.** | **354640.** |
| Stddev | 181. | 5437. | 1636. |
| %RSD | .17205 | .49605 | .46126 |

Sample Name: msds251667 Acquired: 03/20/2019 18:25:21 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.52** | **169000.** | **16600.** | **903.** | **898.** | **49.1** | **181000.** | **9.23** | **102.** | **364.** | **338.** |
| Stddev | .52 | 1760. | 39. | 2. | 14. | .6 | 2760. | .97 | 1. | 3. | 5. |
| %RSD | 20.5 | 1.04 | .235 | .224 | 1.52 | 1.18 | 1.53 | 10.5 | .533 | .812 | 1.53 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **373000.** | **59700.** | **25600.** | **4.46** | **215.** | **600.** | **668.** | **-2.32** | **6.10** | **74.1** | **617.** |
| Stddev | 4880. | 606. | 396. | .44 | . | 3. | 3. | 7.31 | 5.14 | 1.1 | 5. |
| %RSD | 1.31 | 1.02 | 1.55 | 9.87 | .091 | .534 | .506 | 315. | 84.3 | 1.45 | .764 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **668.** | **823.** | **752.** |
| Stddev | 5. | 3. | 5. |
| %RSD | .746 | .368 | .647 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105760.** | **1105100.** | **356790.** |
| Stddev | 375. | 7036. | 3087. |
| %RSD | .35487 | .63673 | .86523 |

Sample Name: pdss251667 Acquired: 03/20/2019 18:31:43 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **82.7** | **181000.** | **18400.** | **4430.** | **56.8** | **537000.** | **84.7** | **863.** | **692.** | **768.** | **394000.** |
| Stddev | 1.4 | 2320. | 42. | 246. | 7.6 | 20700. | .8 | 4. | 3. | 39. | 6110. |
| %RSD | 1.66 | 1.28 | .228 | 5.56 | 13.3 | 3.85 | .950 | .409 | .383 | 5.11 | 1.55 |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **235000.** | **25200.** | **1590.** | **960.** | **1400.** | **790.** | **797.** | **2900.** | **2760.** | **1550.** | **1550.** |
| Stddev | 10900. | 1150. | 4. | 2. | 2. | 2. | 14. | 72. | 24. | 44. | 5. |
| %RSD | 4.62 | 4.56 | .223 | .167 | .132 | .274 | 1.71 | 2.48 | .880 | 2.86 | .300 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1510.** |
| Stddev | 7. |
| %RSD | .431 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101010.** | **1058900.** | **348610.** |
| Stddev | 330. | 1999. | 1024. |
| %RSD | .32645 | .18882 | .29364 |

Sample Name: 251668 Acquired: 03/20/2019 18:38:11 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.66** | **175000.** | **384.** | **897.** | **851.** | **54.9** | **48300.** | **7.22** | **81.5** | **402.** | **275.** |
| Stddev | .79 | 2340. | 7. | 5. | 12. | .4 | 441. | .75 | .4 | 1. | 4. |
| %RSD | 29.6 | 1.34 | 1.82 | .558 | 1.37 | .751 | .914 | 10.4 | .445 | .331 | 1.50 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **421000.** | **24000.** | **2810.** | **3450.** | **4.27** | **191.** | **461.** | **-12.8** | **2.14** | **64.9** | **680.** |
| Stddev | 3270. | 132. | 6. | 37. | .40 | 1. | 5. | 7.2 | 17.1 | 2.5 | 13. |
| %RSD | .777 | .551 | .215 | 1.06 | 9.34 | .448 | 1.01 | 56.5 | 798. | 3.81 | 1.85 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **723.** | **639.** | **554.** |
| Stddev | 3. | 2. | 3. |
| %RSD | .395 | .302 | .561 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108760.** | **1126700.** | **363550.** |
| Stddev | 378. | 2352. | 2524. |
| %RSD | .34786 | .20877 | .69435 |

Sample Name: I251668 Acquired: 03/20/2019 18:44:39 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.372** | **39300.** | **90.1** | **207.** | **181.** | **11.2** | **11300.** | **3.78** | **19.2** | **91.9** | **68.9** |
| Stddev | .816 | 511. | 4.7 | 1. | 6. | .1 | 73. | .07 | .4 | 1.2 | 4.2 |
| %RSD | 220. | 1.30 | 5.24 | .418 | 3.24 | .609 | .645 | 1.89 | 2.07 | 1.28 | 6.09 |

| Elem | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **83700.** | **101000.** | **89300.** | **5730.** | **655.** | **.498** | **44.0** | **114.** | **-3.36** | **-11.8** | **15.8** |
| Stddev | 336. | 750. | 691. | 20. | 3. | .323 | .3 | 4. | 2.46 | 6.7 | 4.1 |
| %RSD | .402 | .741 | .774 | .356 | .403 | 64.8 | .718 | 3.15 | 73.3 | 57.3 | 25.9 |

| Elem | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **160.** | **164.** | **134.** |
| Stddev | 8. | 1. | . |
| %RSD | 4.92 | .526 | .292 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113410.** | **1185900.** | **378450.** |
| Stddev | 259. | 5162. | 2648. |
| %RSD | .22829 | .43532 | .69969 |

Sample Name: dup251668 Acquired: 03/20/2019 18:51:07 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.51** | **176000.** | **379.** | **879.** | **822.** | **53.7** | **47200.** | **7.09** | **81.8** | **389.** | **278.** |
| Stddev | .38 | 3260. | 8. | 1. | 17. | .8 | 964. | 1.13 | .8 | 4. | 7. |
| %RSD | 10.8 | 1.85 | 2.21 | .161 | 2.04 | 1.49 | 2.04 | 15.9 | 1.02 | 1.15 | 2.64 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **412000.** | **23900.** | **2780.** | **3450.** | **4.54** | **188.** | **481.** | **-10.1** | **6.12** | **60.1** | **664.** |
| Stddev | 6530. | 420. | 29. | 63. | 1.02 | 1. | 4. | 5.6 | 8.68 | 3.7 | 8. |
| %RSD | 1.58 | 1.76 | 1.05 | 1.81 | 22.5 | .283 | .735 | 55.5 | 142. | 6.22 | 1.25 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **705.** | **608.** | **520.** |
| Stddev | 6. | 1. | 1. |
| %RSD | .844 | .203 | .196 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108510.** | **1121500.** | **364050.** |
| Stddev | 175. | 7409. | 3136. |
| %RSD | .16131 | .66067 | .86138 |

Sample Name: mss251668 Acquired: 03/20/2019 18:57:35 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.23** | **189000.** | **17600.** | **904.** | **836.** | **53.4** | **45700.** | **7.95** | **87.4** | **385.** | **287.** |
| Stddev | .71 | 2250. | 54. | 3. | 13. | .7 | 826. | .59 | .4 | 4. | 5. |
| %RSD | 31.8 | 1.19 | .306 | .355 | 1.60 | 1.33 | 1.81 | 7.40 | .475 | .941 | 1.66 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **407000.** | **23900.** | **23500.** | **3.38** | **196.** | **474.** | **-9.32** | **-1.30** | **75.9** | **665.** | **706.** |
| Stddev | 5760. | 337. | 354. | .43 | 1. | 7. | 3.14 | 8.73 | 4.7 | 8. | 4. |
| %RSD | 1.42 | 1.41 | 1.50 | 12.8 | .538 | 1.41 | 33.7 | 673. | 6.18 | 1.21 | .521 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **629.** | **539.** |
| Stddev | 1. | 2. |
| %RSD | .080 | .399 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108840.** | **1133100.** | **368880.** |
| Stddev | 204. | 3724. | 3146. |
| %RSD | .18765 | .32865 | .85288 |

Sample Name: msds251668 Acquired: 03/20/2019 19:04:11 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.08** | **173000.** | **17200.** | **867.** | **809.** | **49.9** | **44100.** | **7.19** | **81.5** | **363.** | **269.** |
| Stddev | .72 | 2110. | 72. | 5. | 12. | .6 | 604. | .88 | .7 | 2. | 3. |
| %RSD | 34.8 | 1.22 | .416 | .549 | 1.47 | 1.24 | 1.37 | 12.3 | .806 | .676 | 1.27 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **377000.** | **23400.** | **22800.** | **3.13** | **185.** | **464.** | **-6.83** | **4.04** | **74.0** | **609.** | **645.** |
| Stddev | 4960. | 336. | 282. | .68 | 1. | 3. | 5.38 | 12.3 | 6.0 | 11. | 1. |
| %RSD | 1.31 | 1.43 | 1.23 | 21.7 | .723 | .587 | 78.8 | 305. | 8.11 | 1.87 | .220 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **599.** | **517.** |
| Stddev | 4. | 4. |
| %RSD | .593 | .783 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109250.** | **1146200.** | **373190.** |
| Stddev | 407. | 3576. | 3042. |
| %RSD | .37211 | .31201 | .81508 |

Sample Name: ccv1 Acquired: 03/20/2019 19:10:46 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **404.** | **4970.** | **4800.** | **4650.** | **467.** | **4850.** | **475.** | **4620.** | **4700.** | **4750.** | **4640.** | **5050.** |
| Stddev | 2. | 21. | 11. | 102. | 11. | 87. | 1. | 26. | 6. | 100. | 33. | 263. |
| %RSD | .610 | .426 | .219 | 2.20 | 2.25 | 1.78 | .208 | .564 | .133 | 2.10 | .711 | 5.21 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4890.** | **5010.** | **4630.** | **4630.** | **4570.** | **4620.** | **4680.** | **4620.** | **4620.** | **4850.** | **4550.** |
| Stddev | 77. | 107. | 6. | 7. | 13. | 6. | 24. | 8. | 101. | 7. | 3. |
| %RSD | 1.57 | 2.13 | .137 | .153 | .276 | .135 | .515 | .173 | 2.19 | .148 | .068 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112110.** | **1176000.** | **374970.** |
| Stddev | 337. | 6229. | 5285. |
| %RSD | .30035 | .52962 | 1.4094 |

Sample Name: ccv2 Acquired: 03/20/2019 19:16:26 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.1** | **486.** | **497.** | **481.** | **484.** | **50.8** | **49.6** | **460.** | **50.1** | **51.4** | **490.** | **492.** |
| Stddev | .3 | 5. | 3. | 1. | 7. | .3 | 1.0 | 6. | .2 | .4 | 1. | 3. |
| %RSD | .501 | 1.05 | .521 | .192 | 1.54 | .598 | 1.96 | 1.30 | .482 | .695 | .228 | .634 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **496.** | **489.** | **496.** | **505.** | **481.** | **489.** | **495.** | **492.** | **477.** | **484.** | **480.** | **488.** |
| Stddev | 8. | 4. | 2. | 3. | 1. | 1. | 1. | 4. | 3. | 4. | 7. | 12. |
| %RSD | 1.66 | .779 | .497 | .578 | .257 | .198 | .216 | .744 | .647 | .835 | 1.52 | 2.53 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **506.** | **483.** | **485.** | **508.** | **480.** |
| Stddev | 2. | 8. | 1. | 2. | 1. |
| %RSD | .478 | 1.71 | .186 | .475 | .118 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 03/20/2019 19:16:26 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113520.** | **1190700.** | **376850.** |
| Stddev | 414. | 6958. | 4879. |
| %RSD | .36447 | .58438 | 1.2948 |

Sample Name: ccb Acquired: 03/20/2019 19:22:11 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.552** | **-2.04** | **2.74** | **.747** | **.286** | **-17.6** | **-.002** | **.684** | **1.01** | **1.37** | **-3.25** | **-6.49** |
| Stddev | .935 | .93 | 3.88 | .387 | .097 | .9 | .134 | .258 | .65 | 4.84 | .84 | .02 |
| %RSD | 169. | 45.5 | 142. | 51.9 | 33.8 | 5.32 | 5700. | 37.7 | 64.8 | 353. | 25.7 | .287 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **.618** | **2.00** | **.554** | **-.604** | **2.22** | **-7.33** | **-.860** | **.429** | **.213** |
| Stddev | .090 | .54 | .438 | 1.34 | 1.59 | 12.6 | 1.33 | 1.05 | .163 |
| %RSD | 14.5 | 27.0 | 79.1 | 222. | 71.5 | 172. | 155. | 245. | 76.9 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112550.** | **1186600.** | **377140.** |
| Stddev | 131. | 2224. | 8229. |
| %RSD | .11638 | .18741 | 2.1820 |

Sample Name: pdss251668 Acquired: 03/20/2019 19:28:27 Type: Unk
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2265 | Co2286 | Co2388 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **94.6** | **178000.** | **21300.** | **4560.** | **59.6** | **415000.** | **94.8** | **969.** | **1050.** | **715.** | **696.** |
| Stddev | 1.3 | 2970. | 46. | 94. | 2.1 | 3780. | .4 | 8. | 7. | 5. | 11. |
| %RSD | 1.37 | 1.66 | .214 | 2.05 | 3.46 | .910 | .457 | .791 | .695 | .675 | 1.54 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **389000.** | **201000.** | **23200.** | **1840.** | **1040.** | **1290.** | **921.** | **3280.** | **3200.** | **1530.** | **1430.** |
| Stddev | 3660. | 2380. | 241. | 17. | 8. | 15. | 9. | 52. | 25. | 16. | 12. |
| %RSD | .940 | 1.19 | 1.04 | .913 | .761 | 1.14 | 1.01 | 1.59 | .780 | 1.01 | .848 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **1400.** |
| Stddev | 10. |
| %RSD | .733 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **100590.** | **1062700.** | **350400.** |
| Stddev | 446. | 3614. | 4729. |
| %RSD | .44385 | .34005 | 1.3497 |

Sample Name: ccv1 Acquired: 03/20/2019 20:12:42 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2343 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **415.** | **4890.** | **4660.** | **4670.** | **463.** | **4800.** | **478.** | **4730.** | **4640.** | **4730.** | **4620.** | **4720.** |
| Stddev | 2. | 58. | 23. | 47. | 4. | 18. | 1. | 27. | 8. | 47. | 22. | 49. |
| %RSD | .514 | 1.18 | .493 | 1.01 | .932 | .367 | .177 | .563 | .176 | 1.00 | .484 | 1.03 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4830.** | **4900.** | **4660.** | **4640.** | **4580.** | **4640.** | **4710.** | **4640.** | **4560.** | **4800.** | **4550.** |
| Stddev | 44. | 45. | 11. | 10. | 22. | 14. | 34. | 9. | 21. | 13. | 7. |
| %RSD | .902 | .910 | .225 | .223 | .481 | .302 | .729 | .187 | .461 | .269 | .150 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **109040.** | **1154700.** | **365070.** |
| Stddev | 327. | 5589. | 2613. |
| %RSD | .30025 | .48406 | .71583 |

Sample Name: ccv2 Acquired: 03/20/2019 20:18:23 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.9** | **492.** | **479.** | **477.** | **488.** | **50.2** | **49.8** | **474.** | **49.6** | **51.9** | **495.** | **491.** |
| Stddev | 1.0 | 5. | 2. | 1. | 7. | .2 | 1.7 | 12. | .1 | .2 | 2. | 4. |
| %RSD | 1.94 | .966 | .457 | .160 | 1.42 | .380 | 3.44 | 2.42 | .221 | .294 | .494 | .778 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **485.** | **487.** | **495.** | **505.** | **482.** | **492.** | **495.** | **491.** | **472.** | **484.** | **490.** | **494.** |
| Stddev | 7. | 3. | 2. | 3. | 1. | 2. | 1. | 4. | 1. | 3. | 6. | 14. |
| %RSD | 1.55 | .671 | .471 | .555 | .239 | .477 | .211 | .836 | .275 | .676 | 1.27 | 2.84 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **507.** | **476.** | **491.** | **503.** | **480.** |
| Stddev | 1. | 5. | 1. | 1. | . |
| %RSD | .292 | 1.14 | .246 | .220 | .069 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 03/20/2019 20:18:23 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111390.** | **1178600.** | **369130.** |
| Stddev | 291. | 2673. | 4562. |
| %RSD | .26106 | .22682 | 1.2359 |

Sample Name: ccb Acquired: 03/20/2019 20:24:07 Type: QC
Method: DOD Calibration Updated 060614(v3269) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.141** | **-1.29** | **3.79** | **1.04** | **.204** | **.551** | **-9.61** | **.094** | **.132** | **1.03** | **1.42** | **4.55** |
| Stddev | 1.17 | .82 | 4.49 | .22 | .034 | .793 | 7.87 | .221 | .148 | .30 | .45 | 4.49 |
| %RSD | 829. | 63.6 | 118. | 20.8 | 16.8 | 144. | 81.8 | 235. | 112. | 28.7 | 31.9 | 98.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-3.60** | **-6.12** | **.934** | **5.53** | **1.13** | **2.63** | **1.22** | **-.189** | **1.46** | **.560** | **.521** |
| Stddev | 2.68 | .02 | .055 | .65 | .22 | 2.42 | 2.45 | .888 | 2.38 | .847 | .042 |
| %RSD | 74.4 | .284 | 5.87 | 11.7 | 19.8 | 92.3 | 201. | 469. | 162. | 151. | 8.15 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111420.** | **1186000.** | **366650.** |
| Stddev | 316. | 5986. | 3793. |
| %RSD | .28387 | .50472 | 1.0345 |

# METALS
# LOGBOOK
# DOCUMENTS

# MICP SOIL QSM Analytical Run
# 158872 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 254127 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 254130 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 254128 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 254129 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |
| | 254131 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 254132 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |
| | 254133 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| | 254135 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 254136 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 254137 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 252653 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | 71076 | | | |
| | 252654 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | 71076 | | | |
| 143438 | 250740 | | 03/11/2019 | 1215 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU2 | | | | | | | 71076 | | | |
| 143438 | 250741 | | 03/11/2019 | 1215 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU2 | | | | | | | 71076 | | | |
| 143438 | 250742 | | 03/11/2019 | 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU1 | | | | | | | 71076 | | | |
| 143438 | 250743 | | 03/11/2019 | 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU1 | | | | | | | 71076 | | | |
| | 254138 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 254139 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 158872 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 254140 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143438 | 250744 | | 03/11/2019 | 1510 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU4 | | | | | | | | 71076 | | | |
| 143438 | 250745 | | 03/11/2019 | 1510 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU4 | | | | | | | | 71076 | | | |
| 143438 | 250746 | | 03/11/2019 | 1555 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU3 | | | | | | | | 71076 | | | |
| 143438 | 250747 | | 03/11/2019 | 1555 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU3 | | | | | | | | 71076 | | | |
| 143477 | 251121 | | 03/12/2019 | 0814 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU07 | | | | | | | | 71076 | | | |
| | 254141 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 251121 | | | | 0 | | | |
| | 252675 | | 03/12/2019 | 0814 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU07 | | | DUP | 251121 | | | | 71076 | | | |
| | 252676 | | 03/12/2019 | 0814 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU07 | | | DUP | 251121 | | | | 71076 | | | |
| | 252677 | | 03/12/2019 | 0814 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU07 | | | MSS | 251121 | | | | 71076 | | | |
| | 252678 | | 03/12/2019 | 0814 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU07 | | | MSDS | 252677 | | | | 71076 | | | |
| | 254142 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 254143 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 254144 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 254145 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 251121 | | | | 0 | | | |
| 143477 | 251124 | | 03/12/2019 | 0814 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU07 | | | | | | | | 71076 | | | |
| 143477 | 251125 | | 03/12/2019 | 1031 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU09R1 | | | | | | | | 71076 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 158872 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251126 | | 03/12/2019 1031 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU09R2 | | | | | | | 71076 | | | |
| 143477 | 251127 | | 03/12/2019 1031 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU09R3 | | | | | | | 71076 | | | |
| 143477 | 251128 | | 03/12/2019 1031 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU09R1 | | | | | | | 71076 | | | |
| 143477 | 251129 | | 03/12/2019 1031 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU09R2 | | | | | | | 71076 | | | |
| 143477 | 251130 | | 03/12/2019 1031 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU09R3 | | | | | | | 71076 | | | |
| 143477 | 251131 | | 03/12/2019 1309 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU11R1 | | | | | | | 71076 | | | |
| | 252679 | | 03/12/2019 1309 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU11R1 | | DUP | 251131 | | | | 71076 | | | |
| | 254146 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 254147 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 254148 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 252680 | | 03/12/2019 1309 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU11R1 | | DUP | 251131 | | | | 71076 | | | |
| 143477 | 251132 | | 03/12/2019 1309 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU11R2 | | | | | | | 71076 | | | |
| 143477 | 251133 | | 03/12/2019 1309 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU11R2 | | | | | | | 71076 | | | |
| 143477 | 251134 | | 03/12/2019 1309 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU11R1 | | | | | | | 71076 | | | |
| | 254149 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 254150 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 254151 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted]ANALYTICALRUN.RPT

MICP SOIL QSM Analytical Run
# 158872 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

**52** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 158900 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 255533 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 255534 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 255535 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 255536 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 255537 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 255539 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 255540 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 255541 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 253822 | | | | | | ICP QSM 5.0 | | | | |
| | | | | LCSS | | | | 71092 | | | |
| | 253821 | | | | | | ICP QSM 5.0 | | | | |
| | | | | MBS | | | | 71092 | | | |
| 143477 | 251135 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU11R3 | | | | | | 71092 | | | |
| 143477 | 251136 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU11R3 | | | | | | 71092 | | | |
| 143477 | 251137 | | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU51R1 | | | | | | 71092 | | | |
| 143477 | 251138 | | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU51R2 | | | | | | 71092 | | | |
| 143477 | 251139 | | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU51R3 | | | | | | 71092 | | | |
| | 255542 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 255543 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 255544 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 158900 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251140 | | 03/12/2019 | 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU51R1 | | | | | | | | 71092 | | | |
| 143477 | 251141 | | 03/12/2019 | 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU51R2 | | | | | | | | 71092 | | | |
| | 253823 | | 03/12/2019 | 1630 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU51R2 | | | DUP | 251141 | | | | 71092 | | | |
| | 253824 | | 03/12/2019 | 1630 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU51R2 | | | DUP | 251141 | | | | 71092 | | | |
| 143477 | 251142 | | 03/12/2019 | 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU51R3 | | | | | | | | 71092 | | | |
| 143517 | 251663 | | 03/13/2019 | 0900 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU06 | | | | | | | | 71092 | | | |
| 143517 | 251664 | | 03/13/2019 | 0900 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU06 | | | | | | | | 71092 | | | |
| 143517 | 251665 | | 03/13/2019 | 1015 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU08 | | | | | | | | 71092 | | | |
| 143517 | 251666 | | 03/13/2019 | 1015 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU08 | | | | | | | | 71092 | | | |
| 143517 | 251667 | | 03/13/2019 | 1315 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU58 | | | Designated MS/MSD | | | | | 71092 | | | |
| | 255545 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 255546 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 255547 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 256660 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 251667 | | | | | | | |
| | 253825 | | 03/13/2019 | 1315 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU58 | | | DUP | 251667 | | | | 71092 | | | |
| | 253826 | | 03/13/2019 | 1315 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU58 | | | MSS | 251667 | | | | 71092 | | | |
| | 253827 | | 03/13/2019 | 1315 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU58 | | | MSDS | 253826 | | | | 71092 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 158900 on 04/02/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 256662 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 251667 | | | | | | | |
| 143517 | 251668 | | 03/13/2019 1315 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU58 | | Designated MS/MSD | | | | 71092 | | | |
| | 256661 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 251668 | | | | | | | |
| | 253828 | | 03/13/2019 1315 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU58 | | DUP 251668 | | | | 71092 | | | |
| | 253829 | | 03/13/2019 1315 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU58 | | MSS 251668 | | | | 71092 | | | |
| | 253830 | | 03/13/2019 1315 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU58 | | MSDS 253829 | | | | 71092 | | | |
| | 255548 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 255549 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 255550 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 256663 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 251668 | | | | | | | |
| | 255551 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 255552 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 255553 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |

**48** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# PREP WORKSHEET
## on 04/02/2019

Prep Batch **71,076** Date Prepped: 03/18/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 252653 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.02 | | | |
| | 252654 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.92 | | | |
| 143438 | 250740 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 250741 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 250742 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 250743 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 250744 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 250745 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 250746 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 250747 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| 143477 | 251121 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 251124 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 251125 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 251126 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 251127 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 251128 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |
| | 251129 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |

# PREP WORKSHEET
## on 04/02/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251130 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 251131 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 251132 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 251133 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 251134 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 252675 | DUP | 251121 | ICP QSM 5.0 | SOIL | 50 | 1.98 | | | |
| | 252676 | DUP | 251121 | ICP QSM 5.0 | SOIL | 50 | 1.97 | | | |
| | 252677 | MSS | 251121 | ICP QSM 5.0 | SOIL | 50 | 1.97 | | | |
| | 252678 | MSDS | 252677 | ICP QSM 5.0 | SOIL | 50 | 1.97 | | | |
| | 252679 | DUP | 251131 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 252680 | DUP | 251131 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |

Notes:_____

# PREP WORKSHEET
## on 04/02/2019

Prep Batch **71,092** Date Prepped: 03/20/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 253821 | MBS | | ICP QSM 5.0 | SOLID | 50 | 2.00 | | | |
| | 253822 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.93 | | | |
| 143477 | 251135 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 251136 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 251137 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 251138 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 251139 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 251140 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 251141 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 251142 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |
| 143517 | 251663 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 251664 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 251665 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 251666 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 251667 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 251668 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 253823 | DUP | 251141 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |



Distibution: [redacted]PREPWRKSHT.RPT

# PREP WORKSHEET
# on 04/02/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 253824 | DUP | 251141 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 253825 | DUP | 251667 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 253826 | MSS | 251667 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 253827 | MSDS | 253826 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 253828 | DUP | 251668 | ICP QSM 5.0 | SOIL | 50 | 1.98 | | | |
| | 253829 | MSS | 251668 | ICP QSM 5.0 | SOIL | 50 | 2.00 | | | |
| | 253830 | MSDS | 253829 | ICP QSM 5.0 | SOIL | 50 | 1.98 | | | |

Notes:_____

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOLID

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71076 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 03/18/2019 |
| **Start Time:** | 12:45 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 03/18/2019
End Time: 15:16

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.672 |
| Hydrochloric Acid: | AB.671 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3181
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 92
Final-Digestion Temp (ºC): 93

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 252654 | (MB) | | 1.92 | | 50 |
| | 252653 | (LCS) | | 2.02 | | 50 |
| | 250740 | | | 1.92 | | 50 |
| | 250741 | Comments: | | 1.97 | | 50 |
| | 250742 | | | 1.95 | | 50 |
| | 250743 | | | 2.05 | | 50 |
| | 250744 | | | 1.90 | | 50 |
| | 250745 | | | 2.06 | | 50 |
| | 250746 | | | 1.97 | | 50 |
| | 250747 | | | 1.94 | | 50 |
| | 251121 | | | 1.98 | | 50 |
| | 251124 | | | 1.98 | | 50 |
| | 251125 | | | 1.92 | | 50 |
| | 251126 | | | 2.05 | | 50 |
| | 251127 | | | 2.08 | | 50 |
| | 251128 | | | 2.07 | | 50 |
| | 251129 | | | 2.00 | | 50 |
| | 251130 | | | 2.01 | | 50 |
| | 251131 | | | 1.94 | | 50 |
| | 251132 | | | 1.99 | | 50 |
| | 251133 | | | 1.90 | | 50 |
| | 251134 | | | 1.98 | | 50 |
| | 252675 | (DUP) | | 1.98 | | 50 |
| | 252677 | (MS) | Parent Sample | 1.97 | | 50 |
| | 252678 | (MSD) | 251121 | 1.97 | | 50 |
| | 252679 | (DUP) | | 1.93 | | 50 |
| | 252680 | (DUP) | Parent Sample | 1.92 | | 50 |
| | | (MSD) | 251131 | | | 50 |
| Leave >> | 252676 | (DUP) if applicable | | 1.97 | | 50 |
| blank | | (DUP) if applicable | Parent Sample | | | 50 |
| if N/A | | (MSD) | 251121 | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13616 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13615 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

04/02/201914:38

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOLID

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71092 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 03/20/2019 |
| **Start Time:** | 07:46 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 03/20/2019
End Time:

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.672 |
| Hydrochloric Acid: | AB.671 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3181
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC):
Final-Digestion Temp (ºC):

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 253821 | (MB) | | 2.00 | | 50 |
| | 253822 | (LCS) | | 1.93 | | 50 |
| | 251135 | | | 1.90 | | 50 |
| | 251136 | Comments: | | 1.90 | | 50 |
| | 251137 | | | 2.08 | | 50 |
| | 251138 | | | 1.91 | | 50 |
| | 251139 | | | 1.92 | | 50 |
| | 251140 | | | 1.99 | | 50 |
| | 251141 | | | 1.95 | | 50 |
| | 251142 | | | 2.07 | | 50 |
| | 251663 | | | 1.92 | | 50 |
| | 251664 | | | 1.94 | | 50 |
| | 251665 | | | 1.90 | | 50 |
| | 251666 | | | 1.97 | | 50 |
| | 251667 | | | 1.92 | | 50 |
| | 251668 | | | 1.99 | | 50 |
| | | | | | | 50 |
| | | | | | | 50 |
| | | | | | | 50 |
| | | | | | | 50 |
| | | | | | | 50 |
| | 253823 | (DUP) | | 1.94 | | 50 |
| | 253824 | (DUP) | | 1.95 | | 50 |
| | | (MS) | Parent Sample | | | 50 |
| | | (MSD) | 251141 | | | 50 |
| | 253825 | (DUP) | | 1.92 | | 50 |
| | 253826 | (MS) | Parent Sample | 1.92 | | 50 |
| | 253827 | (MSD) | 251667 | 1.93 | | 50 |
| Leave >> | 253828 | (DUP) if applicable | | 1.98 | | 50 |
| blank | 253829 | (MS) | Parent Sample | 2.00 | | 50 |
| if N/A | 253830 | (MSD) | 251668 | 1.98 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13616 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13615 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

04/02/201914:38

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 3/19/19 | Data File: D00res25 | Date of review: 3/25/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS # : 158822 | Analyst: [redacted] | Reviewer: MDS | Approved? (Yes) No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: ~~r ≥ 0.995~~ / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / ~~95-105%~~ | ✓ | | ✓ | | |
| 2) ICVLL: ~~70-130%~~ / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: ~~70-130%~~ / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71076 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | | ✓ | ✓ | Mn > ½ RL |
| Spiked samples in batch: | | | | | |
| a) 251121 matrix = S | ✓ | | ✓ | ✓ | Invalid As, failed Mn, Dup failed "Y" mg/kg so Dup As "Y" |
| b) 251131 matrix = S | ✓ | | ✓ | ✓ | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | ✓ | ✓ | a) "M" |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 3/20/19 | Data File: DODresults | Date of review: 3/22/19 |
|---|---|---|---|
| Cal Std ID: 113519 LIMS #: 158900 | Analyst: [redacted] | Reviewer: MDS | Approved? (Yes) No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / ~~200.7~~ / OSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: ~~r > 0.995~~ / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: ~~90-110%~~ / ~~95-105%~~ | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / (80-120%) | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: (70-130%) / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| Prep Batch ID#: 71092 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As >LOD <½ RL & results all >10X MB<br>Mn >LOD results all > 10X MB. |
| Spiked samples in batch: | | | | | |
| a) 251121 matrix = S | ✓ | | ✓ | | |
| b) 251e17 matrix = S | ✓ | ✓ | ✓ | ✓ | MSD fail As OK PDS Pass. |
| c) 251de8 matrix = S | ✓ | ✓ | ✓ | ✓ | fail Mn |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

| Date | Time: Start / End | Analyst | Analytes / Sequence I.D. | Method | LIMS # or Sample Description | Nebulizer Pressure (kpa) | Calib. Std ID | Version | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 3/8/19 | 1352 / 1940 | [redacted] | 030819 | DODCal u | 158830,35 158828 158716 | 270 | M13621 M13519 | V3255 | M13621 M13626 M13633 M13660 M13624 |
| 3/8/19 | 1400 1352 / 1359 | | 030819 | DODCal u | 158530 158535 158600 158574 | 270 | M13621 M13519 | V3257 V3256 V3260 | M13621 M13626 M13633 M13660 M13624 |
| 3/11/19 | 1402 / 2258 | | 031119 | DODCal u | 158607 158609 158606 158627 | 270 | M13621 M13519 | V3261 V3262 | M13621 M13626 M13633 M13660 M13624 |
| 3/12/19 | 1256 / 2208 | | 031219 | DODCal u | 158659 158653 158651 158656 158657 | 270 | M13621 M13519 | V3263 | M13621 M13626 M13633 M13660 M13624 |
| 3/13/19 3/14/19 | 1243 — | | 03141919 3/15/19 | DODCal u | 158685 158735 158731 158722 158729 158727 158716 158734 158726 158702 158733 158742 | 270 | M13621 M13519 | V3264 | M13621 M13626 M13633 M13660 M13624 |
| 3/15/19 3/14/19 | 1553 / 1553 | | 03141919 | DODCal u | 158742 158737 158651 158748 158743 158736 158657 | 270 | M13621 M13519 | V3265 V3266 | M13621 M13626 M13633 M13660 M13624 |
| 3/18/19 | 1149 / 2018 | | 031819 | DODCal u | 158798 158795 158794 158797 158793 | 270 | M13621 M13519 | V3267 | M13621 M13626 M13633 M13660 M13624 |
| 3/19/19 | 1234 / 2121 | | 031919 | DODCal u | 158872 158842 | 270 | M13621 M13519 | V3268 | M13621 M13626 M13633 M13660 M13624 |
| 3/20/19 | 1132 / 2024 | | 032019 | DODCal u | 158898 158899 158900 158901 | 280 | M13621 M13519 | V3272 V3271 V3270 | M13621 M13626 M13633 M13660 M13624 |
| 3/22/19 | 1320 / 0355 | | 032219 | DODCal u | 158964 158941 158945, 46, 47 158948 15892 158932, 33 | 280 | M13621 M13519 | V3273 V3275 | M13621 M13626 M13633 M13660 M13624 |
| 3/26/19 | 1254 / 0535 | | 032619 | DODCal u | 158998 158993 159016 159008 158733 159051 158941 159000 158723 159022 159020 159059 159026, 013, 014, 015, 159028 | 280 | M13621 M13519 | V3279 V3278 | M13621 M13626 M13633 M13660 M13624 |
| 3/27/19 | 1152 / 2139 | | 032719 | DODCal u | 159095 159079 | 280 | M13621 M13519 | V3276 | M13621 M13626 M13633 M13660 M13624 |

Comments: ¥ 3/8/19 ZH

Checked By / Date: _____

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/18/2019 16:26:34 | Running 251616 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 16:32:59 | Running 251618 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 16:39:23 | Running lcsw71060 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 16:45:39 | Running mbw71060 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 16:51:54 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 16:57:36 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:03:20 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:09:37 | Running 251899 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:16:14 | Running l251899 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:22:54 | Running dup251899 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:29:30 | Running msw251899 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:35:46 | Running msdw251899 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:42:01 | Running pdsw251899 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:48:09 | Running lcsw71045 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 17:54:26 | Running mbw71045 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:00:41 | Running 251856 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:07:20 | Running 251857 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:14:07 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:19:48 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:25:31 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:31:47 | Running 251867 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:38:40 | Running msw251867 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:45:29 | Running msdw251867 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:52:23 | Running pdsw251867 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 18:58:41 | Running 252127 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:05:20 | Running msw252127 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:11:35 | Running msdw252127 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:17:50 | Running pdsw252127 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:23:58 | Running 252146 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:30:12 | Running 250685 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:36:25 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:42:06 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:47:51 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 19:54:08 | Running 25068dup1 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 20:00:24 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 20:06:35 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 20:12:16 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 20:18:01 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/18/2019 20:24:19 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/18/2019 20:24:19 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/18/2019 20:24:21 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 07:10:40 | Plasma On | [redacted] | iTEVA Control Center | |
| | 03/19/2019 07:10:45 | Plasma ignition successful | [redacted] | Analyst | |
| | 03/19/2019 07:11:24 | D33534 - Debug:Wavelength check : x = 0.705, y =-0.632 | [redacted] | Analyst | |
| | 03/19/2019 12:34:21 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/19/2019 12:34:21 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 12:34:43 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 12:41:02 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 12:47:18 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 12:53:33 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 12:59:50 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:06:07 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/19/2019 13:12:17 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:18:26 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:24:33 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:30:13 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:37:01 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:43:32 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:49:50 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 13:56:34 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:04:11 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:10:24 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:16:35 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:22:47 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:28:55 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:35:10 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:41:26 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:47:39 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 14:48:32 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/19/2019 14:54:34 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:00:36 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:06:48 | Running icvLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:13:04 | Running icsa1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:19:24 | Running icsa2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:26:07 | Running icsa3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:32:07 | Running icsa4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:38:17 | Running 249442 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:45:01 | Running 249444 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:52:03 | Running 249447 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 15:59:02 | Running 252670 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:05:46 | Running 252671 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:12:25 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:18:13 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:23:59 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:30:15 | Running 252672 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:36:56 | Running 252673 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:44:00 | Running msw252673 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:50:10 | Running msdw252673 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 16:56:27 | Running lcss71076 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:02:59 | Running mbs71076 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:09:25 | Running 750740 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:15:47 | Running 750741 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:22:10 | Running 750742 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:28:22 | Running 750743 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:34:44 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:40:35 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:46:20 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:52:36 | Running 750744 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 17:58:56 | Running 750745 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:05:15 | Running 750746 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:11:32 | Running 750747 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:17:44 | Running 251121 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:24:20 | Running l251121 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:30:44 | Running 1dup251121 (27) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/19/2019 18:37:21 | Running 2dup251121 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:44:02 | Running mss251121 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:50:32 | Running msds251121 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 18:57:04 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:02:49 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:08:34 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:14:50 | Running pdss251121 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:21:43 | Running 251124 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:28:25 | Running 251125 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:34:57 | Running 251126 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:41:29 | Running 251127 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:48:03 | Running 251128 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 19:54:22 | Running 251129 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:00:54 | Running 251130 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:07:23 | Running 251131 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:13:41 | Running 1dup251131 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:19:58 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:25:39 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:31:24 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:37:40 | Running 2dup251131 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:43:56 | Running 251132 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:50:37 | Running 251133 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 20:57:16 | Running 251134 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 21:03:44 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 21:09:55 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 21:15:36 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 21:21:21 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/19/2019 21:27:38 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/19/2019 21:27:39 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/19/2019 21:27:40 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 06:57:50 | Plasma On | [redacted] | iTEVA Control Center | |
| | 03/20/2019 06:57:57 | Plasma ignition successful | [redacted] | Analyst | |
| | 03/20/2019 06:58:36 | D33534 - Debug:Wavelength check : x = 0.719, y =-0.604 | [redacted] | Analyst | |
| | 03/20/2019 11:32:22 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/20/2019 11:32:22 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 11:32:43 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 11:39:02 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 11:45:34 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 11:51:49 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 11:58:06 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:04:23 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:09:34 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/20/2019 12:10:34 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:16:54 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:23:05 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:28:49 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:35:32 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:41:51 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:48:10 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 12:55:05 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:02:40 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:08:54 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/20/2019 13:15:09 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:21:24 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:27:31 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:33:47 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:39:42 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:45:54 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:46:41 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/20/2019 13:52:43 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 13:58:58 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:05:11 | Running icvLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:11:25 | Running icsa1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:17:40 | Running icsa2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:19:45 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/20/2019 14:22:16 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 03/20/2019 14:22:17 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 03/20/2019 14:24:23 | Running icsa3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:25:34 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 03/20/2019 14:25:35 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 03/20/2019 14:30:24 | Running icsa4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:36:36 | Running 253479 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:38:08 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/20/2019 14:42:46 | Running 253480 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:44:28 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/20/2019 14:49:00 | Running lcss71083 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 14:54:44 | Running mbs71083 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:00:59 | Running 253114 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:06:58 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:12:38 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:18:23 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:24:39 | Running mss253114 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:30:28 | Running msds253114 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:36:17 | Running pdss253114 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:42:10 | Running lcss71092 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:48:42 | Running mbs71092 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 15:55:09 | Running 251135 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:01:24 | Running 351136 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:07:48 | Running 251137 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:14:11 | Running 251138 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:20:42 | Running 251139 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:27:05 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:32:45 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:38:30 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:44:46 | Running 251140 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:51:13 | Running 251141 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 16:57:39 | Running 1dup251141 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:04:05 | Running 2dup251141 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:10:33 | Running 251142 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:17:00 | Running 251663 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:23:28 | Running 251664 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:29:57 | Running 251665 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:36:07 | Running 251666 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:42:31 | Running 251667 (30) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/20/2019 17:48:41 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 17:54:22 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:00:06 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:06:22 | Running l251167 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:12:48 | Running dup251167 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:19:01 | Running mss251167 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:25:21 | Running msds251167 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:31:43 | Running pdss251167 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:38:11 | Running 251168 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:44:39 | Running l251168 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:51:07 | Running dup251168 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 18:57:35 | Running mss251168 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:04:11 | Running msds251168 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:10:46 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:16:26 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:22:11 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:28:27 | Running pdss251168 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:34:44 | Running lcswtclp (42) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:40:50 | Running mbwtclp (43) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:47:04 | Running 253543 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:53:32 | Running msw253453 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 19:59:52 | Running 252127 be1 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 20:06:31 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 20:12:42 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 20:18:23 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 20:24:07 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 20:30:32 | Failed to extinguish plasma E2199 - : Failed to extinguish plasma. | [redacted] | Analyst | |
| | 03/20/2019 20:30:32 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/20/2019 20:30:33 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/20/2019 20:30:44 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/21/2019 06:50:46 | Plasma On | [redacted] | iTEVA Control Center | |
| | 03/21/2019 06:50:52 | Plasma ignition successful | [redacted] | Analyst | |
| | 03/21/2019 06:51:31 | D33534 - Debug:Wavelength check : x = 0.722, y =-0.718 | [redacted] | Analyst | |
| | 03/21/2019 12:30:56 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/21/2019 12:30:56 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/22/2019 06:52:27 | Plasma On | [redacted] | iTEVA Control Center | |
| | 03/22/2019 06:52:33 | Plasma ignition successful | [redacted] | Analyst | |
| | 03/22/2019 06:53:12 | D33534 - Debug:Wavelength check : x = 0.710, y =-0.616 | [redacted] | Analyst | |
| | 03/22/2019 13:20:18 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/22/2019 13:20:18 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:20:39 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:27:08 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:33:31 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:39:46 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:46:08 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:52:28 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 13:58:41 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 14:04:51 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 14:10:58 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 14:16:39 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 14:23:24 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/22/2019 14:25:18 | Closing will close the method and all associated samples. | [redacted] | Analyst | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13770 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/25/2019 | Expiration Date: | 03/25/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13768 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13769 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/21/2019 | Expiration Date: | 09/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13765 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13766 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13767 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13763 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13764 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13761 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 03/19/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13762 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 09/19/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13511 and 60 g hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13758 | Standard: | ICSA4_Ni_Ti |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ni and Ti |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13759 | Standard: | ICSA2_Ba_Be_Sn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ba, Be, and Sn |
| Prep Date: | 03/13/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13760 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg<br>10,000 V, Ce |
| Prep Date: | 03/13/2019 | Expiration Date: | 09/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13756 | Standard: | ICSA1_Mn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Mn |
| Prep Date: | 03/13/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13757 | Standard: | ICSA3_Cr_Cu_Co_Mo |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Cr, Cu, Co and Mo |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/20 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13751 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 998527-19 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13752 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 982185-12 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13753 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | As 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 166531-32 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400--10M31 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13754 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13755 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 172053-77 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13749 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13750 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2020 |
| Prep: | Into a 1 L volumetric flask, added 400 g NaOH W45383 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13748 | Vendor: | Potters Ind. LLC (Gainger) |
| Analyst: | [redacted] | Chemical: | Glass beads Extra Fine |
| Date Received: | 03/07/2019 | Lot #: | |
| Expiration Date (if any): | XXXXXX | Catalog #: | 6ZC13 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13746 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13747 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| Standard Log #: | M13743 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 02/26/2019 | Expiration Date: | 10/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13458 | 1000 | 0.25 |
| Al | 10 | M13611 | **10000** | 0.05 |
| As | 20 | M13392 | 1000 | 1 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 0.5 | M13579 | 1000 | 0.025 |
| Ca | 50 | M13692 | **10000** | 0.25 |
| Cd | 0.5 | M13570 | 1000 | 0.025 |
| Co | 2.5 | M13575 | 1000 | 0.125 |
| Cr | 5.0 | M13617 | **10000** | 0.025 |
| Cu | 10 | M13618 | **10000** | 0.05 |
| Fe | 40 | M13609 | **10000** | 0.2 |
| Mg | 25 | M13694 | **10000** | 0.125 |
| Mn | 5 | M13616 | **10000** | 0.025 |
| Mo | 2.5 | M13697 | 1000 | 0.125 |
| Ni | 5 | M13569 | 1000 | 0.25 |
| Pb | 10 | M13615 | **10000** | 0.05 |
| Sb | 20 | M13459 | 1000 | 1 |
| Se | 20 | M13460 | 1000 | 1 |
| Tl | 20 | M13583 | 1000 | 1 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 5 | M13610 | **10000** | 0.025 |
| Na | 500 | M13605 | **10000** | 2.5 |
| K | 500 | M13733 | **10000** | 2.5 |
| B | 20 | M13531 | 1000 | 1 |
| Si | 100 | M13731 | 1000 | 5 |
| S | 200 | M13604 | **10000** | 1 |
| Li | 20 | M13537 | 1000 | 1 |
| Sr | 20 | M13572 | 1000 | 1 |
| Sn | 20 | M13580 | 1000 | 1 |
| Ti | 20 | M13573 | 1000 | 1 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13740 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 02/26/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13741 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 02-26-2019 | Lot #: | 3-153AB |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13742 | Vendor: | IKOHE Blasting Media |
| Analyst: | [redacted] | Chemical: | Glass Neads X-fine-20u |
| Date Received: | 02/26/2019 | Lot #: | 52-144 |
| Expiration Date (if any): | ********* | Catalog #: | UL-49/52-1544 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13739 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/22/2019 | Expiration Date: | 02/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13734 | Vendor: | SPEX CERTIPREP |
| Analyst: | [redacted] | Chemical: | HG 1000 ug/mL |
| Date Received: | 02/21/2019 | Lot #: | CL10-136HGY |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard Log #: | M13735 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13736 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13737 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 51-117CR |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13738 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 2-230SGX |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13730 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/14/2019 | Expiration Date: | 02/14/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13731 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 08/20 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13732 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13733 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 172053-36 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13727 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 02/08/2019 | Lot #: | 175511 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13728 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 02/08/2019 | Lot #: | 186819 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13729 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/11/2019 | Expiration Date: | 08/11/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13724 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13725 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13726 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/07/2019 | Expiration Date: | 08/07/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13721 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 02/05/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.671 with **1** part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13722 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13723 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13720 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/31/2019 | Expiration Date: | 01/31/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13716 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13717 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13718 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13719 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 01/30/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb)<br>M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13713 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/29/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13714 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 01/29/2019 | Lot #: | A0391673 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13715 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 1/29/2019 | Lot #: | 51-013CR |
| Expiration Date (if any): | 01/30/2020 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13711 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13615<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13712 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13615<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13710 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/22/2019 | Expiration Date: | 01/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13709 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13705 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13706 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13707 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13708 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13703 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13704 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13701 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/13/2018 | Expiration Date: | 06/13/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13696 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 167967-42 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13697 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Moybdenum 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169424-59 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13698 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 175213-60 |
| Expiration Date (if any): | 06/20 | Catalog #: | S4400-10005044F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13699 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/11/2018 | Lot #: | 50-120CR |
| Expiration Date (if any): | 12/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13700 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/12/2018 | Expiration Date: | 12/12/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13689 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13690 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Aluminum 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13691 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 752887-32 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13692 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Calcium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13693 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13694 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Magnesium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13695 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Iron 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13686 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13687 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13688 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13684 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/04/2018 | Expiration Date: | 06/04/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13683 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 10000 mg/L |
| Date Received: | 11/30/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 5/31/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13681 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13531 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13682 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2018 | Expiration Date: | 11/29/2018 |

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood.

| | | | |
|---|---|---|---|
| Standard Log #: | M13679 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13517 | 1000 | 0.72 |
| Sn | 20 | M13572 | 1000 | 1 |
| Sr | 3.2 | M13586 | 1000 | 0.16 |
| Ti | 9.6 | M13573 | 1000 | 0.48 |
| W | 24 | xxxxxxxx | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13680 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 07/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13531 | 1000 | 0.8 |
| Si | 200 | M13394 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| Standard Log #: | M13677 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13562 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13579 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13570 | 1000 | 0.08 |
| Co | 9.6 | M13575 | 1000 | 0.48 |
| Cr | 5.6 | M13617 | **10000** | 0.028 |
| Cu | 16 | M13618 | **10000** | 0.08 |
| Fe | 72 | M13463 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13616 | **10000** | 0.03 |
| Mo | 9.6 | M13608 | 1000 | 0.48 |
| Ni | 4.8 | M13569 | 1000 | 0.24 |
| Pb | 10 | M13610 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13583 | 1000 | 0.95 |
| V | 3.2 | M13578 | 1000 | 0.16 |
| Zn | 12 | M13610 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13676 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13462 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13579 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13570 | 1000 | 0.1 |
| Co | 4 | M13575 | 1000 | 0.2 |
| Cr | 4 | M13617 | **10000** | 0.02 |
| Cu | 7 | M13618 | **10000** | 0.035 |
| Fe | 100 | M13463 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13616 | **10000** | 0.02 |
| Mo | 7 | M13608 | 1000 | 0.35 |
| Ni | 6 | M13569 | 1000 | 0.2 |
| Pb | 4 | M13610 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13583 | 1000 | 0.75 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 10 | M13610 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13675 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/26/2018 | Expiration Date: | 11/26/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13671 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13672 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13673 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13674 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13668 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13669 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13670 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13666 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/19/2018 | Expiration Date: | 07/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$, $2\%$ HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13667 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/19/2018 | Expiration Date: | 11/19/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13664 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13665 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13659 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/01/2018 | Expiration Date: | 11/01/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13660 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg |
| Prep Date: | 11/01/2018 | Expiration Date: | 09/19 |
| Prep: | Into a 500 mL volumetric flask, pipetted 50 mL Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and 15 mL Fe (10000 mg/L) M13609 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13661 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | 12,000 mg/L Al<br>10,000 mg/L Ca, Mg<br>5000 mg/L Fe<br>2000 mg/L As, Ba, Se, Tl<br>500 mg/L B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>250 mg/L Cu<br>200 mg/L Cr<br>50 mg/L Ag, Be, Cd |
| Prep Date: | 11/06/2018 | Expiration Date: | 10/19 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>10 mL Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, 2 mL Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, 0.5 mL Mo (1000 mg/L) M13608, 0.5 mL B (1000 mg/L) M13531, 0.5 mL Sr (1000 mg/L) M13580, 0.5 mL Li (1000 mg/L) M13577, 0.5 mL Sn (1000 mg/L) M13572, 0.5 mL Ti (1000 mg/L) M13573, 0.5 mL W (1000 mg/L) Mxxxxx, 0.5 mL Si (1000 mg/L) M13571, 0.5 mL S (10000 mg/L) M13530, 0.5 mL K (10000 mg/L) M13612, and 0.5 mL K (10000 mg/L) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13657 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) XXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13658 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13655 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Standard Conc. (ug/L) | Pipette the following: | |
| | 1 | **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L* | |
| | 10 | **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L* | |
| | 100 | **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L* | |
| | 1000 (CCV) | **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L* | |
| | 10000 | **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L* | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13656 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13651 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13652 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13653 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance std |
| Date Received: | 10/29/2018 | Lot #: | 2-036AB |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13648 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13649 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13650 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 10/27/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13645 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13646 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 10/25/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13647 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 10/24/2018 | Lot #: | H226-02 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13643 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13644 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13639 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13640 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13641 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13642 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13638 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 10/23/2018 | Expiration Date: | 07/2019 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13615 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13634 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,0000 mg/L |
| Date Received: | 10/18/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 04/20 | Catalog #: | 4400-10m671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13635 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/18/2018 | Lot #: | 2-230sgx |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13636 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/18/2018 | Expiration Date: | 10/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13637 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance standard |
| Date Received: | 10/18/2018 | Lot #: | 50-0007CR |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13633 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13632 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13630 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13631 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13629 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2018 | Expiration Date: | 10/05/2018 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.663 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13627 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13628 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

MRL BASE STD M13626

Analyst [redacted]

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13579 | 1000 | 0.2 | 02/20 |
| Cd | 5 | M13570 | 1000 | 0.25 | 01/20 |
| Co | 10 | M13575 | 1000 | 0.5 | 01/20 |
| Cr | 10 | M13617 | 10000 | 0.05 | 03/20 |
| Cu | 10 | M13618 | 10000 | 0.05 | 03/20 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/19 |
| Mn | 10 | M13616 | 10000 | 0.05 | 03/20 |
| Mo | 10 | M13608 | 1000 | 0.5 | 03/20 |
| Ni | 10 | M13569 | 1000 | 0.5 | 03/20 |
| Pb | 10 | M13610 | 10000 | 0.05 | 03/20 |
| Sb | 20 | M13459 | 1000 | 1 | 03/20 |
| V | 10 | M13578 | 1000 | 0.5 | 02/20 |
| Zn | 10 | M13610 | 10000 | 0.05 | 02/20 |
| K | 1000 | M13341 | 10000 | 5 | 05/19 |
| Na | 1000 | M13402 | 10000 | 5 | 08/19 |
| As | 20 | M13392 | 1000 | 1 | 07/19 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/19 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/19 |
| Se | 20 | M13460 | 1000 | 1 | 10/19 |
| Tl | 20 | M13583 | 1000 | 1 | 02/20 |
| Si | 100 | M13394 | 1000 | 5 | 07/19 |
| B | 20 | M13531 | 1000 | 1 | 07/19 |
| Li | 20 | M13517 | 1000 | 1 | 02/20 |
| W | 50 | xxxxxxx | 1000 | 2.5 | xxxxxxx |
| Ti | 10 | M13573 | 1000 | 0.5 | 02/20 |
| Sr | 10 | M13586 | 1000 | 0.5 | 02/20 |
| Sn | 50 | M13572 | 1000 | 2.5 | 02/20 |
| S | 300 | M13391 | 10000 | 1.5 | 07/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13625 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 10/03/2018 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13623 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13624 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 09/27/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.** |
| Prep Date: | 09/27/18 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 , **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M13576 , **2.5 mLs Na 10,000 ug/mL** M13461 ,**2.5 mLs k 10,000 ug/mL** M13581 **2.5 mLs S 10,000 ug/mL** M13530 , **0.5 mls Si 1000 ug/mL** M13571 and brought up to volume with milli-Q . | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13622 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/27/2018 | Expiration Date: | 09/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13618 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148796-39 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M141 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13619 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/19/2018 | Expiration Date: | 09/19/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.664 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13620 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 09/04/2018 | Lot #: | 177409 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13611 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169484-18 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13612 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 440010M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13613 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13614 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13615 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 168223-17 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13616 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167540-6 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13617 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158236-7 |
| Expiration Date (if any): | 03/2020 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13604 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167967-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13605 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 752887-3 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13606 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 144467-179 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000411-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13607 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158237-113 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000521-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13608 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169424-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13609 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 156651-53 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13610 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 979871-2 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13603 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 09/19/2018 | Expiration Date: | 10/20/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13601 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/12/2018 | Expiration Date: | 09/12/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13602 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09-12-2018 | Lot #: | 1-124AB |
| Expiration Date (if any): | 09-30-2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13600 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 1% Pd Matrix Modifier |
| Date Received: | 09/11/2018 | Lot #: | 1808015 |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13599 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/08/2018 | Expiration Date: | 09/08/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 **and 128.6 mL** 10N NaOH M13514 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13595 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 08/29/2018 | Lot #: | 49-151CR |
| Expiration Date (if any): | 08/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13596 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/30/2018 | Expiration Date: | 08/30/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13597 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13598 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13591 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13592 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13593 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13594 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/23/2018 | Expiration Date: | 08/23/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13588 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13589 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13590 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | turbidity std 2.0 ntu |
| Date Received: | 08/21/2018 | Lot #: | 18272791 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13586 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) MXXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13587 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13584 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 08/20/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13585 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13577 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Li 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 751942-25 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13578 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | V 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 152207-68 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13579 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Be 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 660981-5 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13580 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sr 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 168227-29 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13581 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 02/2020 | Catalog #: | 4400-10411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13582 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 02/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13583 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Tl 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 148983-70 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13576 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/04/2018 | Lot #: | 49-045CR |
| Expiration Date (if any): | 07/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13569 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ni 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 166665-86 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13570 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cd 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 160499-32 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13571 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175213-28 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13572 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sn 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 144466-74 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13573 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ti 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 152616-55 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000623 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13574 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175191-22 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13575 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Co 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 161693-10 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000131 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13567 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. ($2\% HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13568 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13535, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **0.5 mL** Mo (1000 mg/L) M13393, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13129, **0.5 mL** Li (1000 mg/L) M13130, **0.5 mL** Sn (1000 mg/L) M13134, **0.5 mL** Ti (1000 mg/L) M13128, **0.5 mL** W (1000 mg/L) xxxxxx, **0.5 mL** Si (1000 mg/L) M13528, **0.5 mL** S (10000 mg/L) M13466, **0.5 mL** K (10000 mg/L) M13527, and **0.5 mL** Na (10000 mg/L) M13461 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13565 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/23/2018 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **15 mL** Fe (10,000 mg/L) M13463, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13564 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 07/20/2018 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13563 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13466 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13562 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13561 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13560 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13557 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 07/17/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13558 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 07/17/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13559 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/17/2018 | Expiration Date: | 01/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13559 and brought up to volume. | | |

| Standard Log #: | M13556 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 07/13/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13554 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13390 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13555 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13466 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13553 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 07/12/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13550 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13551 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13547 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 07/09/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) *Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13548 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 07/10/2018 | Expiration Date: | 01/10/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13549 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13545 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13546 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13542 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13543 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/09/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13544 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 01/09/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13539 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13540 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13541 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13536 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/03/2018 | Expiration Date: | 01/03/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13537 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13538 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/05/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13534 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 07/02/2018 | Expiration Date: | 09/16/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13535 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 07/02/2018 | Lot #: | 48-179CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13533 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 06/29/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **2.5 mL** of K (10,000 mg/L) M13400 , **2.5 mL** of Na (10,000 mg/L) M13402 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13526 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | YTTRIUM 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 138448-54 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13527 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | POTASSIUM 10,000 |
| Date Received: | 06/22/2018 | Lot #: | 172053-32 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-104411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13528 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 142610-115 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13529 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 156651-42 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13530 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | SULFUR 10,000ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 129880-46 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13531 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | BORON 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 158372-91 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13532 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | CUSTOM ASSURANCE STANDARD |
| Date Received: | 06/22/2018 | Lot #: | 48-146CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13525 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/20/2018 | Expiration Date: | 06/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13524 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/15/2018 | Expiration Date: | 06/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13522 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13523 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13520 | Vendor: | FRISCOLYT |
| Analyst: | [redacted] | Chemical: | Electrolyte Solution |
| Date Received: | 06/13/2018 | Lot #: | 1DO71H |
| Expiration Date (if any): | 12/03/2021 | Catalog #: | 51 340 053 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13521 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 06/13/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13518 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/11/2018 | Lot #: | 48-060CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13519 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 06/11/2018 | Expiration Date: | 06/30/2019 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13319 , **10 mL** of Fe (10,000 mg/L) M13463 , **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| Standard Log #: | M13513 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 12/06/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13514 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13515 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13516 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13510 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/01/2018 | Expiration Date: | 06/01/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13511 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 06/04/2018 | Lot #: | 176877 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13509 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 05/30/2018 | Expiration Date: | 11/30/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13506 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-042CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XCTWI-4-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13507 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-041CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13508 | Vendor: | RESTEK |
| Analyst: | [redacted] | Chemical: | Diatomaceous earth (Celite 566) |
| Date Received: | 05/22/2018 | Lot #: | 811030-BG |
| Expiration Date (if any): | N/A | Catalog #: | 26033 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13503 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13504 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13505 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13502 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 05/21/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13499 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13500 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13501 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13496 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 05/16/2018 | Expiration Date: | 05/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13497 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13498 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13495 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 05/15/2018 | Lot #: | H052-17 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13494 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Modifier |
| Date Received: | 05/11/2018 | Lot #: | 8130826 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13491 | Reagent/Standard: | Mehlich 3 Extractant |
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/18/2018 |
| PREP | | | |
| Into a 1000 mL V.F., filled with approximately 800 mL D.I. H2O, added 20g NH4NO3 (W43076), 4 mL Mehlich 3 Stock Solution (M13489), 11.5 mL Glacial Acetic Acid (AB 653), 820 µl HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator. | | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13492 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| Standard Log #: | M13489 | Reagent/Standard: | Mehlich 3 Stock Solution |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 100 mL V.F., added 13.89g NH4F (W43077) and 7.305g EDTA (W43689). Brought to volume with D.I. H2O. Stirred and dissolved for 15 minutes. Stored in refrigerator.

| Standard Log #: | M13490 | Reagent/Standard: | Mehlich 3 Extractant |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 2000 mL V.F., filled with approximately 1500 mL D.I. H2O, added 40g NH4NO3 (W43076), 8 mL Mehlich 3 Stock Solution (M13489), 23 mL Glacial Acetic Acid (AB 653), 1.64 mL HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13485 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13486 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13487 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13488 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13484 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10,000 mg/L |
| Date Received: | 05/03/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13482 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13483 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305, **15 mL** Fe (10,000 mg/L) M13321, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) 13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13480 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 05/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13479 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13481 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

MRL BASE STD M13479 Analyst [redacted]

Prep Date 05/02/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/2018 |
| Cd | 5 | M13327 | 1000 | 0.25 | 09/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/2018 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/2018 |
| Sb | 20 | M13459 | 1000 | 1 | 10/2019 |
| V | 10 | M13125 | 1000 | 0.5 | 09/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13341 | 10000 | 5 | 05/2019 |
| Na | 1000 | M13402 | 10000 | 5 | 08/2019 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/2019 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/2019 |
| Se | 20 | M13460 | 1000 | 1 | 10/2019 |
| Tl | 20 | M13124 | 1000 | 1 | 09/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/2018 |
| W | 50 | xxxxxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2018

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13476 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg |
| Prep Date: | 05/02/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305 and **15 mL** Fe (10000 mg/L) M13321 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13477 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13478 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13475 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/30/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13474 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/27/2018 | Expiration Date: | 04/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13471 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13472 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13473 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13470 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 04/25/2018 | Expiration Date: | 10/25/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13043 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13467 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 147497-47 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13468 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 04/24/2018 | Lot #: | 174236 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13469 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/24/2018 | Expiration Date: | 04/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13462 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158058-23 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13463 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 156651-18 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13464 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 148250-67 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13465 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 172053-2 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13466 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | S 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 129880-37 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13457 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158364-3 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13458 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ag 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 162712-9 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13459 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sb 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 153992-1 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13460 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Se 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 154366-16 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13461 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 107139-108 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13455 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13456 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/20/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13452 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13453 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13454 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13450 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 04/20/2018 | Expiration Date: | 01/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13451 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 04/20/201 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13447 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13448 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13449 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13445 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/19/2018 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | Hach 2100 turbidity meter |
| Standard Log #: | M13446 | Standard: | Turbity ICAL |
| Analyst: | [redacted] | Concentrations: | 20, 100, 200 ntu |
| Prep Date: | 04/19/2018 | Expiration Date: | 12/2019 |
| Prep: | Using the hach vials , pipet the following:<br>*20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20.<br>*100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20.<br>*200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13444 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Hg Standard |
| Date Received: | 04/18/2018 | Lot #: | CL10-31HGY |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13443 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/16/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13341 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13440 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/12/2018 | Expiration Date: | 04/12/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13441 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13442 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

**LPMT1-04**
**Metals Reagents and Standards**
**Prep Logbook**
*Created: 12/19/17*

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

---

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13438 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 07/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* **-1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13439 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 01/19/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13437 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 04/10/2018 | Expiration Date: | 07/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13390 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

| | | | |
|---|---|---|---|
| Standard ID#: | M13436a | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal 200 NTU |
| Date Received: | 04/10/2018 | Lot #: | A7354 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 2660449 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13436 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13435 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std Spike |
| Date Received: | 04/10/2018 | Lot #: | 1-81YJ |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | XSPIKE-1-250 |

| Standard Log #: | M13434 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13433 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13431 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13432 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13430 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2018 | Expiration Date: | 04/03/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13429 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 04/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13362 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **0.5 mL** Mo (1000 mg/L) M13393 , **0.5 mL** B (1000 mg/L) M13390 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 , **0.5 mL** Ti (1000 mg/L) M13128 , **0.5 mL** W (1000 mg/L) MXXXXX , **0.5 mL** Si (1000 mg/L) M13394 ,**0.5 mL** S (10000 mg/L) M13391 , **0.5 mL** K (10000 mg/L) M13391 , and **0.5 mL** Na (10000 mg/L) M13342 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13428 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 03/29/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13427 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2018 | Expiration Date: | 03/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13426 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/23/2018 | Expiration Date: | 03/23/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13423 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13424 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13425 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13422 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/20/2018 | Expiration Date: | 03/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13418 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13419 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 09/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13420 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 03/15/2018 | Expiration Date: | 07/02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (2% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M13392 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | | |
| Standard Log #: | M13421 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2019 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13416 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 03/09/2018 | Expiration Date: | 07/02/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13417 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/09/2018 | Expiration Date: | 03/09/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13413 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13414 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13415 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13412 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 03/06/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **2.5 mL** of K (10,000 mg/L) M13323 , **2.5 mL** of Na (10,000 mg/L) M13342 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13411 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/02/2018 | Expiration Date: | 03/02/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13410 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Inerference_A |
| Date Received: | 02/28/2018 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 02/28/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13408 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/27/2018 | Expiration Date: | 02/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13409 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/27/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13048, **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13406 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13407 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

MRL BASE STD M13405

Analyst [redacted]

Prep Date 02/21/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2018 |
| Al | 400 | M13322 | 10000 | 2 | 04/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05/03/2018 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/2018 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/2018 |
| Mg | 500 | M13236 | 10000 | 2.5 | 01/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/2018 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/2018 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/2018 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/2018 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13237 | 10000 | 2.5 | 01/2019 |
| Fe | 300 | M13321 | 10000 | 1.5 | 01/30/2019 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/2018 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 50 | Mxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date:
05/03/2018

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13404 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/21/2018 | Expiration Date: | 02/21/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13403 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/19/2018 | Expiration Date: | 08/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13400 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 106958-116 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13401 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13402 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 107139-126 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13398 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13399 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13390, **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13396 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 01/31/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M13236 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13388 | Reagent: | SPLP EXTRACTION FLUID EAST # |
| Analyst: | [redacted] | pH: | 4.20 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13389 | Reagent: | SPLP EXTRACTION FLUID WEST i |
| Analyst: | [redacted] | pH: | 5.00 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13390 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Boron 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 158372-29 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13391 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 129880-28 |
| Expiration Date (if any): | 07/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13392 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Arsenic 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 143356-61 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100031 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13393 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Molybdenum 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 134169R-102 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13394 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 142610-58 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard Log #: | M13386 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13387 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13383 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13384 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13385 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13048 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13280 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13380 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M12958 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13347 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13049 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13379 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/20/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 2640 | M13341 | 10000 | 13.2 |
| Na | 960 | M13342 | 10000 | 4.8 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13377 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 500 | M13341 | 10000 | 2.5 |
| Na | 600 | M13342 | 10000 | 3 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13378 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 L2 Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 10/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 10 | M13130 | 1000 | 0.5 |
| Sn | 10 | M13134 | 1000 | 0.5 |
| Sr | 2 | M13129 | 1000 | 0.1 |
| Ti | 8 | M13128 | 1000 | 0.8 |
| W | 36 | M | 1000 | 1.8 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13376 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M12958 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13347 | **10000** | 0.5 |
| Mg | 40 | M13236 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13049 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13374 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/08/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) *Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13375 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M12958 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13372 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M12958<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13373 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M12958<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13369 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13370 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13371 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13368 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 01/05/2018 | Expiration Date: | 02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13083 | 1000 | 0.25 |
| Al | 10 | M13322 | **10000** | 0.05 |
| As | 20 | M12958 | 1000 | 1 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 0.5 | M13126 | 1000 | 0.025 |
| Ca | 50 | M13324 | **10000** | 0.25 |
| Cd | 0.5 | M13127 | 1000 | 0.025 |
| Co | 2.5 | M13132 | 1000 | 0.125 |
| Cr | 5.0 | M13165 | **10000** | 0.025 |
| Cu | 10 | M13166 | **10000** | 0.05 |
| Fe | 40 | M13397 | **10000** | 0.2 |
| Mg | 25 | M13319 | **10000** | 0.125 |
| Mn | 5 | M13167 | **10000** | 0.025 |
| Mo | 2.5 | M13049 | 1000 | 0.125 |
| Ni | 5 | M13133 | 1000 | 0.25 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 20 | M13084 | 1000 | 1 |
| Se | 20 | M13082 | 1000 | 1 |
| Tl | 20 | M13124 | 1000 | 1 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 5 | M13168 | **10000** | 0.025 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13366 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_Li_Sn_Sr_Ti Spiking _Solu |
| Prep Date: | 01/05/2018 | Expiration Date: | 09/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 20 | M13130 | 1000 | 1 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 20 | M13129 | 1000 | 1 |
| Ti | 20 | M13128 | 1000 | 1 |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13364 | Vendor: | Sprx CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Standard |
| Date Received: | 01/05/2018 | Lot #: | 46-183CR |
| Expiration Date (if any): | 01/30/2019 | Catalog #: | XCTW-5-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13365 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_B&Si&S_Spiking_Solution |
| Prep Date: | 01/05/2018 | Expiration Date: | 06/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 20 | M13048 | 1000 | 1 |
| Si | 100 | M13338 | 1000 | 5 |
| S | 200 | M13280 | 1000 | 1 |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13362 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/26/2017 | Lot #: | 46-162CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13361 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/22/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13356 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 12/018/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13357 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 12/18/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13358 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 06/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.651 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13359 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/18/2017 | Lot #: | 46-114CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13353 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13354 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13355 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13351 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/15/2017 | Expiration Date: | 06/15/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13350 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 12/12/2017 | Lot #: | 1729606 |
| Expiration Date (if any): | 06//2019 | Catalog #: | 10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13348 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190 , **0.05 mL** of B (1000 µg/mL) M12957 , **0.05 mL** of Si (1000 µg/mL) M12943 and **3 mL** of Fe (10,000 mg/L) M13235 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13349 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13346 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/07/2017 | Expiration Date: | 12/07/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13347 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 12/06/2017 | Lot #: | 156651-6 |
| Expiration Date (if any): | 06/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13344 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 12/01/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13050 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13338 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Silicon 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 142610-58 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13339 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 93655-174 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13340 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 144467-94 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 060020-04-03 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13341 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 106958-97 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13342 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 107139-106 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13343 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 12/01/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13335 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2017 | Expiration Date: | 11/29/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.649 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13336 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13337 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13333 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 11/17/2017 | Lot #: | 46-040CR |
| Expiration Date (if any): | 11/20/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13334 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/28/2017 | Expiration Date: | 11/28/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | HYDRA |
| Standard Log #: | M13331 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/15/2017 | Expiration Date: | 05/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **10 mL** hydrochloric acid AB.651 and dissolved **20 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13329 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/14/2017 | Expiration Date: | 05/14/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13330 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/14/2017 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12958 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13328 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As, Tl<br>8 µg/L Pb<br>14 µg/L Sb<br>20 µg/L Se<br>0.6 µg/L Ag |
| Prep Date: | 11/13/2017 | Expiration Date: | 02/23/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M12958 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.8 | 10,000 | 8 |
| Tl | 1.0 | 10,000 | 10 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.4 | 10,000 | 14 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13325 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2017 | Expiration Date: | 11/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.652 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13326 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/09/2017 | Expiration Date: | 08/30/2018 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13327 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/09/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **6 mL** of Fe (10,000 mg/L) M13235, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13318 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std |
| Date Received: | 11/07/2017 | Lot #: | 49-012CR |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13319 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 148250-15 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13320 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 139448-37 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13321 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 101593-91 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-101M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13322 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 103665-69 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13323 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 106958-82 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13324 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 147497-26 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13314 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 11/07/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M12947 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13315 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13316 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13317 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13308 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13309 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13310 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13304 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 10/19/2017 | Expiration Date: | 01/19/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13280 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* -**1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13305 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/19/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 10/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13306 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13307 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13303 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/17/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13163 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13301 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 10/10/17 | Expiration Date: | 04/10/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13299 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13300 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13297 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Palladium Matrix Modifier |
| Date Received: | 10/04/2017 | Lot #: | 1713238 |
| Expiration Date (if any): | 09/2018 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13298 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2017 | Expiration Date: | 10/05/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13295 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/02/2017 | Expiration Date: | 10/02/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13296 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 10/03/2017 | Lot #: | 7106463 |
| Expiration Date (if any): | 03/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13293 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13270 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 , **0.5 mL** Mo (1000 mg/L) M13049 , **0.5 mL** B (1000 mg/L) M13048 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 and **0.5 mL** Ti (1000 mg/L) M13128 . | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13294 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 10/02/2017 | Expiration Date: | 02/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$.<br>(5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13291 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13235 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13292 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13235, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13252 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13289 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | Turbidity 2.0 NTU standard |
| Date Received: | 09/29/2017 | Lot #: | C797951 |
| Expiration Date (if any): | 09/2018 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13290 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 10/02/2017 | Expiration Date: | 06/30/2018 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13252 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **1 mL** of Si (1000 mg/L) M13085 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13233 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13135 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13236 , **10 mL** of Fe (10,000 mg/L) M13235 , **10 mL** of Ca (10,000 mg/L) M13237 and **10 mL** Al (10,000 mg/L) M13232 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13286 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12873 and K (1000 µg/mL) M12874 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13287 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12873 and **0.5 mL** K (1000 µg/mL) M12874 and brought to volume with Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13288 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **2.5 mL** of K (10,000 mg/L) M13163, **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M13164 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13285 | Standard: | DOD MRL |
| Analyst: | [redacted] | Concentrations: | 4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na. |
| Prep Date: | 09/29/17 | Expiration Date: | 02/23/18 |
| Prep: | Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

MRL BASE STD M13284 Analyst [redacted]

Prep Date 09-26-2017

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2017 |
| Al | 400 | M13232 | 10000 | 2 | 01/30/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05//03/18 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/18 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/18 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/18 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/18 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/18 |
| Mg | 500 | M12947 | 10000 | 2.5 | 01/29/18 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/18 |
| Mo | 10 | M13049 | 1000 | 0.5 | 06/08/18 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/18 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/18 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/18 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/18 |
| Zn | 10 | M12989 | 10000 | 0.05 | 04/07/18 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/18 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/18 |
| As | 20 | M12958 | 1000 | 1 | 02/23/18 |
| Ca | 500 | M13032 | 10000 | 2.5 | 05/03/18 |
| Fe | 300 | M13235 | 10000 | 1.5 | 01/30/19 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/18 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/18 |
| Si | 100 | M13085 | 1000 | 5 | 07/02/18 |
| B | 20 | M12957 | 1000 | 1 | 02/23/2018 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/18 |
| W | 50 | Mxxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/18 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/18 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/18 |
| S | 300 | M13280 | 10000 | 1.5 | 03/30/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 02/23/18

| | | | |
|---|---|---|---|
| Standard ID#: | M13280 | Vendor: | SPC Science |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/25/2017 | Lot #: | S170526006 |
| Expiration Date (if any): | 03/2019 | Catalog #: | 140-060-16x |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13281 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13282 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13283 | Standard: | ICSA2 |
| Analyst: | [redacted] | Concentrations: | **10,000 ug/L** Cu, Ni |
| Prep Date: | 09/26/2017 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5 **mL** 1000 mg/L Ni M13133 and 0.5 **mL** 10000 mg/L Cu M13166 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13276 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13277 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13278 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13279 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 mg/L |
| Date Received: | 09/22/2017 | Lot #: | 1712902 |
| Expiration Date (if any): | 03/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13274 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M12957 | 1000 | 2.6 |
| Si | 192 | M13047 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13275 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M13131 | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13271 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13272 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13273 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13270 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09/15/2017 | Lot #: | 4-91MKB |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XSPIKE-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13265 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13266 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.646 with **1** part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13267 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W42226 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13268 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13269 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13262 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13263 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13264 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13263 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13261 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 09/12/2017 | Expiration Date: | 03/12/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added 70 mL hydrochloric acid AB.646 and dissolved 100 g Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13258 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13259 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13260 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13257 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 08/30/2017 | Expiration Date: | 11/11/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12958 **and 0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$, $2\%$ HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13255 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M13131 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13256 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 100/300 | M13131 | 1000 | 5 | 09/18/2018 |
| Ti | 10/30 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10/30 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 20/60 | M13134 | 1000 | 1 | 09/18/2018 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| Standard ID#: | M13252 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/23/2017 | Lot #: | 44-188CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13253 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 08/28/2017 | Expiration Date: | 04/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13172 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13254 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 08/28/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13164 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13251 | Reagent: | TCLP EXTRACTION FLUID #2 |
| Analyst: | [redacted] | pH: | 2.88 ± 0.05 |
| Prep Date: | 08/23/2017 | Expiration Date: | 08/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13247 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Phosphorus 10,000 ug/mL |
| Date Received: | 08/10/2017 | Lot #: | AN16-170PY |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | PLP-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13248 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/11/2017 | Lot #: | 44-152CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13245 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/09/2017 | Expiration Date: | 08/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.648 with 1 part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13246 | Vendor: | Lab Chem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 08/09/2017 | Lot #: | G137-04 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13242 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13243 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/02/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB. and dissolved **100 g** Stannous chloride M and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13239 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13240 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13241 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13232 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 103665-32 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13233 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 106958-39 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13234 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 139448-20 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-448-20 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13235 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 101593-51 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13236 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 119874R-57 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13237 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 120907-55 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13238 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | La 1000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 129369-6 |
| Expiration Date (if any): | 01/2019 | Catalog #: | S4400-1000271 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13226 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 07/21/2017 | Lot #: | 170229 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13219 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13220 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13221 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13164, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13214 | Vendor: | SpexCertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/26/2017 | Lot #: | 43-194CR |
| Expiration Date (if any): | 06/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13215 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/27/2017 | Expiration Date: | 06/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.642 with 1 part $HNO_3$ AB.640 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13207 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13172 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13208 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13172 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13202 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 22-46CEY |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | PLCE2-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13203 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 16K087 |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | S4400-1000101 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13204 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/05/2017 | Expiration Date: | 06/05/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13199 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana I soil |
| Date Received: | 05/15/2017 | Lot #: | 2710a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13200 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana II soil |
| Date Received: | 05/15/2017 | Lot #: | 2711a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13198 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 05/26/2017 | Expiration Date: | 11/26/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13198 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13193 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13194 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE Alt. Source |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13195 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13196 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13197 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13188 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13189 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13190 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 05/23/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13191 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom assurance Standard-100 ug/n |
| Date Received: | 05/23/2017 | Lot #: | 43-009CR |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13186 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 05/22/2017 | Lot #: | 166161 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13187 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 05/22/2017 | Lot #: | 1705408 |
| Expiration Date (if any): | 11/16/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13173 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13174 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.637 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13175 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13171 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std. |
| Date Received: | 05/01/2017 | Lot #: | 42-155CR |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13172 | Vendor: | [redacted] |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 05/01/2017 | Lot #: | AL16-158SY |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | PLS9-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13163 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 mg/L |
| Date Received: | 04/24/2017 | Lot #: | 1106963 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13164 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106960 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13165 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106998 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13166 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107000 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M141 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13167 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107001 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13168 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107003 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13169 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107081 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13160 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W40688 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13161 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13162 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13148 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13035 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. ($2\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13149 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **2.5 mL** of K (10,000 mg/L) M13035 , **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. ($2\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13150 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13135 and **0.15 mL** K (10,000 µg/mL) M13035 and brought to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13142 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13026 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13143 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13048 and Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13144 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **0.05 mL** of B (1000 µg/mL) M13048 , **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13140 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/04/2017 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13134 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tin 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105287 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13135 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105283 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13136 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2017 | Expiration Date: | 03/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.637 with 1 part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13129 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Strontium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105291 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13130 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Lithium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105286 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13131 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tungsten 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105285 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000633 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13132 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cobalt 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105296 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000131 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13133 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Nickel 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1104980 |
| Expiration Date (if any): | 09/14/2018 | Catalog #: | S4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13124 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Thallium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105132 |
| Expiration Date (if any): | 09/16/2017 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13125 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Vanadium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105293 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13126 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Beryllium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105295 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13127 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cadmium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105288 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13128 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Titanium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105290 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000623 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13109 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13110 | Standard: | Hg MRL |
| Analyst: | [redacted] | Concentration: | 0.2 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/18/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13111 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 03/03/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.637 with **1** part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13112 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 09/03/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.637 and dissolved **100 g** Stannous chloride M12998 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13106 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13107 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/2/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13108 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13103 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 02/28/2017 | Lot #: | CL-144HGY |
| Expiration Date (if any): | 02/28/2018 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13104 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 03/02/2017 | Lot #: | 17A006 |
| Expiration Date (if any): | 07/22/2018 | Catalog #: | S4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13105 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 03-02-2017 | Lot #: | 16I092 |
| Expiration Date (if any): | 07/24/2017 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13082 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Selenium |
| Date Received: | 02/08/2017 | Lot #: | 16I070 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13083 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silver |
| Date Received: | 02/08/2017 | Lot #: | 16K036 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13084 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Antimony |
| Date Received: | 02/08/2017 | Lot #: | 16I118 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13085 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silicon |
| Date Received: | 02/08/2017 | Lot #: | 16I001 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13080 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERMANGANATE |
| Date Received: | 01/30/2017 | Lot #: | 164080 |
| Expiration Date (if any): | | Catalog #: | P279-212 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13059 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 12/19/2016 | Lot #: | A0375670 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13047 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 |
| Date Received: | 12/15/2016 | Lot #: | 16I001 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13048 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | B 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16H060 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13049 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16I124 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13050 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16K094 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13036 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 11/10/2016 | Lot #: | 138905AH |
| Expiration Date (if any): | 05/31/2018 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13031 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13032 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13033 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13034 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16F134 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13035 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 11/09/2018 | Lot #: | 16I165 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10m411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13027 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2016 | Expiration Date: | 11/09/2016 |
| Prep: | Carefully mixed 3 parts HCl AB.631 with 1 part $HNO_3$ AB.628 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13028 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 1623223 |
| Expiration Date (if any): | 05/04/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13029 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16H058 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13030 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13024 | Vendor: | METTLER TOLEDO |
| Analyst: | [redacted] | Chemical: | FRISCOLYT |
| Date Received: | 11/01/2016 | Lot #: | 1B167D |
| Expiration Date (if any): | | Catalog #: | 51340053 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12992 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12993 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16B102 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12994 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12988 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I165 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12989 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn |
| Date Received: | 10/13/2016 | Lot #: | 16H186 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12990 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 1013/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12991 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12900 | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal Standard, 200 NTU or FNU |
| Date Received: | 06/17/2016 | Lot #: | A6036 |
| Expiration Date (if any): | 02/2018 | Catalog #: | 2660449 |

# INORGANIC
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251663 |
| Analytical Method: | EPA 8000C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.6 | Lab Sample ID: | 251121 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.0 | Lab Sample ID: | 251665 |
| Analytical Method: | EPA 8000C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU09R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251125 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU09R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251126 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU09R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251127 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 250742 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU11R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251131 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU11R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251133 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU11R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.4 | Lab Sample ID: | 251135 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.2 | Lab Sample ID: | 250740 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 250746 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU4**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 97.7 | Lab Sample ID: | 250744 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU51R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.5 | Lab Sample ID: | 251137 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU51R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.8 | Lab Sample ID: | 251138 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU51R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.4 | Lab Sample ID: | 251139 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.9 | Lab Sample ID: | 251667 |
| Analytical Method: | EPA 8000C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 251664 |
| Analytical Method: | EPA 8000C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.4 | Lab Sample ID: | 251124 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251666 |
| Analytical Method: | EPA 8000C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU09R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.7 | Lab Sample ID: | 251128 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU09R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.8 | Lab Sample ID: | 251129 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU09R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.0 | Lab Sample ID: | 251130 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.2 | Lab Sample ID: | 250743 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU11R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.3 | Lab Sample ID: | 251134 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU11R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.0 | Lab Sample ID: | 251132 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU11R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.5 | Lab Sample ID: | 251136 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.3 | Lab Sample ID: | 250741 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 98.5 | Lab Sample ID: | 250747 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU4**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 97.6 | Lab Sample ID: | 250745 |
| Analytical Method: | EPA 8000C | Date Received: | 03/12/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158861 | Analysis Date/Time | 03/19/2019 13:21 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU51R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.4 | Lab Sample ID: | 251140 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU51R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.7 | Lab Sample ID: | 251141 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU51R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.5 | Lab Sample ID: | 251142 |
| Analytical Method: | EPA 8000C | Date Received: | 03/13/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU58**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143438 |
| % Solids: | 99.1 | Lab Sample ID: | 251668 |
| Analytical Method: | EPA 8000C | Date Received: | 03/14/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU11R1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 98.9
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 158861
ICAL Calibration #:
Sample #: 254022
Parent Sample #: 251131

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 03/19/2019 | 13:21 | 8 | 98.9 | | 98.8 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU58**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143438
% Solid for Sample: 98.9
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 158862
ICAL Calibration #:
Sample #: 256450
Parent Sample #: 251667

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 03/26/2019 | 11:30 | 8 | 98.9 | | 99.1 | | 0 | | GRA |

# INORGANICS
# RAW DATA
# DOCUMENTS

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090

Ambient Temp (˚C): 17.4

**Sample #:** 250740

Analyst: [redacted]

Date: 03/12/2019

Time: 13:30

Initial Sample Wet Weight (g): 2245.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 10:00

Weight Retained on #10 Sieve (g): 88.1
% Retained on #10 Sieve: 3.9
% Passing #10 Sieve: 96.1

Observations:

Gravel, paper.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 14:00

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090 Ambient Temp (˚C): 19

**Sample #:** 250741

Analyst: [redacted]

Date: 03/12/2019

Time: 13:30

Initial Sample Wet Weight (g): 2454.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 13:30

Weight Retained on #10 Sieve (g): 380.3
% Retained on #10 Sieve: 15.5
% Passing #10 Sieve: 84.5

Observations:

Gravel, roots.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 14:10

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090

Ambient Temp (˚C): 19

**Sample #:** 250742

Analyst: [redacted]

Date: 03/12/2019

Time: 13:30

Initial Sample Wet Weight (g): 2160.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 13:45

Weight Retained on #10 Sieve (g): 33.5
% Retained on #10 Sieve: 1.6
% Passing #10 Sieve: 98.4

Observations:

Gravel, asphalt.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 14:30

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090 Ambient Temp (˚C): 19

**Sample #:** 250743

Analyst: [redacted]

Date: 03/12/2019

Time: 13:30

Initial Sample Wet Weight (g): 2105.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 190.5
% Retained on #10 Sieve: 9.0
% Passing #10 Sieve: 91.0

Observations:

Gravel, sticks.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 14:40

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090 Ambient Temp (˚C): 19

**Sample #:** 250744

Analyst: [redacted]

Date: 03/12/2019

Time: 13:30

Initial Sample Wet Weight (g): 2430.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 14:15

Weight Retained on #10 Sieve (g): 69.2
% Retained on #10 Sieve: 2.8
% Passing #10 Sieve: 97.2

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 14:50

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090 Ambient Temp (˚C): 19

**Sample #:** 250745

Analyst: [redacted]

Date: 03/12/2019

Time: 13:33

Initial Sample Wet Weight (g): 2545.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 13:35

Weight Retained on #10 Sieve (g): 145
% Retained on #10 Sieve: 5.7
% Passing #10 Sieve: 94.3

Observations:

Gravel, roots.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 15:00

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090 Ambient Temp (˚C): 19

**Sample #:** 250746

Analyst: [redacted]

Date: 03/12/2019

Time: 13:35

Initial Sample Wet Weight (g): 2238.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 13:35

Weight Retained on #10 Sieve (g): 77.7
% Retained on #10 Sieve: 3.5
% Passing #10 Sieve: 96.5

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 15:10

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159090 Ambient Temp (˚C): 19

**Sample #:** 250747

Analyst: [redacted]

Date: 03/12/2019

Time: 13:25

Initial Sample Wet Weight (g): 2488.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/13/2019

Time: 13:25

Weight Retained on #10 Sieve (g): 115.1
% Retained on #10 Sieve: 4.6
% Passing #10 Sieve: 95.4

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/14/2019

Time: 15:25

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251121

Analyst: [redacted]

Date: 03/13/2019

Time: 13:00

Initial Sample Wet Weight (g): 2390.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 16.2

Date: 03/16/2019

Time: 8:05

Weight Retained on #10 Sieve (g): 377.9
% Retained on #10 Sieve: 15.8
% Passing #10 Sieve: 84.2

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 9:00

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251124

Analyst: [redacted]

Date: 03/13/2019

Time: 13:05

Initial Sample Wet Weight (g): 2261.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 16.2

Date: 03/16/2019

Time: 8:20

Weight Retained on #10 Sieve (g): 601.4
% Retained on #10 Sieve: 26.6
% Passing #10 Sieve: 73.4

Observations:

Gravel with some clay clumps that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 9:05

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251125

Analyst: [redacted]

Date: 03/13/2019

Time: 13:05

Initial Sample Wet Weight (g): 2870.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 16.9

Date: 03/16/2019

Time: 9:20

Weight Retained on #10 Sieve (g): 312
% Retained on #10 Sieve: 10.9
% Passing #10 Sieve: 89.1

Observations:

Large & small rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 9:23

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251126

Analyst: [redacted]

Date: 03/13/2019

Time: 13:10

Initial Sample Wet Weight (g): 2860.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 16.9

Date: 03/16/2019

Time: 9:15

Weight Retained on #10 Sieve (g): 251.5
% Retained on #10 Sieve: 8.8
% Passing #10 Sieve: 91.2

Observations:

Large & small rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 9:25

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251127

Analyst: [redacted]

Date: 03/13/2019

Time: 13:10

Initial Sample Wet Weight (g): 2761.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.9

Date: 03/16/2019

Time: 9:50

Weight Retained on #10 Sieve (g): 101.2
% Retained on #10 Sieve: 3.7
% Passing #10 Sieve: 96.3

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 10:02

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251128

Analyst: [redacted]

Date: 03/13/2019

Time: 13:05

Initial Sample Wet Weight (g): 3328.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17.3

Date: 03/16/2019

Time: 10:06

Weight Retained on #10 Sieve (g): 17.8
% Retained on #10 Sieve: 0.5
% Passing #10 Sieve: 99.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251129

Analyst: [redacted]

Date: 03/13/2019

Time: 13:10

Initial Sample Wet Weight (g): 3832.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.5

Date: 03/16/2019

Time: 10:40

Weight Retained on #10 Sieve (g): 186.2
% Retained on #10 Sieve: 4.9
% Passing #10 Sieve: 95.1

Observations:

Small gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 10:45

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251130

Analyst: [redacted]

Date: 03/13/2019

Time: 13:16

Initial Sample Wet Weight (g): 3417.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 18.3

Date: 03/16/2019

Time: 10:55

Weight Retained on #10 Sieve (g): 6.3
% Retained on #10 Sieve: 0.2
% Passing #10 Sieve: 99.8

Observations:

Fine roots.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 11:00

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251131

Analyst: JLS

Date: 03/13/2019

Time: 13:15

Initial Sample Wet Weight (g): 2572.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.4

Date: 03/16/2019

Time: 10:57

Weight Retained on #10 Sieve (g): 440.2
% Retained on #10 Sieve: 17.1
% Passing #10 Sieve: 82.9

Observations:

Small and large gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 11:12

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251132

Analyst: [redacted]

Date: 03/13/2019

Time: 13:25

Initial Sample Wet Weight (g): 2945.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.6

Date: 03/16/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 429.2
% Retained on #10 Sieve: 14.6
% Passing #10 Sieve: 85.4

Observations:

Small and large gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 11:33

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251133

Analyst: [redacted]

Date: 03/13/2019

Time: 13:15

Initial Sample Wet Weight (g): 2542.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 03/16/2019

Time: 11:55

Weight Retained on #10 Sieve (g): 318.3
% Retained on #10 Sieve: 12.5
% Passing #10 Sieve: 87.5

Observations:

Various size gravel.

## Milling:

Analyst: [redacted]

Date: 03/16/2019

Time: 11:58

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251134

Analyst: [redacted]

Date: 03/13/2019

Time: 13:30

Initial Sample Wet Weight (g): 2881.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 16

Date: 03/17/2019

Time: 6:45

Weight Retained on #10 Sieve (g): 126
% Retained on #10 Sieve: 4.4
% Passing #10 Sieve: 95.6

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 7:15

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251135

Analyst: [redacted]

Date: 03/13/2019

Time: 13:35

Initial Sample Wet Weight (g): 2531.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 16

Date: 03/17/2019

Time: 7:30

Weight Retained on #10 Sieve (g): 152.5
% Retained on #10 Sieve: 6.0
% Passing #10 Sieve: 94.0

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 7:40

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251136

Analyst: [redacted]

Date: 03/13/2019

Time: 13:40

Initial Sample Wet Weight (g): 2353.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 16

Date: 03/17/2019

Time: 7:45

Weight Retained on #10 Sieve (g): 128.6
% Retained on #10 Sieve: 5.5
% Passing #10 Sieve: 94.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 8:00

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251137

Analyst: [redacted]

Date: 03/13/2019

Time: 14:40

Initial Sample Wet Weight (g): 2649.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 16

Date: 03/17/2019

Time: 7:50

Weight Retained on #10 Sieve (g): 163.6
% Retained on #10 Sieve: 6.2
% Passing #10 Sieve: 93.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 8:10

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251138

Analyst: [redacted]

Date: 03/13/2019

Time: 13:45

Initial Sample Wet Weight (g): 3214.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/17/2019

Time: 8:30

Weight Retained on #10 Sieve (g): 248.9
% Retained on #10 Sieve: 7.7
% Passing #10 Sieve: 92.3

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 8:45

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251139

Analyst: [redacted]

Date: 03/13/2019

Time: 13:48

Initial Sample Wet Weight (g): 3011.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/17/2019

Time: 9:05

Weight Retained on #10 Sieve (g): 103.8
% Retained on #10 Sieve: 3.4
% Passing #10 Sieve: 96.6

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 9:20

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251140

Analyst: [redacted]

Date: 03/13/2019

Time: 13:50

Initial Sample Wet Weight (g): 3899.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/17/2019

Time: 9:30

Weight Retained on #10 Sieve (g): 271.7
% Retained on #10 Sieve: 7.0
% Passing #10 Sieve: 93.0

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 9:40

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132

Ambient Temp (˚C): 17

**Sample #:** 251141

Analyst: [redacted]

Date: 03/13/2019

Time: 13:50

Initial Sample Wet Weight (g): 3397.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17

Date: 03/17/2019

Time: 10:00

Weight Retained on #10 Sieve (g): 199.7
% Retained on #10 Sieve: 5.9
% Passing #10 Sieve: 94.1

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/17/2019

Time: 10:15

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159132 Ambient Temp (˚C): 17

**Sample #:** 251142

Analyst: [redacted]

Date: 03/13/2019

Time: 13:55

Initial Sample Wet Weight (g): 3197.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 03/18/2019

Time: 13:45

Weight Retained on #10 Sieve (g): 323.2
% Retained on #10 Sieve: 10.1
% Passing #10 Sieve: 89.9

Observations:

Gravel / small rocks.

## Milling:

Analyst: [redacted]

Date: 03/18/2019

Time: 14:20

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/18/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159203 Ambient Temp (˚C): 19

**Sample #:** 251663

Analyst: [redacted]

Date: 03/14/2019

Time: 11:30

Initial Sample Wet Weight (g): 3176.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 03/18/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 101.2
% Retained on #10 Sieve: 3.2
% Passing #10 Sieve: 96.8

Observations:

Gravel / small rocks.

## Milling:

Analyst: [redacted]

Date: 03/18/2019

Time: 14:30

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159203

Ambient Temp (˚C): 19

**Sample #:** 251664

Analyst: [redacted]

Date: 03/14/2019

Time: 12:40

Initial Sample Wet Weight (g): 4242.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.1

Date: 03/18/2019

Time: 15:55

Weight Retained on #10 Sieve (g): 217.8
% Retained on #10 Sieve: 5.1
% Passing #10 Sieve: 94.9

Observations:

Gravel / small rocks.

## Milling:

Analyst: [redacted]

Date: 03/19/2019

Time: 9:55

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159203

Ambient Temp (˚C): 19

**Sample #:** 251665

Analyst: [redacted]

Date: 03/14/2019

Time: 12:45

Initial Sample Wet Weight (g): 3007.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.8

Date: 03/18/2019

Time: 15:00

Weight Retained on #10 Sieve (g): 160.3
% Retained on #10 Sieve: 5.3
% Passing #10 Sieve: 94.7

Observations:

Gravel / small rocks.

## Milling:

Analyst: [redacted]

Date: 03/18/2019

Time: 15:30

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159203

Ambient Temp (˚C): 19

**Sample #:** 251666

Analyst: [redacted]

Date: 03/14/2019

Time: 12:00

Initial Sample Wet Weight (g): 3892.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.9

Date: 03/18/2019

Time: 15:35

Weight Retained on #10 Sieve (g): 343.2
% Retained on #10 Sieve: 8.8
% Passing #10 Sieve: 91.2

Observations:

Rocks/Gravel - Some small clumps of clay that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 03/18/2019

Time: 15:50

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159203 Ambient Temp (˚C): 19

**Sample #:** 251667

Analyst: [redacted]

Date: 03/14/2019

Time: 12:05

Initial Sample Wet Weight (g): 2810.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 21.1

Date: 03/18/2019

Time: 16:15

Weight Retained on #10 Sieve (g): 24.6
% Retained on #10 Sieve: 0.9
% Passing #10 Sieve: 99.1

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/19/2019

Time: 10:15

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159203

Ambient Temp (˚C): 19

**Sample #:** 251668

Analyst: [redacted]

Date: 03/14/2019

Time: 12:10

Initial Sample Wet Weight (g): 4048.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.1

Date: 03/18/2019

Time: 16:30

Weight Retained on #10 Sieve (g): 42.8
% Retained on #10 Sieve: 1.1
% Passing #10 Sieve: 98.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/19/2019

Time: 9:30

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 03/25/2019

# TOTAL SOLIDS (PERCENT)

LIMS #: 158861

| Start Date: | 03/19/2019 | Start Time: | 13:21 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 250740 | T857 | 2.61 | 9.21 | 9.09 | 98.2% |
| 2) | 250741 | T855 | 2.60 | 6.60 | 6.53 | 98.3% |
| 3) | 250742 | T017 | 2.56 | 5.92 | 5.87 | 98.5% |
| 4) | 250743 | T016 | 2.55 | 6.42 | 6.35 | 98.2% |
| 5) | 250744 | T587 | 2.56 | 6.98 | 6.88 | 97.7% |
| 6) | 250745 | T879 | 2.56 | 8.76 | 8.61 | 97.6% |
| 7) | 250746 | T882 | 2.57 | 6.64 | 6.58 | 98.5% |
| 8) | 250747 | T588 | 2.56 | 8.65 | 8.56 | 98.5% |
| 9) | 251121 | T589 | 2.59 | 6.09 | 6.04 | 98.6% |
| 10) | 251124 | T590 | 2.59 | 8.06 | 7.97 | 98.4% |
| 11) | 251125 | T885 | 2.56 | 8.04 | 7.97 | 98.7% |
| 12) | 251126 | T884 | 2.58 | 6.97 | 6.92 | 98.9% |
| 13) | 251127 | T888 | 2.56 | 6.98 | 6.93 | 98.9% |
| 14) | 251128 | T886 | 2.53 | 8.78 | 8.70 | 98.7% |
| 15) | 251129 | T887 | 2.59 | 7.46 | 7.40 | 98.8% |
| 16) | 251130 | T878 | 2.56 | 8.17 | 8.06 | 98.0% |
| 17) | 251132 | T880 | 2.57 | 9.33 | 9.26 | 99.0% |
| 18) | 251133 | T877 | 2.57 | 7.27 | 7.22 | 98.9% |
| 19) | 251134 | T160 | 2.59 | 9.34 | 9.29 | 99.3% |
| *20) | 251131 | T159 | 2.57 | 7.19 | 7.14 | 98.9% |
| Dup 20) | 251131 | T191 | 2.58 | 7.49 | 7.43 | 98.8% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 7.14 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.1% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 03/20/2019 |
| **Stop Time:** | 09:31 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 158862

| Start Date: | 03/26/2019 | Start Time: | 11:30 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 251135 | T060 | 2.55 | 7.66 | 7.58 | 98.4% |
| 2) | 251136 | T053 | 2.60 | 8.13 | 8.10 | 99.5% |
| 3) | 251137 | T645 | 2.54 | 8.52 | 8.49 | 99.5% |
| 4) | 251138 | T051 | 2.58 | 8.37 | 8.30 | 98.8% |
| 5) | 251139 | T052 | 2.56 | 9.34 | 9.30 | 99.4% |
| 6) | 251140 | T479 | 2.55 | 7.90 | 7.87 | 99.4% |
| 7) | 251141 | D103 | 2.53 | 8.52 | 8.50 | 99.7% |
| 8) | 251142 | D104 | 2.50 | 10.68 | 10.64 | 99.5% |
| 9) | 251663 | T081 | 2.58 | 9.62 | 9.53 | 98.7% |
| 10) | 251664 | T048 | 2.58 | 10.47 | 10.35 | 98.5% |
| 11) | 251665 | T343 | 2.58 | 10.54 | 10.46 | 99.0% |
| 12) | 251666 | T464 | 2.59 | 11.10 | 10.99 | 98.7% |
| 13) | 251668 | T463 | 2.59 | 11.04 | 10.96 | 99.1% |
| 14) | 253258 | T462 | 2.57 | 8.99 | 8.84 | 97.7% |
| 15) | 253274 | T469 | 2.54 | 8.47 | 8.26 | 96.5% |
| 16) | 253275 | T468 | 2.56 | 11.85 | 11.60 | 97.3% |
| 17) | 253276 | T341 | 2.60 | 9.09 | 8.96 | 98.0% |
| 18) | 253277 | T842 | 2.60 | 9.37 | 9.32 | 99.3% |
| 19) | 253278 | T586 | 2.56 | 8.88 | 8.82 | 99.1% |
| *20) | 251667 | T587 | 2.56 | 10.02 | 9.94 | 98.9% |
| Dup 20) | 251667 | T588 | 2.53 | 8.93 | 8.87 | 99.1% |

Dry Weight = Sample + Dish (gms)

Wet Weight = Sample + Dish (gms)

* 2nd Reading, 9.94

Set RPD: 0.2%

Balance: VOB-01

*mg Differen: 0

**Stop Date:** 03/27/2019

**Stop Time:** 09:24

*2nd reading must be within 50mg of the 1st

Calculations

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# INORGANICS
# LOGBOOK
# DOCUMENTS

# SOIL PREP/MIX KREJCI Analytical Run
# 159090 on 03/26/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143438 | 250740 | | 03/11/2019 | 1215 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU2 | | | | | | | | | | |
| 143438 | 250741 | | 03/11/2019 | 1215 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU2 | | | | | | | | | | |
| 143438 | 250742 | | 03/11/2019 | 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU1 | | | | | | | | | | |
| 143438 | 250743 | | 03/11/2019 | 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU1 | | | | | | | | | | |
| 143438 | 250744 | | 03/11/2019 | 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU4 | | | | | | | | | | |
| 143438 | 250745 | | 03/11/2019 | 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU4 | | | | | | | | | | |
| 143438 | 250746 | | 03/11/2019 | 1555 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU3 | | | | | | | | | | |
| 143438 | 250747 | | 03/11/2019 | 1555 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU3 | | | | | | | | | | |

**8** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159090 | 03/14/2019 | [redacted] | [redacted] | 03/15/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | Yes | | Yes | | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 159132 on 03/28/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251121 | | 03/12/2019 0814 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU07 | | | | | | | | | |
| 143477 | 251124 | | 03/12/2019 0814 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU07 | | | | | | | | | |
| 143477 | 251125 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU09R1 | | | | | | | | | |
| 143477 | 251126 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU09R2 | | | | | | | | | |
| 143477 | 251127 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU09R3 | | | | | | | | | |
| 143477 | 251128 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU09R1 | | | | | | | | | |
| 143477 | 251129 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU09R2 | | | | | | | | | |
| 143477 | 251130 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU09R3 | | | | | | | | | |
| 143477 | 251131 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU11R1 | | | | | | | | | |
| 143477 | 251132 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU11R2 | | | | | | | | | |
| 143477 | 251133 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU11R2 | | | | | | | | | |
| 143477 | 251134 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU11R1 | | | | | | | | | |
| 143477 | 251135 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU11R3 | | | | | | | | | |
| 143477 | 251136 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU11R3 | | | | | | | | | |
| 143477 | 251137 | | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU51R1 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# SOIL PREP/MIX KREJCI Analytical Run
# 159132 on 03/28/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251138 | DU1A-SU51R2 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143477 | 251139 | DU1A-SU51R3 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143477 | 251140 | DU1B-SU51R1 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143477 | 251141 | DU1B-SU51R2 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143477 | 251142 | DU1B-SU51R3 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**20** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159132 | 03/16/2019 - 03/18/2019 | [redacted] | [redacted] | 03/18/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | Yes | | Yes | | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 159203 on 03/28/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143517 | 251663 | | 03/13/2019 0900 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU06 | | | | | | | | | |
| 143517 | 251664 | | 03/13/2019 0900 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU06 | | | | | | | | | |
| 143517 | 251665 | | 03/13/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU08 | | | | | | | | | |
| 143517 | 251666 | | 03/13/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU08 | | | | | | | | | |
| 143517 | 251667 | | 03/13/2019 1315 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU58 | | Designated MS/MSD | | | | | | | |
| 143517 | 251668 | | 03/13/2019 1315 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU58 | | Designated MS/MSD | | | | | | | |

**6** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159203 | 03/18/2019, 03/19/2019 | [redacted] | [redacted] | 03/25/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | Yes | | Yes | | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

WSOLIDS Analytical Run
# 158861 on 03/20/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143438 | 250740 | | 03/11/2019 1215 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250741 | DU1A-SU2 | 03/11/2019 1215 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250742 | DU1B-SU2 | 03/11/2019 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250743 | DU1A-SU1 | 03/11/2019 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250744 | DU1B-SU1 | 03/11/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250745 | DU1A-SU4 | 03/11/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250746 | DU1B-SU4 | 03/11/2019 1555 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143438 | 250747 | DU1A-SU3 | 03/11/2019 1555 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251121 | DU1B-SU3 | 03/12/2019 0814 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251124 | DU1A-SU07 | 03/12/2019 0814 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251125 | DU1B-SU07 | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251126 | DU1A-SU09R1 | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251127 | DU1A-SU09R2 | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251128 | DU1A-SU09R3 | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251129 | DU1B-SU09R1 | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU09R2 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: WetChem [redacted] ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 158861 on 03/20/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251130 | | 03/12/2019 1031 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU09R3 | | | | | | | | | |
| 143477 | 251131 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU11R1 | | | | | | | | | |
| 143477 | 251132 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU11R2 | | | | | | | | | |
| 143477 | 251133 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU11R2 | | | | | | | | | |
| 143477 | 251134 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU11R1 | | | | | | | | | |
| | 254022 | | 03/12/2019 1309 | | | | SOLIDS,PERCENT | | | | |
| | | DU1A-SU11R1 | | DUP 251131 | | | | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 158861, 158864 | 03/19/2019 | [redacted] | [redacted] | 03/20/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

WSOLIDS Analytical Run
# 158862 on 03/27/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251135 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251136 | DU1A-SU11R3 | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251137 | DU1B-SU11R3 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251138 | DU1A-SU51R1 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251139 | DU1A-SU51R2 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251140 | DU1A-SU51R3 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251141 | DU1B-SU51R1 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251142 | DU1B-SU51R2 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251663 | DU1B-SU51R3 | 03/13/2019 0900 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251664 | DU1A-SU06 | 03/13/2019 0900 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251665 | DU1B-SU06 | 03/13/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251666 | DU1A-SU08 | 03/13/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251667 | DU1B-SU08 | 03/13/2019 1315 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251668 | DU1A-SU58 | 03/13/2019 1315 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143587 | 253258 | DU1B-SU58 | 03/18/2019 0915 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU05 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# WSOLIDS Analytical Run
# 158862 on 03/27/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143587 | 253274 | DU1B-SU05 | 03/18/2019 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253275 | DU1A-SU27 | 03/18/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253276 | DU1B-SU27 | 03/18/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253277 | DU1B-SU28 | 03/18/2019 1235 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253278 | DU1A-SU28 | 03/18/2019 1235 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | 256450 | DU1A-SU58 | 03/13/2019 1315 | DUP 251667 | | | SOLIDS,PERCENT | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 158862 | 03/26/2019 | [redacted] | [redacted] | 03/27/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

# CHAIN OF CUSTODY,
# PM CONFIRMATION
# AND
# SAMPLE CONDITION FORMS
# DOCUMENTS

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: Michelle Chestnut
Telephone: 301-323-1396
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143438
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Compa
Address: ERT

Invoice To:* [redacted]
EMAIL:
Company: Laurel, MD 20707
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

**Turnaround Time**
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/11/19 | 1215 | S | C | | DU1A-SO2 | N | 1 | 1 | | 250740 |
| 03/11/19 | 1215 | S | C | | DU1B-SO2 | N | 1 | 1 | | 250741 |
| 03/11/19 | 1340 | S | C | | DU1A-SO1 | N | 1 | 1 | | 250742 |
| 03/11/19 | 1340 | S | C | | DU1B-SO1 | N | 1 | 1 | | 250743 |
| 03/11/19 | 1510 | S | C | | DU1A-SO4 | N | 1 | 1 | | 250744 |
| 03/11/19 | 1510 | S | C | | DU1B-SO4 | N | 1 | 1 | | 250745 |
| 03/11/19 | 1555 | S | C | | DU1A-SO3 | N | 1 | 1 | | 250746 |
| 03/11/19 | 1555 | S | C | | DU1B-SO3 | N | 1 | 1 | | 250747 |

Relinquished By: [redacted] ERT
Date/Time: 1700 03/11/19
Received By: [redacted]
Date/Time: 3/12/19 0941

Received By:
Date/Time
Received for Laboratory by: [redacted]
Date/Time: 3/12/19 1117

Lab Use Only
Ice Present (Yes) No
Temp 0.6 IR Gun 24
Cooler # 0131

Page 790

# CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.



**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified.
(b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.
1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.
1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.
1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.
1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.
1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).
1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.
3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.
3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.
4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.
4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.
4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.
4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.
4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.
4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.
5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.
5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.
5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

FORM #: FPM3-02
Rev. #: 1.0
Effective Date: 05/27/2014
Page 1 of 1

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 0.6

IR Gun # 24

Initials [redacted]

Date 3/12/19 Time 0941

Cooler #: 6131

seal rec'd intact – damaged by log in on removal - jfs

CUSTODY SEAL
DATE 03/11/19
SIGNATUR [redacted]
QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

[redacted]
ERT
[redacted]
LAUREL MD 20707

50 LBS
RS

SHIP TO:
SHIPPING DEPT
(608) 356–2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0–10

UPS NEXT DAY AIR 1
TRACKING #: 1Z 1A4 A85 84 4168 7008

BILLING: P/P
DESC: CURTIS BAY SAMPLES
RETURN SERV

CT LABS
REF 1:214020 1230 LANGE CT
BARABOO WI 53913

P:NORTH S:10SET I:77D
10B–1004
1Z1A4A85844168 7008 1030
CYROTNZ WILAK935UDC MAR 12 08:02:19 2019

**Folder #: 143438**

## PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144067

**Project Manager:** [redacted] **Date Received:** 03/12/19 **Log Date:** 03/12/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 0.6 oC

**SAMPLE #: 250740 DESCR: DU1A-SU2** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/11/2019 Time: 1215**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 250741 DESCR: DU1B-SU2** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/11/2019 Time: 1215**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143438 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 250741 **DESCR:** DU1B-SU2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1215

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 250742 **DESCR:** DU1A-SU1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1340

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 250743 **DESCR:** DU1B-SU1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1340

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 250744 **DESCR:** DU1A-SU4 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1510

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |

**Folder #:** 143438 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 250744 **DESCR:** DU1A-SU4 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1510

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 250745 **DESCR:** DU1B-SU4 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1510

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 250746 **DESCR:** DU1A-SU3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1555

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 250747 **DESCR:** DU1B-SU3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1555

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/25/2019 | 03/24/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/24/2019 | | Logged |

**Folder #:** 143438 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 250747 **DESCR:** DU1B-SU3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/11/2019 **Time:** 1555

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/07/2019 | 03/24/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144067 **Preliminary Invoice Estimate:** $ 632.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 8 | $ 55.00 | 0.00 | $ 440.00 |
| ICP QSM 5.0 Arsenic | SOIL | 8 | $ 12.00 | 0.00 | $ 96.00 |
| ICP QSM 5.0 Manganese | SOIL | 8 | $ 12.00 | 0.00 | $ 96.00 |
| SOLIDS,PERCENT | SOIL | 8 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **17** | SOIL PREP/MIX |
| **SOLIDS** | **17** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143438
Client: ERT

Print Date / Time: 03/12/2019 11:19
Received Date / Time / By: 03/12/2019 09:41 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/12/2019 10:17 [redacted]
Project #: PM: [redacted]

Coolers: 6131
Custody Seals Present : **Y**

Temperature: 0.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858441687008
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT UPON RECEIPT - DATED 3/11/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **250740** DU1A-SU2 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 3** | | |
| **250740** DU1A-SU2 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 3** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **250741** DU1B-SU2 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **250741** DU1B-SU2 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **250742** DU1A-SU1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **250742** DU1A-SU1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **250743** DU1B-SU1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **250743** DU1B-SU1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **250744** DU1A-SU4 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **250744** DU1A-SU4 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **250745** DU1B-SU4 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **250745** DU1B-SU4 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **250746** DU1A-SU3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **250746** DU1A-SU3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **250747** DU1B-SU3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **250747** DU1B-SU3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: Ert
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143477
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JLS PM: BM

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address: Ert

Invoice To:*
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/12/19 | 0814 | S | C | | DU1A-SU07 | N | 1 | 1 | | 251121 |
| 03/12/19 | 0814 | S | C | | DU1B-SU07 | N | 1 | 1 | | 251124 |
| 03/12/19 | 1031 | S | C | | DU1A-SU09R1 | N | 1 | 1 | | 251125 |
| 03/12/19 | 1031 | S | C | | DU1A-SU09R2 | N | 1 | 1 | | 251126 |
| 03/12/19 | 1031 | S | C | | DU1A-SU09R3 | N | 1 | 1 | | 251127 |
| 03/12/19 | 1031 | S | C | | DU1B-SU09R1 | N | 1 | 1 | | 251128 |
| 03/12/19 | 1031 | S | C | | DU1B-SU09R2 | N | 1 | 1 | | 251129 |
| 03/12/19 | 1031 | S | C | | DU1B-SU09R3 | N | 1 | 1 | | 251130 |
| 03/12/19 | 1309 | S | C | | DU1A-SU11R1 | N | 1 | 1 | | 251131 |
| 03/12/19 | 1309 | S | C | | DU1B-SU11R2 | N | 1 | 1 | | 251132 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Relinquished By: [redacted] Ert
Date/Time: 1700 03/12/19
Received By: [redacted]
Date/Time: 3/13/19 1030

Received by:
Date/Time
Received for Laboratory by: [redacted]
Date/Time: 3/13/19 1143

Lab Use Only
Ice Present (Yes) No
Temp 2.1 IR Gun 23
Cooler # 5850

Page 800

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: Ert
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

143477

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]@ertcorp.com
Company: Ert
Address:

Invoice To:* [redacted]
EMAIL:
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

**Turnaround Time**
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/12/19 | 1309 | S | C | | DU2A-SU11R2 | N | 1 | 1 | | 25133 |
| 3/12/19 | 1309 | S | C | | DU1B-SU11R2 | N | 1 | 1 | | 25134 |
| 3/12/19 | 1309 | S | C | | DU2A-SU11R3 | N | 1 | 1 | | 25135 |
| 3/12/19 | 1309 | S | C | | DU2B-SU11R3 | N | 1 | 1 | | 25136 |
| 3/12/19 | 1450 | S | C | | DU2A-SU51R1 | N | 1 | 1 | | 25137 |
| 3/12/19 | 1450 | S | C | | DU2A-SU51R2 | N | 1 | 1 | | 25138 |
| 3/12/19 | 1450 | S | C | | DU2A-SU51R3 | N | 1 | 1 | | 25139 |
| 3/12/19 | 1630 | S | C | | DU1B-SU51R1 | N | 1 | 1 | | 25140 |
| 3/12/19 | 1630 | S | C | | DU1B-SU51R2 | N | 1 | 1 | | 25141 |
| 3/12/19 | 1630 | S | C | | DU2B-SU51R3 | N | 1 | 1 | | 25142 |

Relinquished By: [redacted]
Received by: [redacted]

Date/Time 03/12/19 1700
Date/Time

Received By: [redacted]
Received for Laboratory By: [redacted]

Date/Time 3/13/19 1030
Date/Time 3/13/19 1143

*Lab Use Only*
Ice Present (Yes) No
Temp 0.8 IR Gun 23
Cooler # 60230

Page 801

# CT Laboratories Terms and Conditions



Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.1

IR Gun # 23

Initials [redacted]

Date 3/13/19 Time 10:30

Cooler #: 5850



# Cooler Receipt Form

Ice Present (YES) NO

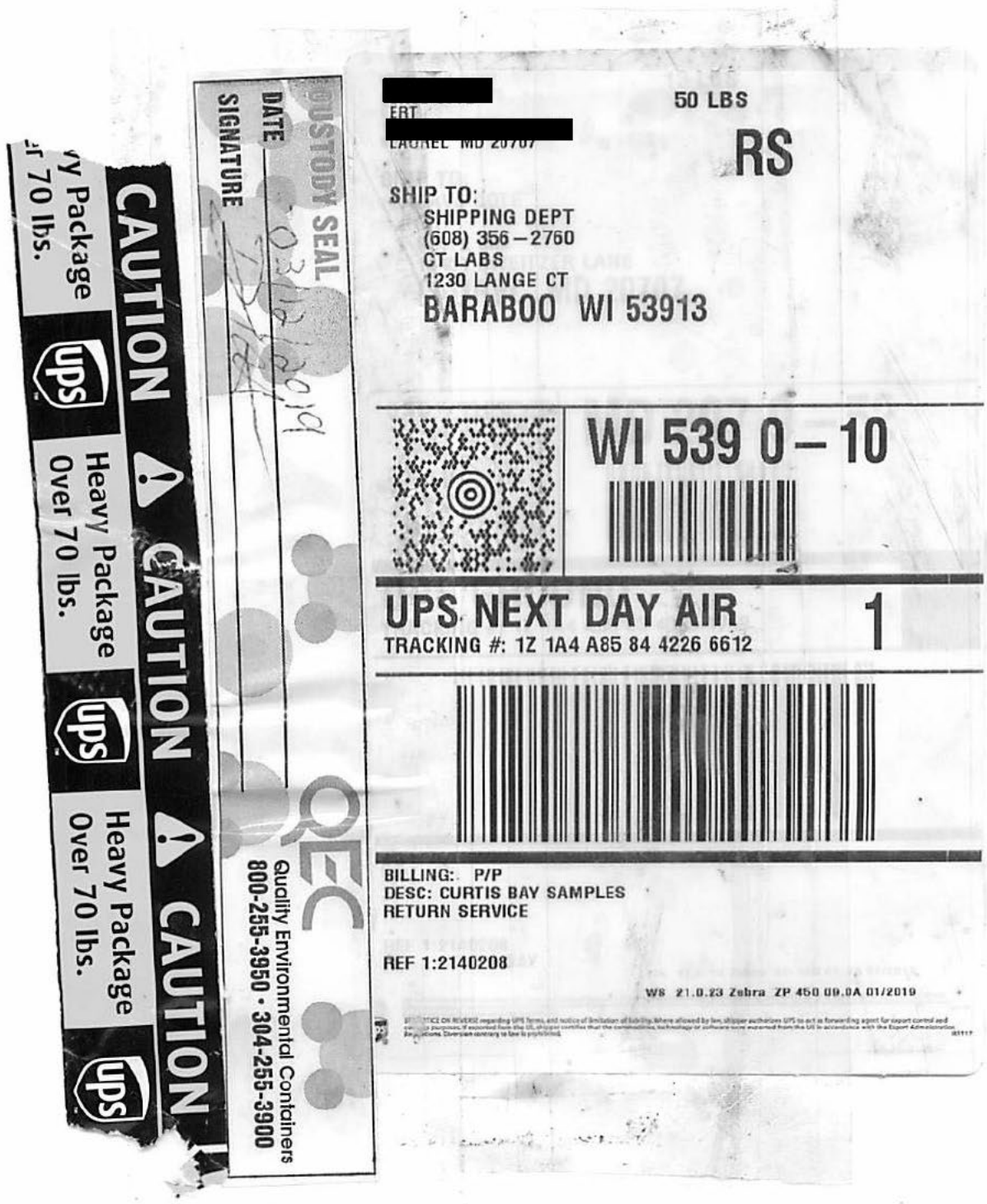
Temperature 0.8

IR Gun # 23

Initials [redacted]

Date 3/13/19 Time 10:30

Cooler #: 6230



**Folder #: 143477**

## PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144107

**Project Manager:** [redacted] **Date Received:** 03/13/19 **Log Date:** 03/13/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 2.1 oC

**SAMPLE #: 251121 DESCR: DU1A-SU07** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/12/2019 Time: 0814**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 251124 DESCR: DU1B-SU07** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/12/2019 Time: 0814**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251124 **DESCR:** DU1B-SU07 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 0814

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 251125 **DESCR:** DU1A-SU09R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251126 **DESCR:** DU1A-SU09R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251127 **DESCR:** DU1A-SU09R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251127 **DESCR:** DU1A-SU09R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251128 **DESCR:** DU1B-SU09R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251129 **DESCR:** DU1B-SU09R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251130 **DESCR:** DU1B-SU09R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251130 **DESCR:** DU1B-SU09R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1031

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251131 **DESCR:** DU1A-SU11R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251132 **DESCR:** DU1B-SU11R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251133 **DESCR:** DU1A-SU11R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251133 **DESCR:** DU1A-SU11R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251134 **DESCR:** DU1B-SU11R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251135 **DESCR:** DU1A-SU11R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251136 **DESCR:** DU1B-SU11R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251136 **DESCR:** DU1B-SU11R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1309

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251137 **DESCR:** DU1A-SU51R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1450

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251138 **DESCR:** DU1A-SU51R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1450

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251139 **DESCR:** DU1A-SU51R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1450

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251140 **DESCR:** DU1B-SU51R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251141 **DESCR:** DU1B-SU51R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143477 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251142 **DESCR:** DU1B-SU51R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/12/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/26/2019 | 03/25/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/25/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/08/2019 | 03/25/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144107 **Preliminary Invoice Estimate:** $ 1,480.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 20 | $ 50.00 | 0.00 | $ 1000.00 |
| ICP QSM 5.0 Arsenic | SOIL | 20 | $ 12.00 | 0.00 | $ 240.00 |
| ICP QSM 5.0 Manganese | SOIL | 20 | $ 12.00 | 0.00 | $ 240.00 |
| SOLIDS,PERCENT | SOIL | 20 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **40** | SOIL PREP/MIX |
| **SOLIDS** | **40** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143477
Client: ERT

Print Date / Time: 03/13/2019 11:44
Received Date / Time / By: 03/13/2019 10:30 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/13/2019 11:43 JLS
Project #:
PM: [redacted]

Coolers: 5850,6230
Custody Seals Present : **Y**

Temperature: 2.1,0.8 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 1Z1A4A858442112420,"42266612
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - BOTH WERE DATED 03/12/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **251121** DU1A-SU07 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **251121** DU1A-SU07 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **251124** DU1B-SU07 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **251124** DU1B-SU07 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **251125** DU1A-SU09R1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **251125** DU1A-SU09R1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**251126** DU1A-SU09R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251126** DU1A-SU09R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251127** DU1A-SU09R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251127** DU1A-SU09R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251128** DU1B-SU09R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251128** DU1B-SU09R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251129** DU1B-SU09R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251129** DU1B-SU09R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251130** DU1B-SU09R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251130** DU1B-SU09R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251131** DU1A-SU11R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251131** DU1A-SU11R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251132** DU1B-SU11R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251132** DU1B-SU11R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251133** DU1A-SU11R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251133** DU1A-SU11R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251134** DU1B-SU11R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251134** DU1B-SU11R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251135** DU1A-SU11R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251135** DU1A-SU11R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251136** DU1B-SU11R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251136** DU1B-SU11R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251137** DU1A-SU51R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251137** DU1A-SU51R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251138** DU1A-SU51R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251138** DU1A-SU51R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251139** DU1A-SU51R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251139** DU1A-SU51R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251140** DU1B-SU51R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**251140** DU1B-SU51R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**251141** DU1B-SU51R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **251141** DU1B-SU51R2 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |
| **251142** DU1B-SU51R3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **251142** DU1B-SU51R3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: [redacted]

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143517
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JLS PM: BM

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | KP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ANALYSES REQUESTED | Fill in Spaces with Bottles per Test | | | |
| 3/13/19 | 0900 | S | C | | DUIA-SU06 | N | 1 | 1 | | 251663 |
| 3/13/19 | 0900 | S | C | | DUIB-SU06 | N | 1 | 1 | | 251664 |
| 3/13/19 | 1015 | S | C | | DUIA-SU08 | N | 1 | 1 | | 251665 |
| 3/13/19 | 1015 | S | C | | DUIB-SU08 | N | 1 | 1 | | 251666 |
| 3/13/19 | 1315 | S | C | | DUIA-SU58 | N | 1 | 1 | X | 251667 |
| 3/13/19 | 1315 | S | C | | DUIB-SU58 | N | 1 | 1 | X | 251668 |

Page 818

Relinquished By: [redacted] Date/Time 03/13/19 1700
Received By: [redacted] Date/Time

Received By: [redacted] Date/Time 3/14/19 0945
Received for Laboratory by: [redacted] Date/Time 3/14/19 0957

Lab Use Only
Ice Present (Yes) No
Temp 1.5 IR Gun 23
Cooler # 6243

# CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.



**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate). Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 1.5

IR Gun # 23

Initials JS

Date 3/14/19 Time 0945

Cooler #: 6243

- rec'd intact. Damaged by log in or removal JS

[redacted]
ERT [redacted]

50 LBS

RS

SHIP TO:
SHIPPING DEPT
(608) 356 – 2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0 – 10

UPS NEXT DAY AIR

TRACKING #: 1Z 1A4 A85 84 4194 1

BILLING: P/P
DESC: CURTIS BAY SAMPLES
RETURN SERVICE

REF 1:2140208

WE

SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. For customs purposes, if exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.

CUSTODY SEAL
DATE
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900


GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE
1Z1A4A858441942106

**Folder #: 143517**

## PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144133

**Project Manager:** [redacted] **Date Received:** 03/14/19 **Log Date:** 03/14/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 1.5 oC

**SAMPLE #: 251663 DESCR: DU1A-SU06** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/13/2019 Time: 0900**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/27/2019 | 03/26/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/26/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/09/2019 | 03/26/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 251664 DESCR: DU1B-SU06** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/13/2019 Time: 0900**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/27/2019 | 03/26/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/26/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/09/2019 | 03/26/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143517 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251664 **DESCR:** DU1B-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/13/2019 **Time:** 0900

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 251665 **DESCR:** DU1A-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/13/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/27/2019 | 03/26/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/26/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/09/2019 | 03/26/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251666 **DESCR:** DU1B-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/13/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 03/27/2019 | 03/26/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/26/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/09/2019 | 03/26/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251667 **DESCR:** DU1A-SU58 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/13/2019 **Time:** 1315

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 03/27/2019 | 03/26/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 03/26/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/09/2019 | 03/26/2019 | | NeedPrep |

**Folder #:** 143517 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 251667 **DESCR:** DU1A-SU58 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/13/2019 **Time:** 1315

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 251668 **DESCR:** DU1B-SU58 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/13/2019 **Time:** 1315

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 03/27/2019 | 03/26/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 03/26/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/09/2019 | 03/26/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144133 **Preliminary Invoice Estimate:** $ 444.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 6 | $ 50.00 | 0.00 | $ 300.00 |
| ICP QSM 5.0 Arsenic | SOIL | 6 | $ 12.00 | 0.00 | $ 72.00 |
| ICP QSM 5.0 Manganese | SOIL | 6 | $ 12.00 | 0.00 | $ 72.00 |
| SOLIDS,PERCENT | SOIL | 6 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **12** | SOIL PREP/MIX |
| **SOLIDS** | **12** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143517
Client: ERT

Print Date / Time: 03/14/2019 09:56
Received Date / Time / By: 03/14/2019 09:45 JLS

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/14/2019 09:57 JLS
Project #: PM: [redacted]

Coolers: 6243
Custody Seals Present : **Y**

Temperature: 1.5 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 1Z1A4A858441942106
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT UPON RECEIPT - DATED 3/13/19 AND SIGNED (SEAL WAS [redacted] BY LOG IN ON REMOVAL).

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **251663** DU1A-SU06 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **251663** DU1A-SU06 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **251664** DU1B-SU06 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **251664** DU1B-SU06 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **251665** DU1A-SU08 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **251665** DU1A-SU08 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

| | | | | | |
|---|---|---|---|---|---|
| **251666** | DU1B-SU08 | | | | |
| | | SOLIDS | 1 | / | %SOL,ICP |
| | | SOLIDS | 1 | / | %SOL,ICP |
| | | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **251666** | DU1B-SU08 | | | | |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **251667** DU1A-SU58 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **251667** DU1A-SU58 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **251668** DU1B-SU58 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **251668** DU1B-SU58 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

143517

[redacted]

**From:** [redacted] <[redacted]ertcorp.com>
**Sent:** 03/12/2019 11:35
**To:** [redacted]
**Subject:** Fwd: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
**Attachments:** MFR Response to ERT Email for Use of Puck Mill-Curtis Bay RI-FS for Mn_1....docx

FYI - we are good to go with the puck mill see the attached and email below.

---------- Forwarded message ---------
From: [redacted] **CIV USARMY CENAB (US)** [redacted]usace.army.mil>
Date: Tue, Mar 12, 2019 at 12:26 PM
Subject: RE: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
To: [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>

CLASSIFICATION: UNCLASSIFIED

From the chemist, [redacted]

"Based on the Method Blank and LCS QC data provided and justification for switching from use of a Teflon-Coated Ball Mill to using a Puck Mill to process the Curtis Bay RI/FS ISM Soil Samples, I find the request for the change to the sample prep to be acceptable. I have a more detailed response in the form of an MFR which I have attached as a file to this email response."

[redacted] PMP
Project Manager
USACE Baltimore District
[redacted]
Attn: CENAB-ENE-M, Room 09-F-08
Baltimore, MD 21201
W: [redacted]

-----Original Message-----
From: [redacted] [mailto:[redacted]ertcorp.com]
Sent: Monday, March 11, 2019 4:26 PM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>

Subject: [Non-DoD Source] Sample preparation for the Curtis Bay Depot

All,

ERT has contracted CT Laboratories, LLC (CT) to perform the sample preparation and analysis required for the Curtis Bay Ordnance Depot arsenic and manganese RI. After reviewing the Final UFP-QAPP, CT is concerned with processing the sample mass that will be submitted for each of the ISM soil samples collected (approximately 5-10 kg) using the Teflon-coated ball mill specified in the UFP-QAPP. CT indicates that they can process three 1-2 kg masses of soil at a time using the Teflon-coated ball mill. Each of these grind processes will take from 20-30 minutes for clay, and up to one week for sand. Soil samples collected for the RI are expected to be a mixture of sands and clays. Given the large number of soil samples that will be submitted (220+ [surface, subsurface, and QC replicates]) and the need to divide the samples into 5-10 processing masses, the sample processing using the Teflon-coated ball mill is impracticable.

In order to process the soil samples collected at the Curtis Bay Ordnance Depot, ERT and CT propose use of the puck mill for sample grinding. The puck mill is expected to grind the soil samples to the required specification in one minute or less. Use of the puck mill for soil sample grinding will allow the laboratory to process and analyze the submitted soil samples so that the project schedule is not impacted.

To validate use of the puck mill grinding method, CT performed a puck mill grind test on method blank sand materials, both as a blank and arsenic and manganese spiked laboratory control samples and analyzed all for arsenic and manganese using USEPA Method SW846 6010C with the following results:

Puck Mill Grind Test for Analytical Method SW846 6010C (one minute grind time)

Replicate

Method Blank (mg/kg)

Laboratory Control Sample

Percent Recovery

Arsenic

Manganese

Arsenic QC Limit (82-118)

Manganese QC Limit (85-116)

1

0.425

4.375

98

103

2

0.435

4.525

92

96

3

<LOD

2.9

95

97.5

4

0.156

3.15

94.5

96

5

<LOD

2.8

93

98

6

<LOD

3.175

87

91

7

<LOD

2.725

87

96

8

0.0575

2.975

82.5

80

9

<LOD

3.1

91.5

94

10

<LOD

3.1

92.5

97

The concern with use of the puck mill with soil sample submitted for analysis of manganese is adding a high bias to the sample results due to the metals makeup of the puck mill. Although low levels of manganese are detected in the method blank sample, these low levels are not expected to affect project decisions due to the magnitude of the lowest screening level (300 mg/kg, USEPA BTAG) as compared to the detected concentration in the method blank. Also note that all but one LCS recovery was within the DoD QSM QC limit.

The concern with use of the puck mill with soil sample submitted for analysis of arsenic is adding a low bias to the sample results due to volatilization of arsenic during the grinding process. Based on the LCS recoveries (all recoveries were within the DoD QSM QC limit) for arsenic, use of the puck mill for a one-minute grind cycle is not expected to adversely affect the concentrations measured in site soil samples.

Please let me know if sample preparation using the puck mill will be acceptable.

Thank you,

--

[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

CLASSIFICATION: UNCLASSIFIED

--
[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

This email was scanned by Bitdefender

12 March 2019

Memorandum for Record

Subject: Response to Email Message, sent 11 March 2019 from ERT on Sample Preparation on the Curtis Bay Depot RI/FS Project for Mn and As to change from processing of ISM Soil Samples from using a Teflon-Coated Ball Mill to a Puck Mill

Your request to use the puck mill for soil sample grinding in order to more efficiently process the large volume and quantities of soil samples consisting of a clay and sand mix is acceptable based on the method QC data provide for the 10 replicate method blanks and the LCS samples processed using the puck mill and analyzed for arsenic and manganese.

Based on an evaluation of the listed Measurement Performance Criteria (MPC) for the two metals in QAPP Worksheet #12, the method blank result for manganese needs to be < 1/10 the regulatory limit (or < 1/10$^{th}$ the amount measure in any sample [whichever is greater] per the DoD QSM). Between the writing of the Draft QAPP and then the Final version of the QAPP, two additional regulatory criteria were added to Worksheet #15: the USEPA Residential and the USEPA BTAG, with the BTAG regulatory value for Mn being the lowest at 330 mg/kg. A tenth of that value is 33 mg/kg, therefore any Method Blank analysis needs to be < 33 mg/kg for Mn. The Method Blank results presented for Mn range from 2.8 to 4.5 mg/kg which is a factor of 7x below 1/10$^{th}$ the Regulatory Limit. Also 9 of the 10 LCS samples spiked for Mn were within acceptable percent recovery limits with the one falling outside the QC limit at 80% which was slightly below the 85% Lower Limit.

For the Arsenic analysis, using the puck mill with a limit of a one-minute grind cycle is acceptable to prevent the puck mill from getting too hot. If another grinding cycle will be done, several minutes should be allowed for the puck mill to cool down. The puck mill should not contain arsenic as part of its elemental makeup, so that shouldn't be a contributing factor in the method blank analysis. The lowest regulatory action level listed for Arsenic in QAPP Worksheet #15 is 0.68 mg/kg, the EPA Residential value. Based on the reported method blank results, the values for arsenic are below the EPA Residential Action Limit or are non-detect.

[redacted]
Chemist
USACE, Baltimore District

CT LABORATORIES

*delivering more than data from your environmental analyses*

***ANALYTICAL RESULTS FOR:***

[redacted]
**ERT INC.**
[redacted]
**SUITE 300**
**LAUREL, MD 20707**

| | |
|---|---|
| PROJECT SITE: | Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD |
| DOD CONTRACT #: | [redacted] DO [redacted] |
| PROJECT #: | 3756 |
| SDG: | **143587** |
| FOLDERS: | 143587, 143688, & 143730 |
| PREPARED: | May 8, 2019 |
| TOTAL # OF PAGES: | 1926 |

*The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.*

**APPROVED BY:** [redacted] PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents


| Section | Page |
|---|---|
| Cover Page | 1 |
| Table of Contents | 2 |
| Case Narrative and Summary of Detects (if applicable) | 3 |
| Data Qualifier Sheet | 6 |
| Sample Delivery Group Summary | 8 |
| QC Batch Cross Reference | 10 |
| Metals CLP Forms Documents | 14 |
| Metals Raw Data Documents | 277 |
| Metals Logbook Documents | 1458 |
| Inorganic CLP Forms Documents | 1778 |
| Inorganic Raw Data Documents | 1821 |
| Inorganic Logbook Documents | 1865 |
| Chain of Custody, PM Confirmation and Sample Condition Forms | 1881 |

CT LABORATORIES

delivering more than data from your environmental analyses

## *Case Narrative*

**Client:** ERT, Inc.
**Project:** Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD
**Sample Receipt Dates:** 03/19/2019, 03/21/2019, & 03/22/2019
**SDG #:** 143587 (Folders 143587, 143688, & 143730)

Forty ISM samples were received and analyzed for Arsenic and Manganese. Prior to analysis, the ISM samples were dried, sieved, and ground following the homogenization procedure outlined by the client. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale". The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

**Sample Analysis and Quality Control**

***Metals Analysis:***

The samples were analyzed using US EPA Method 6010C (ICP Metals). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

**ICP Arsenic & Manganese (6010C) Soil Analysis**

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 159095

Arsenic was detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not reanalyzed because the MB manganese result was less than 1/10$^{th}$ of the sample results.

The Serial Dilution (L) for sample # 253258 was not applicable for arsenic because the parent sample raw result was less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was acceptable for arsenic. The parent sample was reported and not qualified.

The L for sample # 253258 was not acceptable for manganese because the result exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for sample # 253258 had outside recoveries for arsenic and manganese. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

Analytical Run # 159293

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and qualified with a "B" flag when the MB manganese result was greater than 1/10$^{th}$ of the sample results.

The L for sample # 254964 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable for arsenic. The parent sample was reported and not qualified.

The L for sample # 254964 was not acceptable for manganese because the result exceeded the RPD limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The L for sample # 254965 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable for arsenic. The parent sample was reported and not qualified.

The L for sample # 254965 was not acceptable for manganese because the result exceeded the RPD limit. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

The Duplicate (DUP) for sample # 254965 was not acceptable for manganese because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The MS and MSD for sample # 254965 had outside recoveries for manganese. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

Analytical Run # 159294

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and qualified with a "B" flag when the MB arsenic result was greater than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not qualified because the MB manganese result was less than 1/10$^{th}$ of the sample results.

The DUP for sample # 254600 was not acceptable for arsenic because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The Triplicate (TRIP) for sample # 254600 was not applicable for arsenic because the parent sample results were less than five times the LOQ. The parent sample was reported and qualified with a "Y" flag for the failing DUP.

The DUP for sample # 254965 was not acceptable for manganese because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The L for sample # 254601 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was unacceptable for arsenic. The parent sample was reported and qualified with an "M" flag for the failing element.

The L for sample # 254601 was not acceptable for manganese because the result exceeded the RPD limit. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.
The DUP for sample # 254601 was not acceptable for arsenic because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The MS and MSD for sample # 254601 had outside recoveries for manganese. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

The L for sample # 254602 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable for arsenic. The parent sample was reported and not qualified.

The L for sample # 254602 was not acceptable for manganese because the result exceeded the RPD limit. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

The DUP for sample # 254602 was not acceptable for manganese because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The TRIP for sample # 254602 was not acceptable for manganese because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The MS and MSD for sample # 254602 had outside recoveries for manganese. A PDS was analyzed and was unacceptable for manganese. The parent sample was reported and qualified with an "M" flag for the failing element.

CT LABORATORIES

delivering more than data from your environmental analyses

## Data Qualifiers

| Code | Description |
|---|---|
| A | Analyte averaged calibration criteria within acceptable limits. |
| B | Analyte detected in associated Method Blank. |
| C | Toxicity present in BOD sample. |
| D | Diluted Out. |
| E | Safe, No Total Coliform detected. |
| F | Unsafe, Total Coliform detected, no E. Coli detected. |
| G | Unsafe, Total Coliform detected and E. Coli detected. |
| H | Holding time exceeded. |
| J | Estimated value. |
| L | Significant peaks were detected outside the chromatographic window. |
| M | Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits. |
| N | Insufficient BOD oxygen depletion. |
| O | Complete BOD oxygen depletion. |
| P | Concentration of analyte differs more than 40% between primary and confirmation analysis. |
| Q | Laboratory Control Sample outside acceptance limits. |
| R | See Narrative at end of report. |
| S | Surrogate standard recovery outside acceptance limits due to apparent matrix effects. |
| T | Sample received with improper preservation or temperature. |
| U | Analyte concentration was not above the detection level. |
| V | Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference. |
| W | Sample amount received was below program minimum. |
| X | Analyte exceeded calibration range. |
| Y | Replicate/Duplicate precision outside acceptance limits. |
| Z | Calibration criteria exceeded. |

CT LABORATORIES

delivering more than data from your environmental analyses

## MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

**#1**: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

**#2**: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

**#3: Improperly Integrated Isomers and/or coeluting compounds.**
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

**#4: System Established Incorrect Baseline.**
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

**#5: Miscellaneous.**
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143587

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 1 | 253258 | 143587 | | DU1A-SU05 | SOIL | 03/18/2019 | 03/19/2019 |
| 2 | 253274 | 143587 | | DU1B-SU05 | SOIL | 03/18/2019 | 03/19/2019 |
| 3 | 253275 | 143587 | | DU1A-SU27 | SOIL | 03/18/2019 | 03/19/2019 |
| 4 | 253276 | 143587 | | DU1B-SU27 | SOIL | 03/18/2019 | 03/19/2019 |
| 5 | 253277 | 143587 | | DU1B-SU28 | SOIL | 03/18/2019 | 03/19/2019 |
| 6 | 253278 | 143587 | | DU1A-SU28 | SOIL | 03/18/2019 | 03/19/2019 |
| 7 | 253279 | 143587 | | DU1A-SU37 | SOIL | 03/18/2019 | 03/19/2019 |
| 8 | 253280 | 143587 | | DU1B-SU37 | SOIL | 03/18/2019 | 03/19/2019 |
| 9 | 253281 | 143587 | | DU1A-SU41 | SOIL | 03/18/2019 | 03/19/2019 |
| 10 | 253282 | 143587 | | DU1B-SU41 | SOIL | 03/18/2019 | 03/19/2019 |
| 11 | 254587 | 143688 | | DU1A-SU43 | SOIL | 03/19/2019 | 03/21/2019 |
| 12 | 254588 | 143688 | | DU1B-SU43 | SOIL | 03/19/2019 | 03/21/2019 |
| 13 | 254589 | 143688 | | DU1A-SU53 | SOIL | 03/19/2019 | 03/21/2019 |
| 14 | 254590 | 143688 | | DU1B-SU53 | SOIL | 03/19/2019 | 03/21/2019 |
| 15 | 254591 | 143688 | | DU1A-SU57 | SOIL | 03/20/2019 | 03/21/2019 |
| 16 | 254592 | 143688 | | DU1B-SU57 | SOIL | 03/20/2019 | 03/21/2019 |
| 17 | 254593 | 143688 | | DU1A-SU55 | SOIL | 03/20/2019 | 03/21/2019 |
| 18 | 254594 | 143688 | | DU1B-SU55 | SOIL | 03/20/2019 | 03/21/2019 |
| 19 | 254595 | 143688 | | DU1A-SU54 | SOIL | 03/19/2019 | 03/21/2019 |
| 20 | 254596 | 143688 | | DU1B-SU54 | SOIL | 03/19/2019 | 03/21/2019 |
| 21 | 254597 | 143688 | | DU1A-SU45 | SOIL | 03/20/2019 | 03/21/2019 |
| 22 | 254598 | 143688 | | DU1B-SU45 | SOIL | 03/20/2019 | 03/21/2019 |
| 23 | 254599 | 143688 | | DU1A-SU42 | SOIL | 03/20/2019 | 03/21/2019 |
| 24 | 254600 | 143688 | | DU1B-SU42 | SOIL | 03/20/2019 | 03/21/2019 |
| 25 | 254601 | 143688 | | DU3A-SU01 | SOIL | 03/20/2019 | 03/21/2019 |
| 26 | 254602 | 143688 | | DU3B-SU01 | SOIL | 03/20/2019 | 03/21/2019 |
| 27 | 254603 | 143688 | | DU3A-SU02 | SOIL | 03/20/2019 | 03/21/2019 |
| 28 | 254604 | 143688 | | DU3B-SU02 | SOIL | 03/20/2019 | 03/21/2019 |
| 29 | 254605 | 143688 | | DU3A-SU04 | SOIL | 03/20/2019 | 03/21/2019 |
| 30 | 254606 | 143688 | | DU3B-SU04 | SOIL | 03/20/2019 | 03/21/2019 |
| 31 | 254959 | 143730 | | DU1A-SU50 | SOIL | 03/19/2019 | 03/22/2019 |
| 32 | 254961 | 143730 | | DU1B-SU50 | SOIL | 03/19/2019 | 03/22/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143587

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 33 | 254962 | 143730 | | DU1A-SU59 | SOIL | 03/19/2019 | 03/22/2019 |
| 34 | 254963 | 143730 | | DU1B-SU59 | SOIL | 03/19/2019 | 03/22/2019 |
| 35 | 254964 | 143730 | | DU1A-SU56 | SOIL | 03/19/2019 | 03/22/2019 |
| 36 | 254965 | 143730 | | DU1B-SU56 | SOIL | 03/19/2019 | 03/22/2019 |
| 37 | 254966 | 143730 | | DU1A-SU47 | SOIL | 03/19/2019 | 03/22/2019 |
| 38 | 254967 | 143730 | | DU1B-SU47 | SOIL | 03/19/2019 | 03/22/2019 |
| 39 | 254968 | 143730 | | DU1A-SU49 | SOIL | 03/19/2019 | 03/22/2019 |
| 40 | 254969 | 143730 | | DU1B-SU49 | SOIL | 03/19/2019 | 03/22/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# QC Batch Cross Reference Summary



ERT
[redacted]
SUITE 300
LAUREL, MD 20707

| | |
|---|---|
| Project Name: | CURTIS BAY ORDNANCE DEPOT |
| Project #: | 3756 |
| Report Date: | 05/08/2019 |
| Date Received: | 03/19/2019 |
| SDG #: | 143587 |

## *Inorganic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 253258 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 253274 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 253275 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 253276 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 253277 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 253278 | Solids, Percent | EPA 8000C | SOIL | | 158862 |
| 253279 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 253280 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 253281 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 253282 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254587 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254588 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254589 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254590 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254591 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254592 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254593 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254594 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254595 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254596 | Solids, Percent | EPA 8000C | SOIL | | 158863 |
| 254597 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254598 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254599 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254600 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254601 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254602 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254603 | Solids, Percent | EPA 8000C | SOIL | | 159405 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143587

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 254604 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254605 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254606 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254959 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254961 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254962 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254963 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254964 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254965 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254966 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254967 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254968 | Solids, Percent | EPA 8000C | SOIL | | 159405 |
| 254969 | Solids, Percent | EPA 8000C | SOIL | | 159405 |

## *Metal Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 253258 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253274 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253275 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253276 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253277 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253278 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253279 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253280 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253281 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253282 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254587 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254588 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254589 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254590 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254591 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254592 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254593 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254594 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254595 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254596 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254597 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254598 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143587

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 254599 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254600 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254601 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254602 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254603 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254604 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254605 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254606 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254959 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254961 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254962 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254963 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254964 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 254965 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 254966 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254967 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 254968 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254969 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 253279 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 253280 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71151 | 159095 |
| 254601 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254602 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254603 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254604 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254605 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254606 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 254965 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |

## *Organic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 253258 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253274 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253275 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253276 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253277 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253278 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253279 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253280 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143587

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 253281 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 253282 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159414 |
| 254587 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254588 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254589 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254590 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254591 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254592 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254593 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254594 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254595 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254596 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254597 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254598 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254599 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254600 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254601 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254602 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254603 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254604 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254605 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254606 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159431 |
| 254959 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254961 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254962 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254963 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254964 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254965 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254966 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254967 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254968 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |
| 254969 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159442 |

# METALS
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.7 | Lab Sample ID: | 253258 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 17:15 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.2 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 826 | M | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU27**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.3 | Lab Sample ID: | 253275 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 18:05 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.9 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1350 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU28**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.1 | Lab Sample ID: | 253278 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 18:43 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.1 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 727 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU37**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.2 | Lab Sample ID: | 253279 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/30/2019 05:50 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 23400 | | 0.25 | 0.76 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU37**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.2 | Lab Sample ID: | 253279 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 18:49 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 16.2 | | 0.13 | 0.40 | 0.81 | 0.81 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU41**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.5 | Lab Sample ID: | 253281 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 19:04 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.2 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 1580 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU42**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254599 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 06:33 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.2 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 218 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU43**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.7 | Lab Sample ID: | 254587 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 19:17 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 17.3 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 415 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU45**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.9 | Lab Sample ID: | 254597 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 06:20 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.8 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 1970 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU47**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254966 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:58 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 22.3 | | 0.13 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 496 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU49**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.6 | Lab Sample ID: | 254968 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 10:04 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 29.3 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 618 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU50**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254959 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:31 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.9 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 702 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU53**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.4 | Lab Sample ID: | 254589 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 19:29 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 20.9 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 279 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU54**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.0 | Lab Sample ID: | 254595 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 20:25 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 14.3 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 182 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU55**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.1 | Lab Sample ID: | 254593 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 20:12 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.3 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 373 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.6 | Lab Sample ID: | 254964 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 11:07 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 39.7 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 357 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU57**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254591 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 20:00 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.7 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 242 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU59**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254962 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:45 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.6 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 341 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 96.5 | Lab Sample ID: | 253274 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 17:59 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.1 | | 0.14 | 0.43 | 0.86 | 0.86 |
| 7439-96-5 | Manganese | 372 | | 0.027 | 0.081 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU27**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.0 | Lab Sample ID: | 253276 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 18:30 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.4 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 473 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU28**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 253277 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 18:36 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.1 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 281 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU37**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.8 | Lab Sample ID: | 253280 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/30/2019 05:56 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 18500 | | 0.25 | 0.75 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU37**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.8 | Lab Sample ID: | 253280 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 18:56 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.4 | | 0.13 | 0.40 | 0.80 | 0.80 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU41**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.9 | Lab Sample ID: | 253282 |
| Analytical Method: | EPA 6010C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 19:10 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.7 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 849 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU42**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.8 | Lab Sample ID: | 254600 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 06:40 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 11.3 | Y | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 367 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU43**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.9 | Lab Sample ID: | 254588 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 19:23 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.6 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 419 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU45**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254598 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 06:27 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.8 | B | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 545 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU47**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254967 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 12:50 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.3 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 267 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU49**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254969 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 10:28 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 16.7 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 241 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU50**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254961 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:38 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 476 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU53**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.3 | Lab Sample ID: | 254590 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 19:54 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.5 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 156 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU54**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254596 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 20:31 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.7 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 124 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU55**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254594 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 20:18 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.1 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 292 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254965 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 11:58 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 20.2 | | 0.14 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254965 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 19:57 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 349 | M,Y,B | 0.26 | 0.79 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU57**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254592 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159095 | Analysis Date/Time | 03/27/2019 20:06 |
| Analytical Prep Batch #: | 71151 | Prep. Date/Time: | 03/25/2019 13:35 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.5 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 378 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU59**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254963 |
| Analytical Method: | EPA 6010C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:51 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.7 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 232 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU3A-SU01**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254601 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 06:59 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.2 | Y,M | 0.14 | 0.42 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254601 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 17:06 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 4870 | M | 0.26 | 0.78 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254603 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:04 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.8 | | 0.14 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254603 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 18:54 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 6240 | | 0.26 | 0.79 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254605 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:18 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 23.1 | | 0.14 | 0.42 | 0.85 | 0.85 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254605 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 100.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/29/2019 17:37 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 48800 | | 2.7 | 8.0 | 16 | 16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254602 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 08:02 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.7 | | 0.14 | 0.42 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254602 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/29/2019 17:30 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 7430 | Y,M | 0.26 | 0.78 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254604 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:11 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.3 | | 0.13 | 0.39 | 0.78 | 0.78 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254604 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 19:18 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 2440 | | 0.24 | 0.73 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254606 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 09:25 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 17.8 | | 0.13 | 0.41 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254606 |
| Analytical Method: | EPA 6010C | Date Received: | 03/21/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 19:31 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 24600 | | 0.26 | 0.77 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257418

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 13:27 | 2000 | 1910 | 96 | 90 | 110 |
| Manganese | 3/27/19 | 13:27 | 500.0 | 500.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257419

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 13:39 | 60.00 | 65.30 | 109 | 80 | 120 |
| Manganese | 3/27/19 | 13:39 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260120

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/29/19 | 12:09 | 2000 | 1990 | 100 | 90 | 110 |
| Manganese | 3/29/19 | 12:09 | 500.0 | 510.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260121

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/29/19 | 12:15 | 60.00 | 64.50 | 108 | 80 | 120 |
| Manganese | 3/29/19 | 12:15 | 30.00 | 32.80 | 109 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264608

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:46 | 2000 | 1990 | 100 | 90 | 110 |
| Manganese | 4/3/19 | 15:46 | 500.0 | 513.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264609

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:52 | 60.00 | 65.10 | 108 | 80 | 120 |
| Manganese | 4/3/19 | 15:52 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264629

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:46 | 2000 | 1990 | 100 | 90 | 110 |
| Manganese | 4/3/19 | 15:46 | 500.0 | 513.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264630

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:52 | 60.00 | 65.10 | 108 | 80 | 120 |
| Manganese | 4/3/19 | 15:52 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266034

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 08:51 | 2000 | 1920 | 96 | 90 | 110 |
| Manganese | 4/5/19 | 08:51 | 500.0 | 500.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266036

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 09:04 | 60.00 | 62.40 | 104 | 80 | 120 |
| Manganese | 4/5/19 | 09:04 | 30.00 | 32.30 | 108 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273252

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:45 | 2000 | 2040 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 15:45 | 500.0 | 475.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273253

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:51 | 60.00 | 60.90 | 102 | 80 | 120 |
| Manganese | 4/25/19 | 15:51 | 30.00 | 33.10 | 110 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273289

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 15:55 | 2000 | 1980 | 99 | 90 | 110 |
| Manganese | 4/29/19 | 15:55 | 500.0 | 521.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273290

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 16:01 | 60.00 | 62.90 | 105 | 80 | 120 |
| Manganese | 4/29/19 | 16:01 | 30.00 | 31.30 | 104 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273309

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:45 | 2000 | 2040 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 15:45 | 500.0 | 475.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273310

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:51 | 60.00 | 60.90 | 102 | 80 | 120 |
| Manganese | 4/25/19 | 15:51 | 30.00 | 33.10 | 110 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273326

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 15:55 | 2000 | 1980 | 99 | 90 | 110 |
| Manganese | 4/29/19 | 15:55 | 500.0 | 521.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273327

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 16:01 | 60.00 | 62.90 | 105 | 80 | 120 |
| Manganese | 4/29/19 | 16:01 | 30.00 | 31.30 | 104 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257424

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 15:27 | 5000 | 4670 | 93 | 90 | 110 |
| Manganese | 3/27/19 | 15:27 | 5000 | 4630 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257425

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 15:33 | 500.0 | 484.0 | 97 | 90 | 110 |
| Manganese | 3/27/19 | 15:33 | 500.0 | 502.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257427

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 16:51 | 5000 | 4670 | 93 | 90 | 110 |
| Manganese | 3/27/19 | 16:51 | 5000 | 4640 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257428

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 16:57 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 3/27/19 | 16:57 | 500.0 | 506.0 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257432

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 18:12 | 5000 | 4640 | 93 | 90 | 110 |
| Manganese | 3/27/19 | 18:12 | 5000 | 4660 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257433

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 18:18 | 500.0 | 489.0 | 98 | 90 | 110 |
| Manganese | 3/27/19 | 18:18 | 500.0 | 508.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257435

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 19:36 | 5000 | 4630 | 93 | 90 | 110 |
| Manganese | 3/27/19 | 19:36 | 5000 | 4630 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257436

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 19:42 | 500.0 | 487.0 | 97 | 90 | 110 |
| Manganese | 3/27/19 | 19:42 | 500.0 | 508.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257439

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 20:57 | 5000 | 4680 | 94 | 90 | 110 |
| Manganese | 3/27/19 | 20:57 | 5000 | 4640 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257440

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/27/19 | 21:02 | 500.0 | 489.0 | 98 | 90 | 110 |
| Manganese | 3/27/19 | 21:02 | 500.0 | 502.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260126

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/30/19 | 05:05 | 5000 | 4640 | 93 | 90 | 110 |
| Manganese | 3/30/19 | 05:05 | 5000 | 5020 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260127

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/30/19 | 05:11 | 500.0 | 493.0 | 99 | 90 | 110 |
| Manganese | 3/30/19 | 05:11 | 500.0 | 464.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095 Lab Sample ID: 260129

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/30/19 | 06:09 | 5000 | 4730 | 95 | 90 | 110 |
| Manganese | 3/30/19 | 06:09 | 5000 | 5030 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260130

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 3/30/19 | 06:15 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 3/30/19 | 06:15 | 500.0 | 470.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264613

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:10 | 5000 | 4810 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 10:10 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264614

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:16 | 500.0 | 477.0 | 95 | 90 | 110 |
| Manganese | 4/4/19 | 10:16 | 500.0 | 490.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264617

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:33 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 11:33 | 5000 | 5130 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264618

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:39 | 500.0 | 478.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 11:39 | 500.0 | 492.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264623

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 12:56 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 12:56 | 5000 | 5010 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264624

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 13:02 | 500.0 | 480.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 13:02 | 500.0 | 488.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264626

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 14:17 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 14:17 | 5000 | 5050 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264627

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 14:23 | 500.0 | 483.0 | 97 | 90 | 110 |
| Manganese | 4/4/19 | 14:23 | 500.0 | 496.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294 Lab Sample ID: 264634

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 04:39 | 5000 | 4510 | 90 | 90 | 110 |
| Manganese | 4/4/19 | 04:39 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264635

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 04:44 | 500.0 | 472.0 | 94 | 90 | 110 |
| Manganese | 4/4/19 | 04:44 | 500.0 | 494.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294 Lab Sample ID: 264637

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 06:03 | 5000 | 4500 | 90 | 90 | 110 |
| Manganese | 4/4/19 | 06:03 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264638

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 06:08 | 500.0 | 482.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 06:08 | 500.0 | 498.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264641

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 07:25 | 5000 | 4830 | 97 | 90 | 110 |
| Manganese | 4/4/19 | 07:25 | 5000 | 4720 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264642

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 07:31 | 500.0 | 475.0 | 95 | 90 | 110 |
| Manganese | 4/4/19 | 07:31 | 500.0 | 470.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264647

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 08:47 | 5000 | 4820 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 08:47 | 5000 | 5110 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264648

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 08:52 | 500.0 | 484.0 | 97 | 90 | 110 |
| Manganese | 4/4/19 | 08:52 | 500.0 | 495.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264650

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:10 | 5000 | 4810 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 10:10 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264651

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:16 | 500.0 | 477.0 | 95 | 90 | 110 |
| Manganese | 4/4/19 | 10:16 | 500.0 | 490.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294 Lab Sample ID: 264653

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:33 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 11:33 | 5000 | 5130 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264654

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:39 | 500.0 | 478.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 11:39 | 500.0 | 492.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266041

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 16:18 | 5000 | 4760 | 95 | 90 | 110 |
| Manganese | 4/5/19 | 16:18 | 5000 | 4680 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266042

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 16:23 | 500.0 | 451.0 | 90 | 90 | 110 |
| Manganese | 4/5/19 | 16:23 | 500.0 | 463.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266044

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 17:41 | 5000 | 4720 | 94 | 90 | 110 |
| Manganese | 4/5/19 | 17:41 | 5000 | 4640 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266045

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 17:46 | 500.0 | 452.0 | 90 | 90 | 110 |
| Manganese | 4/5/19 | 17:46 | 500.0 | 459.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266047

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 19:03 | 5000 | 4800 | 96 | 90 | 110 |
| Manganese | 4/5/19 | 19:03 | 5000 | 4850 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266048

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 19:09 | 500.0 | 452.0 | 90 | 90 | 110 |
| Manganese | 4/5/19 | 19:09 | 500.0 | 459.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273258

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 17:38 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 17:38 | 5000 | 4560 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273259

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 17:44 | 500.0 | 491.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 17:44 | 500.0 | 464.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273261

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:00 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 19:00 | 5000 | 4560 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273262

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:06 | 500.0 | 497.0 | 99 | 90 | 110 |
| Manganese | 4/25/19 | 19:06 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294 Lab Sample ID: 273264

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:21 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:21 | 5000 | 4530 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273265

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:27 | 500.0 | 492.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:27 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294 Lab Sample ID: 273294

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:49 | 5000 | 5450 | 109 | 90 | 110 |
| Manganese | 4/29/19 | 17:49 | 5000 | 5320 | 106 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273295

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:55 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/29/19 | 17:55 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293 Lab Sample ID: 273315

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:00 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 19:00 | 5000 | 4560 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273316

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:06 | 500.0 | 497.0 | 99 | 90 | 110 |
| Manganese | 4/25/19 | 19:06 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293 Lab Sample ID: 273318

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:21 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:21 | 5000 | 4530 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273319

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:27 | 500.0 | 492.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:27 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273321

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:41 | 5000 | 4860 | 97 | 90 | 110 |
| Manganese | 4/25/19 | 21:41 | 5000 | 4590 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273322

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:47 | 500.0 | 491.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 21:47 | 500.0 | 469.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273331

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:49 | 5000 | 5450 | 109 | 90 | 110 |
| Manganese | 4/29/19 | 17:49 | 5000 | 5320 | 106 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273332

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:55 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/29/19 | 17:55 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257420

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/27/2019 13:52 | 2.55 | U | 4 | 16 |
| Manganese | 03/27/2019 13:52 | 0.146 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260122

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/29/2019 12:27 | 1.83 | U | 4 | 16 |
| Manganese | 03/29/2019 12:27 | -0.292 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264610

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/03/2019 16:05 | 2.96 | U | 4 | 16 |
| Manganese | 04/03/2019 16:05 | -0.0760 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264631

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/03/2019 16:05 | 2.96 | U | 4 | 16 |
| Manganese | 04/03/2019 16:05 | -0.0760 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**3-1**

***INITIAL CALIBRATION BLANKS***

**ICB**

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266037

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 09:10 | -0.338 | U | 4 | 16 |
| Manganese | 04/05/2019 09:10 | 0.151 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273254

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 16:03 | -4.05 | U | 4 | 16 |
| Manganese | 04/25/2019 16:03 | -1.22 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273291

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 16:14 | -3.49 | U | 4 | 16 |
| Manganese | 04/29/2019 16:14 | -2.33 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-1

**ICB**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273311

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 16:03 | -4.05 | U | 4 | 16 |
| Manganese | 04/25/2019 16:03 | -1.22 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273328

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 16:14 | -3.49 | U | 4 | 16 |
| Manganese | 04/29/2019 16:14 | -2.33 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257426

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/27/2019 15:39 | 0.267 | U | 4 | 16 |
| Manganese | 03/27/2019 15:39 | -0.00400 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257429

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/27/2019 17:03 | 1.08 | U | 4 | 16 |
| Manganese | 03/27/2019 17:03 | 0.214 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257434

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/27/2019 18:24 | 4.67 | | 4 | 16 |
| Manganese | 03/27/2019 18:24 | 0.417 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257437

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/27/2019 19:47 | 2.46 | U | 4 | 16 |
| Manganese | 03/27/2019 19:47 | 0.766 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 257441

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/27/2019 21:08 | 1.92 | U | 4 | 16 |
| Manganese | 03/27/2019 21:08 | 1.28 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260128

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/30/2019 05:17 | 2.60 | U | 4 | 16 |
| Manganese | 03/30/2019 05:17 | 0.378 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 260131

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 03/30/2019 06:21 | 2.61 | U | 4 | 16 |
| Manganese | 03/30/2019 06:21 | -0.134 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264615

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 10:22 | 3.19 | U | 4 | 16 |
| Manganese | 04/04/2019 10:22 | 0.0190 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264619

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:45 | 3.65 | U | 4 | 16 |
| Manganese | 04/04/2019 11:45 | 0.214 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264625

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 13:08 | 1.75 | U | 4 | 16 |
| Manganese | 04/04/2019 13:08 | 0.495 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 264628

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 14:29 | 4.56 | | 4 | 16 |
| Manganese | 04/04/2019 14:29 | 0.709 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264636

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 04:50 | 2.97 | U | 4 | 16 |
| Manganese | 04/04/2019 04:50 | 0.459 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264639

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 06:14 | 4.07 | | 4 | 16 |
| Manganese | 04/04/2019 06:14 | 0.684 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264643

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 07:37 | 3.53 | U | 4 | 16 |
| Manganese | 04/04/2019 07:37 | 0.475 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264649

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 08:58 | 3.97 | U | 4 | 16 |
| Manganese | 04/04/2019 08:58 | 0.858 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264652

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 10:22 | 3.19 | U | 4 | 16 |
| Manganese | 04/04/2019 10:22 | 0.0190 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 264655

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:45 | 3.65 | U | 4 | 16 |
| Manganese | 04/04/2019 11:45 | 0.214 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266043

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 16:29 | 1.94 | U | 4 | 16 |
| Manganese | 04/05/2019 16:29 | 0.751 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266046

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 17:52 | 0.0500 | U | 4 | 16 |
| Manganese | 04/05/2019 17:52 | 0.900 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 266049

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 19:15 | 1.18 | U | 4 | 16 |
| Manganese | 04/05/2019 19:15 | 1.44 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273260

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 17:50 | -9.99 | U | 4 | 16 |
| Manganese | 04/25/2019 17:50 | -0.974 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273263

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 19:12 | -7.60 | U | 4 | 16 |
| Manganese | 04/25/2019 19:12 | -0.842 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273266

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 20:33 | -3.94 | U | 4 | 16 |
| Manganese | 04/25/2019 20:33 | -0.623 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 273296

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 18:00 | -4.13 | U | 4 | 16 |
| Manganese | 04/29/2019 18:00 | -1.73 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273317

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 19:12 | -7.60 | U | 4 | 16 |
| Manganese | 04/25/2019 19:12 | -0.842 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273320

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 20:33 | -3.94 | U | 4 | 16 |
| Manganese | 04/25/2019 20:33 | -0.623 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273323

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 21:53 | 1.12 | U | 4 | 16 |
| Manganese | 04/25/2019 21:53 | -0.297 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 273333

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 18:00 | -4.13 | U | 4 | 16 |
| Manganese | 04/29/2019 18:00 | -1.73 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159095  Lab Sample ID: 255704

Analytical Prep Batch # 71151  Preparation Date/Time: 03/25/2019 13:35

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 03/27/2019 17:09 | 0.19 | | 0.13 | 0.40 | FAIL |
| Manganese | 03/27/2019 17:09 | 5.1 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159294  Lab Sample ID: 258582

Analytical Prep Batch # 71263  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 05:56 | 0.29 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/04/2019 05:56 | 11.2 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143587

Analytical Run #: 159293  Lab Sample ID: 258596

Analytical Prep Batch # 71264  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:01 | 0.27 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/04/2019 11:01 | 6.5 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159095
Lab Sample ID: 257421
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/27/2019 14:04 | 500000 | 575000 | 115 | 80 | 120 |
| Arsenic | 03/27/2019 14:04 | 0 | -0.0110 | | -16 | 16 |
| Calcium | 03/27/2019 14:04 | 500000 | 522000 | 104 | 80 | 120 |
| Iron | 03/27/2019 14:04 | 500000 | 506000 | 101 | 80 | 120 |
| Magnesium | 03/27/2019 14:04 | 500000 | 493000 | 99 | 80 | 120 |
| Manganese | 03/27/2019 14:04 | 0 | -1.96 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159095
Lab Sample ID: 260123
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/29/2019 12:40 | 500000 | 481000 | 96 | 80 | 120 |
| Arsenic | 03/29/2019 12:40 | 0 | 0.0840 | | -16 | 16 |
| Calcium | 03/29/2019 12:40 | 500000 | 477000 | 95 | 80 | 120 |
| Iron | 03/29/2019 12:40 | 500000 | 481000 | 96 | 80 | 120 |
| Magnesium | 03/29/2019 12:40 | 500000 | 471000 | 94 | 80 | 120 |
| Manganese | 03/29/2019 12:40 | 0 | -3.19 | | -7.3 | 7 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 264611
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:17 | 500000 | 547000 | 109 | 80 | 120 |
| Arsenic | 04/03/2019 16:17 | 0 | -0.250 | | -16 | 16 |
| Calcium | 04/03/2019 16:17 | 500000 | 530000 | 106 | 80 | 120 |
| Iron | 04/03/2019 16:17 | 500000 | 540000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:17 | 500000 | 519000 | 104 | 80 | 120 |
| Manganese | 04/03/2019 16:17 | 0 | -4.02 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159294
Lab Sample ID: 264632
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:17 | 500000 | 547000 | 109 | 80 | 120 |
| Arsenic | 04/03/2019 16:17 | 0 | -0.250 | | -16 | 16 |
| Calcium | 04/03/2019 16:17 | 500000 | 530000 | 106 | 80 | 120 |
| Iron | 04/03/2019 16:17 | 500000 | 540000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:17 | 500000 | 519000 | 104 | 80 | 120 |
| Manganese | 04/03/2019 16:17 | 0 | -4.03 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 266039
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/05/2019 09:29 | 500000 | 529000 | 106 | 80 | 120 |
| Arsenic | 04/05/2019 09:29 | 0 | -0.502 | | -16 | 16 |
| Calcium | 04/05/2019 09:29 | 500000 | 514000 | 103 | 80 | 120 |
| Iron | 04/05/2019 09:29 | 500000 | 481000 | 96 | 80 | 120 |
| Magnesium | 04/05/2019 09:29 | 500000 | 494000 | 99 | 80 | 120 |
| Manganese | 04/05/2019 09:29 | 0 | -2.73 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159294
Lab Sample ID: 273255
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:16 | 500000 | 556000 | 111 | 80 | 120 |
| Arsenic | 04/25/2019 16:16 | 0 | 0.263 | | -16 | 16 |
| Calcium | 04/25/2019 16:16 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 16:16 | 500000 | 492000 | 98 | 80 | 120 |
| Magnesium | 04/25/2019 16:16 | 500000 | 501000 | 100 | 80 | 120 |
| Manganese | 04/25/2019 16:16 | 0 | -4.13 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159294
Lab Sample ID: 273292
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:26 | 500000 | 526000 | 105 | 80 | 120 |
| Arsenic | 04/29/2019 16:26 | 0 | 0.00400 | | -16 | 16 |
| Calcium | 04/29/2019 16:26 | 500000 | 500000 | 100 | 80 | 120 |
| Iron | 04/29/2019 16:26 | 500000 | 542000 | 108 | 80 | 120 |
| Magnesium | 04/29/2019 16:26 | 500000 | 473000 | 95 | 80 | 120 |
| Manganese | 04/29/2019 16:26 | 0 | -5.48 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 273312
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:16 | 500000 | 556000 | 111 | 80 | 120 |
| Arsenic | 04/25/2019 16:16 | 0 | 0.263 | | -16 | 16 |
| Calcium | 04/25/2019 16:16 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 16:16 | 500000 | 492000 | 98 | 80 | 120 |
| Magnesium | 04/25/2019 16:16 | 500000 | 501000 | 100 | 80 | 120 |
| Manganese | 04/25/2019 16:16 | 0 | -4.13 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 273329
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:26 | 500000 | 526000 | 105 | 80 | 120 |
| Arsenic | 04/29/2019 16:26 | 0 | 0.00400 | | -16 | 16 |
| Calcium | 04/29/2019 16:26 | 500000 | 500000 | 100 | 80 | 120 |
| Iron | 04/29/2019 16:26 | 500000 | 542000 | 108 | 80 | 120 |
| Magnesium | 04/29/2019 16:26 | 500000 | 473000 | 95 | 80 | 120 |
| Manganese | 04/29/2019 16:26 | 0 | -5.48 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159095
Lab Sample ID: 257422
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/27/2019 14:11 | 500000 | 565000 | 113 | 80 | 120 |
| Arsenic | 03/27/2019 14:11 | 500.0 | 445.0 | 89 | 80 | 120 |
| Calcium | 03/27/2019 14:11 | 500000 | 504000 | 101 | 80 | 120 |
| Iron | 03/27/2019 14:11 | 500000 | 497000 | 99 | 80 | 120 |
| Magnesium | 03/27/2019 14:11 | 500000 | 475000 | 95 | 80 | 120 |
| Manganese | 03/27/2019 14:11 | 500.0 | 510.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159095
Lab Sample ID: 260124
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 03/29/2019 12:47 | 500000 | 508000 | 102 | 80 | 120 |
| Arsenic | 03/29/2019 12:47 | 500.0 | 572.0 | 114 | 80 | 120 |
| Calcium | 03/29/2019 12:47 | 500000 | 506000 | 101 | 80 | 120 |
| Iron | 03/29/2019 12:47 | 500000 | 517000 | 103 | 80 | 120 |
| Magnesium | 03/29/2019 12:47 | 500000 | 499000 | 100 | 80 | 120 |
| Manganese | 03/29/2019 12:47 | 500.0 | 509.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 264612
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:24 | 500000 | 535000 | 107 | 80 | 120 |
| Arsenic | 04/03/2019 16:24 | 500.0 | 571.0 | 114 | 80 | 120 |
| Calcium | 04/03/2019 16:24 | 500000 | 522000 | 104 | 80 | 120 |
| Iron | 04/03/2019 16:24 | 500000 | 538000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:24 | 500000 | 510000 | 102 | 80 | 120 |
| Manganese | 04/03/2019 16:24 | 500.0 | 511.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159294
Lab Sample ID: 264633
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:24 | 500000 | 535000 | 107 | 80 | 120 |
| Arsenic | 04/03/2019 16:24 | 500.0 | 571.0 | 114 | 80 | 120 |
| Calcium | 04/03/2019 16:24 | 500000 | 522000 | 104 | 80 | 120 |
| Iron | 04/03/2019 16:24 | 500000 | 538000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:24 | 500000 | 510000 | 102 | 80 | 120 |
| Manganese | 04/03/2019 16:24 | 500.0 | 511.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 266050
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/05/2019 09:35 | 500000 | 544000 | 109 | 80 | 120 |
| Arsenic | 04/05/2019 09:35 | 500.0 | 568.0 | 114 | 80 | 120 |
| Calcium | 04/05/2019 09:35 | 500000 | 502000 | 100 | 80 | 120 |
| Iron | 04/05/2019 09:35 | 500000 | 506000 | 101 | 80 | 120 |
| Magnesium | 04/05/2019 09:35 | 500000 | 508000 | 102 | 80 | 120 |
| Manganese | 04/05/2019 09:35 | 500.0 | 512.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159294
Lab Sample ID: 273256
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:22 | 500000 | 496000 | 99 | 80 | 120 |
| Arsenic | 04/25/2019 16:22 | 500.0 | 554.0 | 111 | 80 | 120 |
| Calcium | 04/25/2019 16:22 | 500000 | 455000 | 91 | 80 | 120 |
| Iron | 04/25/2019 16:22 | 500000 | 440000 | 88 | 80 | 120 |
| Magnesium | 04/25/2019 16:22 | 500000 | 446000 | 89 | 80 | 120 |
| Manganese | 04/25/2019 16:22 | 500.0 | 463.0 | 93 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159294
Lab Sample ID: 273293
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:33 | 500000 | 431000 | 86 | 80 | 120 |
| Arsenic | 04/29/2019 16:33 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/29/2019 16:33 | 500000 | 407000 | 81 | 80 | 120 |
| Iron | 04/29/2019 16:33 | 500000 | 446000 | 89 | 80 | 120 |
| Magnesium | 04/29/2019 16:33 | 500000 | 402000 | 80 | 80 | 120 |
| Manganese | 04/29/2019 16:33 | 500.0 | 521.0 | 104 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 273313
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:22 | 500000 | 496000 | 99 | 80 | 120 |
| Arsenic | 04/25/2019 16:22 | 500.0 | 554.0 | 111 | 80 | 120 |
| Calcium | 04/25/2019 16:22 | 500000 | 455000 | 91 | 80 | 120 |
| Iron | 04/25/2019 16:22 | 500000 | 440000 | 88 | 80 | 120 |
| Magnesium | 04/25/2019 16:22 | 500000 | 446000 | 89 | 80 | 120 |
| Manganese | 04/25/2019 16:22 | 500.0 | 463.0 | 93 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143587
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 273330
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:33 | 500000 | 431000 | 86 | 80 | 120 |
| Arsenic | 04/29/2019 16:33 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/29/2019 16:33 | 500000 | 407000 | 81 | 80 | 120 |
| Iron | 04/29/2019 16:33 | 500000 | 446000 | 89 | 80 | 120 |
| Magnesium | 04/29/2019 16:33 | 500000 | 402000 | 80 | 80 | 120 |
| Manganese | 04/29/2019 16:33 | 500.0 | 521.0 | 104 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 97.7 | Concentration Units: | mg/kg |
| Sample No | 255708 | Parent Sample No.: | 253258 |
| Analytical Prep Batch # | 71151 | Analytical Preparation Date/Time: | 03/25/2019 13:35 |
| Analytical Run #: | 159095 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 03/27/2019 Analysis Time: -------- 17:41

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 444 | | 21.2 | | 522 | 81 | | P | *FAIL* |
| Manganese | 84-114 | 1220 | | 826 | | 522 | 75 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 100 | Concentration Units: | mg/kg |
| Sample No | 258590 | Parent Sample No.: | 254601 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/04/2019 | Analysis Time: -------- | 07:43 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 466 | | 8.2 | | 524 | 87 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 100 | Concentration Units: | mg/kg |
| Sample No | 258590 | Parent Sample No.: | 254601 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 17:32

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 5180 | | 4870 | | 524 | 59 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258594 | Parent Sample No.: | 254602 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/04/2019 Analysis Time: -------- 08:27

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 481 | | 6.7 | | 522 | 91 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258594 | Parent Sample No.: | 254602 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 18:35

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 4520 | | 7430 | | 522 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.6 | Concentration Units: | mg/kg |
| Sample No | 258600 | Parent Sample No.: | 254964 |
| Analytical Prep Batch # | 71264 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/04/2019 Analysis Time: -------- 11:27

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 528 | | 39.7 | | 523 | 93 | | P |
| Manganese | 84-114 | 913 | | 357 | | 523 | 106 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258603 | Parent Sample No.: | 254965 |
| Analytical Prep Batch # | 71264 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/04/2019 Analysis Time: -------- 12:30

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 509 | | 20.2 | | 525 | 93 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258603 | Parent Sample No.: | 254965 |
| Analytical Prep Batch # | 71264 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 20:15

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 580 | | 349 | | 525 | 44 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 97.7 | Concentration Units: | ug/L |
| Sample No | 257431 | Parent Sample No.: | 253258 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159095 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 03/27/2019 | Analysis Time: -------- | 17:53 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 18400. | | 815 | | 20000 | 88 | | P | |
| Manganese | 80-120 | 46200. | | 31800 | | 20000 | 72 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.6 | Concentration Units: | ug/L |
| Sample No | 264620 | Parent Sample No.: | 254964 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/04/2019 | Analysis Time: -------- | 12:04 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 20100. | | 1510. | | 20000 | 93 | | P |
| Manganese | 80-120 | 34000. | | 13600. | | 20000 | 102 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | ug/L |
| Sample No | 264622 | Parent Sample No.: | 254965 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/04/2019 | Analysis Time: -------- | 12:43 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 19600 | | 770. | | 20000 | 94 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | ug/L |
| Sample No | 264622 | Parent Sample No.: | 254965 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

| Analysis Type | *Re-Analysis #1* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 20:45 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 80-120 | 1200 | | 1330 | | 2000 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 100 | Concentration Units: | ug/L |
| Sample No | 264644 | Parent Sample No.: | 254601 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/04/2019 | Analysis Time: -------- | 07:55 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 13700 | | 315. | | 20000 | 67 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 100 | Concentration Units: | ug/L |
| Sample No | 264644 | Parent Sample No.: | 254601 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

| Analysis Type | *Re-Analysis #1* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 18:03 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 80-120 | 20000 | | 18700 | | 2000 | 65 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solids for Sample: 99.7
Concentration Units: ug/L
Sample No: 264646
Parent Sample No.: 254602
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 159294
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/04/2019 Analysis Time: -------- 08:40

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 18900. | | 257. | | 20000 | 93 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | ug/L |
| Sample No | 264646 | Parent Sample No.: | 254602 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

| Analysis Type | *Re-Analysis #1* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 18:48 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 80-120 | 16400 | | 28600 | | 2000 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 97.7 | Concentration Units: | mg/kg |
| Sample No | 255709 | Parent Sample No.: | 255708 |
| Analytical Prep Batch # | 71151 | Analytical Preparation Date/Time: | 03/25/2019 13:35 |
| Analytical Run #: | 159095 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 03/27/2019 | Analysis Time: -------- | 17:47 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 465 | | 21.2 | | 520 | 85 | | P | |
| Manganese | 84-114 | 1230 | | 826 | | 520 | 78 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 100 | Concentration Units: | mg/kg |
| Sample No | 258591 | Parent Sample No.: | 258590 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/04/2019 | Analysis Time: -------- | 07:43 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 461 | | 8.2 | | 518 | 87 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 100 | Concentration Units: | mg/kg |
| Sample No | 258591 | Parent Sample No.: | 258590 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 17:56

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 5670 | | 4870 | | 518 | 154 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258595 | Parent Sample No.: | 258594 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/04/2019 Analysis Time: -------- 08:33

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 476 | | 6.7 | | 520 | 90 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258595 | Parent Sample No.: | 258594 |
| Analytical Prep Batch # | 71263 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159294 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 18:41

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 4370 | | 7430 | | 520 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.6 | Concentration Units: | mg/kg |
| Sample No | 258601 | Parent Sample No.: | 258600 |
| Analytical Prep Batch # | 71264 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/04/2019 | Analysis Time: -------- | 11:51 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 526 | | 39.7 | | 523 | 93 | | P |
| Manganese | 84-114 | 886 | | 357 | | 523 | 101 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258604 | Parent Sample No.: | 258603 |
| Analytical Prep Batch # | 71264 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/04/2019 Analysis Time: -------- 12:36

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 494 | | 20.2 | | 522 | 91 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143587 |
| % Solids for Sample: | 99.7 | Concentration Units: | mg/kg |
| Sample No | 258604 | Parent Sample No.: | 258603 |
| Analytical Prep Batch # | 71264 | Analytical Preparation Date/Time: | 04/01/2019 11:12 |
| Analytical Run #: | 159293 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 20:39

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 606 | | 349 | | 522 | 49 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU05**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 97.7
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71151
Analytical Run #: 159095
ICAL Calibration #:
Sample #: 255706
Parent Sample #: 253258

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/27/2019 | 17:28 | 20 | 21.2 | | 23.2 | | 9 | | P |
| Manganese | 03/27/2019 | 17:28 | 20 | 826 | | 856 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU05**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 97.7
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71151
Analytical Run #: 159095
ICAL Calibration #:
Sample #: 255707
Parent Sample #: 253258

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/27/2019 | 17:34 | 20 | 21.2 | | 20.8 | | 2 | | P |
| Manganese | 03/27/2019 | 17:34 | 20 | 826 | | 804 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143587

% Solid for Sample: 100

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71263

Analytical Run #: 159294

ICAL Calibration #:

Sample #: 258588

Parent Sample #: 254601

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 07:19 | 20 | 8.2 | | 7.6 | | 8 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143587

% Solid for Sample: 100

Concentration Units: mg/kg

Analytical Prep Batch # 2

Analytical Preparation Date/Time 71263

Analytical Run #: 159294

ICAL Calibration #:

Sample #: 258588

Parent Sample #: 254601

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 17:25 | 20 | 4870 | | 4900 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 100
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71263
Analytical Run #: 159294
ICAL Calibration #:
Sample #: 258589
Parent Sample #: 254601

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 07:12 | 20 | 8.2 | | 6.3 | | 26 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143587

% Solid for Sample: 100

Concentration Units: mg/kg

Analytical Prep Batch # 2

Analytical Preparation Date/Time 71263

Analytical Run #: 159294

ICAL Calibration #:

Sample #: 258589

Parent Sample #: 254601

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 17:19 | 20 | 4870 | | 4840 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143587

% Solid for Sample: 99.7

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71263

Analytical Run #: 159294

ICAL Calibration #:

Sample #: 258592

Parent Sample #: 254602

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 08:15 | 20 | 6.7 | | 7.3 | | 9 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.7
Concentration Units: mg/kg
Analytical Prep Batch # 2
Analytical Preparation Date/Time 71263
Analytical Run #: 159294
ICAL Calibration #:
Sample #: 258592
Parent Sample #: 254602

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 18:22 | 20 | 7430 | | 4070 | | 58 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143587

% Solid for Sample: 99.7

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71263

Analytical Run #: 159294

ICAL Calibration #:

Sample #: 258593

Parent Sample #: 254602

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 08:21 | 20 | 6.7 | | 7.3 | | 9 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.7
Concentration Units: mg/kg
Analytical Prep Batch # 2
Analytical Preparation Date/Time 71263
Analytical Run #: 159294
ICAL Calibration #:
Sample #: 258593
Parent Sample #: 254602

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 18:28 | 20 | 7430 | | 4320 | | 53 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU56**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.6
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71264
Analytical Run #: 159293
ICAL Calibration #:
Sample #: 258599
Parent Sample #: 254964

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 11:20 | 20 | 39.7 | | 39.0 | | 2 | | P |
| Manganese | 04/04/2019 | 11:20 | 20 | 357 | | 382 | | 7 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU56**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.7
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71264
Analytical Run #: 159293
ICAL Calibration #:
Sample #: 258602
Parent Sample #: 254965

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 12:11 | 20 | 20.2 | | 19.4 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU56**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.7
Concentration Units: mg/kg
Analytical Prep Batch # 2
Analytical Preparation Date/Time 71264
Analytical Run #: 159293
ICAL Calibration #:
Sample #: 258602
Parent Sample #: 254965

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 20:09 | 20 | 349 | | 157 | | 76 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU47**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.7
Concentration Units: mg/kg

Analytical Prep Batch # 1
Analytical Preparation Date/Time 71264
Analytical Run #: 159293
ICAL Calibration #:
Sample #: 258605
Parent Sample #: 254967

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 13:14 | 20 | 21.3 | | 20.9 | | 2 | | P |
| Manganese | 04/04/2019 | 13:14 | 20 | 267 | | 254 | | 5 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU47**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.7
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71264
Analytical Run #: 159293
ICAL Calibration #:
Sample #: 258606
Parent Sample #: 254967

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 13:20 | 20 | 21.3 | | 20.5 | | 4 | | P |
| Manganese | 04/04/2019 | 13:20 | 20 | 267 | | 228 | | 16 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU42**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71263
Analytical Run #: 159294
ICAL Calibration #:
Sample #: 264656
Parent Sample #: 254600

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 06:46 | 20 | 11.3 | | 5.0 | | 77 | | P | *FAIL* |
| Manganese | 04/04/2019 | 06:46 | 20 | 367 | | 324 | | 12 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU42**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 99.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71263
Analytical Run #: 159294
ICAL Calibration #:
Sample #: 264657
Parent Sample #: 254600

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 06:53 | 20 | 11.3 | | 2.0 | | 140 | | P | *FAIL* |
| Manganese | 04/04/2019 | 06:53 | 20 | 367 | | 330 | | 11 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU05**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 97.7 | Concentration Units: mg/kg

Analytical Prep Batch #: 71151 | Analytical Preparation Date/Time: 03/25/2019 13:35

Analytical Run #: 159095 | ICAL Calibration #:

Sample #: 255709 | Parent Sample #: 255708

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/27/2019 | 17:47 | 20 | 444 | | 465 | | 5 | | P |
| Manganese | 03/27/2019 | 17:47 | 20 | 1220 | | 1230 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 100 | Concentration Units: mg/kg

Analytical Prep Batch #: 71263 | Analytical Preparation Date/Time: 04/01/2019 11:12

Analytical Run #: 159294 | ICAL Calibration #:

Sample #: 258591 | Parent Sample #: 258590

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 07:43 | 20 | 466 | | 461 | | 0 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 100 | Concentration Units: mg/kg

Analytical Prep Batch #: 71263 | Analytical Preparation Date/Time: 04/01/2019 11:12

Analytical Run #: 159294 | ICAL Calibration #:

Sample #: 258591 | Parent Sample #: 258590

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 17:56 | 20 | 5180 | | 5670 | | 10 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 99.7 | Concentration Units: mg/kg

Analytical Prep Batch #: 71263 | Analytical Preparation Date/Time: 04/01/2019 11:12

Analytical Run #: 159294 | ICAL Calibration #:

Sample #: 258595 | Parent Sample #: 258594

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 08:33 | 20 | 481 | | 476 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 99.7 | Concentration Units: mg/kg

Analytical Prep Batch # 71263 | Analytical Preparation Date/Time 04/01/2019 11:12

Analytical Run #: 159294 | ICAL Calibration #:

Sample #: 258595 | Parent Sample #: 258594

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 18:41 | 20 | 4520 | | 4370 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU56**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 99.6 | Concentration Units: mg/kg

Analytical Prep Batch #: 71264 | Analytical Preparation Date/Time: 04/01/2019 11:12

Analytical Run #: 159293 | ICAL Calibration #:

Sample #: 258601 | Parent Sample #: 258600

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 11:51 | 20 | 528 | | 526 | | 0 | | P |
| Manganese | 04/04/2019 | 11:51 | 20 | 913 | | 886 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1B-SU56**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 99.7 | Concentration Units: mg/kg

Analytical Prep Batch #: 71264 | Analytical Preparation Date/Time: 04/01/2019 11:12

Analytical Run #: 159293 | ICAL Calibration #:

Sample #: 258604 | Parent Sample #: 258603

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 12:36 | 20 | 509 | | 494 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1B-SU56**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143587

% Solid for Sample: 99.7 | Concentration Units: mg/kg

Analytical Prep Batch #: 71264 | Analytical Preparation Date/Time: 04/01/2019 11:12

Analytical Run #: 159293 | ICAL Calibration #:

Sample #: 258604 | Parent Sample #: 258603

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 20:39 | 20 | 580 | | 606 | | 5 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143587

Concentration Units: mg/kg

Analytical Run #: 159095  Sample No.:#: 255705

Analytical Prep Batch #: 71151  Preparation Date/Time: 03/25/2019 13:35

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/27/2019 16:45 | 82-111 | 47.1 | | 48.8 | 97 | | P |
| Manganese | 03/27/2019 16:45 | 84-114 | 51.5 | | 48.8 | 106 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143587

Concentration Units: mg/kg

Analytical Run #: 159294  Sample No.:#: 258583

Analytical Prep Batch #: 71263  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 05:50 | 82-111 | 48.0 | | 50.5 | 95 | | P |
| Manganese | 04/04/2019 05:50 | 84-114 | 56.6 | | 50.5 | 112 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra SDG No.: 143587

Concentration Units: mg/kg

Analytical Run #: 159293 Sample No.:#: 258597

Analytical Prep Batch #: 71264 Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 | 10:54 | 82-111 | 51.5 | | 51.0 | 101 | | P |
| Manganese | 04/04/2019 | 10:54 | 84-114 | 55.9 | | 51.0 | 110 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1A-SU05**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 257430 Parent Sample No.: 253258

LIMS Run #: 159095 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 03/27/2019 | 17:22 | 815 | | 920 | | 13 | | P | *INVALID* |
| Manganese | 03/27/2019 | 17:22 | 31800 | | 39300 | | 24 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

## ICP SERIAL DILUTION

Sample Description

**DU1A-SU56**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264616 Parent Sample No.: 254964

LIMS Run #: 159293 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:14 | 1510. | | 1585 | | 5 | | P | *INVALID* |
| Manganese | 04/04/2019 11:14 | 13600. | | 18550 | | 36 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1B-SU56**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264621 Parent Sample No.: 254965

LIMS Run #: 159293 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 12:17 | 770. | | 920 | | 19 | | P | *INVALID* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1B-SU56**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264621 Parent Sample No.: 254965

LIMS Run #: 159293 ICAL Calibration #:.:

Analysis Type ---------- Re-Analysis #1

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 20:03 | 1330 | | 1070 | | 20 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264640 Parent Sample No.: 254601

LIMS Run #: 159294 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 07:06 | 315. | | 378 | | 20 | | P | *INVALID* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264640 Parent Sample No.: 254601

LIMS Run #: 159294 ICAL Calibration #:.:

Analysis Type ---------- Re-Analysis #1

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 17:12 | 18700 | | 32950 | | 76 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264645 Parent Sample No.: 254602

LIMS Run #: 159294 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 08:08 | 257. | | 285.5 | | 11 | | P | *INVALID* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU3B-SU01**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143587

Concentration Units: ug/L

Sample No.: 264645 Parent Sample No.: 254602

LIMS Run #: 159294 ICAL Calibration #:.:

Analysis Type ---------- Re-Analysis #1

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 18:15 | 28600 | | 25250 | | 12 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

10

***METHOD DETECTION LIMITS (ANNUALLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TJA SDG No.: 143587

Matrix: SOLID

| Analyte | Wavelength (nm) | Background | CRDL (ug/L) | MDL ( mg/k) | M |
|---|---|---|---|---|---|
| Arsenic | 193.7 | | | 0.13 | P |
| Manganese | 257.61 | | | 0.025 | P |

## ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
## ICP ID NUMBER: TA ICAP6000 / ICAP6500

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 2 | Fe | 0.000006 | 0.000000 | No |
| | | | Ce | 0.000000 | 0.000000 | No |
| Ag 338.289 {100} | ☒ | 1 | Fe | 0.000906 | 0.000000 | No |
| Al 167.079 {501} | ☒ | None | | | | |
| Al 308.215 {109} | ☒ | None | | | | |
| Al 396.152 { 85} | ☒ | None | | | | |
| As 193.759 {474} | ☒ | 1 | Al | 0.001713 | 0.000000 | No |
| As 197.262 {471} | ☒ | 1 | Al | -0.000113 | 0.000000 | No |
| Ba 233.527 {445} | ☒ | 3 | Fe | -0.000038 | 0.000000 | No |
| | | | V | 0.000180 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Fe | 0.000002 | 0.000000 | No |
| Ba 493.409 { 68} | ☒ | 1 | Fe | 0.000029 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 1 | Fe | 0.000000 | 0.000000 | No |
| Be 234.861 {144} | ☒ | 1 | Fe | -0.000016 | 0.000000 | No |
| Ca 315.887 {107} | ☒ | None | | | | |
| Ca 317.933 {106} | ☒ | None | | | | |
| Ca 393.366 { 86} | ☒ | 1 | Cu | 0.000000 | 0.000000 | No |
| Ca 396.847 { 85} | ☒ | None | | | | |
| Cd 226.502 {449} | ☒ | 2 | Fe | 0.000090 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cd 228.802 {147} | ☒ | None | | | | |
| Co 228.616 {447} | ☒ | 5 | Fe | 0.000009 | 0.000000 | No |
| | | | Ti | 0.003000 | 0.000000 | No |
| | | | Ba | -0.001300 | 0.000000 | No |
| | | | Ni | 0.000040 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| Co 238.892 {141} | ☒ | 1 | Fe | 0.000188 | 0.000000 | No |
| Cr 205.560 {464} | ☒ | 1 | Fe | -0.000004 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 1 | Fe | -0.000014 | 0.000000 | No |
| Cu 224.700 {450} | ☒ | 5 | Fe | 0.000274 | 0.000000 | No |
| | | | Mo | 0.001320 | 0.000000 | No |
| | | | Ni | -0.006000 | 0.000000 | No |
| | | | Pb | 0.003030 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 1 | Fe | -0.000136 | 0.000000 | No |
| Cu 327.396 {103} | ☒ | 1 | Fe | 0.000069 | 0.000000 | No |
| Fe 234.349 {144} | ☒ | None | | | | |
| Fe 239.562 {140} | ☒ | None | | | | |
| Fe 259.940 {129} | ☒ | None | | | | |
| Mg 202.582 {466} | ☒ | None | | | | |
| Mg 279.079 {121} | ☒ | None | | | | |
| Mg 280.270 {120} | ☒ | None | | | | |
| Mn 257.610 {131} | ☒ | 1 | Al | -0.000086 | 0.000000 | No |

## ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
## ICP ID NUMBER: TA ICAP6000 / ICAP6500

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Mn 259.373 {130} | ☒ | 1 | Mg | 0.001339 | 0.000000 | No |
| Mo 202.030 {466} | ☒ | 1 | Fe | -0.000011 | 0.000000 | No |
| Mo 203.844 {465} | ☒ | 1 | Fe | -0.000020 | 0.000000 | No |
| Mo 204.598 {464} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ni 221.647 {452} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ni 231.604 {445} | ☒ | 3 | Fe | 0.000012 | 0.000000 | No |
| | | | Co | 0.000000 | 0.000000 | No |
| | | | Mo | 0.000000 | 0.000000 | No |
| Pb 216.999 {455} | ☒ | 2 | Al | 0.001241 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 3 | Si | 0.000000 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Fe | 0.000018 | 0.000000 | No |
| Pb 220.353 {153} | ☒ | 1 | Al | -0.000040 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 1 | Fe | 0.000009 | 0.000000 | No |
| Sb 217.581 {455} | ☒ | 3 | Fe | -0.000069 | 0.000000 | No |
| | | | V | 0.002070 | 0.000000 | No |
| | | | Pb | -0.001040 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 1 | Fe | -0.000360 | 0.000000 | No |
| Se 206.279 {463} | ☒ | 1 | Fe | 0.001308 | 0.000000 | No |
| Tl 190.856 {476} | ☒ | 5 | Fe | 0.000024 | 0.000000 | No |
| | | | Be | -0.000013 | 0.000000 | No |
| | | | Ti | 0.000050 | 0.000000 | No |
| | | | Cr | 0.000251 | 0.000000 | No |
| | | | V | -0.003800 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 1 | Fe | -0.000048 | 0.000000 | No |
| V 290.882 {116} | ☒ | 1 | Fe | 0.000073 | 0.000000 | No |
| V 292.402 {115} | ☒ | 3 | Fe | 0.000020 | 0.000000 | No |
| | | | Cr | -0.000400 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Zn 202.548 {466} | ☒ | 1 | Fe | -0.000239 | 0.000000 | No |
| Zn 206.200 {463} | ☒ | 1 | Fe | -0.000003 | 0.000000 | No |
| Zn 213.856 {457} | ☒ | 2 | Fe | 0.000167 | 0.000000 | No |
| | | | Cu | 0.007413 | 0.000000 | No |
| Y 324.228 {104}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| Na 588.995 { 57} | ☒ | 1 | Fe | 0.000106 | 0.000000 | No |
| Si 251.611 {134} | ☒ | 2 | Fe | -0.000105 | 0.000000 | No |
| | | | Mo | 0.005400 | 0.000000 | No |
| Ti 323.452 {104} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ti 334.941 {101} | ☒ | 1 | Fe | 0.000052 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |
| Sr 421.552 { 80} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |

**ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)**
**ICP ID NUMBER: TA ICAP6000 / ICAP6500**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Sn 189.989 {477} | ☒ | 1 | Fe | 0.000013 | 0.000000 | No |
| B 249.678 {135} | ☒ | 2 | Fe | 0.000001 | 0.000000 | No |
| | | | Co | 0.003970 | 0.000000 | No |
| B 249.773 {135} | ☒ | 1 | Fe | 0.000357 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 1 | Fe | 0.000011 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 1 | Fe | 0.000216 | 0.000000 | No |
| P 213.618 {457} | ☒ | 1 | Fe | -0.000079 | 0.000000 | No |
| S 182.034 {485} | ☒ | 1 | Mg | 0.000100 | 0.000000 | No |
| Hg 184.950 {482} | ☒ | 1 | Fe | 0.000001 | 0.000000 | No |
| Ce 404.076 { 83} | ☒ | 1 | Fe | 0.000227 | 0.000000 | No |

***ICP LINEAR RANGES (QUARTERLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TA SDG No.: 143587

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | M |
|---|---|---|---|
| Aluminum | 15.00 | 1000000 | P |
| Antimony | 15.00 | 10000 | P |
| Arsenic | 15.00 | 10000 | P |
| Barium | 15.00 | 10000 | P |
| Beryllium | 15.00 | 1000 | P |
| Boron | 15.00 | 1000 | P |
| Cadmium | 15.00 | 1000 | P |
| Calcium | 15.00 | 1000000 | P |
| Chromium | 15.00 | 100000 | P |
| Cobalt | 15.00 | 10000 | P |
| Copper | 15.00 | 100000 | P |
| Iron | 15.00 | 1000000 | P |
| Lead | 15.00 | 100000 | P |
| Lithium | 15.00 | 10000 | P |
| Magnesium | 15.00 | 1000000 | P |
| Manganese | 15.00 | 100000 | P |
| Molybdenum | 15.00 | 10000 | P |
| Nickel | 15.00 | 10000 | P |
| Potassium | 15.00 | 200000 | P |
| Selenium | 15.00 | 10000 | P |
| Silicon | 15.00 | 1000 | P |
| Silver | 15.00 | 100 | P |
| Sodium | 15.00 | 200000 | P |
| Strontium | 15.00 | 10000 | P |
| Thallium | 15.00 | 10000 | P |
| Tin | 15.00 | 10000 | P |
| Titanium | 15.00 | 1000 | P |
| Tungsten | 15.00 | 10000 | P |
| Vanadium | 15.00 | 10000 | P |
| Zinc | 15.00 | 100000 | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143587

Preparation Batch #: 71151

Preparation Date/Time: 03/25/2019 / 13:35

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 253258 | Normal Sample | DU1A-SU05 | SOIL | 1.97 |
| 253274 | Normal Sample | DU1B-SU05 | SOIL | 1.92 |
| 253275 | Normal Sample | DU1A-SU27 | SOIL | 1.99 |
| 253276 | Normal Sample | DU1B-SU27 | SOIL | 1.93 |
| 253277 | Normal Sample | DU1B-SU28 | SOIL | 2.01 |
| 253278 | Normal Sample | DU1A-SU28 | SOIL | 2.04 |
| 253279 | Normal Sample | DU1A-SU37 | SOIL | 2.04 |
| 253280 | Normal Sample | DU1B-SU37 | SOIL | 2.05 |
| 253281 | Normal Sample | DU1A-SU41 | SOIL | 2.06 |
| 253282 | Normal Sample | DU1B-SU41 | SOIL | 1.97 |
| 254587 | Normal Sample | DU1A-SU43 | SOIL | 1.94 |
| 254588 | Normal Sample | DU1B-SU43 | SOIL | 1.93 |
| 254589 | Normal Sample | DU1A-SU53 | SOIL | 1.93 |
| 254590 | Normal Sample | DU1B-SU53 | SOIL | 1.93 |
| 254591 | Normal Sample | DU1A-SU57 | SOIL | 1.98 |
| 254592 | Normal Sample | DU1B-SU57 | SOIL | 1.93 |
| 254593 | Normal Sample | DU1A-SU55 | SOIL | 2.03 |
| 254594 | Normal Sample | DU1B-SU55 | SOIL | 2.03 |
| 254595 | Normal Sample | DU1A-SU54 | SOIL | 2.05 |
| 254596 | Normal Sample | DU1B-SU54 | SOIL | 2.05 |
| 255704 | Method Blank | | SOLID | 2.06 |
| 255705 | Lab Control Spike | | SOLID | 2.05 |
| 255706 | Lab Duplicate | DU1A-SU05 | SOIL | 1.96 |
| 255707 | Lab Duplicate | DU1A-SU05 | SOIL | 1.96 |
| 255708 | Matrix Spike | DU1A-SU05 | SOIL | 1.96 |
| 255709 | Matrix Spike Duplicate | DU1A-SU05 | SOIL | 1.97 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143587

Preparation Batch #: 71263

Preparation Date/Time: 04/01/2019 / 11:12

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 254597 | Normal Sample | DU1A-SU45 | SOIL | 1.92 |
| 254598 | Normal Sample | DU1B-SU45 | SOIL | 2.06 |
| 254599 | Normal Sample | DU1A-SU42 | SOIL | 1.92 |
| 254600 | Normal Sample | DU1B-SU42 | SOIL | 2.02 |
| 254601 | Normal Sample | DU3A-SU01 | SOIL | 1.92 |
| 254602 | Normal Sample | DU3B-SU01 | SOIL | 1.93 |
| 254603 | Normal Sample | DU3A-SU02 | SOIL | 1.91 |
| 254604 | Normal Sample | DU3B-SU02 | SOIL | 2.06 |
| 254605 | Normal Sample | DU3A-SU04 | SOIL | 1.90 |
| 254606 | Normal Sample | DU3B-SU04 | SOIL | 1.95 |
| 254959 | Normal Sample | DU1A-SU50 | SOIL | 1.93 |
| 254961 | Normal Sample | DU1B-SU50 | SOIL | 1.92 |
| 254962 | Normal Sample | DU1A-SU59 | SOIL | 1.95 |
| 254963 | Normal Sample | DU1B-SU59 | SOIL | 1.93 |
| 254966 | Normal Sample | DU1A-SU47 | SOIL | 1.94 |
| 254968 | Normal Sample | DU1A-SU49 | SOIL | 1.99 |
| 254969 | Normal Sample | DU1B-SU49 | SOIL | 1.96 |
| 255833 | Normal Sample | DU3A-SU03R1 | SOIL | 1.96 |
| 255853 | Normal Sample | DU3B-SU03R1 | SOIL | 2.09 |
| 255854 | Normal Sample | DU3A-SU07 | SOIL | 2.01 |
| 258582 | Method Blank | | SOLID | 1.99 |
| 258583 | Lab Control Spike | | SOLID | 1.98 |
| 258588 | Lab Duplicate | DU3A-SU01 | SOIL | 1.92 |
| 258589 | Lab Duplicate | DU3A-SU01 | SOIL | 1.93 |
| 258590 | Matrix Spike | DU3A-SU01 | SOIL | 1.91 |
| 258591 | Matrix Spike Duplicate | DU3A-SU01 | SOIL | 1.93 |
| 258592 | Lab Duplicate | DU3B-SU01 | SOIL | 1.92 |
| 258593 | Lab Duplicate | DU3B-SU01 | SOIL | 1.94 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143587

Preparation Batch #: 71263 | Preparation Date/Time: 04/01/2019 / 11:12

| | | | | |
|---|---|---|---|---|
| 258594 | Matrix Spike | DU3B-SU01 | SOIL | 1.92 |
| 258595 | Matrix Spike Duplicate | DU3B-SU01 | SOIL | 1.93 |
| 264656 | Lab Duplicate | DU1B-SU42 | SOIL | 2.01 |
| 264657 | Lab Duplicate | DU1B-SU42 | SOIL | 2.02 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143587

Preparation Batch #: 71264

Preparation Date/Time: 04/01/2019 / 11:12

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 254964 | Normal Sample | DU1A-SU56 | SOIL | 1.91 |
| 254965 | Normal Sample | DU1B-SU56 | SOIL | 1.91 |
| 254967 | Normal Sample | DU1B-SU47 | SOIL | 1.90 |
| 255855 | Normal Sample | DU3B-SU07 | SOIL | 1.96 |
| 255856 | Normal Sample | DU3A-SU03R2 | SOIL | 2.08 |
| 255857 | Normal Sample | DU3B-SU03R2 | SOIL | 1.93 |
| 255858 | Normal Sample | DU3A-SU03R3 | SOIL | 2.06 |
| 255859 | Normal Sample | DU3B-SU03R3 | SOIL | 1.91 |
| 255860 | Normal Sample | DU2A-SU07R1 | SOIL | 1.92 |
| 255861 | Normal Sample | DU2B-SU07R1 | SOIL | 1.93 |
| 255880 | Normal Sample | DU1A-SU32 | SOIL | 1.94 |
| 255881 | Normal Sample | DU1B-SU32 | SOIL | 2.03 |
| 255882 | Normal Sample | DU1A-SU33 | SOIL | 1.95 |
| 255883 | Normal Sample | DU1B-SU33 | SOIL | 1.91 |
| 255884 | Normal Sample | DU3A-SU09 | SOIL | 1.92 |
| 255885 | Normal Sample | DU3B-SU09 | SOIL | 1.93 |
| 255886 | Normal Sample | DU3A-SU10 | SOIL | 1.94 |
| 255887 | Normal Sample | DU3B-SU10 | SOIL | 1.91 |
| 255888 | Normal Sample | DU3A-SU05 | SOIL | 1.96 |
| 255889 | Normal Sample | DU3B-SU05 | SOIL | 2.01 |
| 258596 | Method Blank | | SOLID | 1.90 |
| 258597 | Lab Control Spike | | SOLID | 1.96 |
| 258599 | Lab Duplicate | DU1A-SU56 | SOIL | 1.92 |
| 258600 | Matrix Spike | DU1A-SU56 | SOIL | 1.92 |
| 258601 | Matrix Spike Duplicate | DU1A-SU56 | SOIL | 1.92 |
| 258602 | Lab Duplicate | DU1B-SU56 | SOIL | 1.91 |
| 258603 | Matrix Spike | DU1B-SU56 | SOIL | 1.91 |
| 258604 | Matrix Spike Duplicate | DU1B-SU56 | SOIL | 1.92 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143587

Preparation Batch #: 71264

Preparation Date/Time: 04/01/2019 / 11:12

| | | | | |
|---|---|---|---|---|
| 258605 | Lab Duplicate | DU1B-SU47 | SOIL | 1.90 |
| 258606 | Lab Duplicate | DU1B-SU47 | SOIL | 1.90 |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 03/27/2019 to 03/30/2019 | Analytical Run #: 159095

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 257418 | ICV | 1.00 | 3/27 13:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257419 | ICVLL | 1.00 | 3/27 13:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257420 | ICB | 1.00 | 3/27 13:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257421 | ICSA | 1.00 | 3/27 14:04 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 257422 | ICSAB | 1.00 | 3/27 14:11 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 257424 | CCV1 | 1.00 | 3/27 15:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257425 | CCV2 | 1.00 | 3/27 15:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257426 | CCB | 1.00 | 3/27 15:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255705 | LCSS | 1.00 | 3/27 16:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257427 | CCV1 | 1.00 | 3/27 16:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257428 | CCV2 | 1.00 | 3/27 16:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257429 | CCB | 1.00 | 3/27 17:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255704 | MBS | 1.00 | 3/27 17:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253258 | Initial | 1.00 | 3/27 17:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257430 | L | 5 | 3/27 17:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255706 | DUP | 1.00 | 3/27 17:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255707 | DUP | 1.00 | 3/27 17:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255708 | MSS | 1.00 | 3/27 17:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255709 | MSDS | 1.00 | 3/27 17:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257431 | PDSS | 1.00 | 3/27 17:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253274 | Initial | 1.00 | 3/27 17:59 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253275 | Initial | 1.00 | 3/27 18:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257432 | CCV1 | 1.00 | 3/27 18:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257433 | CCV2 | 1.00 | 3/27 18:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257434 | CCB | 1.00 | 3/27 18:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253276 | Initial | 1.00 | 3/27 18:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253277 | Initial | 1.00 | 3/27 18:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253278 | Initial | 1.00 | 3/27 18:43 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253279 | Initial | 1.00 | 3/27 18:49 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143587

Instrument ID Number: TJA
Method Number: P

Start & End Date: 03/27/2019 to 03/30/2019
Analytical Run #: 159095

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 253280 | Initial | 1.00 | 3/27 18:56 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 253281 | Initial | 1.00 | 3/27 19:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253282 | Initial | 1.00 | 3/27 19:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254587 | Initial | 1.00 | 3/27 19:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254588 | Initial | 1.00 | 3/27 19:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254589 | Initial | 1.00 | 3/27 19:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257435 | CCV1 | 1.00 | 3/27 19:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257436 | CCV2 | 1.00 | 3/27 19:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257437 | CCB | 1.00 | 3/27 19:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254590 | Initial | 1.00 | 3/27 19:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254591 | Initial | 1.00 | 3/27 20:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254592 | Initial | 1.00 | 3/27 20:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254593 | Initial | 1.00 | 3/27 20:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254594 | Initial | 1.00 | 3/27 20:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254595 | Initial | 1.00 | 3/27 20:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254596 | Initial | 1.00 | 3/27 20:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257439 | CCV1 | 1.00 | 3/27 20:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257440 | CCV2 | 1.00 | 3/27 21:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257441 | CCB | 1.00 | 3/27 21:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260120 | ICV | 1.00 | 3/29 12:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260121 | ICVLL | 1.00 | 3/29 12:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260122 | ICB | 1.00 | 3/29 12:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260123 | ICSA | 1.00 | 3/29 12:40 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 260124 | ICSAB | 1.00 | 3/29 12:47 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 260126 | CCV1 | 1.00 | 3/30 05:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260127 | CCV2 | 1.00 | 3/30 05:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260128 | CCB | 1.00 | 3/30 05:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL

SDG No.: 143587

Instrument ID Number: TJA

Method Number: P

Start & End Date: 03/27/2019 to 03/30/2019

Analytical Run #: 159095

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 253279 | Re-Analysis | 10.00 | 3/30 05:50 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 253280 | Re-Analysis | 10.00 | 3/30 05:56 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260129 | CCV1 | 1.00 | 3/30 06:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260130 | CCV2 | 1.00 | 3/30 06:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260131 | CCB | 1.00 | 3/30 06:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264608 | ICV | 1.00 | 4/03 15:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264609 | ICVLL | 1.00 | 4/03 15:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264610 | ICB | 1.00 | 4/03 16:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264611 | ICSA | 1.00 | 4/03 16:17 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264612 | ICSAB | 1.00 | 4/03 16:24 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264613 | CCV1 | 1.00 | 4/04 10:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264614 | CCV2 | 1.00 | 4/04 10:16 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264615 | CCB | 1.00 | 4/04 10:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258597 | LCSS | 1.00 | 4/04 10:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258596 | MBS | 1.00 | 4/04 11:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254964 | Initial | 1.00 | 4/04 11:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264616 | L | 5 | 4/04 11:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258599 | DUP | 1.00 | 4/04 11:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258600 | MSS | 1.00 | 4/04 11:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264617 | CCV1 | 1.00 | 4/04 11:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264618 | CCV2 | 1.00 | 4/04 11:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264619 | CCB | 1.00 | 4/04 11:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258601 | MSDS | 1.00 | 4/04 11:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254965 | Initial | 1.00 | 4/04 11:58 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264620 | PDSS | 1.00 | 4/04 12:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258602 | DUP | 1.00 | 4/04 12:11 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264621 | L | 5 | 4/04 12:17 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258603 | MSS | 1.00 | 4/04 12:30 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258604 | MSDS | 1.00 | 4/04 12:36 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264622 | PDSS | 1.00 | 4/04 12:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254967 | Initial | 1.00 | 4/04 12:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264623 | CCV1 | 1.00 | 4/04 12:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264624 | CCV2 | 1.00 | 4/04 13:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264625 | CCB | 1.00 | 4/04 13:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258605 | DUP | 1.00 | 4/04 13:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258606 | DUP | 1.00 | 4/04 13:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255855 | Initial | 1.00 | 4/04 13:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255856 | Initial | 1.00 | 4/04 13:33 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255857 | Initial | 1.00 | 4/04 13:39 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255858 | Re-Analysis | 1.00 | 4/04 13:45 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255859 | Initial | 1.00 | 4/04 13:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255860 | Initial | 1.00 | 4/04 13:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255861 | Initial | 1.00 | 4/04 14:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255880 | Initial | 1.00 | 4/04 14:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264626 | CCV1 | 1.00 | 4/04 14:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264627 | CCV2 | 1.00 | 4/04 14:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264628 | CCB | 1.00 | 4/04 14:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266034 | ICV | 1.00 | 4/05 08:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266036 | ICVLL | 1.00 | 4/05 09:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266037 | ICB | 1.00 | 4/05 09:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266039 | ICSA | 1.00 | 4/05 09:29 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 266050 | ICSAB | 1.00 | 4/05 09:35 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 266041 | CCV1 | 1.00 | 4/05 16:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266042 | CCV2 | 1.00 | 4/05 16:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266043 | CCB | 1.00 | 4/05 16:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266044 | CCV1 | 1.00 | 4/05 17:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266045 | CCV2 | 1.00 | 4/05 17:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266046 | CCB | 1.00 | 4/05 17:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255858 | Initial | 20.00 | 4/05 17:58 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255882 | Initial | 1.00 | 4/05 18:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255883 | Initial | 1.00 | 4/05 18:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255884 | Initial | 1.00 | 4/05 18:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255885 | Initial | 1.00 | 4/05 18:24 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255886 | Initial | 1.00 | 4/05 18:31 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255887 | Initial | 1.00 | 4/05 18:38 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255888 | Initial | 1.00 | 4/05 18:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255889 | Initial | 1.00 | 4/05 18:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266047 | CCV1 | 1.00 | 4/05 19:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266048 | CCV2 | 1.00 | 4/05 19:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266049 | CCB | 1.00 | 4/05 19:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273309 | ICV | 1.00 | 4/25 15:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273310 | ICVLL | 1.00 | 4/25 15:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273311 | ICB | 1.00 | 4/25 16:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273312 | ICSA | 1.00 | 4/25 16:16 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 273313 | ICSAB | 1.00 | 4/25 16:22 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 273315 | CCV1 | 1.00 | 4/25 19:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273316 | CCV2 | 1.00 | 4/25 19:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273317 | CCB | 1.00 | 4/25 19:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254965 | Re-Analysis | 10.00 | 4/25 19:57 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264621 | L | 5 | 4/25 20:03 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258602 | DUP | 10.00 | 4/25 20:09 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258603 | MSS | 10.00 | 4/25 20:15 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273318 | CCV1 | 1.00 | 4/25 20:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273319 | CCV2 | 1.00 | 4/25 20:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273320 | CCB | 1.00 | 4/25 20:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258604 | MSDS | 10.00 | 4/25 20:39 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264622 | PDSS | 10.00 | 4/25 20:45 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255856 | Re-Analysis | 10.00 | 4/25 20:51 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255857 | Re-Analysis | 10.00 | 4/25 20:57 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255881 | Initial | 3.00 | 4/25 21:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255884 | Re-Analysis | 10.00 | 4/25 21:10 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255885 | Re-Analysis | 10.00 | 4/25 21:17 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255887 | Re-Analysis | 10.00 | 4/25 21:29 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273321 | CCV1 | 1.00 | 4/25 21:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273322 | CCV2 | 1.00 | 4/25 21:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273323 | CCB | 1.00 | 4/25 21:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273326 | ICV | 1.00 | 4/29 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273327 | ICVLL | 1.00 | 4/29 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273328 | ICB | 1.00 | 4/29 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273329 | ICSA | 1.00 | 4/29 16:26 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273330 | ICSAB | 1.00 | 4/29 16:33 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 255886 | Re-Analysis | 100.00 | 4/29 17:24 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273331 | CCV1 | 1.00 | 4/29 17:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273332 | CCV2 | 1.00 | 4/29 17:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273333 | CCB | 1.00 | 4/29 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264629 | ICV | 1.00 | 4/03 15:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264630 | ICVLL | 1.00 | 4/03 15:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264631 | ICB | 1.00 | 4/03 16:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264632 | ICSA | 1.00 | 4/03 16:17 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264633 | ICSAB | 1.00 | 4/03 16:24 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264634 | CCV1 | 1.00 | 4/04 04:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264635 | CCV2 | 1.00 | 4/04 04:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264636 | CCB | 1.00 | 4/04 04:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258583 | LCSS | 1.00 | 4/04 05:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258582 | MBS | 1.00 | 4/04 05:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264637 | CCV1 | 1.00 | 4/04 06:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264638 | CCV2 | 1.00 | 4/04 06:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264639 | CCB | 1.00 | 4/04 06:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254597 | Initial | 1.00 | 4/04 06:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254598 | Initial | 1.00 | 4/04 06:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254599 | Initial | 1.00 | 4/04 06:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254600 | Initial | 1.00 | 4/04 06:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264656 | DUP | 1.00 | 4/04 06:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264657 | DUP | 1.00 | 4/04 06:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254601 | Initial | 1.00 | 4/04 06:59 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264640 | L | 5 | 4/04 07:06 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258589 | DUP | 1.00 | 4/04 07:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258588 | DUP | 1.00 | 4/04 07:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264641 | CCV1 | 1.00 | 4/04 07:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264642 | CCV2 | 1.00 | 4/04 07:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264643 | CCB | 1.00 | 4/04 07:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258590 | MSS | 1.00 | 4/04 07:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258591 | MSDS | 1.00 | 4/04 07:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264644 | PDSS | 1.00 | 4/04 07:55 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254602 | Initial | 1.00 | 4/04 08:02 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264645 | L | 5 | 4/04 08:08 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258592 | DUP | 1.00 | 4/04 08:15 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258593 | DUP | 1.00 | 4/04 08:21 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258594 | MSS | 1.00 | 4/04 08:27 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258595 | MSDS | 1.00 | 4/04 08:33 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264646 | PDSS | 1.00 | 4/04 08:40 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264647 | CCV1 | 1.00 | 4/04 08:47 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264648 | CCV2 | 1.00 | 4/04 08:52 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264649 | CCB | 1.00 | 4/04 08:58 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254603 | Initial | 1.00 | 4/04 09:04 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254604 | Initial | 1.00 | 4/04 09:11 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254605 | Initial | 1.00 | 4/04 09:18 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254606 | Initial | 1.00 | 4/04 09:25 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254959 | Initial | 1.00 | 4/04 09:31 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254961 | Initial | 1.00 | 4/04 09:38 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254962 | Initial | 1.00 | 4/04 09:45 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254963 | Initial | 1.00 | 4/04 09:51 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254966 | Initial | 1.00 | 4/04 09:58 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254968 | Initial | 1.00 | 4/04 10:04 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264650 | CCV1 | 1.00 | 4/04 10:10 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264651 | CCV2 | 1.00 | 4/04 10:16 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264652 | CCB | 1.00 | 4/04 10:22 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254969 | Initial | 1.00 | 4/04 10:28 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255833 | Initial | 1.00 | 4/04 10:34 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255853 | Initial | 1.00 | 4/04 10:41 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255854 | Initial | 1.00 | 4/04 10:47 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264653 | CCV1 | 1.00 | 4/04 11:33 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264654 | CCV2 | 1.00 | 4/04 11:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264655 | CCB | 1.00 | 4/04 11:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273252 | ICV | 1.00 | 4/25 15:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273253 | ICVLL | 1.00 | 4/25 15:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273254 | ICB | 1.00 | 4/25 16:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273255 | ICSA | 1.00 | 4/25 16:16 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273256 | ICSAB | 1.00 | 4/25 16:22 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 254601 | Re-Analysis | 10.00 | 4/25 17:06 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264640 | L | 5 | 4/25 17:12 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258589 | DUP | 10.00 | 4/25 17:19 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258588 | DUP | 10.00 | 4/25 17:25 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258590 | MSS | 10.00 | 4/25 17:32 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273258 | CCV1 | 1.00 | 4/25 17:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273259 | CCV2 | 1.00 | 4/25 17:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273260 | CCB | 1.00 | 4/25 17:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258591 | MSDS | 10.00 | 4/25 17:56 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264644 | PDSS | 10.00 | 4/25 18:03 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264645 | L | 5 | 4/25 18:15 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258592 | DUP | 10.00 | 4/25 18:22 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258593 | DUP | 10.00 | 4/25 18:28 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258594 | MSS | 10.00 | 4/25 18:35 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258595 | MSDS | 10.00 | 4/25 18:41 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264646 | PDSS | 10.00 | 4/25 18:48 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254603 | Re-Analysis | 10.00 | 4/25 18:54 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273261 | CCV1 | 1.00 | 4/25 19:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273262 | CCV2 | 1.00 | 4/25 19:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273263 | CCB | 1.00 | 4/25 19:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254604 | Re-Analysis | 10.00 | 4/25 19:18 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143587

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 254606 | Re-Analysis | 10.00 | 4/25 19:31 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255833 | Re-Analysis | 10.00 | 4/25 19:38 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255853 | Re-Analysis | 10.00 | 4/25 19:44 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255854 | Re-Analysis | 10.00 | 4/25 19:51 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273264 | CCV1 | 1.00 | 4/25 20:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273265 | CCV2 | 1.00 | 4/25 20:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273266 | CCB | 1.00 | 4/25 20:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273289 | ICV | 1.00 | 4/29 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273290 | ICVLL | 1.00 | 4/29 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273291 | ICB | 1.00 | 4/29 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273292 | ICSA | 1.00 | 4/29 16:26 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273293 | ICSAB | 1.00 | 4/29 16:33 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 254602 | Re-Analysis | 10.00 | 4/29 17:30 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254605 | Re-Analysis | 100.00 | 4/29 17:37 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273294 | CCV1 | 1.00 | 4/29 17:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273295 | CCV2 | 1.00 | 4/29 17:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273296 | CCB | 1.00 | 4/29 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

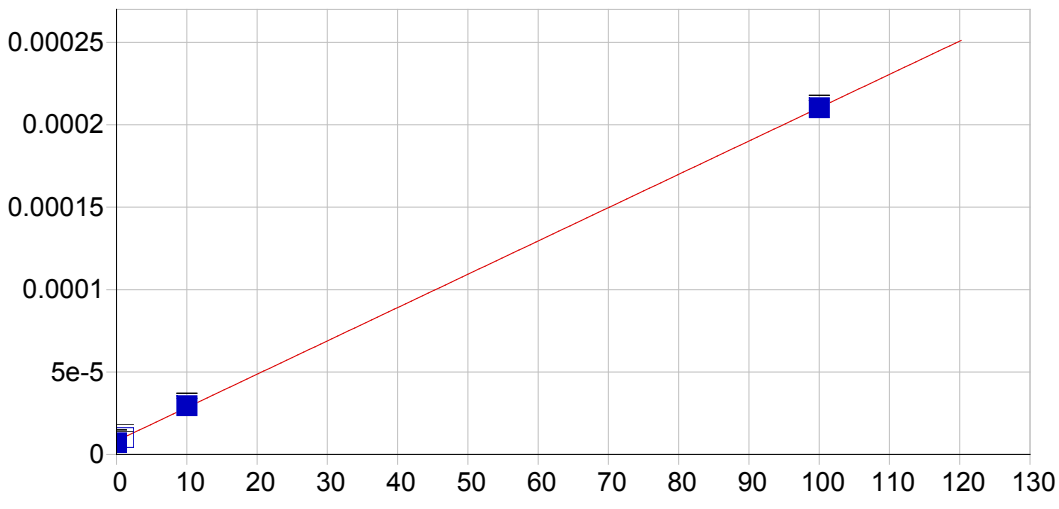
# METALS
# RAW DATA
# DOCUMENTS

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 03/28/2019 11:31:02 | 03/27/2019 12:41:52 | Linear | 1/Var | 0.000008 | 0.000002 | 0.000000 | 1.000000 | 0.999958 | 0.000001 | 0.811981 | 2.706603 |
| Ag 338.289 {100} | 03/28/2019 11:31:02 | 03/27/2019 12:47:32 | Linear | 1/Conc | 0.000010 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.843130 | 32.810433 |
| Al 167.079 {501} | 03/28/2019 11:31:02 | 03/27/2019 12:47:33 | Linear | None | 0.000019 | 0.000004 | 0.000000 | 1.000000 | 0.999999 | 0.000003 | 0.661917 | 2.206389 |
| Al 308.215 {109} | 03/28/2019 11:31:02 | 03/27/2019 13:06:47 | Linear | 1/Var | 0.000063 | 0.000000 | 0.000000 | 1.000000 | 0.999583 | 0.000024 | 24.906475 | 83.021585 |
| Al 396.152 { 85} | 03/28/2019 11:31:02 | 03/27/2019 13:21:05 | Full Fit | 1/Var | -0.000018 | 0.000001 | 0.000000 | 0.990000 | 0.999954 | 0.000012 | 11.978410 | 39.928033 |
| As 193.759 {474} | 03/28/2019 11:31:02 | 03/27/2019 12:47:33 | Linear | 1/Var | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999950 | 0.000002 | 4.373515 | 14.578384 |
| As 197.262 {471} | 03/28/2019 11:31:02 | 03/27/2019 12:54:07 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999911 | 0.000000 | 6.209438 | 20.698127 |
| Ba 233.527 {445} | 03/28/2019 11:31:02 | 03/27/2019 12:47:33 | Linear | 1/Conc | 0.000002 | 0.000011 | 0.000000 | 1.000000 | 0.999956 | 0.000000 | 0.374106 | 1.247019 |
| Ba 455.403 { 74} | 03/28/2019 11:31:02 | 03/27/2019 12:54:07 | Linear | 1/Conc | 0.000243 | 0.000066 | 0.000000 | 1.000000 | 0.999990 | 0.000001 | 0.234133 | 0.780443 |
| Ba 493.409 { 68} | 03/28/2019 11:31:02 | 03/27/2019 12:54:07 | Full Fit | 1/Conc | 3508.1241 | 22.163611 | -0.000059 | 1.000000 | 1.000000 | 0.000000 | 0.678084 | 2.260281 |
| Be 313.042 {108} | 03/28/2019 11:31:02 | 03/27/2019 12:47:34 | Linear | 1/Conc | 0.000019 | 0.000017 | 0.000000 | 1.000000 | 0.999891 | 0.000000 | 0.143904 | 0.479680 |
| Be 234.861 {144} | 03/28/2019 11:31:02 | 03/27/2019 12:47:34 | Linear | 1/Conc | -0.000000 | 0.000003 | 0.000000 | 1.000000 | 0.999960 | 0.000000 | 0.891681 | 2.972270 |
| Ca 315.887 {107} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.999830 | 0.000016 | 11.103521 | 37.011737 |
| Ca 317.933 {106} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Linear | 1/Conc | 0.003611 | 0.000001 | 0.000000 | 1.000000 | 0.999873 | 0.000018 | 6.405702 | 21.352341 |
| Ca 393.366 { 86} | 03/28/2019 11:31:02 | 03/27/2019 12:47:34 | Linear | 1/Var | 0.002691 | 0.000283 | 0.000000 | 1.000000 | 1.000000 | 0.000026 | 0.039860 | 0.132865 |
| Ca 396.847 { 85} | 03/28/2019 11:31:02 | 03/27/2019 12:54:07 | Linear | 1/Conc | 0.001238 | 0.000128 | 0.000000 | 1.000000 | 0.999989 | 0.000028 | 0.083877 | 0.279590 |
| Cd 226.502 {449} | 03/28/2019 11:31:02 | 03/27/2019 12:47:35 | Linear | 1/Conc | -0.000008 | 0.000027 | 0.000000 | 1.000000 | 0.999962 | 0.000000 | 0.227117 | 0.757057 |
| Cd 228.802 {447} | 03/28/2019 11:31:02 | 03/27/2019 12:47:35 | Linear | 1/Conc | 0.000029 | 0.000049 | 0.000000 | 1.000000 | 0.999942 | 0.000000 | 0.159216 | 0.530721 |
| Co 228.616 {447} | 03/28/2019 11:31:02 | 03/27/2019 12:54:08 | Linear | 1/Conc | 0.000008 | 0.000024 | 0.000000 | 1.000000 | 0.999966 | 0.000001 | 0.287501 | 0.958335 |
| Co 238.892 {141} | 03/28/2019 11:31:02 | 03/27/2019 12:54:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999918 | 0.000001 | 0.795088 | 2.650294 |
| Cr 205.560 {464} | 03/28/2019 11:31:02 | 03/27/2019 13:00:30 | Linear | 1/Var | 0.000019 | 0.000014 | 0.000000 | 1.000000 | 0.998096 | 0.000051 | 0.340943 | 1.136476 |
| Cr 267.716 {126} | 03/28/2019 11:31:02 | 03/27/2019 12:54:08 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999951 | 0.000000 | 0.892772 | 2.975908 |
| Cu 224.700 {450} | 03/28/2019 11:31:02 | 03/27/2019 13:00:30 | Linear | 1/Conc | -0.000001 | 0.000009 | 0.000000 | 1.000000 | 0.999678 | 0.000013 | 0.302368 | 1.007893 |
| Cu 324.754 {104} | 03/28/2019 11:31:02 | 03/27/2019 13:00:31 | Linear | 1/Conc | 76.250539 | 1.265397 | 0.000000 | 1.000000 | 0.999810 | 0.950107 | 2.883027 | 9.610090 |
| Cu 327.396 {103} | 03/28/2019 11:31:02 | 03/27/2019 13:00:31 | Linear | 1/Var | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.999524 | 0.000003 | 5.707450 | 19.024833 |
| Fe 234.349 {144} | 03/28/2019 11:31:02 | 03/27/2019 13:06:48 | Curvili | 1/Var | 0.000022 | 0.000000 | 0.000000 | 1.000000 | 0.999962 | 0.000001 | 1.459291 | 4.864303 |
| Fe 239.562 {140} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Linear | 1/Var | 0.000017 | 0.000000 | 0.000000 | 1.000000 | 0.997073 | 0.000057 | 9.331115 | 31.103718 |
| Fe 259.940 {129} | 03/28/2019 11:31:02 | 03/27/2019 13:13:39 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.998221 | 0.000028 | 3.303197 | 11.010658 |
| Mg 202.582 {466} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Linear | 1/Var | 0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.998863 | 0.000061 | 2.805922 | 9.353072 |
| Mg 279.079 {121} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.050000 | 0.999940 | 0.000001 | 73.686605 | 245.62201 |
| Mg 280.270 {120} | 03/28/2019 11:31:02 | 03/27/2019 12:54:09 | Linear | 1/Var | 0.000186 | 0.000026 | 0.000000 | 1.000000 | 0.999302 | 0.000016 | 0.034149 | 0.113829 |
| Mn 257.610 {131} | 03/28/2019 11:31:02 | 03/27/2019 12:54:09 | Linear | 1/Conc | 0.000000 | 0.000008 | 0.000000 | 1.000000 | 0.999808 | 0.000001 | 0.100142 | 0.333808 |
| Mn 259.373 {130} | 03/28/2019 11:31:02 | 03/27/2019 13:00:31 | Linear | 1/Conc | 0.000007 | 0.000002 | 0.000000 | 1.000000 | 0.985294 | 0.000133 | 2.449549 | 8.165164 |
| Mo 202.030 {466} | 03/28/2019 11:31:02 | 03/27/2019 12:47:37 | Linear | None | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.999997 | 0.000010 | 0.453504 | 1.511678 |
| Mo 203.844 {465} | 03/28/2019 11:31:02 | 03/27/2019 12:47:38 | Linear | 1/Var | 0.000006 | 0.000008 | 0.000000 | 1.000000 | 0.999924 | 0.000006 | 0.680879 | 2.269597 |
| Mo 204.598 {464} | 03/28/2019 11:31:02 | 03/27/2019 12:54:10 | Linear | 1/Var | -0.000007 | 0.000007 | 0.000000 | 1.000000 | 0.999985 | 0.000001 | 0.760285 | 2.534282 |
| Ni 221.647 {452} | 03/28/2019 11:31:02 | 03/27/2019 12:54:10 | Linear | 1/Conc | -0.000002 | 0.000016 | 0.000000 | 1.000000 | 0.999962 | 0.000007 | 0.507544 | 1.691812 |
| Ni 231.604 {445} | 03/28/2019 11:31:02 | 03/27/2019 12:54:10 | Linear | 1/Conc | -0.000007 | 0.000013 | 0.000000 | 1.000000 | 0.999938 | 0.000001 | 0.612264 | 2.040882 |
| Pb 216.999 {455} | 03/28/2019 11:31:02 | 03/27/2019 13:00:31 | Linear | 1/Var | 0.000019 | 0.000001 | 0.000000 | 1.000000 | 0.999963 | 0.000020 | 4.327813 | 14.426043 |
| Pb 220.353 {453} | 03/28/2019 11:31:02 | 03/27/2019 12:47:38 | Linear | 1/Conc | 0.000019 | 0.000003 | 0.000000 | 1.000000 | 0.999578 | 0.000000 | 2.675086 | 8.916954 |
| Pb 220.353 {153} | 03/28/2019 11:31:02 | 03/27/2019 13:00:31 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999861 | 0.000000 | 6.312659 | 21.042198 |
| Sb 206.833 {463} | 03/28/2019 11:31:02 | 03/27/2019 12:54:10 | Linear | 1/Var | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999970 | 0.000005 | 2.213644 | 7.378813 |
| Sb 217.581 {455} | 03/28/2019 11:31:02 | 03/27/2019 12:54:10 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999984 | 0.000000 | 2.445582 | 8.151939 |
| Se 196.090 {472} | 03/28/2019 11:31:02 | 03/27/2019 12:47:39 | Linear | 1/Var | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999991 | 0.000001 | 4.331611 | 14.438705 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 03/28/2019 11:31:02 | 03/27/2019 12:54:10 | Curvili | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.999549 | 0.000000 | 29.902014 | 99.673379 |
| Tl 190.856 {476} | 03/28/2019 11:31:02 | 03/27/2019 12:54:11 | Linear | 1/Conc | 0.000007 | 0.000003 | 0.000000 | 1.000000 | 0.999837 | 0.000001 | 2.011652 | 6.705506 |
| Tl 190.856 {477} | 03/28/2019 11:31:02 | 03/27/2019 12:54:11 | Linear | 1/Conc | 0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.999802 | 0.000000 | 3.799136 | 12.663787 |
| V 290.882 {116} | 03/28/2019 11:31:02 | 03/27/2019 12:54:11 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999990 | 0.000000 | 5.263664 | 17.545548 |
| V 292.402 {115} | 03/28/2019 11:31:02 | 03/27/2019 12:54:11 | Linear | 1/Conc | -0.000001 | 0.000005 | 0.000000 | 1.000000 | 0.999973 | 0.000000 | 0.533461 | 1.778203 |
| Zn 206.200 {463} | 03/28/2019 11:31:02 | 03/27/2019 13:00:31 | Linear | 1/Var | 0.000007 | 0.000011 | 0.000000 | 1.000000 | 0.999937 | 0.000006 | 0.428823 | 1.429411 |
| Zn 213.856 {457} | 03/28/2019 11:31:02 | 03/27/2019 12:47:40 | Linear | 1/Conc | 0.000074 | 0.000049 | 0.000000 | 1.000000 | 0.999990 | 0.000001 | 0.121214 | 0.404046 |
| Y 224.306 {450}* | 03/28/2019 11:31:02 | 03/27/2019 11:58:25 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 03/28/2019 11:31:02 | 03/27/2019 11:58:25 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 03/28/2019 11:31:02 | 03/27/2019 11:58:25 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 03/28/2019 11:31:02 | 03/27/2019 12:54:11 | Linear | 1/Conc | 1466.3528 | 1.846153 | 0.000000 | 1.000000 | 0.999992 | 1.335099 | 8.280159 | 27.600531 |
| Na 589.592 { 57} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Linear | 1/Conc | 15.965891 | 1.658710 | 0.000000 | 1.000000 | 0.999859 | 39.640331 | 6.993014 | 23.310047 |
| Si 251.611 {134} | 03/28/2019 11:31:02 | 03/27/2019 13:21:06 | Linear | 1/Conc | -0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 12.704372 | 42.347908 |
| Ti 323.452 {104} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | 0.000246 | 0.000008 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 1.156231 | 3.854104 |
| Ti 334.941 {101} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | 0.000011 | 0.000004 | 0.000000 | 1.000000 | 0.999927 | 0.000000 | 1.397375 | 4.657917 |
| Sr 407.771 { 83} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | 0.000068 | 0.000144 | 0.000000 | 1.000000 | 0.999988 | 0.000003 | 0.095269 | 0.317563 |
| Sr 421.552 { 80} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | 0.000009 | 0.000142 | 0.000000 | 1.000000 | 0.999994 | 0.000002 | 0.097095 | 0.323651 |
| Sn 189.989 {477} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | 0.000010 | 0.000004 | 0.000000 | 1.000000 | 0.999958 | 0.000001 | 0.976813 | 3.256043 |
| B 249.678 {135} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | 0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.999985 | 0.000000 | 1.233406 | 4.111353 |
| B 249.773 {135} | 03/28/2019 11:31:02 | 03/27/2019 12:54:12 | Linear | 1/Conc | -0.000000 | 0.000002 | 0.000000 | 1.000000 | 0.999983 | 0.000000 | 0.714026 | 2.380086 |
| Li 670.784 { 50} | 03/28/2019 11:31:02 | 03/27/2019 12:54:13 | Linear | 1/Var | -0.482657 | 12.306432 | 0.000000 | 1.000000 | 0.999832 | 7.158606 | 0.980802 | 3.269340 |
| K 766.490 { 44} | 03/28/2019 11:31:02 | 03/27/2019 13:21:07 | Linear | 1/Conc | 15.361257 | 0.494566 | 0.000000 | 1.000000 | 0.999885 | 10.656777 | 30.088446 | 100.29482 |
| P 213.618 {457} | 03/28/2019 11:31:02 | 03/27/2019 12:54:13 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.242773 | 14.142575 |
| S 182.034 {485} | 03/28/2019 11:31:02 | 03/27/2019 13:21:07 | Curvili | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.739899 | 32.466330 |
| Hg 184.950 {482} | 03/28/2019 11:31:02 | 03/27/2019 12:47:42 | Linear | 1/Conc | 0.000009 | 0.000004 | 0.000000 | 1.000000 | 0.999972 | 0.000001 | 1.061031 | 3.536771 |
| Ce 404.076 { 83} | 03/28/2019 11:31:02 | 03/27/2019 12:47:43 | Linear | 1/Conc | 0.000046 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 16.710129 | 55.700431 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

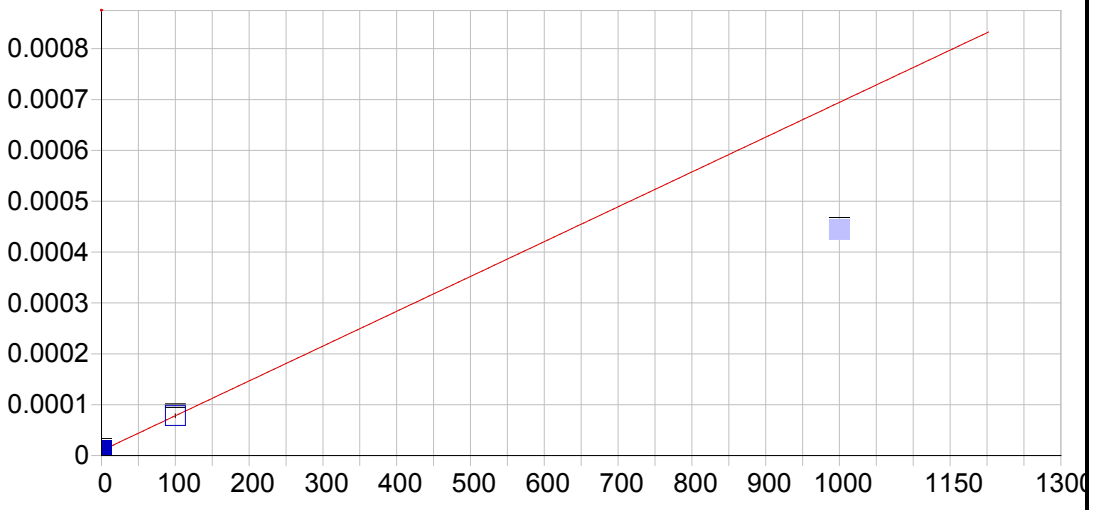



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999958 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.811981 | | |
| Predicted MQL: | 2.706603 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.61512 | -.615 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.526 | .526 | 5.26 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.951 | -.049 | -.049 | .00021 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95058 | -.049 | -4.94 | .00001 | .000 | 1 |

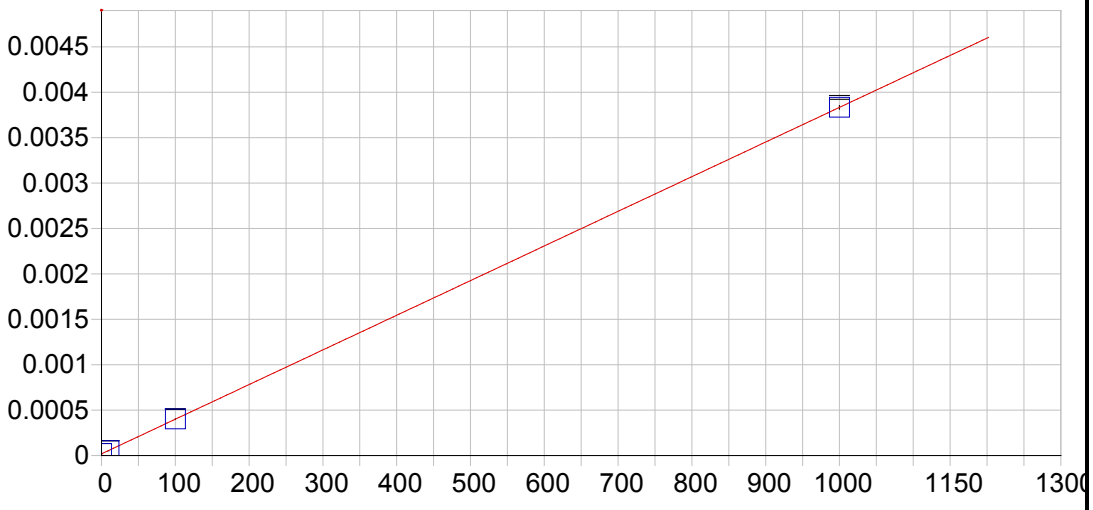



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.843130 | | |
| Predicted MQL: | 32.810433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.00 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 634.80 | -365. | -36.5 | .00044 | .000 | 0 |

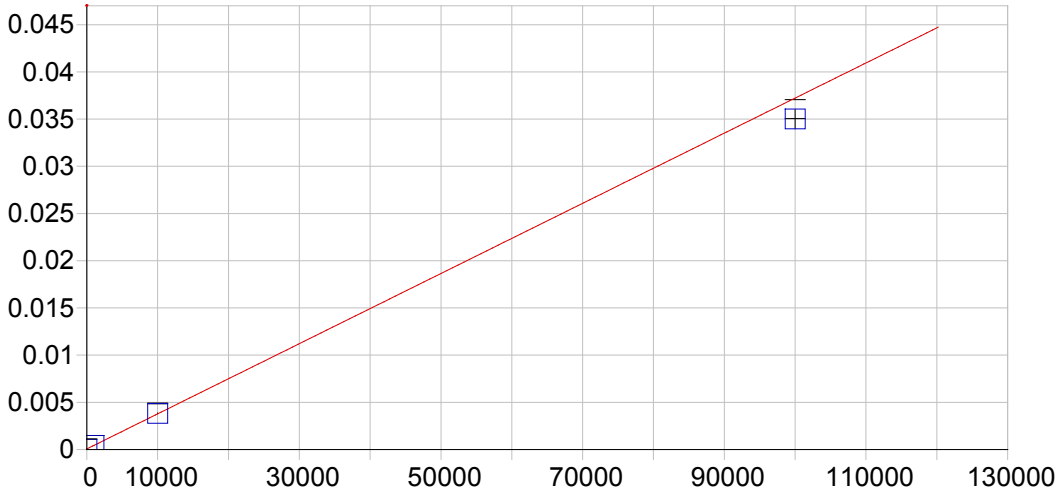



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.661917 | | |
| Predicted MQL: | 2.206389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .56079 | .561 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.97 | -.027 | -.003 | .00383 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1054 | -.895 | -8.95 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.36 | .361 | .361 | .00040 | .000 | 1 |

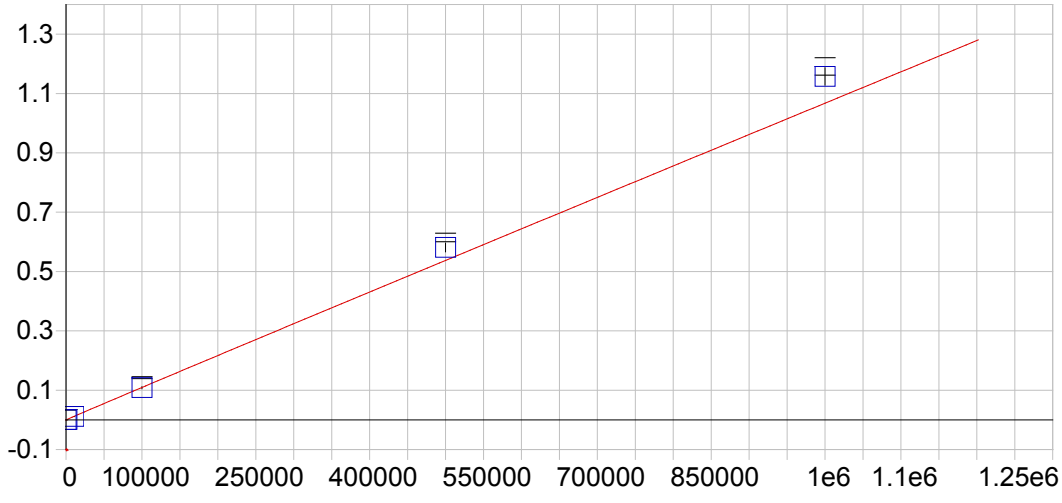



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000063 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999583 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 24.906475 | | |
| Predicted MQL: | 83.021585 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -22.195 | -22.2 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10110. | 110. | 1.10 | .00382 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.2 | 5.24 | .524 | .00044 | .000 | 1 |
| CalStd13=10 | 100000. | 93999. | -6000. | -6.00 | .03500 | .001 | 1 |

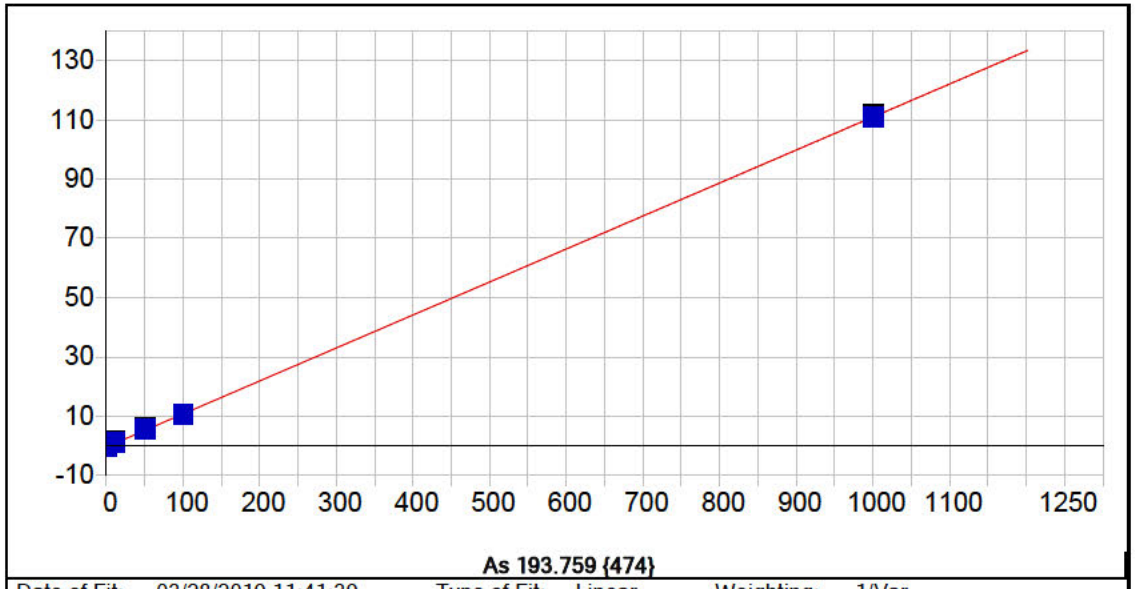



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Full Fit | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 0.990000 | | |
| Correlation: | 0.999954 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 11.978410 | | |
| Predicted MQL: | 39.928033 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11970 | .120 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 540980. | 41000. | 8.20 | .58099 | .014 | 1 |
| CalStd13=10 | 100000. | 99391. | -609. | -.609 | .10855 | .003 | 1 |
| CalStd10=10 | 10000. | 10010. | 10.1 | .101 | .01117 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.87 | -.131 | -.013 | .00113 | .000 | 1 |
| CalibStd15= | 1000000. | 1085300. | 85300. | 8.53 | 1.1575 | .029 | 1 |

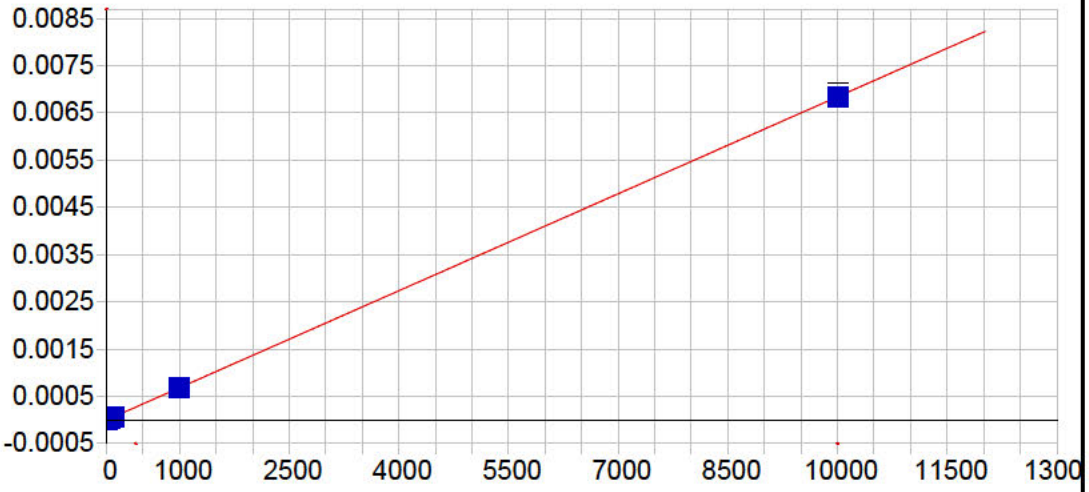



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.351601 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.111245 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.277061 | | |
| Predicted MDL: | 4.437017 | | |
| Predicted MQL: | 14.790058 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.63795 | -.638 | .000 | -.42257 | .370 | 1 |
| CalStd9=100 | 1000.0 | 1001.0 | 1.01 | .101 | 110.63 | .723 | 1 |
| CalStd7=50 | 50.000 | 53.194 | 3.19 | 6.39 | 5.5534 | .513 | 1 |
| CalStd5=10 | 10.000 | 12.961 | 2.96 | 29.6 | 1.0873 | .409 | 1 |
| CalStd8=100 | 100.00 | 98.483 | -1.52 | -1.52 | 10.567 | .237 | 1 |

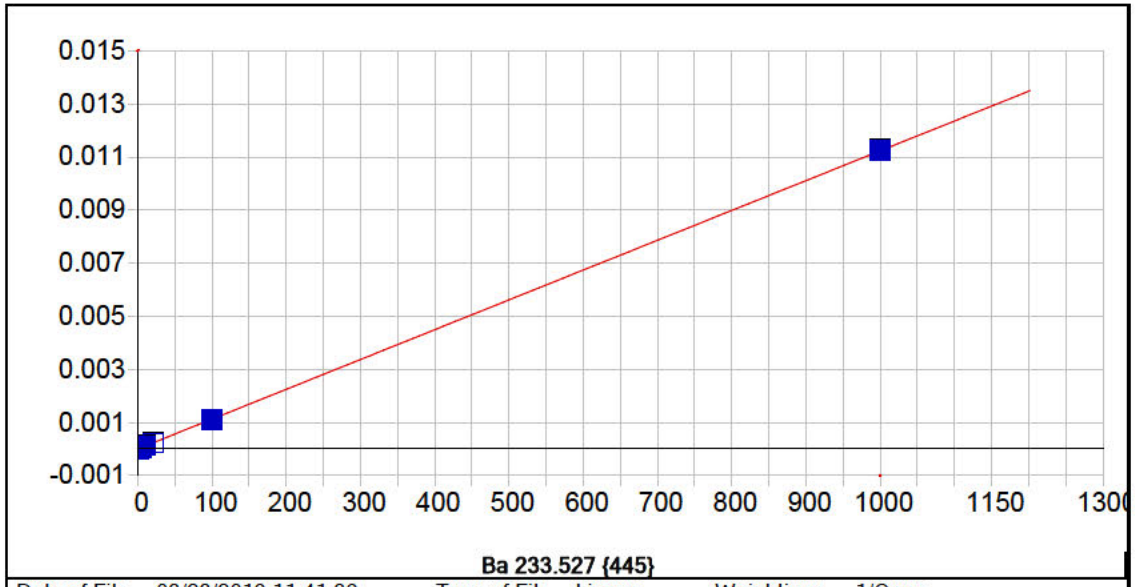



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999911 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.209438 | | |
| Predicted MQL: | 20.698127 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00080 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.8 | 3.76 | .376 | .00068 | .000 | 1 |
| CalStd7=50 | 50.000 | 42.110 | -7.89 | -15.8 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.574 | 2.57 | 25.7 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.664 | -2.34 | -2.34 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10004. | 3.89 | .039 | .00685 | .000 | 1 |

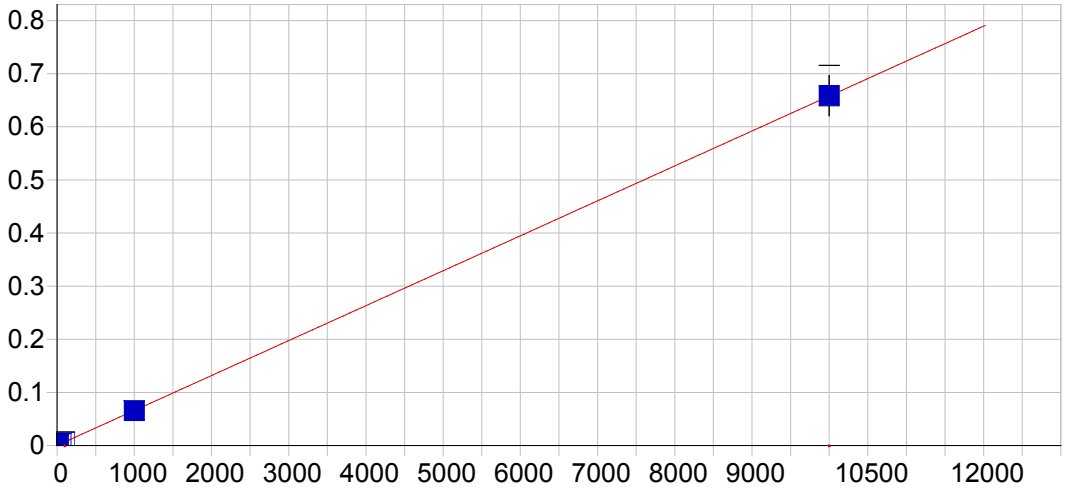



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999956 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.374106 | | |
| Predicted MQL: | 1.247019 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00009 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.729 | .729 | 7.29 | .00012 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.914 | -.086 | -.431 | .00023 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.411 | -1.59 | -1.59 | .00111 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7907 | -.209 | -4.19 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.26 | .126 | .01124 | .000 | 1 |
| CalStd3=1 | 1.0000 | .89986 | -.100 | -10.0 | .00001 | .000 | 1 |

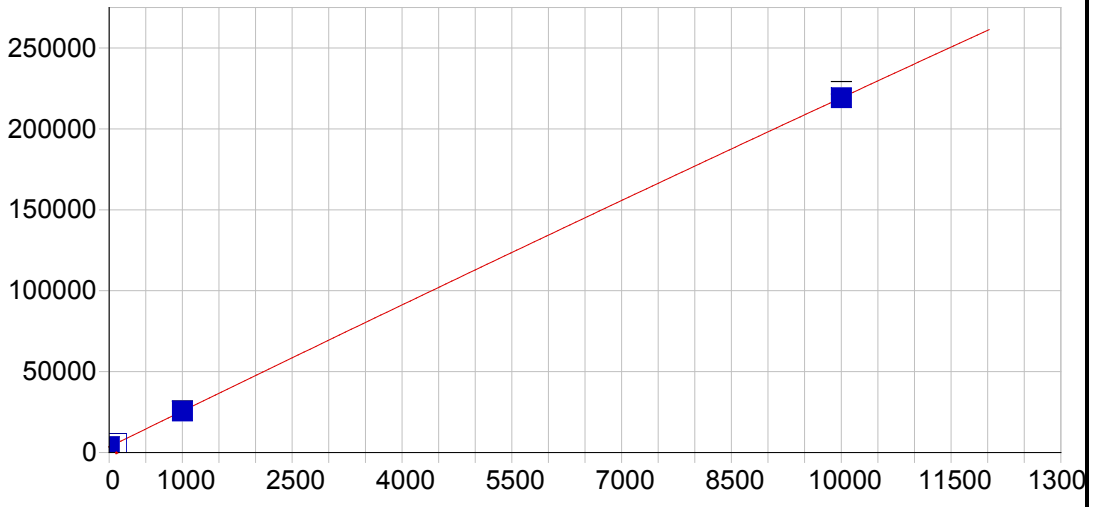



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000243 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000066 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.234133 | | |
| Predicted MQL: | 0.780443 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00036 | .000 | .000 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.001 | -.999 | -2.00 | .00347 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.149 | .149 | 1.49 | .00091 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.495 | -.505 | -2.52 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.316 | -1.68 | -1.68 | .00671 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5987 | -.401 | -8.03 | .00055 | .000 | 1 |
| CalStd9=100 | 1000.0 | 992.01 | -7.99 | -.799 | .06548 | .000 | 1 |
| CalStd3=1 | 1.0000 | .77702 | -.223 | -22.3 | .00029 | .000 | 1 |
| CalStd10=10 | 10000. | 10012. | 11.7 | .117 | .65864 | .038 | 1 |

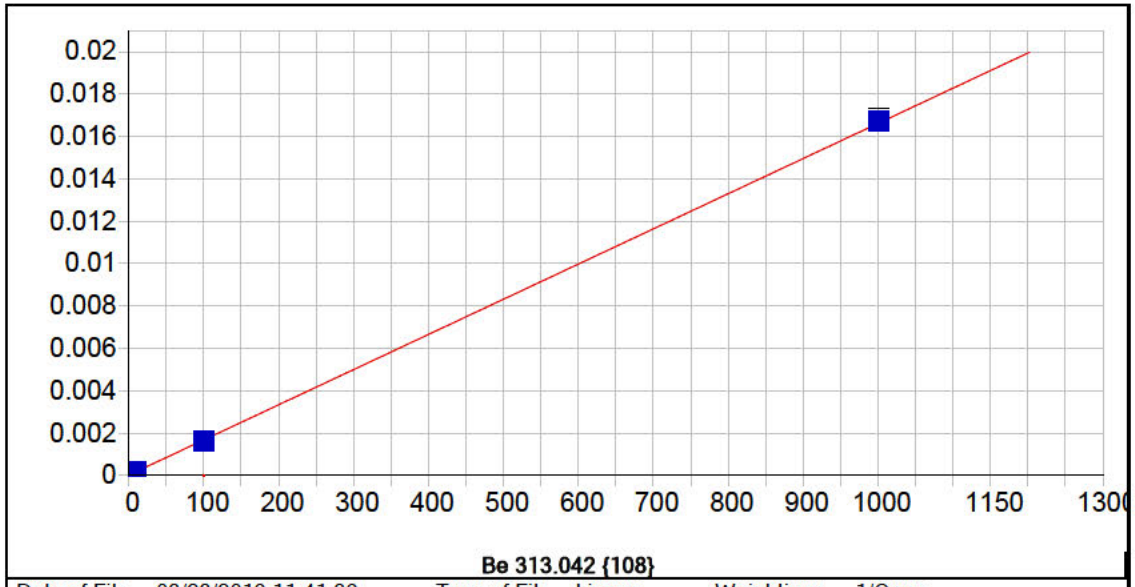



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 3508.124149 | Re-Slope: | 1.000000 |
| A1 (Gain): | 22.163611 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000059 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.678084 | | |
| Predicted MQL: | 2.260281 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00067 | .001 | .000 | 3508.1 | 17.2 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .830 | .083 | 25633. | 200. | 1 |
| CalStd8=100 | 100.00 | 99.249 | -.751 | -.751 | 5707.3 | 8.71 | 1 |
| CalStd10=10 | 10000. | 9999.9 | -.079 | -.001 | 219220. | 3840. | 1 |

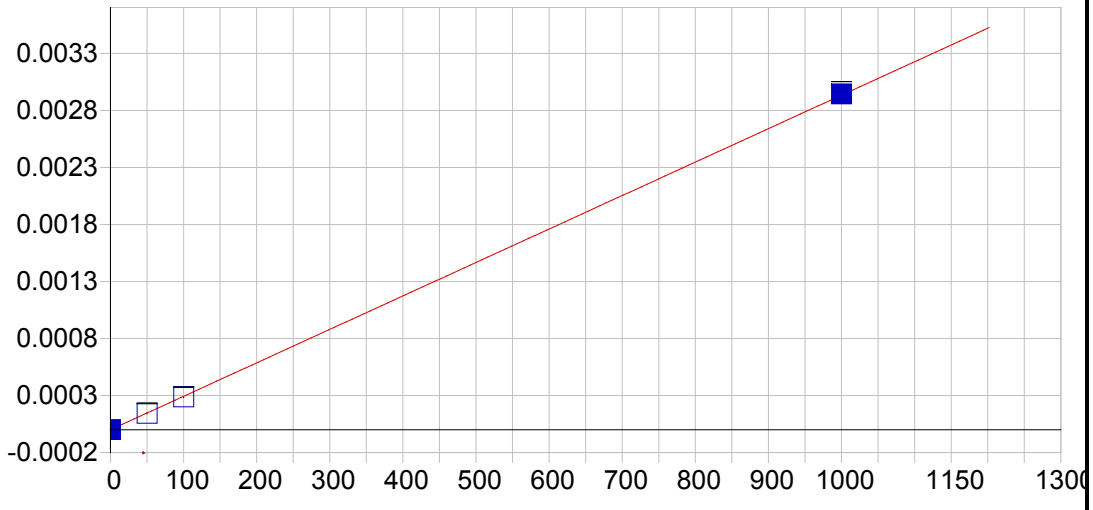



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999891 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.143904 | | |
| Predicted MQL: | 0.479680 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00007 | .000 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9677 | -.032 | -.323 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.680 | -4.32 | -4.32 | .00161 | .000 | 1 |
| CalStd2=0.5 | .50000 | .53384 | .034 | 6.77 | .00003 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6886 | -.311 | -6.23 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.7 | 4.74 | .474 | .01670 | .000 | 1 |
| CalStd3=1 | 1.0000 | .89160 | -.108 | -10.8 | .00003 | .000 | 1 |

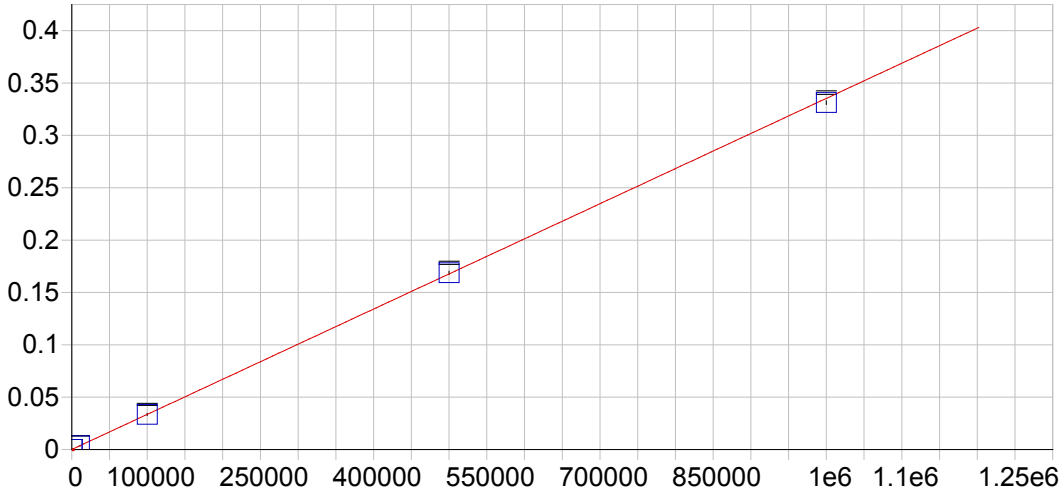



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.891681 | | |
| Predicted MQL: | 2.972270 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00216 | .002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.4 | 3.45 | .345 | .00294 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.770 | -2.23 | -2.23 | .00029 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.784 | -1.22 | -2.43 | .00014 | .000 | 1 |

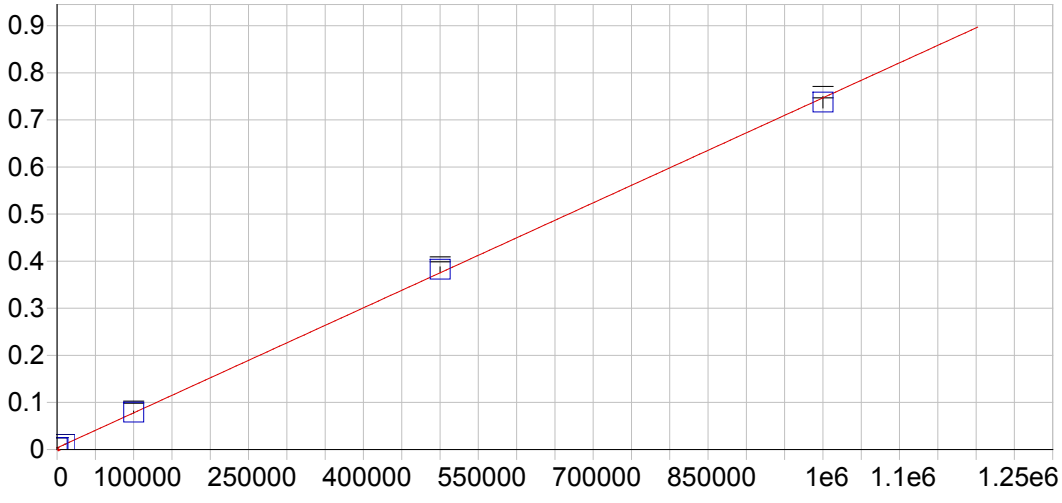



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999830 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 11.103521 | | |
| Predicted MQL: | 37.011737 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -18.832 | -18.8 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 10299. | 299. | 2.99 | .00350 | .000 | 1 |
| CalStd13=10 | 100000. | 99789. | -211. | -.211 | .03351 | .001 | 1 |
| CalStd14=50 | 500000. | 503100. | 3100. | .620 | .16874 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1026.3 | 26.3 | 2.63 | .00039 | .000 | 1 |
| CalibStd15= | 1000000. | 987820. | -12200. | -1.22 | .33127 | .002 | 1 |

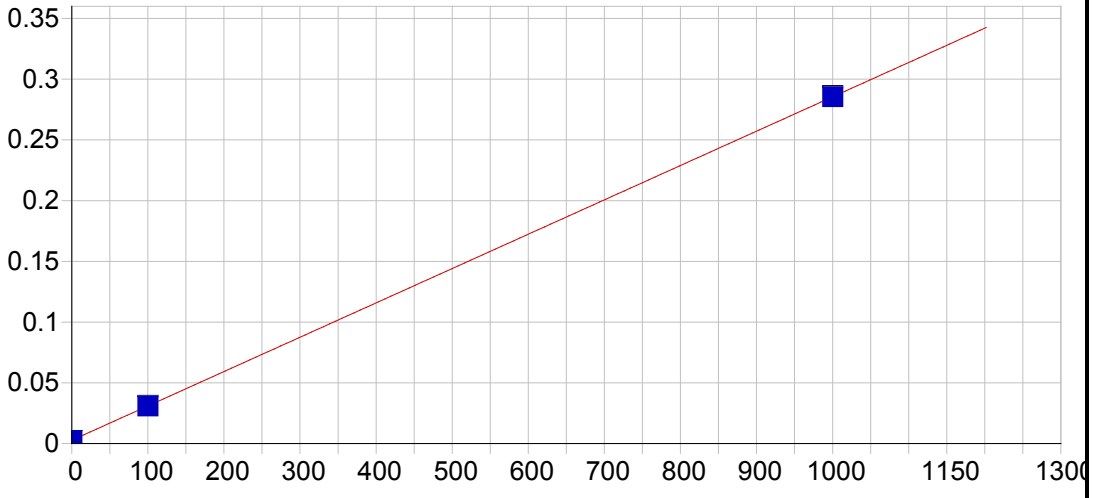



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003611 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999873 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 6.405702 | | |
| Predicted MQL: | 21.352341 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.10804 | -.108 | .000 | .00361 | .000 | 1 |
| CalStd10=10 | 10000. | 10496. | 496. | 4.96 | .01141 | .000 | 1 |
| CalStd13=10 | 100000. | 101870. | 1870. | 1.87 | .07932 | .002 | 1 |
| CalStd14=50 | 500000. | 509940. | 9940. | 1.99 | .38262 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1032.2 | 32.2 | 3.22 | .00438 | .000 | 1 |
| CalibStd15= | 1000000. | 987660. | -12300. | -1.23 | .73767 | .012 | 1 |

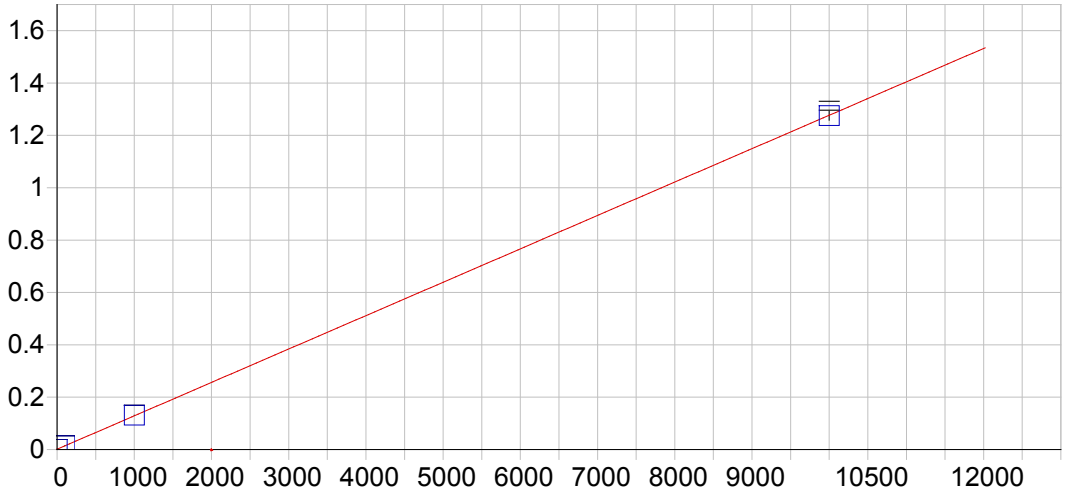



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002691 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000283 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 0.039860 | | |
| Predicted MQL: | 0.132865 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00422 | .004 | .000 | .00269 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .116 | .012 | .28550 | .001 | 1 |
| CalStd8=100 | 100.00 | 99.418 | -.582 | -.582 | .03080 | .001 | 1 |

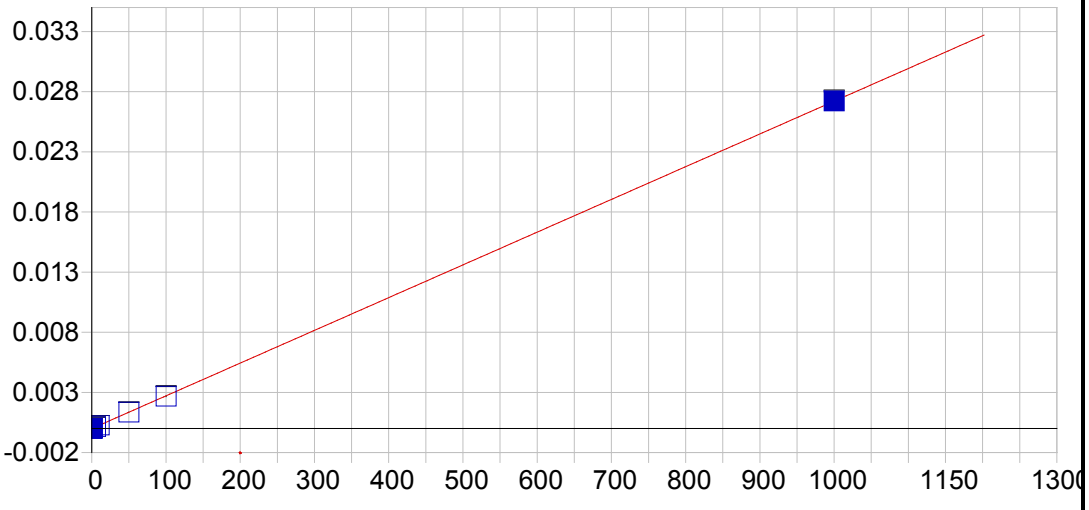



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001238 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000128 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 0.083877 | | |
| Predicted MQL: | 0.279590 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00188 | -.002 | .000 | .00124 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.9 | -15.1 | -.151 | 1.2751 | .017 | 1 |
| CalStd8=100 | 100.00 | 100.58 | .582 | .582 | .01407 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1014.5 | 14.5 | 1.45 | .13066 | .000 | 1 |

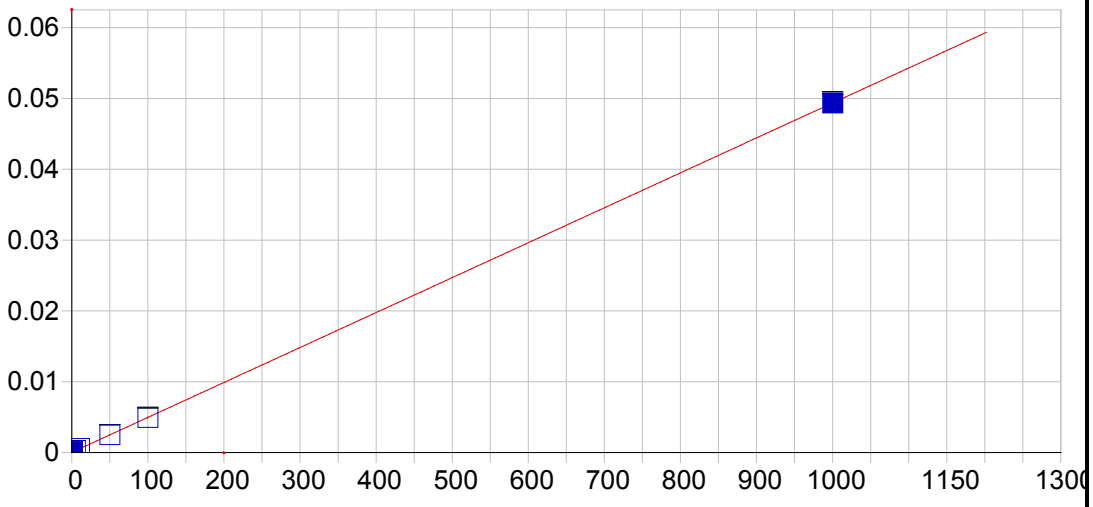



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.227117 | | |
| Predicted MQL: | 0.757057 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00017 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.186 | .186 | .371 | .00136 | .000 | 1 |
| CalStd3=1 | 1.0000 | .98325 | -.017 | -1.67 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .66776 | .168 | 33.6 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9439 | -.056 | -1.12 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.793 | -1.21 | -1.21 | .00268 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.402 | .402 | 4.02 | .00027 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .524 | .052 | .02723 | .000 | 1 |

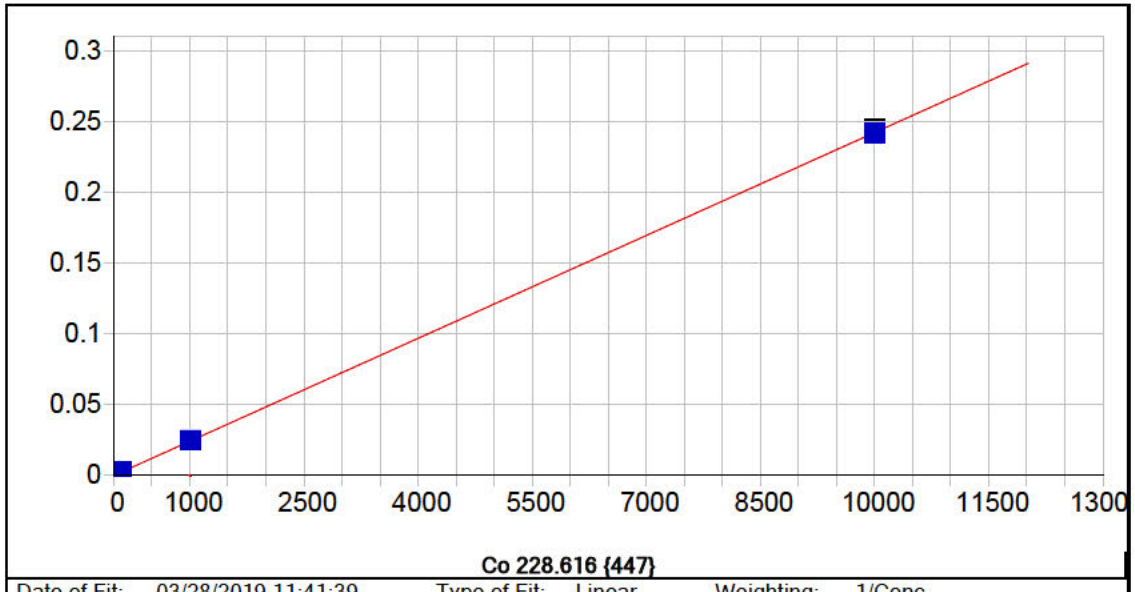



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000049 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999942 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.159216 | | |
| Predicted MQL: | 0.530721 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00027 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.211 | .211 | .423 | .00251 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0581 | .058 | 5.81 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71064 | .211 | 42.1 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0730 | .073 | 1.46 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.182 | -.818 | -.818 | .00492 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.594 | .594 | 5.94 | .00055 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.67 | -.328 | -.033 | .04934 | .000 | 1 |

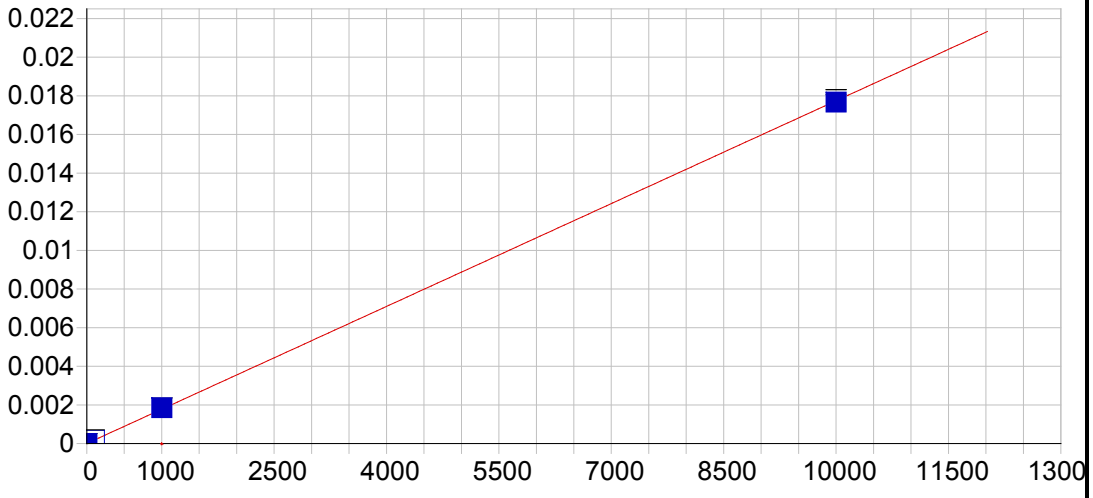



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.287501 | | |
| Predicted MQL: | 0.958335 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00034 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.537 | 1.54 | 3.07 | .00126 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.815 | .815 | 8.15 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0125 | .013 | .251 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.21 | 1.21 | 1.21 | .00246 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.0 | 23.0 | 2.30 | .02481 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1893 | .189 | 18.9 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9973.2 | -26.8 | -.268 | .24212 | .003 | 1 |

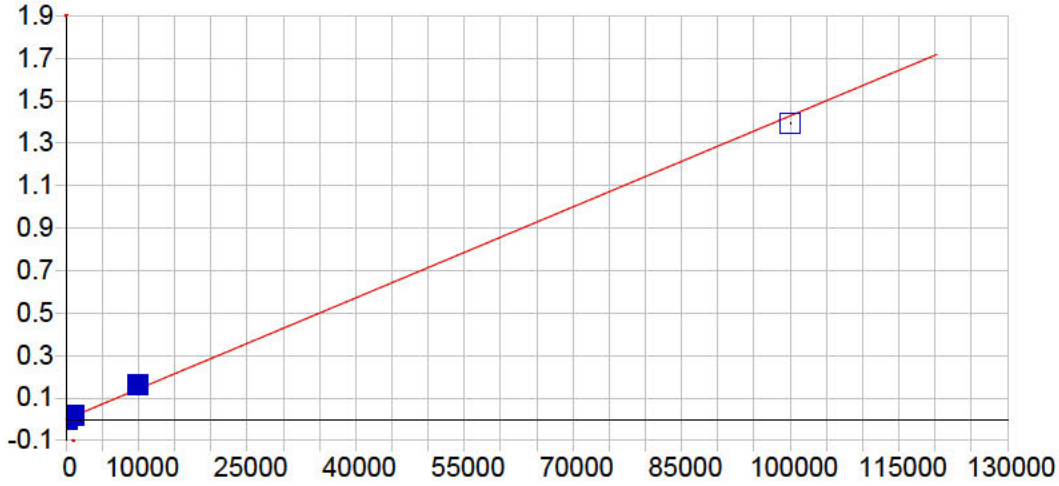



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.795088 | | |
| Predicted MQL: | 2.650294 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00691 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1039.1 | 39.1 | 3.91 | .00185 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.4 | -42.6 | -.426 | .01767 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.42 | 3.42 | 3.42 | .00018 | .000 | 1 |

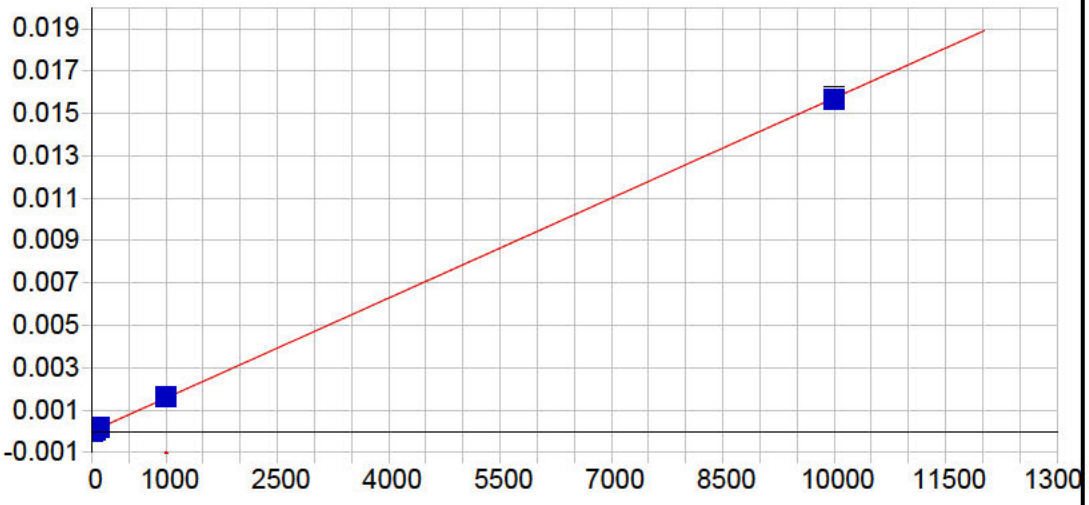



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998096 | Status: | OK. |
| Std Error of Est: | 0.000051 | | |
| Predicted MDL: | 0.340943 | | |
| Predicted MQL: | 1.136476 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.3405 | -1.34 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.465 | .465 | 4.65 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.276 | 6.28 | 12.6 | .00082 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1159.3 | 159. | 15.9 | .01658 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.73 | 12.7 | 12.7 | .00163 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5498 | -.450 | -9.00 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -.75001 | -1.75 | -175. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11313. | 1310. | 13.1 | .16165 | .002 | 1 |
| CalStd12=10 | 100000. | 97565. | -2440. | -2.44 | 1.3940 | .002 | 1 |

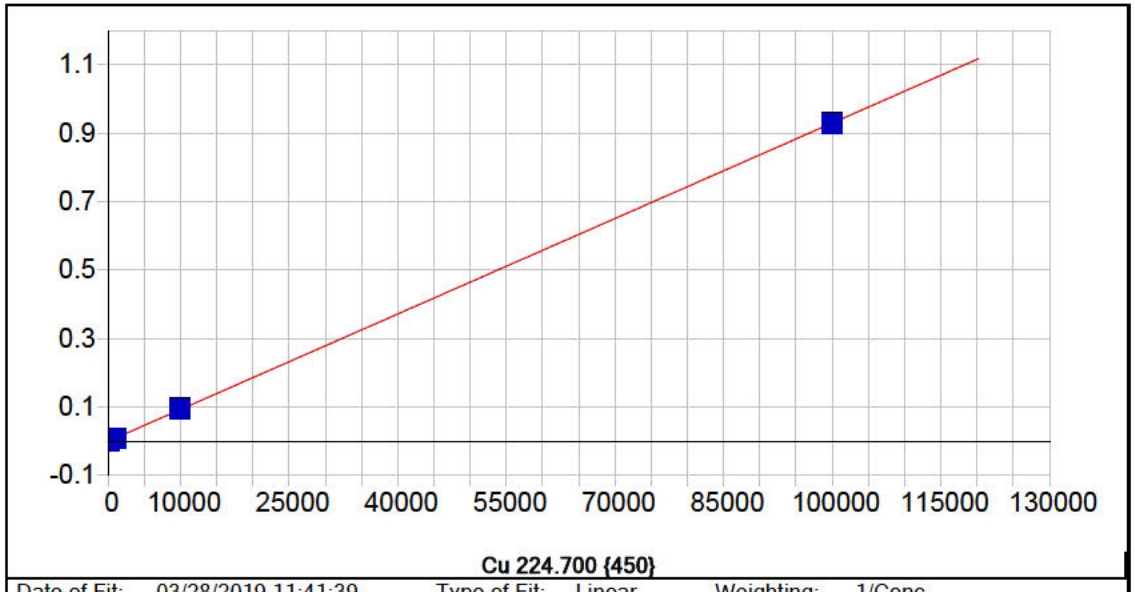



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999951 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.892772 | | |
| Predicted MQL: | 2.975908 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00170 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.344 | 1.34 | 13.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.406 | .406 | .811 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1025.8 | 25.8 | 2.58 | .00161 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.597 | -.403 | -.403 | .00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8954 | .895 | 17.9 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9971.9 | -28.1 | -.281 | .01568 | .000 | 1 |

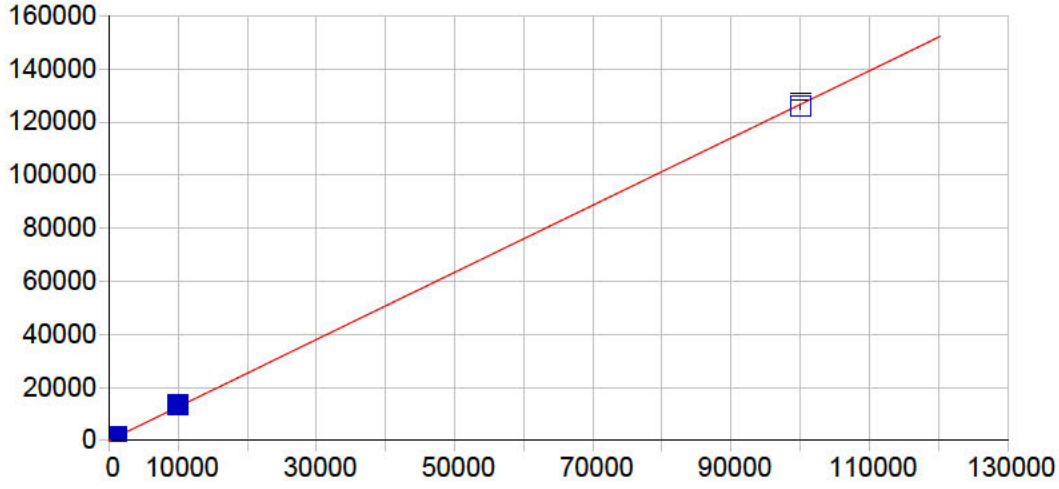



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999678 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 0.302368 | | |
| Predicted MQL: | 1.007893 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03996 | .040 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.7 | 22.7 | 2.27 | .00951 | .000 | 1 |
| CalStd7=50 | 50.000 | 12.433 | -37.6 | -75.1 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 52.613 | -47.4 | -47.4 | .00049 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.6122 | -16.4 | -81.9 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99823. | -177. | -.177 | .92826 | .002 | 1 |
| CalStd10=10 | 10000. | 10255. | 255. | 2.55 | .09537 | .001 | 1 |

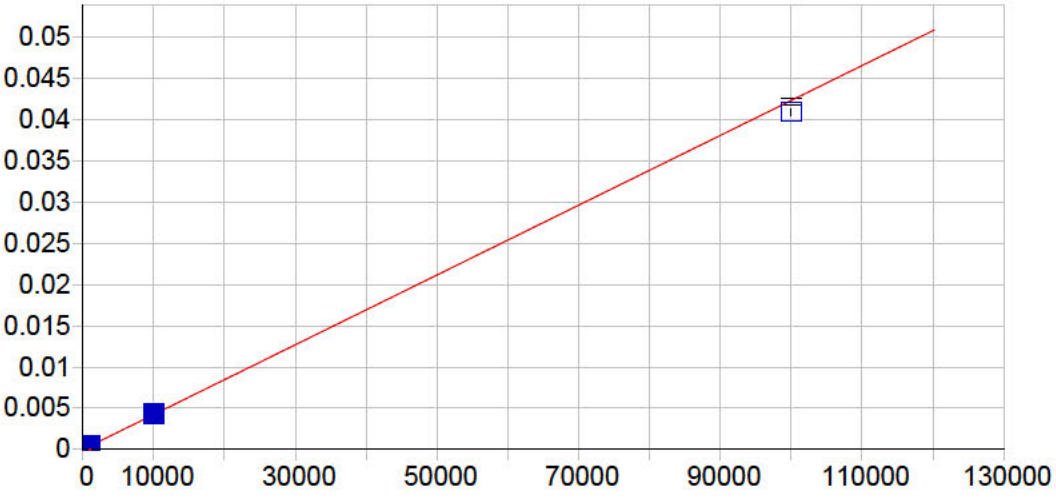



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 76.250539 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.265397 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999810 | Status: | OK. |
| Std Error of Est: | 0.950107 | | |
| Predicted MDL: | 2.883027 | | |
| Predicted MQL: | 9.610090 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01123 | -.011 | .000 | 76.236 | 1.27 | 1 |
| CalStd9=100 | 1000.0 | 1070.4 | 70.4 | 7.04 | 1430.6 | 17.6 | 1 |
| CalStd8=100 | 100.00 | 110.08 | 10.1 | 10.1 | 215.55 | 2.07 | 1 |
| CalStd10=10 | 10000. | 10525. | 525. | 5.25 | 13394. | 119. | 1 |
| CalStd12=10 | 100000. | 99379. | -621. | -.621 | 125830. | 1150. | 1 |
| CalStd5=10 | 10.000 | 15.865 | 5.87 | 58.7 | 96.327 | 1.53 | 1 |
| CalStd6=20 | 20.000 | 24.023 | 4.02 | 20.1 | 106.65 | 1.79 | 1 |
| CalStd7=50 | 50.000 | 55.887 | 5.89 | 11.8 | 146.97 | 4.24 | 1 |

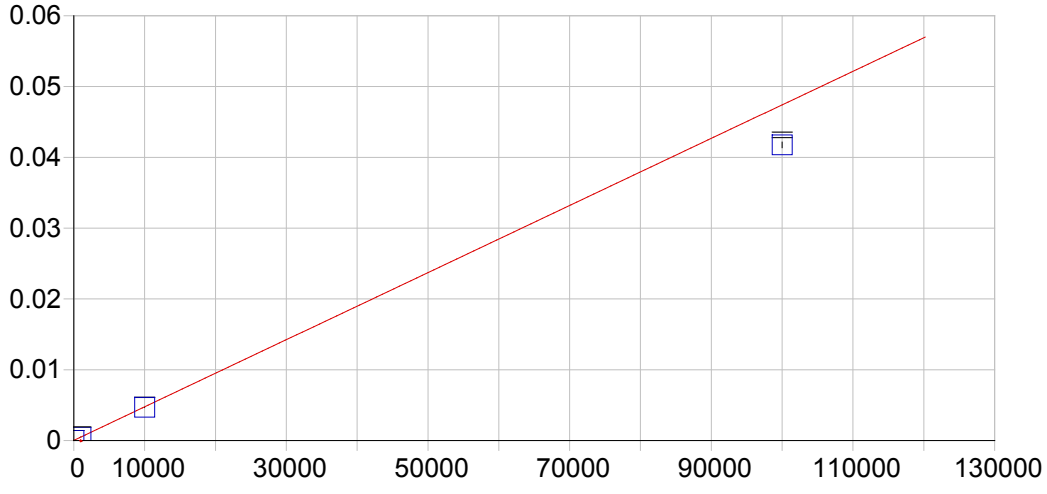



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999524 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 5.707450 | | |
| Predicted MQL: | 19.024833 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.81344 | -.813 | .000 | .00001 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.466 | 1.47 | 7.33 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.676 | -3.32 | -6.65 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.344 | -1.66 | -1.66 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.2 | 21.2 | 2.12 | .00044 | .000 | 1 |
| CalStd10=10 | 10000. | 10307. | 307. | 3.07 | .00437 | .000 | 1 |
| CalStd12=10 | 100000. | 96737. | -3260. | -3.26 | .04097 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7436 | .744 | 14.9 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.186 | .186 | 1.86 | .00001 | .000 | 1 |

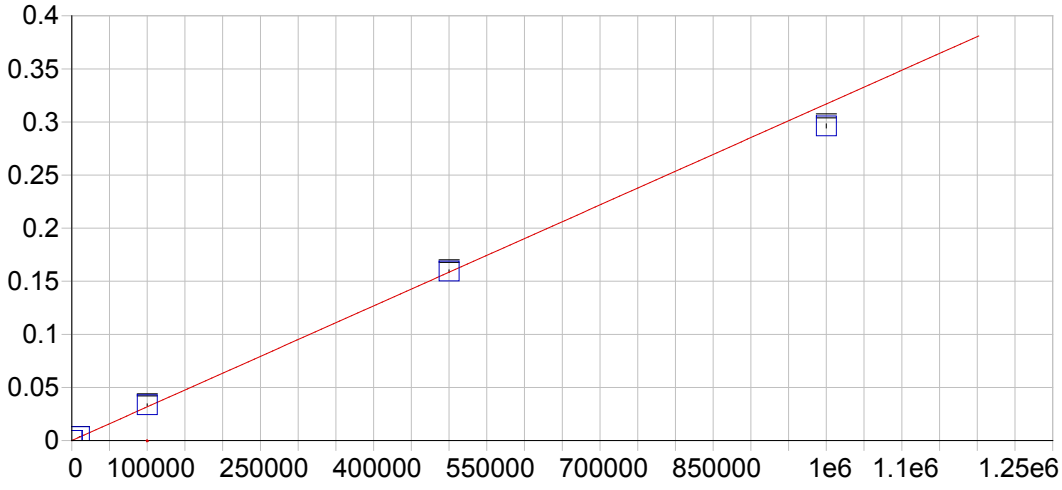



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.459291 | | |
| Predicted MQL: | 4.864303 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02888 | -.029 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.3 | -171. | -1.71 | .00468 | .000 | 1 |
| CalStd13=10 | 100000. | 88054. | -11900. | -11.9 | .04176 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1020.4 | 20.4 | 2.04 | .00051 | .000 | 1 |

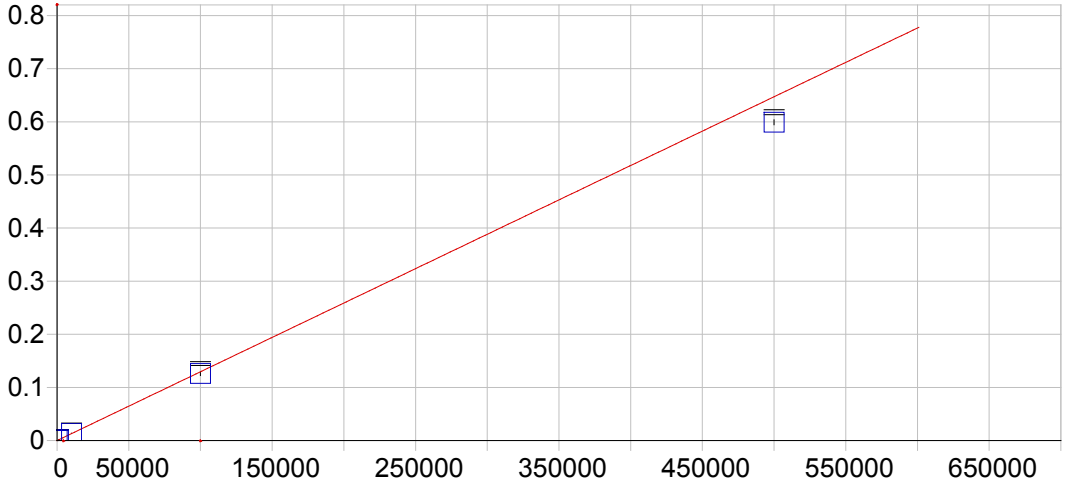



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997073 | Status: | OK. |
| Std Error of Est: | 0.000057 | | |
| Predicted MDL: | 9.331115 | | |
| Predicted MQL: | 31.103718 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -34.494 | -34.5 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11237. | 1240. | 12.4 | .00358 | .000 | 1 |
| CalStd13=10 | 100000. | 105810. | 5810. | 5.81 | .03356 | .001 | 1 |
| CalStd14=50 | 500000. | 503110. | 3110. | .621 | .15949 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1097.4 | 97.4 | 9.74 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 934610. | -65400. | -6.54 | .29627 | .002 | 1 |

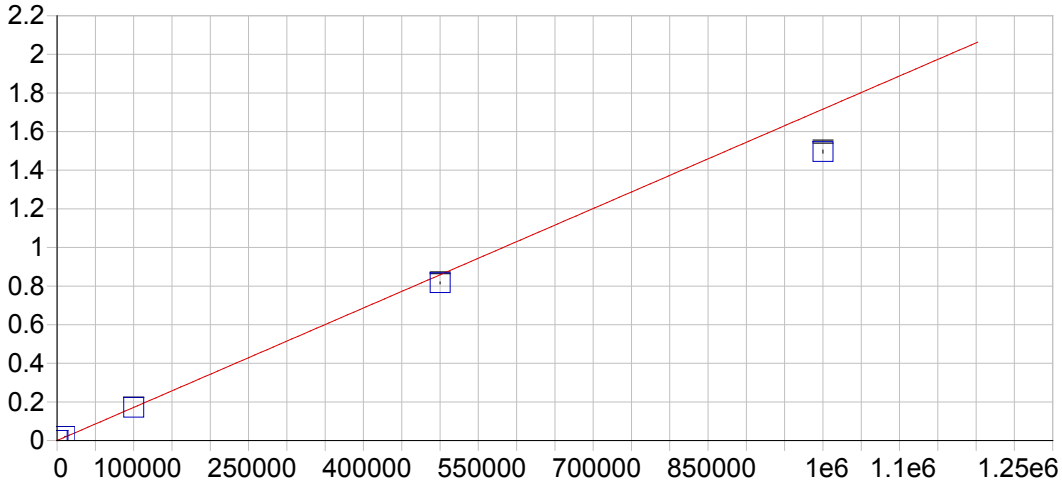



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998221 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 3.303197 | | |
| Predicted MQL: | 11.010658 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.6573 | -1.66 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10441. | 441. | 4.41 | .01353 | .000 | 1 |
| CalStd13=10 | 100000. | 97240. | -2760. | -2.76 | .12586 | .004 | 1 |
| CalStd14=50 | 500000. | 462870. | -37100. | -7.43 | .59907 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1050.0 | 50.0 | 5.00 | .00137 | .000 | 1 |

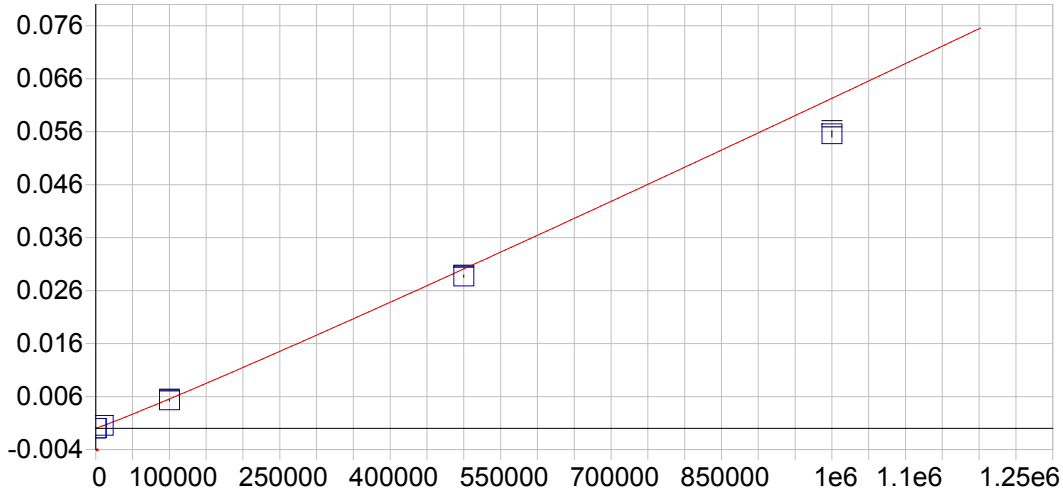



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998863 | Status: | OK. |
| Std Error of Est: | 0.000061 | | |
| Predicted MDL: | 2.805922 | | |
| Predicted MQL: | 9.353072 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.4849 | -1.48 | .000 | .00000 | .000 | 1 |
| CalStd13=10 | 100000. | 100200. | 197. | .197 | .17198 | .000 | 1 |
| CalStd10=10 | 10000. | 12545. | 2550. | 25.5 | .02154 | .000 | 1 |
| CalStd14=50 | 500000. | 475790. | -24200. | -4.84 | .81663 | .004 | 1 |
| CalStd9=100 | 1000.0 | 1328.0 | 328. | 32.8 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 871790. | -128000. | -12.8 | 1.4963 | .008 | 1 |

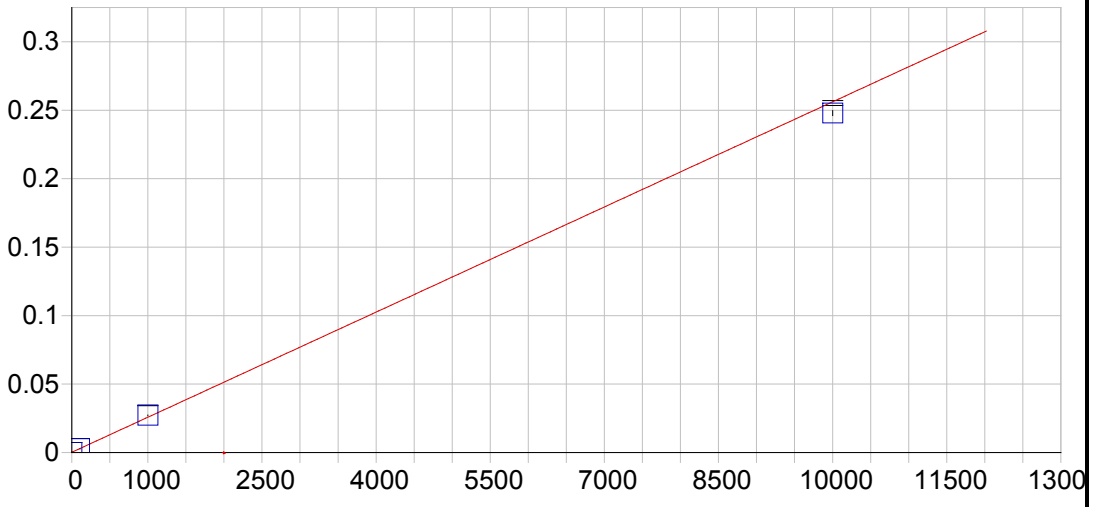



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.050000 | | |
| Correlation: | 0.999940 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 73.686605 | | |
| Predicted MQL: | 245.622017 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 96388. | -3610. | -3.61 | .00534 | .000 | 1 |
| CalStd10=10 | 10000. | 10836. | 836. | 8.36 | .00054 | .000 | 1 |
| CalStd14=50 | 500000. | 478230. | -21800. | -4.35 | .02871 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1211.6 | 212. | 21.2 | .00005 | .000 | 1 |
| CalibStd15= | 1000000. | 897300. | -103000. | -10.3 | .05559 | .001 | 1 |

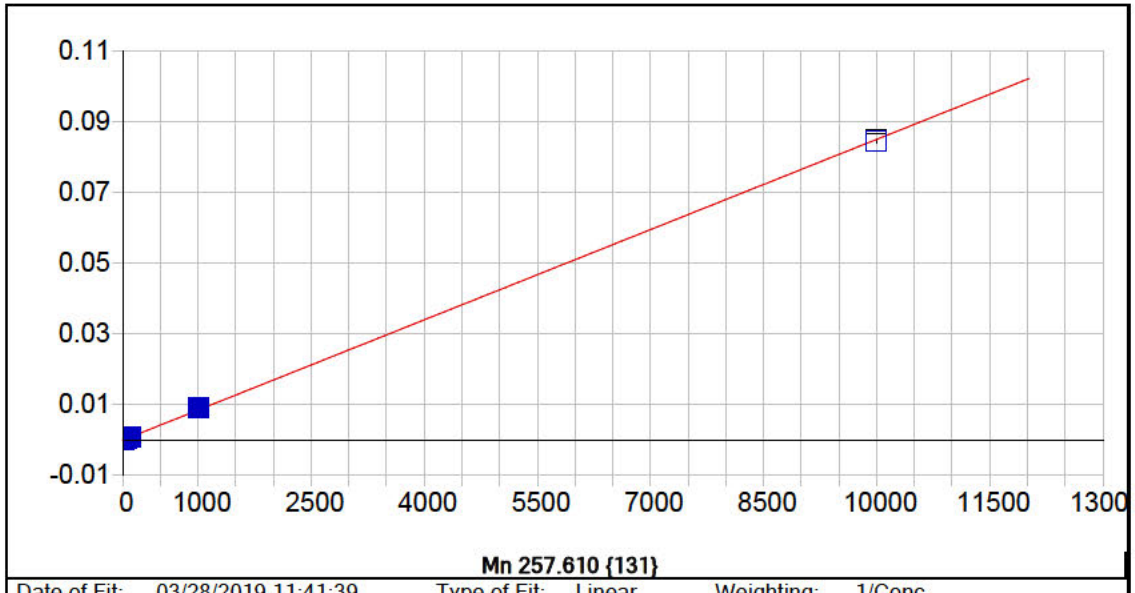



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000186 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999302 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 0.034149 | | |
| Predicted MQL: | 0.113829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00664 | -.007 | .000 | .00019 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.1 | 52.1 | 5.21 | .02711 | .000 | 1 |
| CalStd10=10 | 10000. | 9678.4 | -322. | -3.22 | .24788 | .002 | 1 |
| CalStd8=100 | 100.00 | 101.94 | 1.94 | 1.94 | .00279 | .000 | 1 |

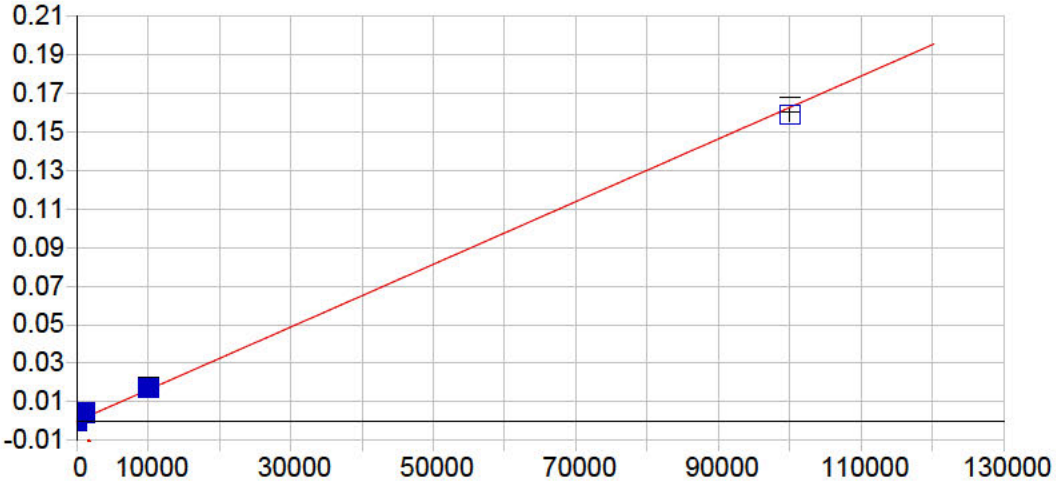



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999808 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.100142 | | |
| Predicted MQL: | 0.333808 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00197 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.131 | 1.13 | 11.3 | .00009 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.083 | 3.08 | 6.17 | .00045 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.383 | 1.38 | 6.92 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.55 | 4.55 | 4.55 | .00089 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.2708 | .271 | 5.42 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00898 | .000 | 1 |
| CalStd10=10 | 10000. | 9933.0 | -67.0 | -.670 | .08440 | .001 | 1 |

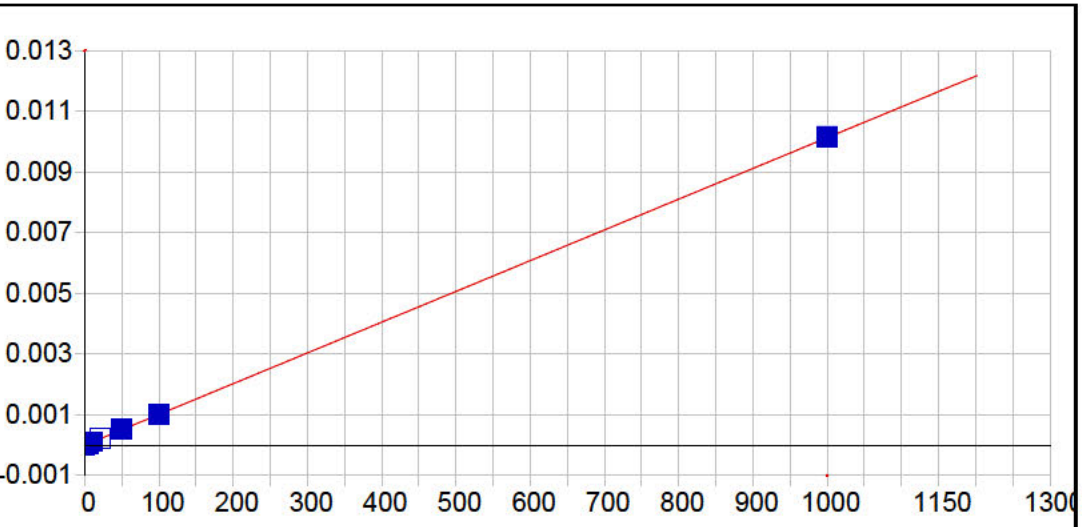



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.985294 | Status: | OK. |
| Std Error of Est: | 0.000133 | | |
| Predicted MDL: | 2.449549 | | |
| Predicted MQL: | 8.165164 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8333 | -1.83 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10533. | 533. | 5.33 | .01714 | .000 | 1 |
| CalStd9=100 | 1000.0 | 2803.4 | 1800. | 180. | .00456 | .000 | 1 |
| CalStd12=10 | 100000. | 97661. | -2340. | -2.34 | .15868 | .004 | 1 |

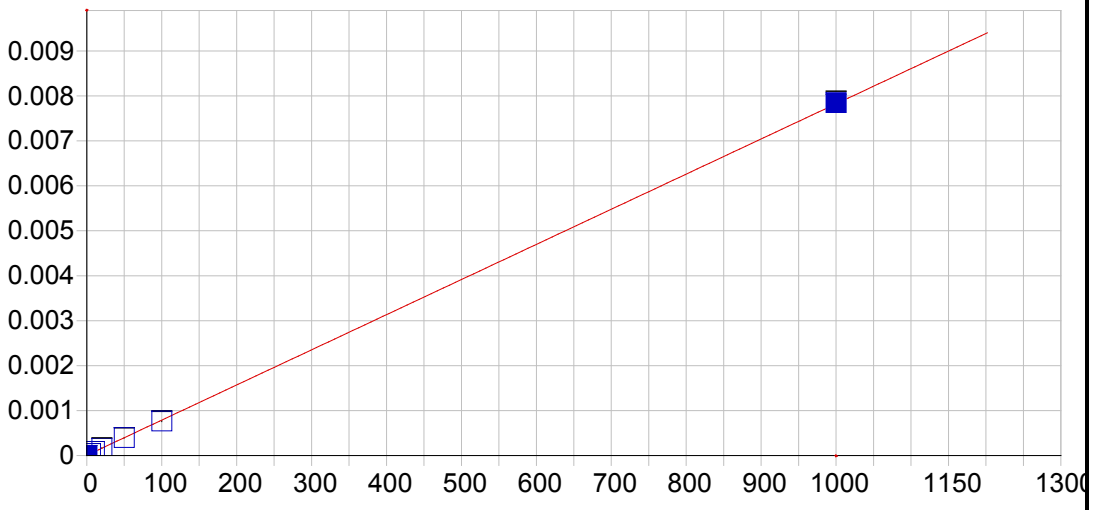



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.453504 | | |
| Predicted MQL: | 1.511678 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .08672 | .087 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.245 | .245 | .490 | .00051 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.545 | .545 | 2.73 | .00021 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.808 | .808 | 8.08 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.038 | -1.96 | -1.96 | .00100 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1125 | .113 | 2.25 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .164 | .016 | .01018 | .000 | 1 |

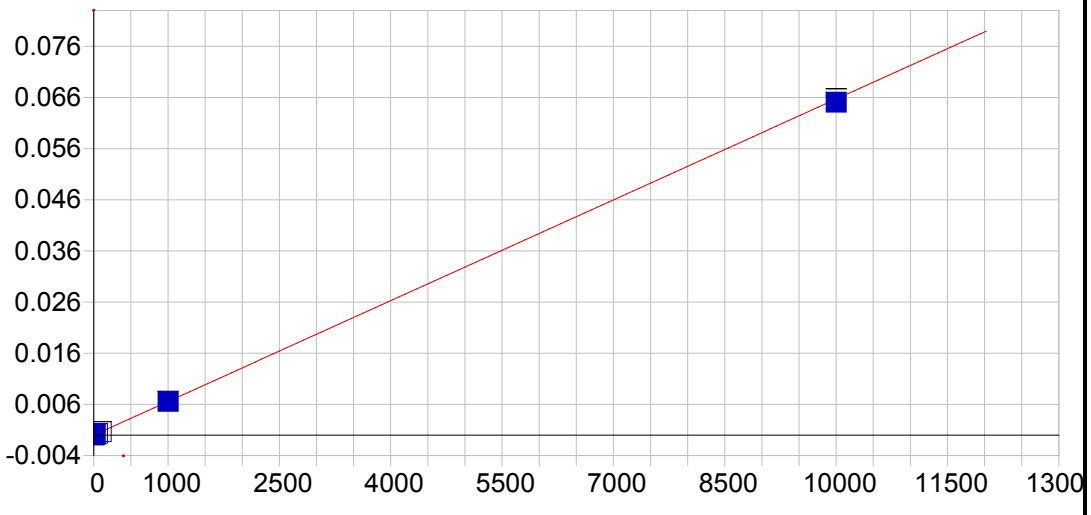



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999924 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.680879 | | |
| Predicted MQL: | 2.269597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .30913 | .309 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.858 | -.142 | -.283 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.434 | .434 | 2.17 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.840 | .840 | 8.40 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.290 | -2.71 | -2.71 | .00077 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6070 | -.393 | -7.86 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.9 | 2.87 | .287 | .00785 | .000 | 1 |

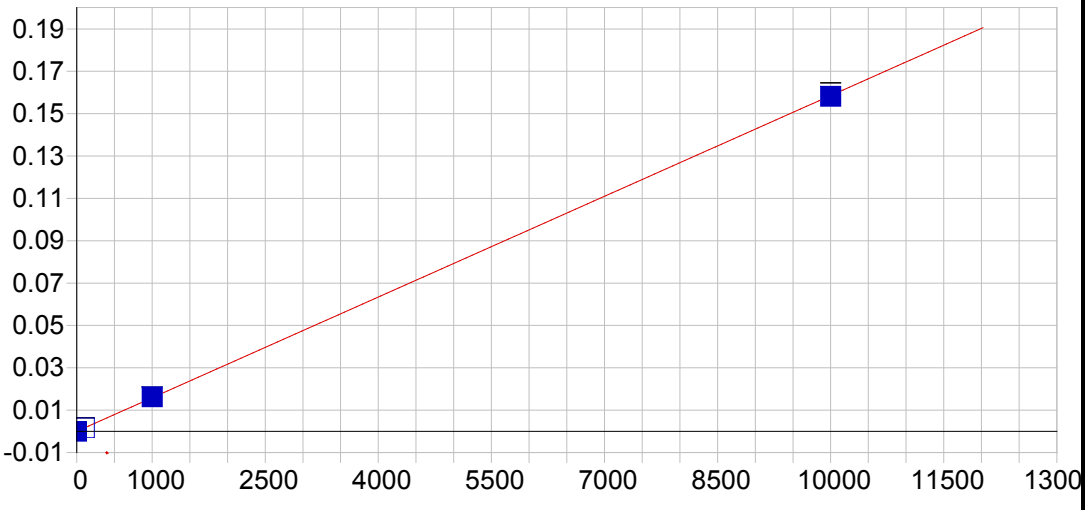



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.760285 | | |
| Predicted MQL: | 2.534282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00223 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.231 | .231 | .462 | .00032 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.053 | .053 | .267 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.198 | .198 | 1.98 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.592 | -1.41 | -1.41 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3724 | .372 | 7.45 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.86 | .186 | .00657 | .000 | 1 |
| CalStd10=10 | 10000. | 9904.7 | -95.3 | -.953 | .06506 | .001 | 1 |

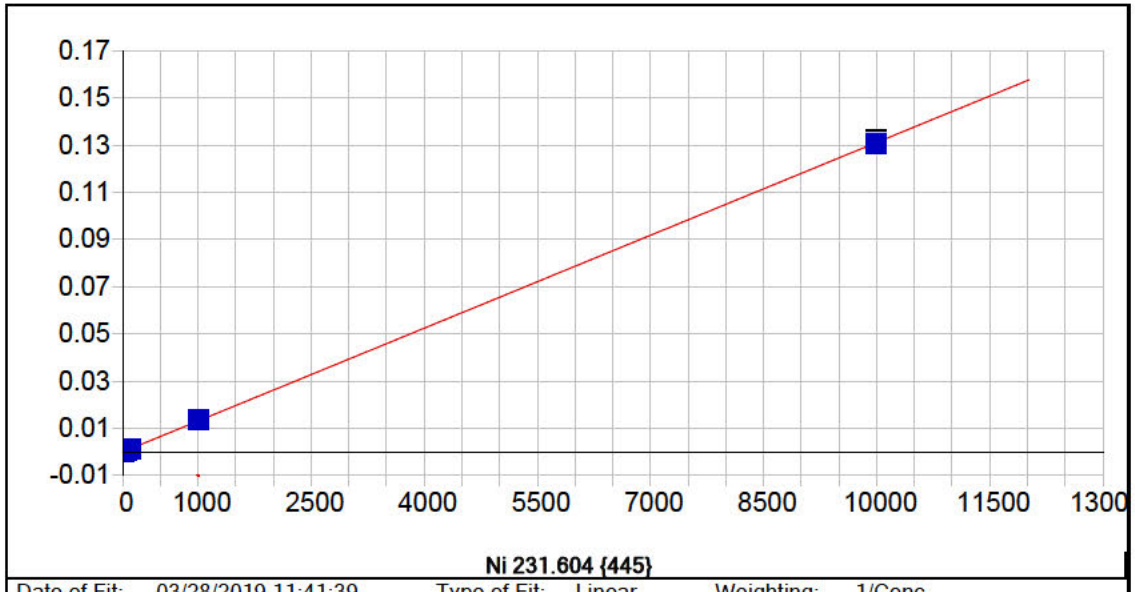



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.507544 | | |
| Predicted MQL: | 1.691812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00442 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9971.1 | -28.9 | -.289 | .15812 | .002 | 1 |
| CalStd8=100 | 100.00 | 102.02 | 2.02 | 2.02 | .00162 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.9 | 26.9 | 2.69 | .01628 | .000 | 1 |

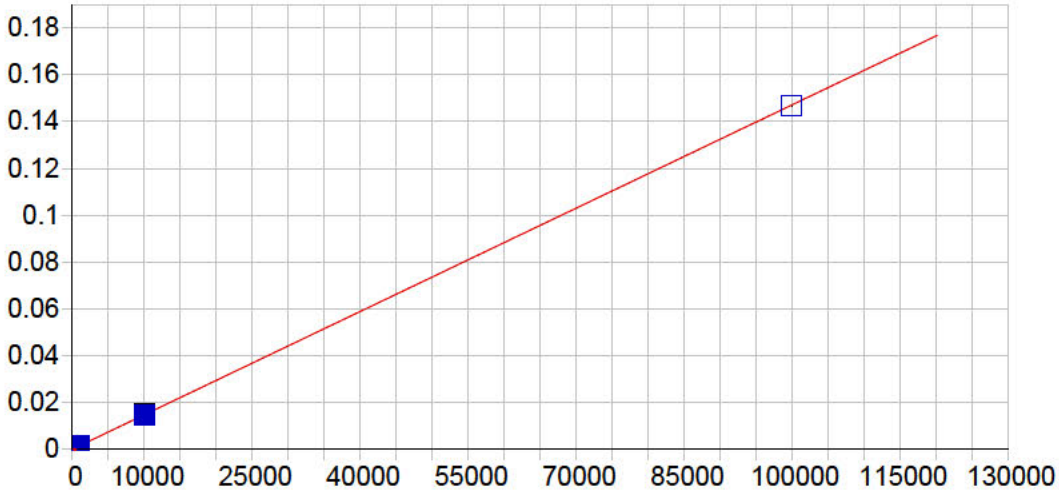



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000013 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999938 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.612264 | | |
| Predicted MQL: | 2.040882 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00044 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.020 | 2.02 | 4.04 | .00068 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.668 | .668 | 6.68 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.12 | 2.12 | 2.12 | .00133 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1976 | .198 | 3.95 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.8 | 31.8 | 3.18 | .01351 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2462 | .246 | 24.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.1 | -36.9 | -.369 | .13092 | .001 | 1 |

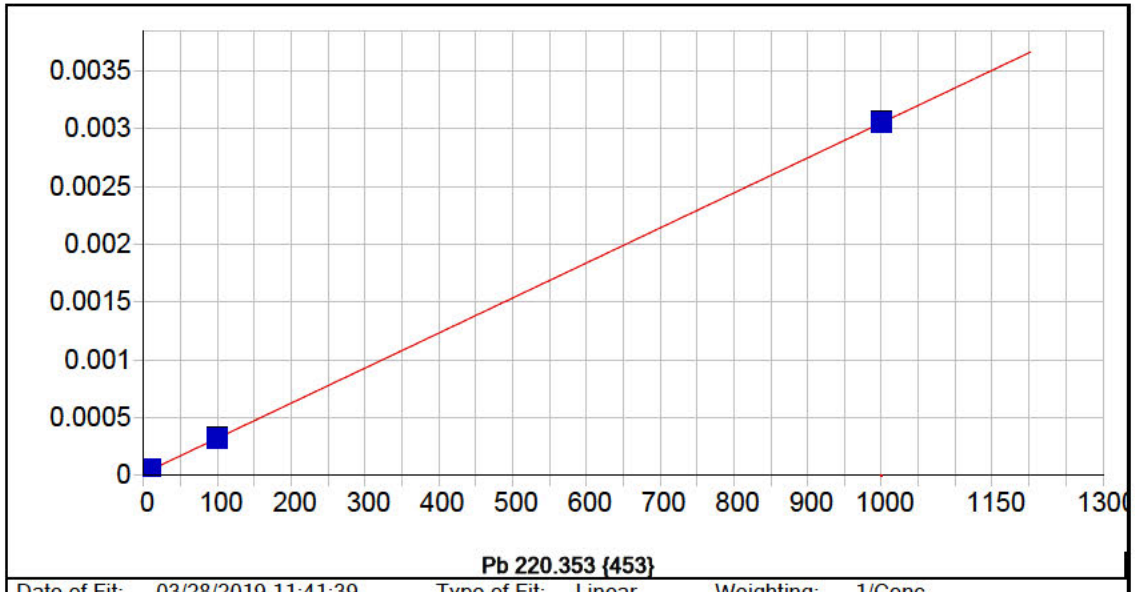



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 4.327813 | | |
| Predicted MQL: | 14.426043 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -4.6385 | -4.64 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00156 | .000 | 1 |
| CalStd10=10 | 10000. | 10072. | 71.8 | .718 | .01483 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.157 | -3.84 | -3.84 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.8459 | -2.15 | -21.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99840. | -160. | -.160 | .14684 | .000 | 1 |

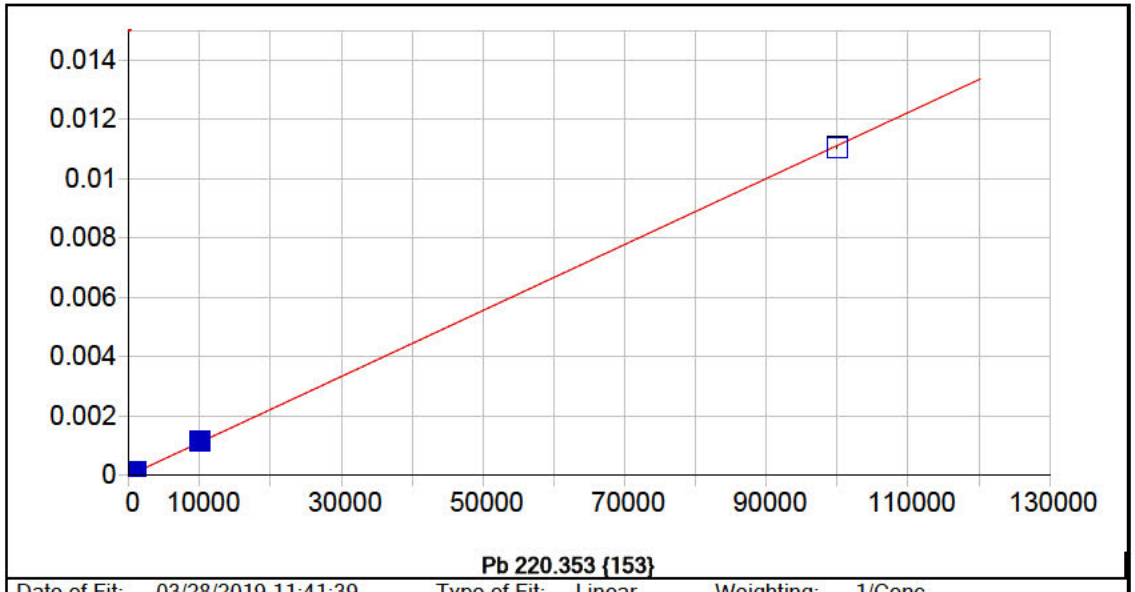



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999578 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.675086 | | |
| Predicted MQL: | 8.916954 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00155 | .002 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.994 | .994 | 9.94 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.06 | .065 | .065 | .00032 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.9481 | -2.05 | -41.0 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.0 | .993 | .099 | .00305 | .000 | 1 |

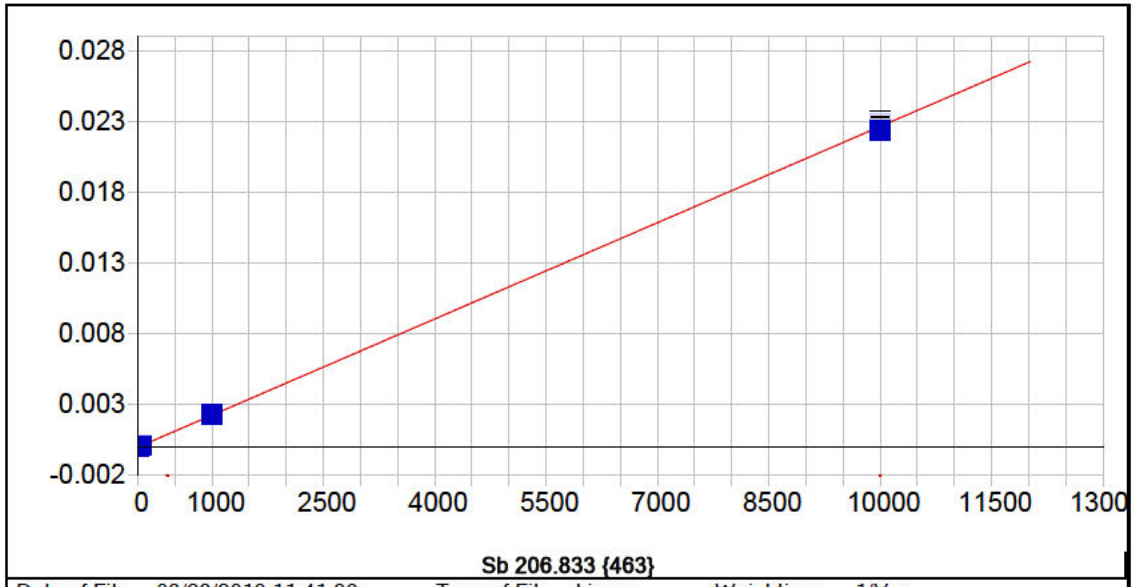



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999861 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.312659 | | |
| Predicted MQL: | 21.042198 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01350 | -.014 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1102.1 | 102. | 10.2 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 10421. | 421. | 4.21 | .00116 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.604 | -.396 | -.396 | .00001 | .000 | 1 |
| CalStd12=10 | 100000. | 99478. | -522. | -.522 | .01106 | .000 | 1 |

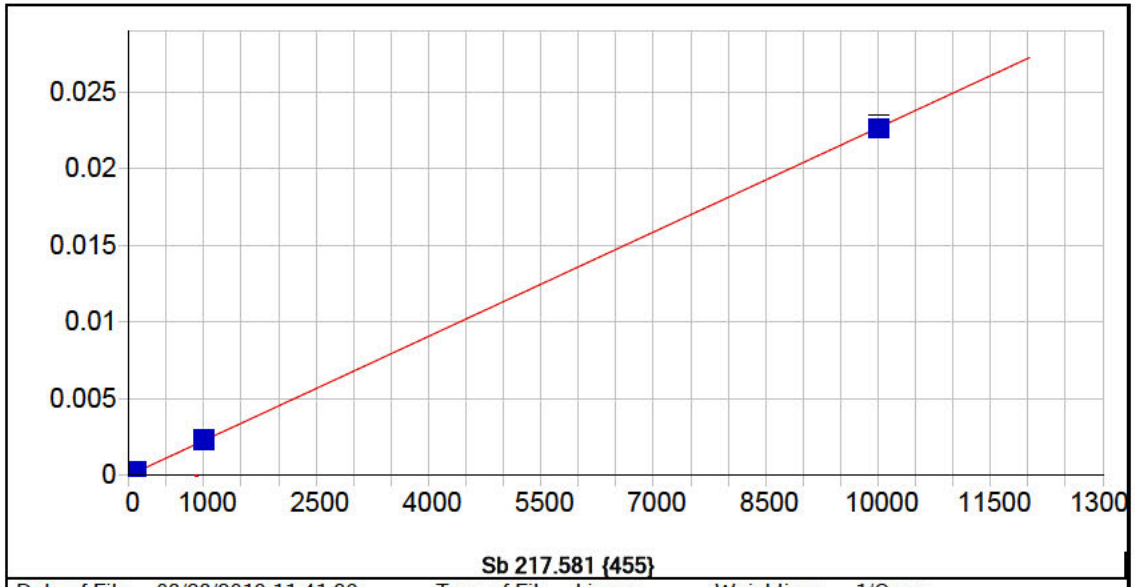



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999970 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.213644 | | |
| Predicted MQL: | 7.378813 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .56287 | .563 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.0 | 3.98 | .398 | .00231 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.640 | .640 | 6.40 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.912 | -1.09 | -2.18 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9883.0 | -117. | -1.17 | .02280 | .000 | 1 |

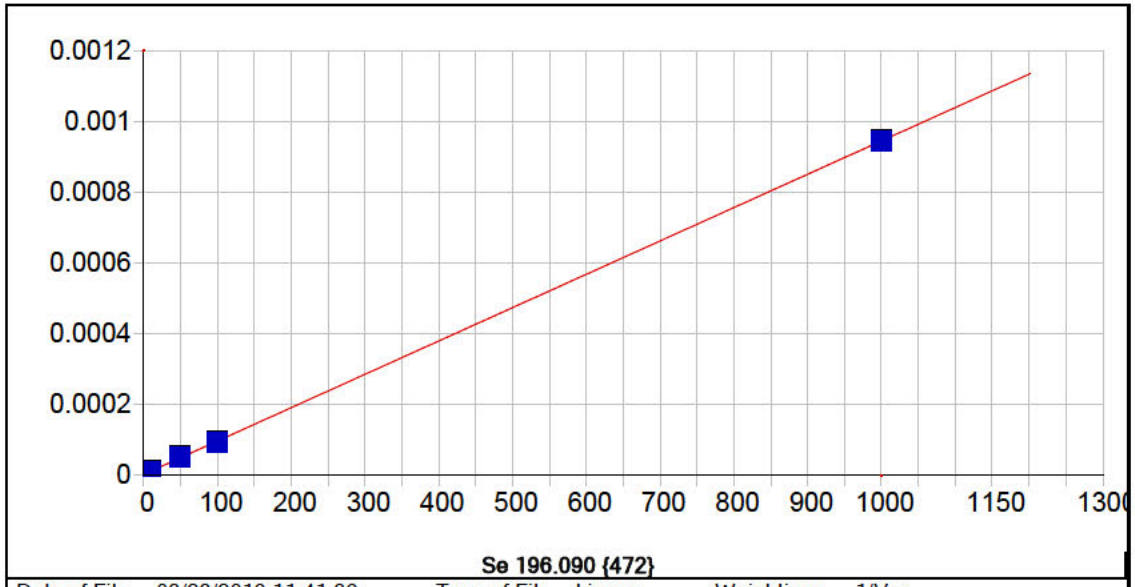



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.445582 | | |
| Predicted MQL: | 8.151939 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00025 | .000 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.9 | 17.9 | 1.79 | .00231 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.996 | -.004 | -.018 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7665 | -.234 | -2.34 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.580 | -.420 | -.420 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8072 | -.193 | -3.86 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02262 | .000 | 1 |

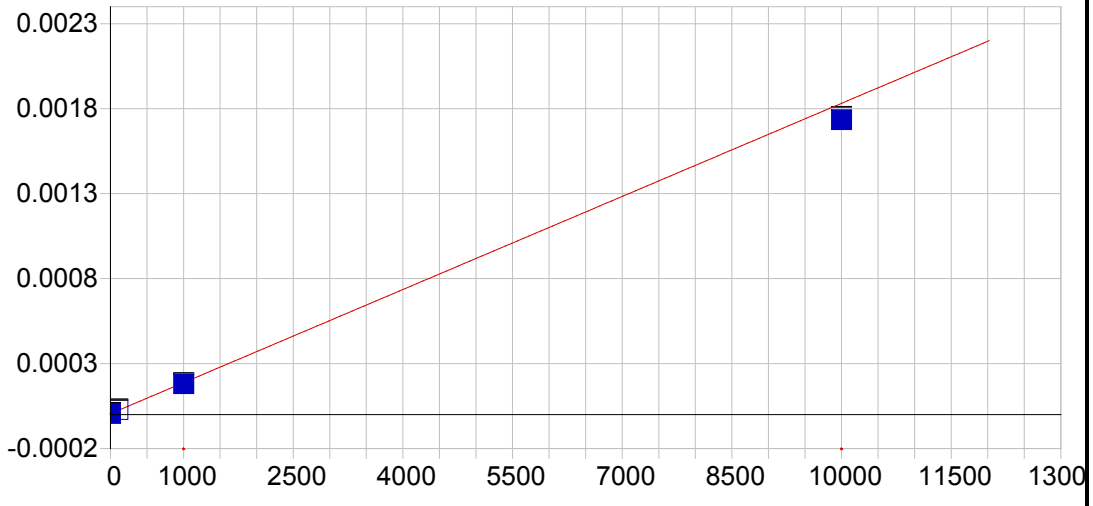



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999991 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 4.331611 | | |
| Predicted MQL: | 14.438705 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .18686 | .187 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.895 | 1.89 | 3.79 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .084 | .008 | .00095 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1473 | -.853 | -8.53 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.535 | -3.46 | -3.46 | .00009 | .000 | 1 |

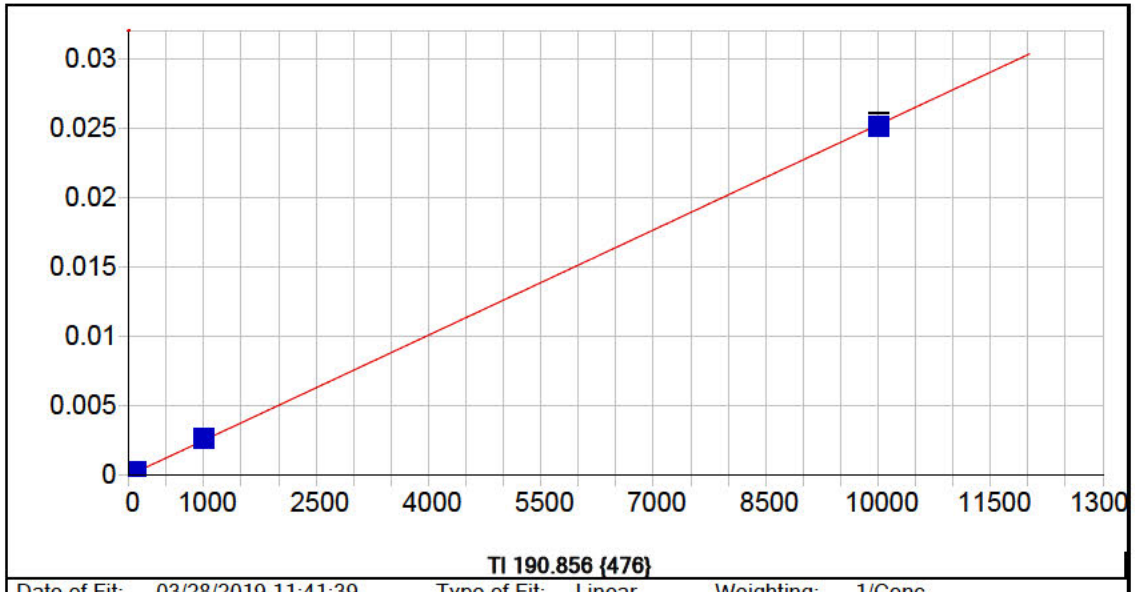



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999549 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 29.902014 | | |
| Predicted MQL: | 99.673379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02540 | -.025 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 963.37 | -36.6 | -3.66 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 9469.7 | -530. | -5.30 | .00174 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.45 | 28.4 | 28.4 | .00003 | .000 | 1 |

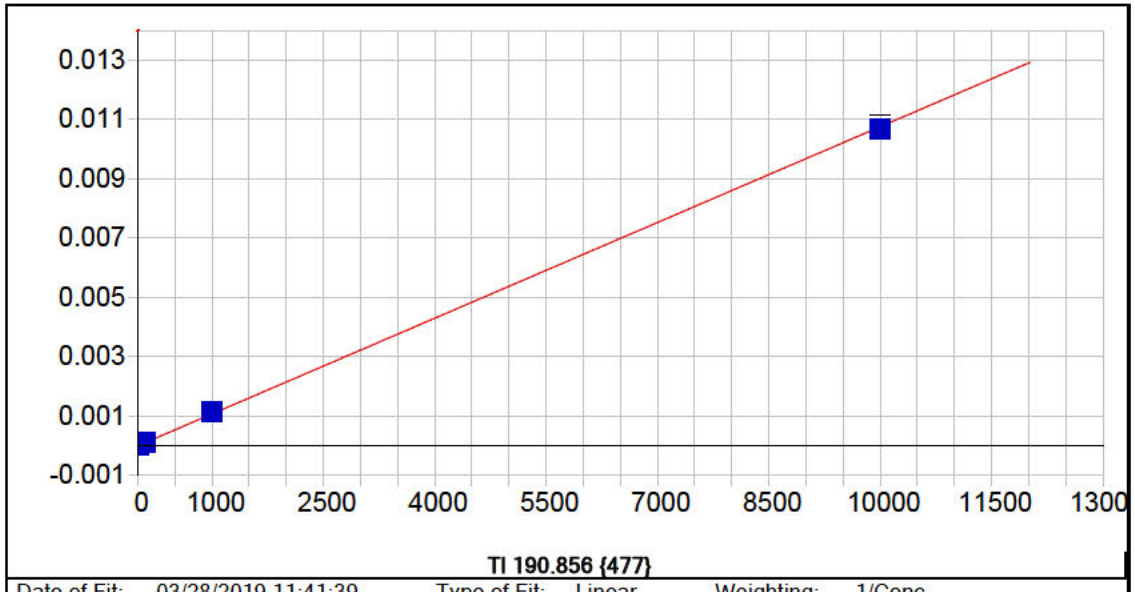



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999837 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.011652 | | |
| Predicted MQL: | 6.705506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00072 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1055.5 | 55.5 | 5.55 | .00267 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.41 | 4.41 | 4.41 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7800 | -.220 | -2.20 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9940.3 | -59.7 | -.597 | .02512 | .000 | 1 |

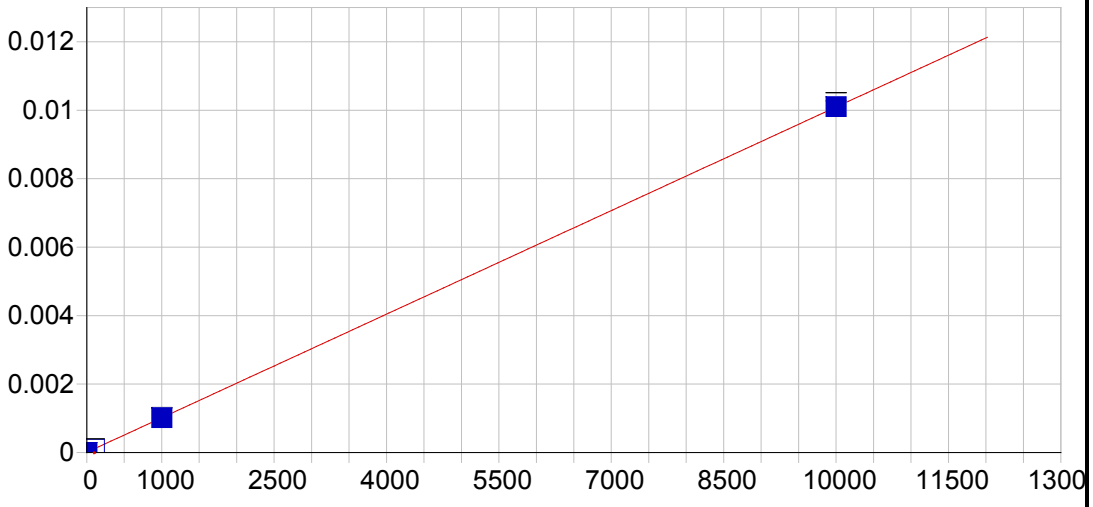



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999802 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 3.799136 | | |
| Predicted MQL: | 12.663787 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00031 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1059.3 | 59.3 | 5.93 | .00114 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.27 | 6.27 | 6.27 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1591 | -.841 | -8.41 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.3 | -64.7 | -.647 | .01069 | .000 | 1 |

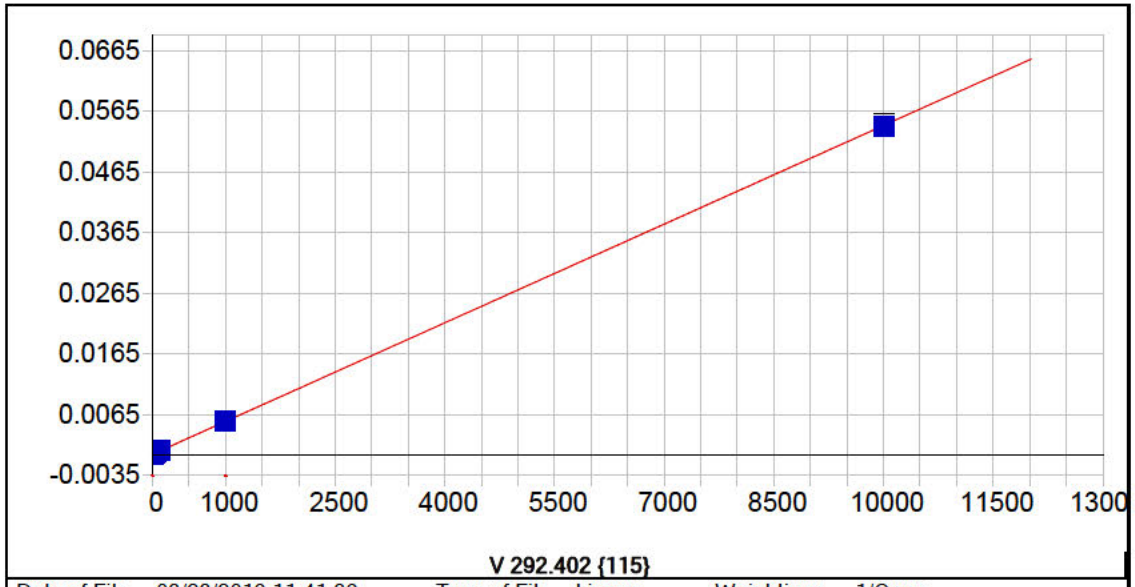



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.263664 | | |
| Predicted MQL: | 17.545548 | | |

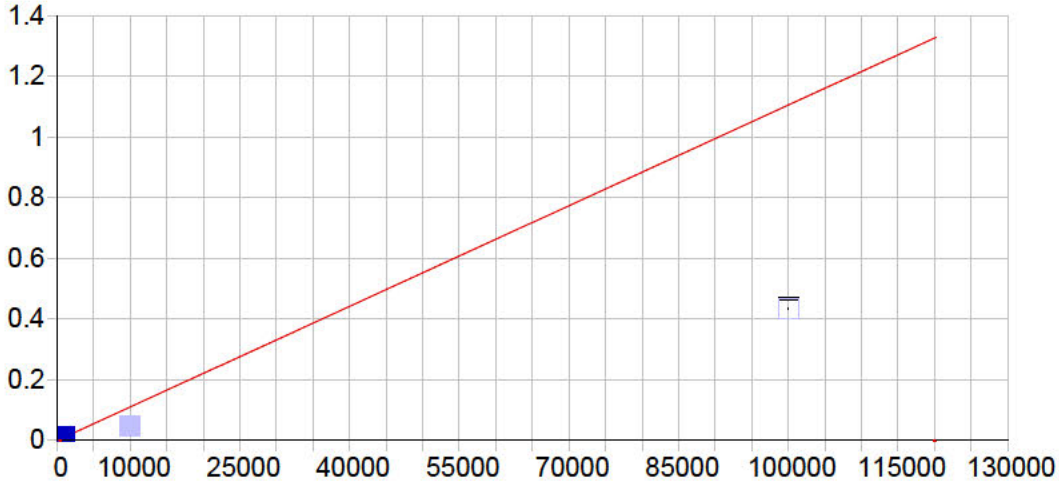
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00476 | .005 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.08 | -.918 | -.092 | .00102 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.64 | .056 | .01010 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.274 | -4.73 | -4.73 | .00010 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.533461 | | |
| Predicted MQL: | 1.778203 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00109 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.083 | .083 | .166 | .00027 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.1 | 22.1 | 2.21 | .00553 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.768 | .768 | 3.84 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.575 | .575 | 5.75 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.190 | -.810 | -.810 | .00054 | .000 | 1 |
| CalStd10=10 | 10000. | 9977.3 | -22.7 | -.227 | .05407 | .000 | 1 |

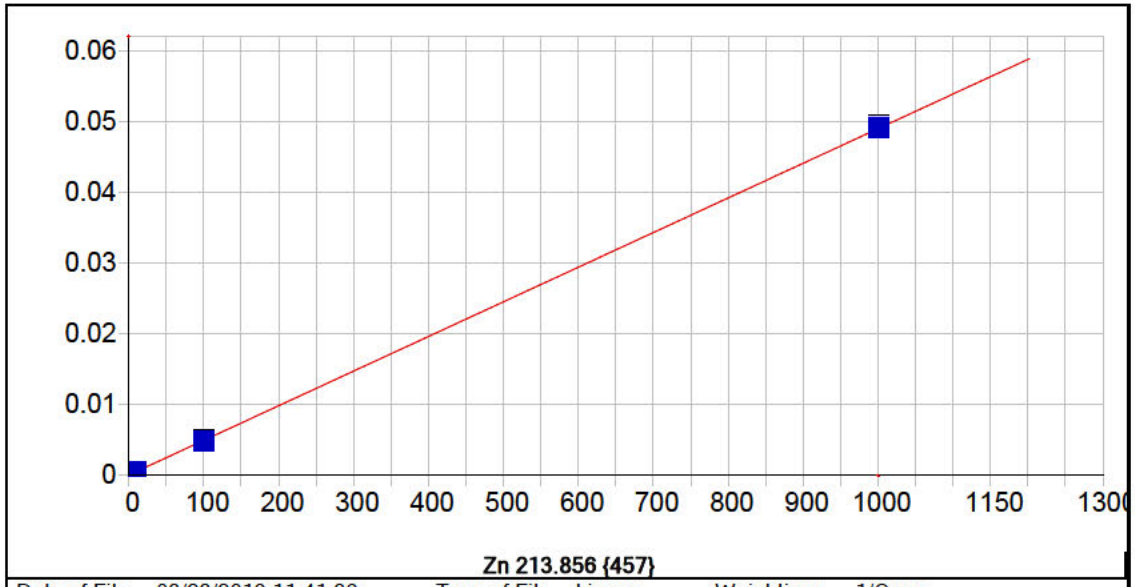



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999937 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.428823 | | |
| Predicted MQL: | 1.429411 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 4435.9 | -5560. | -55.6 | .04904 | .001 | 0 |
| Blank | .00000 | .55101 | .551 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.7 | 2.72 | .272 | .01109 | .000 | 1 |
| CalStd12=10 | 100000. | 39239. | -60800. | -60.8 | .43378 | .003 | 0 |
| CalStd5=10 | 10.000 | 9.7745 | -.226 | -2.26 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.503 | -1.50 | -1.50 | .00110 | .000 | 1 |

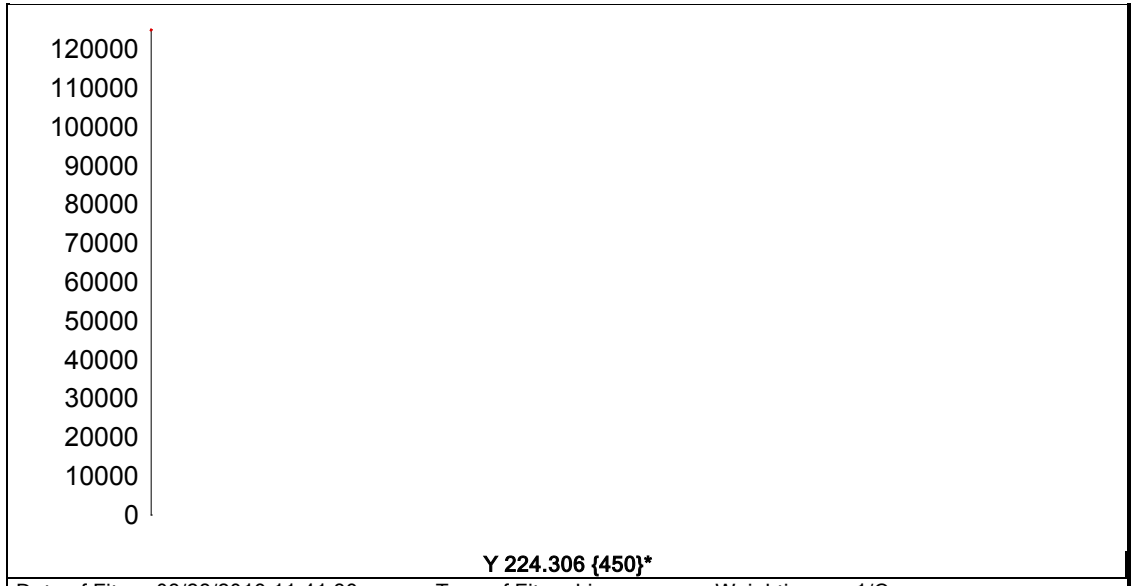



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000074 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000049 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.121214 | | |
| Predicted MQL: | 0.404046 | | |

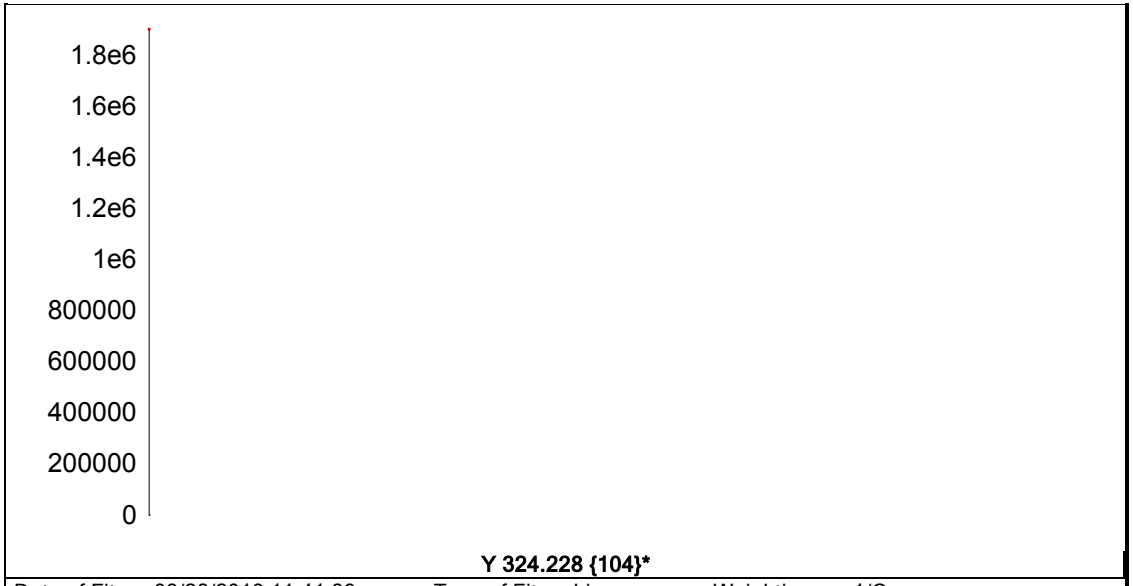
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00033 | .000 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.4 | 1.43 | .143 | .04937 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7747 | -.225 | -2.25 | .00055 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.793 | -1.21 | -1.21 | .00494 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

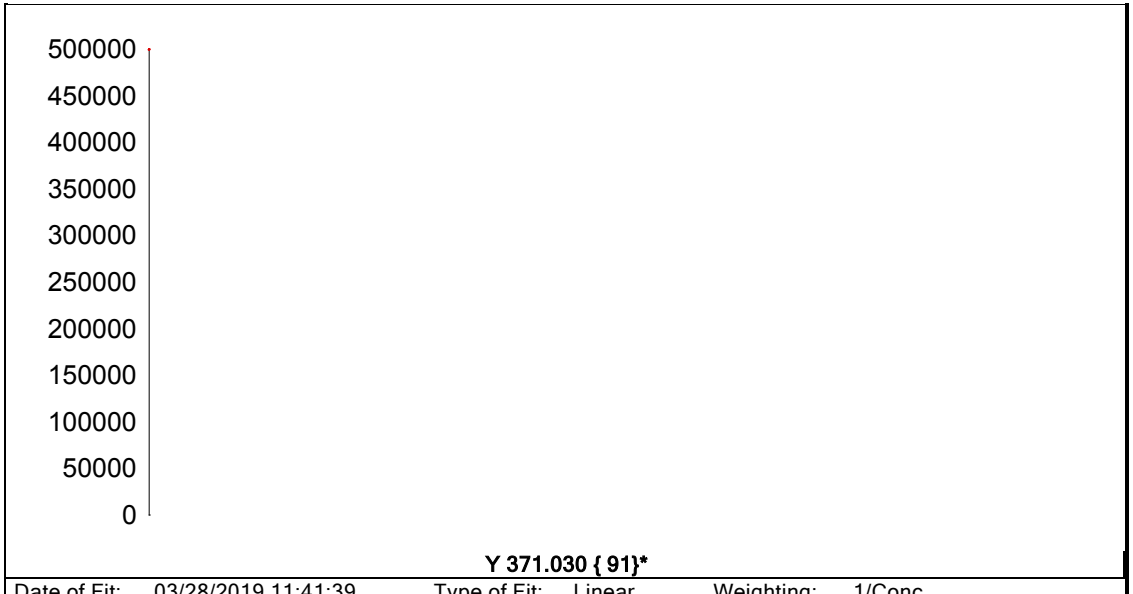
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 117530. | 172. | 1 |




**Y 324.228 {104}***

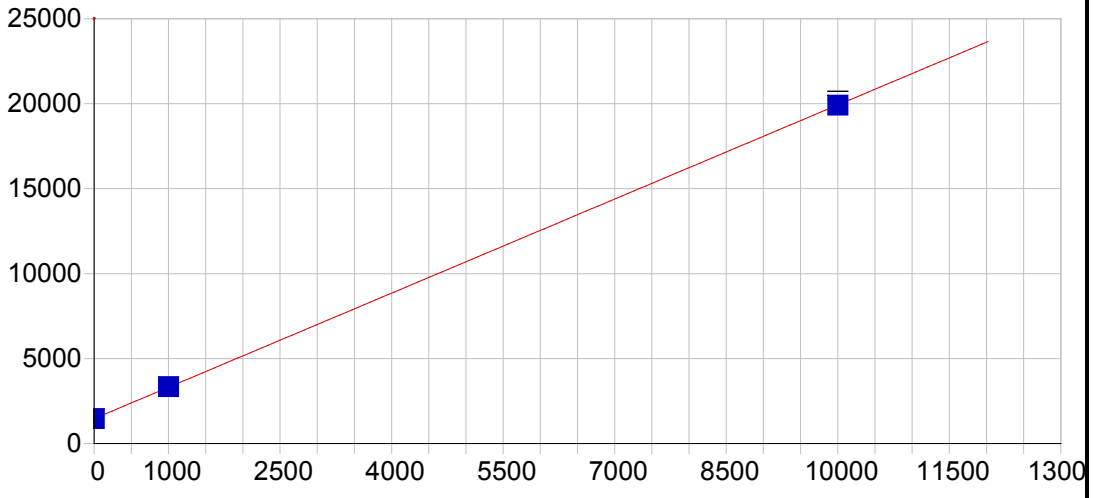
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1756200. | 6390. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 389380. | 6790. | 1 |

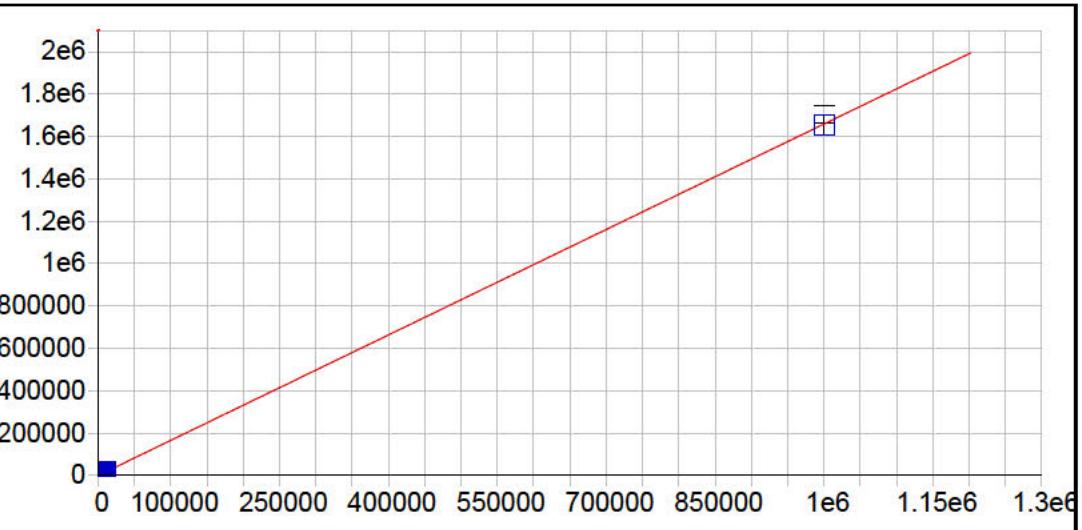



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1466.352802 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.846153 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999992 | Status: | OK. |
| Std Error of Est: | 1.335099 | | |
| Predicted MDL: | 8.280159 | | |
| Predicted MQL: | 27.600531 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01133 | -.011 | .000 | 1466.3 | 20.8 | 1 |
| CalStd9=100 | 1000.0 | 1012.6 | 12.6 | 1.26 | 3335.9 | 12.1 | 1 |
| CalStd10=10 | 10000. | 9987.4 | -12.6 | -.126 | 19907. | 237. | 1 |

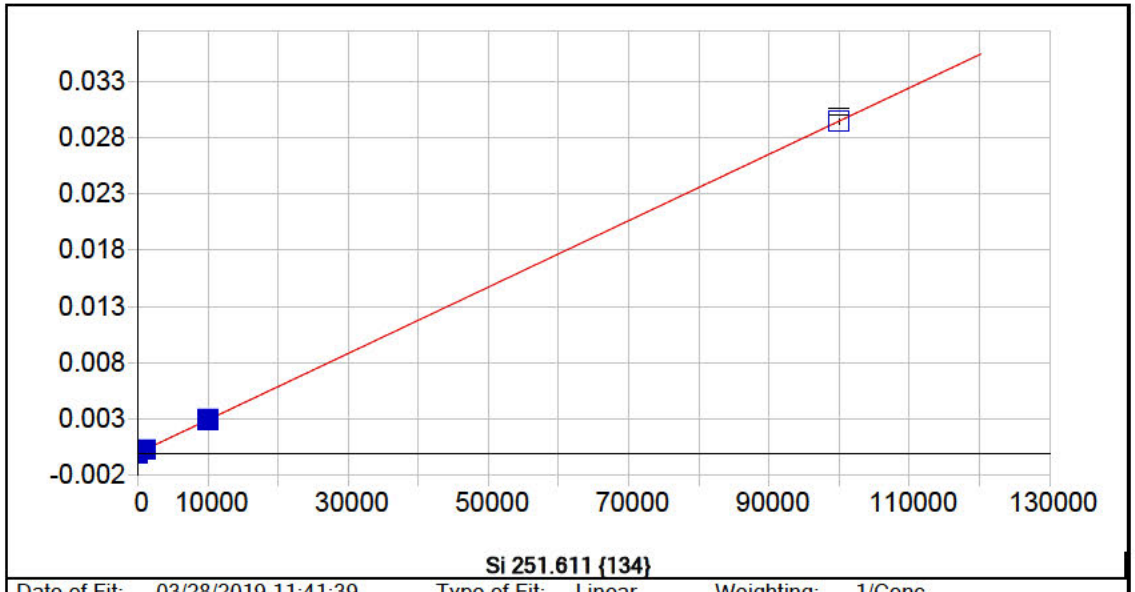



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 15.965891 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.658710 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999859 | Status: | OK. |
| Std Error of Est: | 39.640331 | | |
| Predicted MDL: | 6.993014 | | |
| Predicted MQL: | 23.310047 | | |

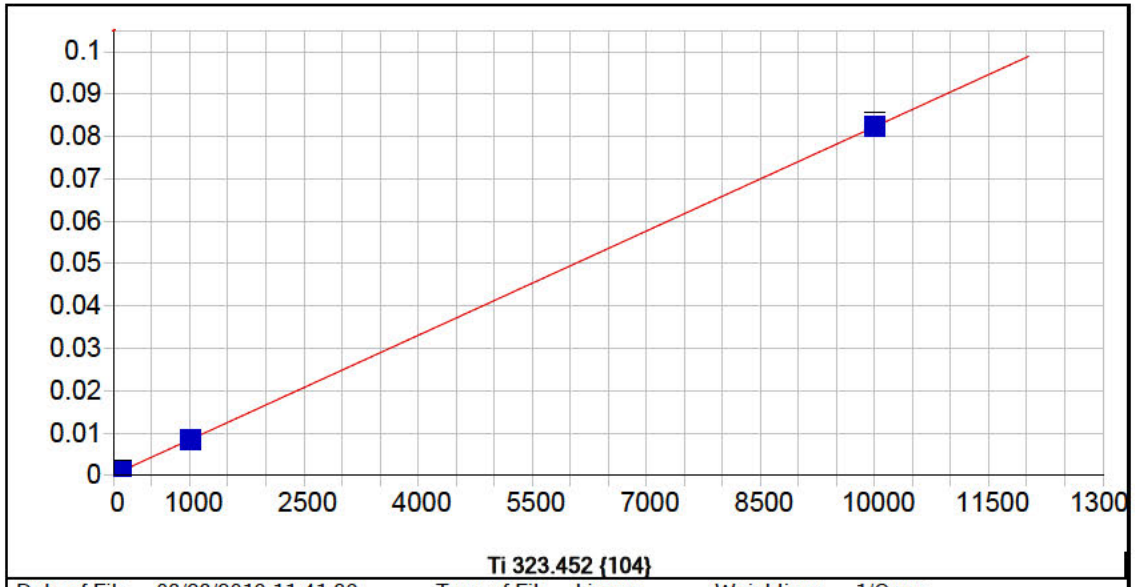
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.32429 | -.324 | .000 | 15.428 | 5.44 | 1 |
| CalStd9=100 | 1000.0 | 1166.4 | 166. | 16.6 | 1950.6 | 22.4 | 1 |
| CalStd10=10 | 10000. | 11597. | 1600. | 16.0 | 19252. | 274. | 1 |
| CalibStd15= | 1000000. | 998240. | -1760. | -.176 | 1655800. | 41300. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 12.704372 | | |
| Predicted MQL: | 42.347908 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00358 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 993.12 | -6.88 | -.688 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 10116. | 116. | 1.16 | .00309 | .000 | 1 |
| CalibStd15= | 100000. | 99887. | -113. | -.113 | .02943 | .000 | 1 |

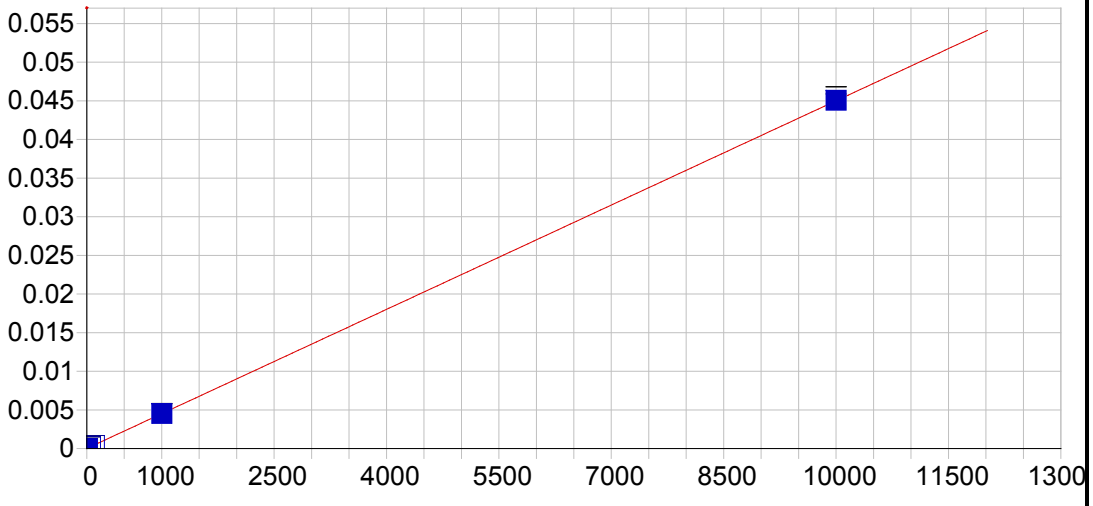



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000246 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.156231 | | |
| Predicted MQL: | 3.854104 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00017 | -.000 | .000 | .00025 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.960 | .960 | 9.60 | .00034 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.120 | -.880 | -.880 | .00106 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.27 | -3.73 | -.373 | .00842 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 4.50 | .045 | .08241 | .001 | 1 |
| CalStd7=50 | 50.000 | 49.325 | -.675 | -1.35 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8169 | -.183 | -3.66 | .00029 | .000 | 1 |

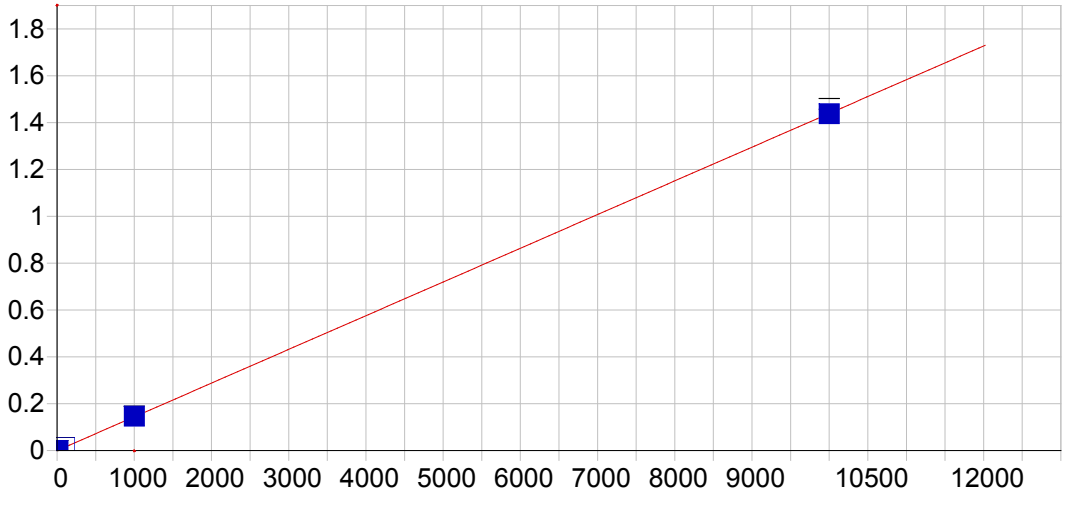



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999927 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.397375 | | |
| Predicted MQL: | 4.657917 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00313 | .003 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6500 | -.350 | -3.50 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.960 | -4.04 | -4.04 | .00044 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.5 | 1.46 | .146 | .00452 | .000 | 1 |
| CalStd10=10 | 10000. | 10009. | 9.39 | .094 | .04507 | .000 | 1 |
| CalStd7=50 | 50.000 | 45.891 | -4.11 | -8.22 | .00022 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.6456 | -2.35 | -47.1 | .00002 | .000 | 1 |

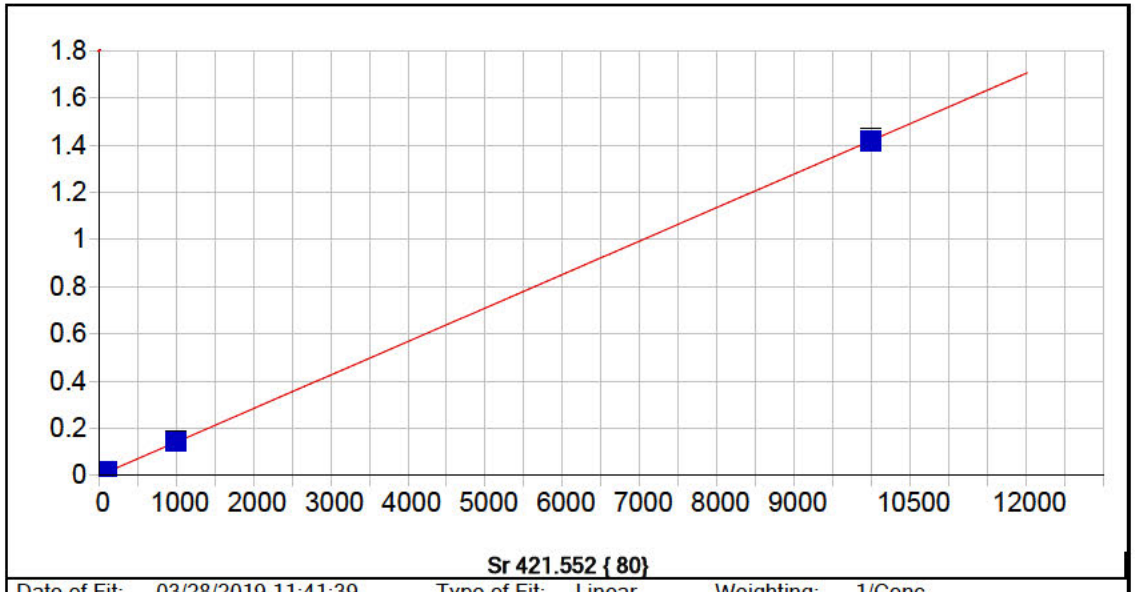



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000068 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000144 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999988 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.095269 | | |
| Predicted MQL: | 0.317563 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00010 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86557 | -.134 | -13.4 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8222 | -.178 | -3.56 | .00076 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.569 | .569 | 5.69 | .00159 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.29 | .289 | .289 | .01450 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.6 | 13.6 | 1.36 | .14599 | .001 | 1 |
| CalStd10=10 | 10000. | 9985.8 | -14.2 | -.142 | 1.4376 | .023 | 1 |

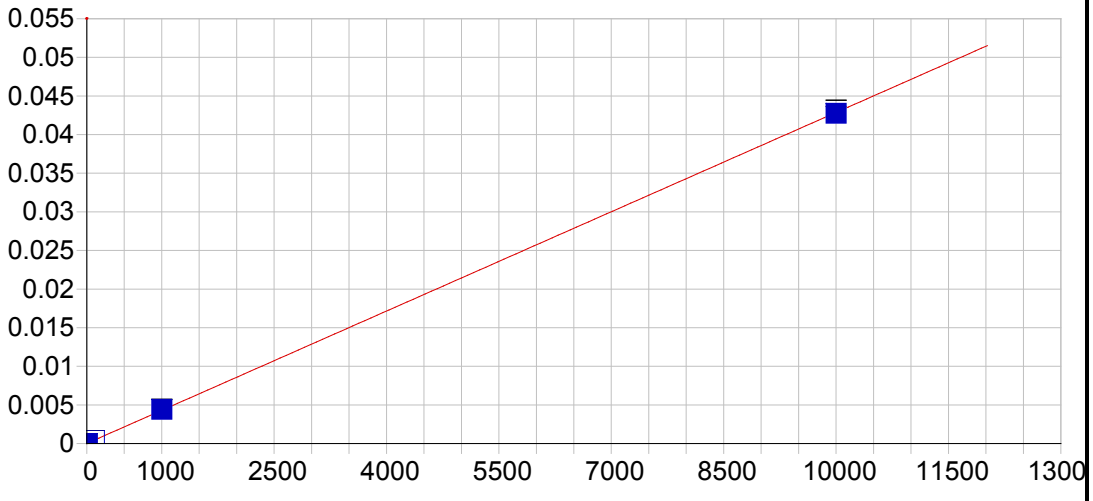



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000142 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.097095 | | |
| Predicted MQL: | 0.323651 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00008 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .88134 | -.119 | -11.9 | .00013 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8463 | -.154 | -3.07 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.665 | .665 | 6.65 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.820 | -.180 | -.180 | .01418 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.7 | 7.75 | .775 | .14304 | .001 | 1 |
| CalStd10=10 | 10000. | 9992.0 | -7.96 | -.080 | 1.4182 | .009 | 1 |

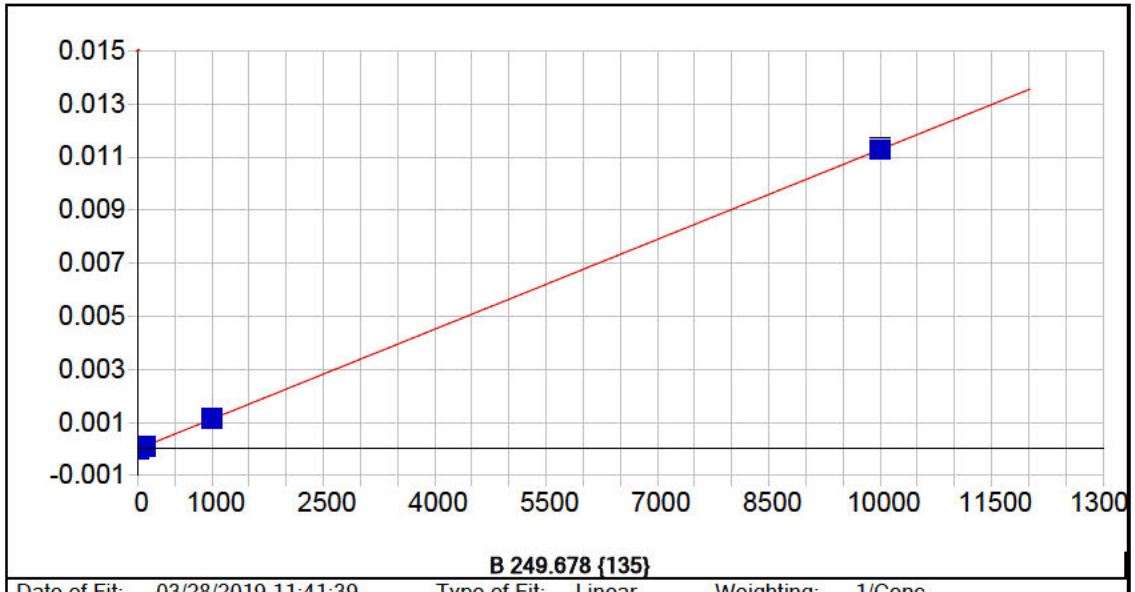



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999958 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.976813 | | |
| Predicted MQL: | 3.256043 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00095 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9970.9 | -29.1 | -.291 | .04274 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.2 | 28.2 | 2.82 | .00442 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.29 | .292 | .292 | .00044 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.664 | .664 | 6.64 | .00006 | .000 | 1 |

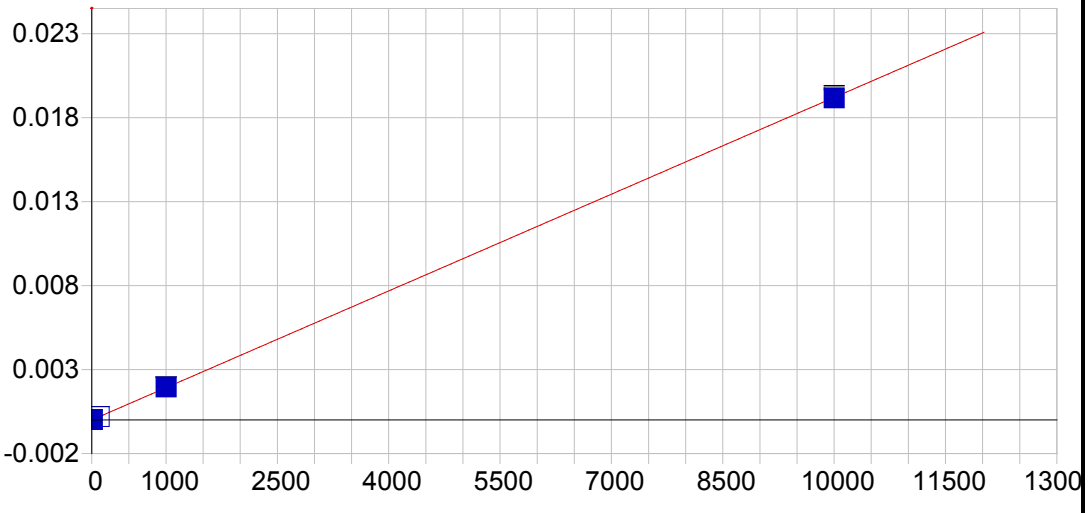



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.233406 | | |
| Predicted MQL: | 4.111353 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00124 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.699 | -1.30 | -1.30 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.268 | 1.27 | 12.7 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.8 | 11.8 | 1.18 | .00115 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.3 | -11.7 | -.117 | .01131 | .000 | 1 |

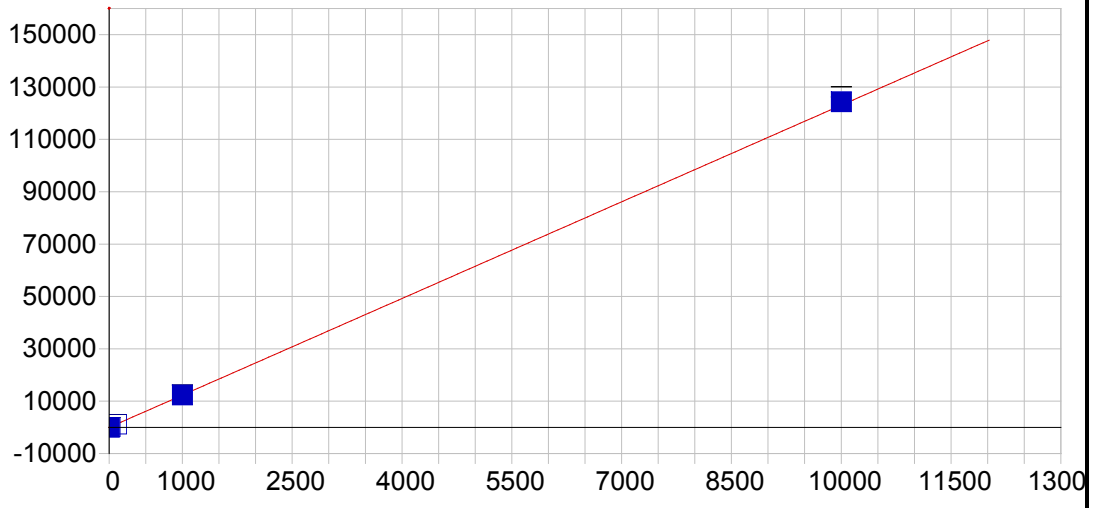



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.714026 | | |
| Predicted MQL: | 2.380086 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00062 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.980 | -1.02 | -1.02 | .00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.564 | .564 | 5.64 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.7 | 17.7 | 1.77 | .00196 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.7 | -17.3 | -.173 | .01919 | .000 | 1 |

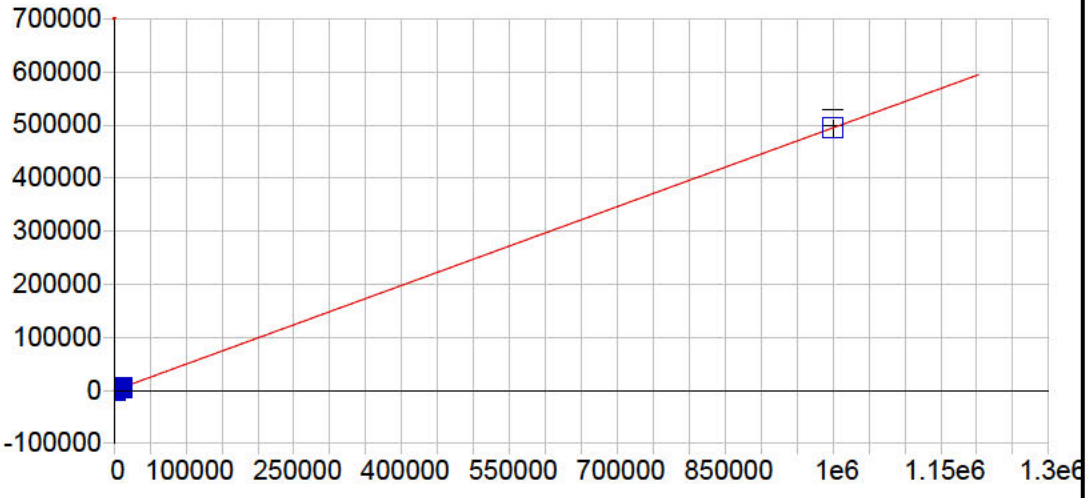



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.482657 | Re-Slope: | 1.000000 |
| A1 (Gain): | 12.306432 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999832 | Status: | OK. |
| Std Error of Est: | 7.158606 | | |
| Predicted MDL: | 0.980802 | | |
| Predicted MQL: | 3.269340 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.0390 | -1.04 | .000 | -13.269 | 7.57 | 1 |
| CalStd5=10 | 10.000 | 10.168 | .168 | 1.68 | 124.65 | 2.62 | 1 |
| CalStd8=100 | 100.00 | 98.780 | -1.22 | -1.22 | 1215.1 | 13.7 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.21 | .421 | 12358. | 177. | 1 |
| CalStd10=10 | 10000. | 10102. | 102. | 1.02 | 124320. | 1950. | 1 |

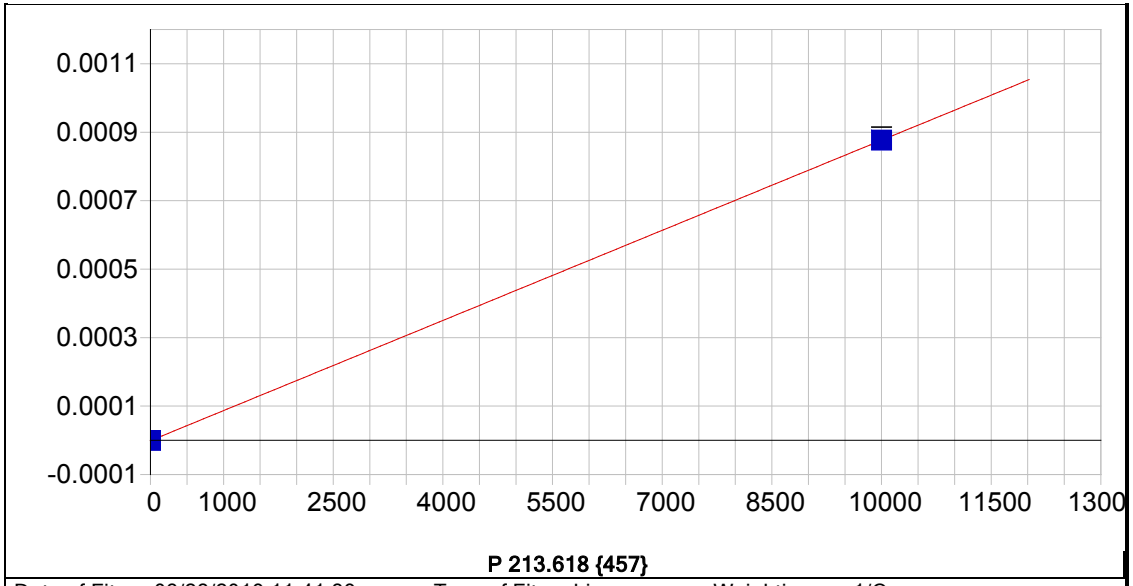



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 15.361257 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.494566 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999885 | Status: | OK. |
| Std Error of Est: | 10.656777 | | |
| Predicted MDL: | 30.088446 | | |
| Predicted MQL: | 100.294821 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.28769 | -.288 | .000 | 15.219 | 17.8 | 1 |
| CalStd9=100 | 1000.0 | 1144.8 | 145. | 14.5 | 581.24 | 13.6 | 1 |
| CalStd10=10 | 10000. | 11445. | 1450. | 14.5 | 5673.0 | 77.7 | 1 |
| CalibStd15= | 1000000. | 998410. | -1590. | -.159 | 493800. | 15200. | 1 |

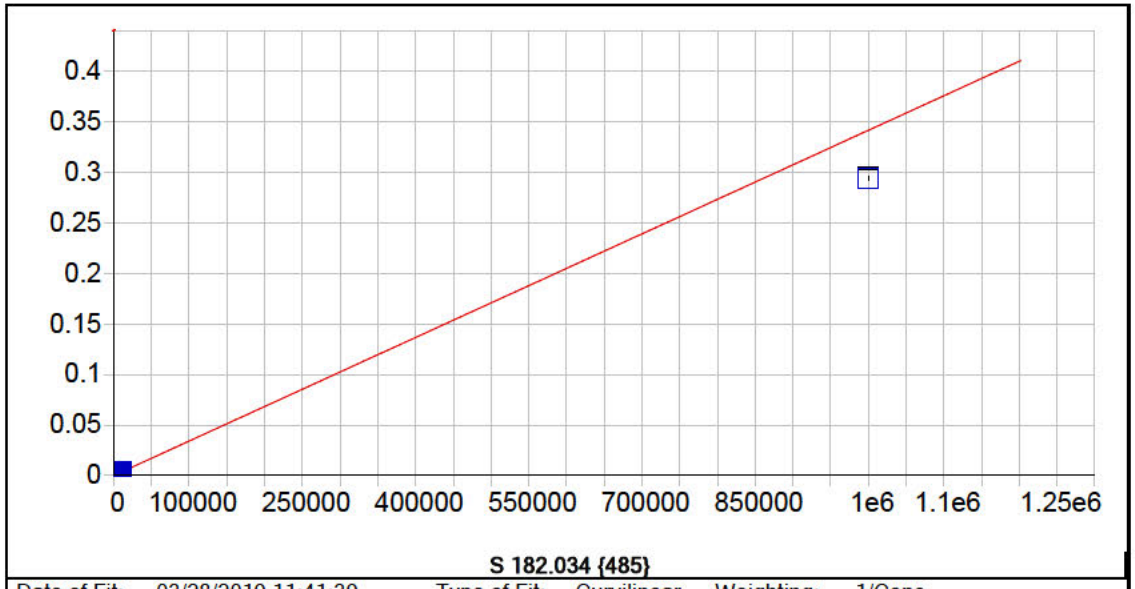



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.242773 | | |
| Predicted MQL: | 14.142575 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00088 | .000 | 1 |

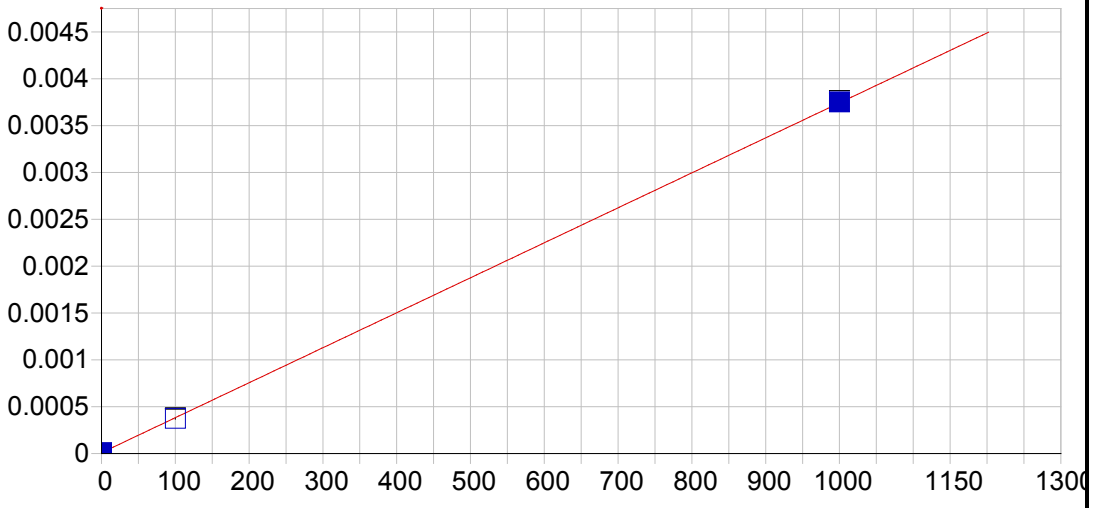



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.739899 | | |
| Predicted MQL: | 32.466330 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00371 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.0 | 3.99 | .399 | .00035 | .000 | 1 |
| CalStd10=10 | 10000. | 9981.9 | -18.1 | -.181 | .00342 | .000 | 1 |
| CalibStd15= | 1000000. | 860810. | -139000. | -13.9 | .29380 | .002 | 1 |

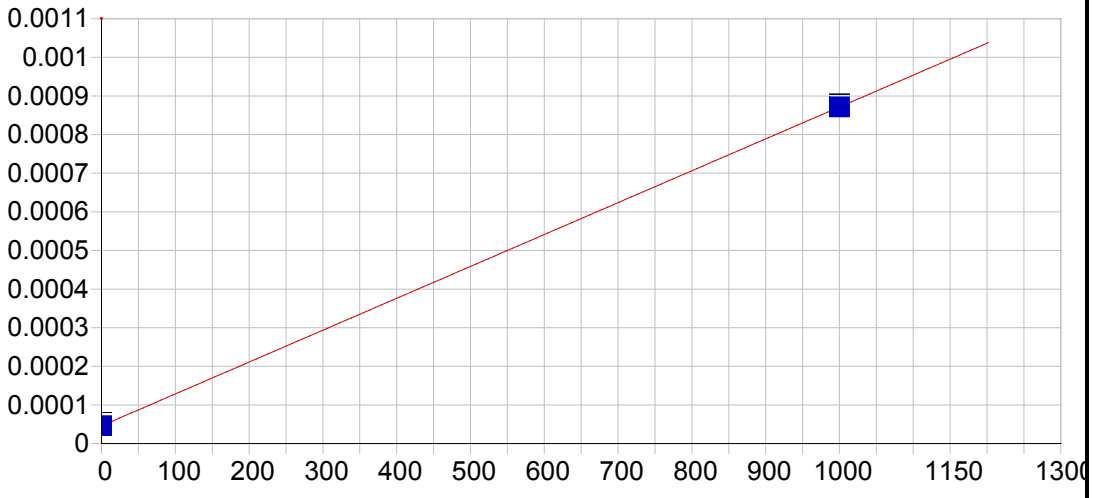



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.061031 | | |
| Predicted MQL: | 3.536771 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00215 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.616 | -2.38 | -2.38 | .00037 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.4 | 2.38 | .238 | .00375 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 03/28/2019 11:41:39 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000046 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 16.710129 | | |
| Predicted MQL: | 55.700431 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00087 | .000 | 1 |

Sample Name: Blank Acquired: 03/27/2019 11:52:09 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.423** | **-.000** | **.000** | **3510.** | **.000** | **-.000** | **.000** | **.001** | **-.000** |
| Stddev | .000 | .000 | .000 | .370 | .000 | .000 | 17. | .000 | .000 | .000 | .000 | .000 |
| %RSD | 26.5 | 8.40 | 35.3 | 87.5 | 70.4 | 131. | .490 | 11.5 | 1040. | 8.51 | 1.69 | 91.5 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **76.2** | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.3 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 9.72 | 68.2 | 99.6 | 502. | 90.3 | 1.67 | 10.6 | 1.14 | 43.1 | 15.1 | 225. | .881 |

| Elem | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 465. | 224. | 6.61 | 370. | 109. | 59.9 | 34.5 | 212. | 80.2 | 37.9 | 124. | 45.8 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **-.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 76.8 | 251. | 21.1 | 4.45 | 416. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117530.** | **1756200.** | **389380.** |
| Stddev | 172. | 6393. | 6793. |
| %RSD | .14599 | .36403 | 1.7446 |

Sample Name: CalStd2=0.5 Acquired: 03/27/2019 11:58:29 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 6.63 | 51.9 | 18.2 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **117550.** | **1747000.** |
| Stddev | 258. | 5769. |
| %RSD | .21927 | .33024 |

Sample Name: CalStd3=1 Acquired: 03/27/2019 12:04:45 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 20.9 | 26.4 | 6.88 | 17.0 | 10.1 | 8.32 | 36.1 | 84.7 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117030.** | **1751300.** | **389030.** |
| Stddev | 235. | 14027. | 2777. |
| %RSD | .20042 | .80094 | .71371 |

Sample Name: CalStd4=5 Acquired: 03/27/2019 12:11:03 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.01 | 1.01 | 3.97 | 1.74 | 3.54 | 3.19 | 8.66 | 13.5 | 1.56 | 8.41 | 11.6 | 9.48 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 27.4 | 36.7 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117050.** | **1745900.** | **393800.** |
| Stddev | 555. | 1262. | 2712. |
| %RSD | .47410 | .07225 | .68864 |

Sample Name: CalStd5=10 Acquired: 03/27/2019 12:17:19 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.09** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **96.3** |
| Stddev | .000 | .000 | .41 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1.5 |
| %RSD | 5.34 | 4.61 | 37.6 | 74.0 | 5.16 | 1.71 | .595 | 1.19 | .716 | .857 | 2.33 | 1.59 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 15.2 | 1.10 | 1.79 | 7.29 | 6.08 | 6.87 | 12.7 | 28.3 | 6.82 | 17.1 | 10.2 | 6.08 |

| Elem | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.63 | 1.04 | 6.60 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117190.** | **1739100.** | **390340.** |
| Stddev | 113. | 13365. | 5628. |
| %RSD | .09610 | .76852 | 1.4419 |

Sample Name: CalStd6=20 Acquired: 03/27/2019 12:23:37 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **107.** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 2. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.64 | 1.68 | 5.97 | .354 | 1.86 | 2.20 | 1.16 | 1.06 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **116810.** | **1731300.** | **392020.** |
| Stddev | 297. | 4755. | 4768. |
| %RSD | .25424 | .27466 | 1.2161 |

Sample Name: CalStd7=50 Acquired: 03/27/2019 12:29:46 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **5.55** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **147.** | **.000** | **.000** | **.001** |
| Stddev | .51 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 4. | .000 | .000 | .000 |
| %RSD | 9.24 | 12.8 | 2.39 | .769 | .583 | .826 | .938 | 1.78 | 2.89 | 5.69 | .139 | .889 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.89 | 1.61 | 2.55 | 5.22 | .730 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **116800.** | **1739000.** | **393780.** |
| Stddev | 496. | 6371. | 2768. |
| %RSD | .42489 | .36637 | .70298 |

Sample Name: CalStd8=100 Acquired: 03/27/2019 12:35:55 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **10.6** | **.000** | **.001** | **5710.** | **.002** | **.000** | **.014** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .2 | .000 | .000 | 9. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .729 | 1.14 | 2.24 | 7.24 | 1.08 | .153 | 1.32 | 1.37 | 1.86 | 1.12 | 1.31 | 1.04 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **216.** | **.000** | **.003** | **.001** | **.001** | **.001** | **.002** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 2. | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.32 | .780 | .989 | .963 | 6.85 | 1.19 | 1.17 | 1.01 | .785 | 1.30 | 1.92 | 2.78 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.001** | **.005** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.27 | 3.08 | 4.78 | 13.0 | 2.64 | 5.63 | 1.58 | 1.35 | .963 | .880 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **116580.** | **1739400.** | **388730.** |
| Stddev | 538. | 17663. | 4914. |
| %RSD | .46177 | 1.0155 | 1.2641 |

Sample Name: CalStd9=1000 Acquired: 03/27/2019 12:42:03 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **111.** | **.001** | **.011** | **25600.** | **.017** | **.003** | **.000** | **.131** | **.027** |
| Stddev | .000 | .000 | 1. | .000 | .000 | 200. | .000 | .000 | .000 | .000 | .000 |
| %RSD | .531 | .757 | .654 | .960 | .341 | .781 | .917 | .726 | 1.14 | .230 | .245 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.049** | **.025** | **.002** | **.017** | **.002** | **1430.** | **.000** | **.001** | **.000** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 18. | .000 | .000 | .000 | .000 | .000 |
| %RSD | .353 | .428 | .720 | .446 | 1.43 | 1.23 | 1.37 | 1.29 | 1.54 | .653 | 3.84 |

| Elem | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.027** | **.009** | **.010** | **.007** | **.016** | **.014** | **.002** | **.003** | **.002** | **.002** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .935 | .930 | .378 | .250 | .493 | .385 | .475 | .495 | .431 | .472 | .383 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.003** | **.001** | **.006** | **.011** | **.049** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.48 | .477 | .764 | .968 | .408 | .379 | 1.27 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **116270.** | **1717900.** | **390870.** |
| Stddev | 265. | 6096. | 1932. |
| %RSD | .22764 | .35486 | .49432 |

Sample Name: CalStd10=10000 Acquired: 03/27/2019 12:47:46 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.007** | **219000.** | **.004** | **1.28** | **.242** | **.018** | **.162** | **.016** | **13400.** |
| Stddev | .000 | .000 | 3840. | .000 | .02 | .003 | .000 | .002 | .000 | 119. |
| %RSD | 1.32 | .939 | 1.75 | .947 | 1.34 | 1.09 | .737 | 1.05 | .750 | .886 |

| Elem | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.005** | **.004** | **.014** | **.001** | **.248** | **.084** | **.065** | **.158** | **.131** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .002 | .001 | .001 | .002 | .001 |
| %RSD | 1.04 | .644 | .821 | .925 | .820 | .728 | .665 | 1.05 | 1.05 | 1.03 |

| Elem | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.015** | **.023** | **.023** | **.002** | **.025** | **.010** | **.054** | ***** | **.019** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | ----- | .000 |
| %RSD | 1.19 | .823 | .919 | .924 | 1.08 | 1.18 | .703 | ----- | .633 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113660.** | **1681400.** | **387300.** |
| Stddev | 529. | 9821. | 2445. |
| %RSD | .46515 | .58412 | .63117 |

Sample Name: CalStd12=100K  Acquired: 03/27/2019 12:54:17  Type: Cal
Method: DOD Calibration Updated 060614(v3279)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.39** | **126000.** | **.041** | **.147** | ***** |
| Stddev | .00 | 1150. | .000 | .000 | ----- |
| %RSD | .161 | .911 | .978 | .097 | ----- |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113900.** | **1713800.** | **382500.** |
| Stddev | 236. | 2044. | 7098. |
| %RSD | .20747 | .11925 | 1.8557 |

Sample Name: CalStd13=100000 Acquired: 03/27/2019 13:00:35 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.109** | **.034** | **.042** | **.034** | **.126** | **.005** |
| Stddev | .003 | .001 | .000 | .001 | .004 | .000 |
| %RSD | 2.92 | 2.95 | .949 | 2.95 | 2.88 | 3.18 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112120.** | **1684500.** | **385690.** |
| Stddev | 73. | 8334. | 8713. |
| %RSD | .06523 | .49475 | 2.2590 |

Sample Name: CalStd14=500000 Acquired: 03/27/2019 13:06:52 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.581** | **.169** | **.159** | **.599** | **.029** |
| Stddev | .014 | .002 | .001 | .005 | .000 |
| %RSD | 2.45 | .924 | .783 | .765 | .619 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **104020.** | **366710.** |
| Stddev | 326. | 984. |
| %RSD | .31317 | .26833 |

Sample Name: CalibStd15=1000k Acquired: 03/27/2019 13:13:44 Type: Cal
Method: DOD Calibration Updated 060614(v3279) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.16** | **.331** | **.296** | **.056** |
| Stddev | .03 | .002 | .002 | .001 |
| %RSD | 2.54 | .487 | .626 | 1.04 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **94211.** | **343960.** |
| Stddev | 393. | 3705. |
| %RSD | .41695 | 1.0772 |

Sample Name: icv Acquired: 03/27/2019 13:27:24 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.6** | **11600.** | **2010.** | **1910.** | **1890.** | **49.4** | **46.2** | **9640.** | **44.2** | **483.** | **189.** | **242.** |
| Stddev | .8 | 174. | 7. | 13. | 14. | .1 | .9 | 231. | .4 | 2. | 1. | . |
| %RSD | 1.75 | 1.50 | .358 | .675 | .756 | .197 | 1.97 | 2.40 | .866 | .325 | .441 | .089 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **240.** | **4950.** | **10200.** | **500.** | **499.** | **498.** | **488.** | **466.** | **480.** | **477.** | **480.** | **476.** |
| Stddev | 6. | 93. | 202. | 2. | 1. | 2. | 3. | 1. | 3. | 2. | 2. | 7. |
| %RSD | 2.33 | 1.88 | 1.99 | .447 | .269 | .364 | .515 | .180 | .636 | .510 | .519 | 1.47 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|
| Avg | **1920.** | **1960.** | **473.** | **469.** | **467.** | **474.** | **493.** |
| Stddev | 38. | 5. | 13. | 1. | 1. | 1. | 2. |
| %RSD | 1.97 | .234 | 2.65 | .200 | .164 | .158 | .498 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 03/27/2019 13:27:24 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **117270.** | **1738900.** | **398790.** |
| Stddev | 163. | 31850. | 4404. |
| %RSD | .13892 | 1.8316 | 1.1043 |

Sample Name: ICVLL Acquired: 03/27/2019 13:39:53 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.5** | **1120.** | **1160.** | **65.3** | **27.3** | **11.2** | **1380.** | **13.7** | **28.2** | **29.6** | **25.4** | **882.** |
| Stddev | .7 | 3. | 30. | 3.8 | .2 | .3 | 22. | .2 | .3 | .7 | 4.6 | 16. |
| %RSD | 2.33 | .232 | 2.61 | 5.75 | .664 | 2.27 | 1.58 | 1.72 | .940 | 2.52 | 17.9 | 1.81 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1460.** | **32.2** | **30.7** | **27.9** | **28.7** | **58.9** | **61.8** | **57.3** | **28.3** | **28.4** | **61.6** |
| Stddev | 25. | .6 | .3 | .5 | 1.5 | 2.8 | 5.2 | 1.1 | .7 | .2 | .7 |
| %RSD | 1.68 | 1.95 | .975 | 1.93 | 5.08 | 4.71 | 8.32 | 1.84 | 2.30 | .608 | 1.17 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116920.** | **1767100.** | **396550.** |
| Stddev | 442. | 26398. | 3901. |
| %RSD | .37829 | 1.4939 | .98383 |

Sample Name: icb Acquired: 03/27/2019 13:52:13 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.361** | **4.58** | **2.55** | **-.095** | **1.10** | **-1.41** | **.012** | **-.169** | **.493** | **.966** | **6.54** | **1.12** |
| Stddev | .757 | .96 | 2.54 | .153 | .12 | .29 | .191 | .091 | .872 | 2.67 | .96 | .18 |
| %RSD | 210. | 20.9 | 99.6 | 161. | 11.2 | 20.8 | 1640. | 53.9 | 177. | 276. | 14.7 | 16.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.146** | **.587** | **.093** | **.305** | **-2.34** | **-1.57** | **-.991** | **-.097** | **.014** | **1.70** |
| Stddev | .074 | .487 | .391 | 2.85 | 1.39 | 3.04 | .226 | .309 | .030 | .95 |
| %RSD | 50.7 | 82.9 | 422. | 936. | 59.2 | 193. | 22.8 | 319. | 213. | 56.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **117740.** | **1775500.** | **398580.** |
| Stddev | 202. | 10824. | 2345. |
| %RSD | .17150 | .60962 | .58837 |

Sample Name: MRL/LLOQ Acquired: 03/27/2019 13:58:28 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **8.87** | **402.** | **23.0** | **9.07** | **4.61** | **497.** | **4.58** | **9.60** | **9.70** | **10.3** | **305.** | **514.** |
| Stddev | .67 | 2. | 3.0 | .16 | .19 | 5. | .15 | .16 | .37 | 1.7 | 6. | 7. |
| %RSD | 7.56 | .383 | 13.1 | 1.78 | 4.20 | .985 | 3.24 | 1.68 | 3.77 | 16.6 | 2.08 | 1.35 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **10.6** | **10.4** | **9.49** | **12.2** | **20.9** | **18.2** | **19.3** | **10.0** | **10.4** | **21.3** |
| Stddev | .2 | .2 | .49 | 2.2 | 2.4 | 5.5 | 1.9 | .5 | .1 | .7 |
| %RSD | 1.81 | 2.14 | 5.16 | 17.9 | 11.6 | 30.0 | 9.72 | 4.64 | .781 | 3.15 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **117260.** | **1760400.** | **401770.** |
| Stddev | 588. | 4979. | 3355. |
| %RSD | .50146 | .28280 | .83511 |

Sample Name: ICSA Acquired: 03/27/2019 14:04:40 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be2348 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.546** | **575000.** | **-.011** | **.001** | **.001** | **522000.** | **-.001** | **.430** | **-1.25** | **.003** | **506000.** |
| Stddev | .852 | 18300. | 11.5 | .772 | 1.18 | 11300. | .769 | .227 | 1.00 | 4.20 | 11800. |
| %RSD | 156. | 3.17 | 104000. | 96500. | 164000. | 2.15 | 68900. | 52.8 | 80.3 | 153000. | 2.33 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **493000.** | **-1.96** | **.677** | **-.736** | **.700** | **-.001** | **3.75** | **-.138** | **10400.** | **5.28** | **.465** |
| Stddev | 10600. | .14 | .568 | 1.04 | 5.16 | 3.32 | 7.30 | 3.08 | 236. | 1.79 | 12.9 |
| %RSD | 2.15 | 7.28 | 83.9 | 141. | 736. | 541000. | 195. | 2230. | 2.27 | 33.9 | 2780. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **104570.** | **1580100.** | **373170.** |
| Stddev | 72. | 4347. | 6490. |
| %RSD | .06889 | .27512 | 1.7391 |

Sample Name: ICSAB Acquired: 03/27/2019 14:11:27 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | **565000.** | **445.** | **463.** | **429.** | **530.** | **504000.** | **506.** | **462.** | **471.** | **492.** |
| Stddev | 10. | 11400. | 18. | 1. | 4. | 6. | 3630. | 1. | 2. | 11. | 8. |
| %RSD | 2.23 | 2.02 | 3.98 | .188 | .994 | 1.05 | .720 | .214 | .348 | 2.37 | 1.66 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **527.** | **497000.** | **475000.** | **510.** | **497.** | **496.** | **457.** | **432.** | **447.** | **444.** | **500.** |
| Stddev | 13. | 4850. | 3880. | 11. | 2. | 1. | . | 3. | 4. | 6. | 3. |
| %RSD | 2.52 | .975 | .816 | 2.13 | .316 | .263 | .105 | .628 | .833 | 1.31 | .542 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|
| Avg | **462.** | **482.** | **505.** | **492.** | **461.** | **500.** | **503.** |
| Stddev | 1. | 7. | 16. | 10. | 2. | 2. | 26. |
| %RSD | .275 | 1.50 | 3.12 | 2.09 | .408 | .418 | 5.09 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: ICSAB Acquired: 03/27/2019 14:11:27 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **104720.** | **1595700.** | **375220.** |
| Stddev | 306. | 34336. | 1309. |
| %RSD | .29237 | 2.1518 | .34898 |

Sample Name: ccv1 Acquired: 03/27/2019 15:27:54 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **402.** | **4660.** | **4670.** | F **4470.** | **455.** | **4590.** | **471.** | **4690.** | **5000.** | **4490.** | **4700.** | **4880.** |
| Stddev | 1. | 69. | 10. | 33. | 4. | 79. | . | . | 7. | 24. | 86. | 68. |
| %RSD | .255 | 1.48 | .210 | .734 | .878 | 1.72 | .073 | .008 | .139 | .537 | 1.82 | 1.39 |
| Check ? | None | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | 5000. | | | | | | | | |
| Range | | | | -10.4% | | | | | | | | |

| Elem | Mn2576 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4630.** | **4640.** | **4640.** | **4700.** | **4570.** | **4710.** | **4600.** | **4550.** | **4690.** |
| Stddev | 7. | 5. | 7. | 7. | 7. | 25. | 8. | 67. | 18. |
| %RSD | .146 | .112 | .148 | .151 | .159 | .519 | .184 | 1.46 | .393 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113230.** | **1720300.** | **398220.** |
| Stddev | 231. | 5101. | 6463. |
| %RSD | .20394 | .29649 | 1.6230 |

Sample Name: ccv2 Acquired: 03/27/2019 15:33:45 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.0** | **476.** | **504.** | **484.** | **457.** | **483.** | **51.0** | **48.8** | **471.** | **47.2** | **483.** | **475.** |
| Stddev | .5 | 1. | 3. | 4. | 1. | 2. | .4 | .9 | 6. | .1 | 1. | 4. |
| %RSD | .984 | .186 | .524 | .863 | .176 | .504 | .719 | 1.76 | 1.38 | .199 | .200 | .783 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **491.** | **477.** | **490.** | **496.** | **502.** | **490.** | **490.** | **496.** | **466.** | **505.** | **497.** | **482.** |
| Stddev | 3. | 9. | 3. | 2. | 2. | 3. | 1. | 1. | 1. | 4. | 3. | 5. |
| %RSD | .670 | 1.97 | .573 | .369 | .438 | .627 | .114 | .220 | .302 | .734 | .552 | .944 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **471.** | **507.** | **477.** | **470.** | **475.** | **482.** | **508.** |
| Stddev | 3. | 4. | 3. | 7. | 1. | 2. | 1. | 3. |
| %RSD | .569 | .828 | .604 | 1.41 | .198 | .351 | .148 | .531 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 03/27/2019 15:33:45 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116190.** | **1758700.** | **401700.** |
| Stddev | 209. | 3309. | 5783. |
| %RSD | .18016 | .18813 | 1.4397 |

Sample Name: ccb Acquired: 03/27/2019 15:39:29 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.24** | **-1.87** | **.267** | **.193** | **1.78** | **-6.78** | **.076** | **.044** | **.442** | **-2.54** | **-1.90** | **-4.46** |
| Stddev | .59 | .85 | 2.72 | .097 | .05 | 1.22 | .229 | .114 | .817 | 3.72 | 1.82 | .04 |
| %RSD | 47.9 | 45.1 | 1020. | 50.3 | 3.02 | 18.0 | 300. | 259. | 185. | 146. | 95.7 | 1.00 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.004** | **1.59** | **.244** | **.332** | **-.900** | **2.79** | **-.899** | **.190** | **.158** | **6.44** |
| Stddev | .058 | .18 | .324 | 1.70 | 1.96 | 3.34 | 1.81 | .514 | .056 | .56 |
| %RSD | 1450. | 11.6 | 133. | 512. | 218. | 120. | 202. | 271. | 35.4 | 8.77 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116590.** | **1764100.** | **399800.** |
| Stddev | 249. | 2631. | 2870. |
| %RSD | .21355 | .14915 | .71793 |

Sample Name: lcss71151 Acquired: 03/27/2019 16:45:08 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **99.7** | **667.** | **2000.** | **1930.** | **170.** | **174.** | **1.62** | **19400.** | **-.168** | **1.74** | **103.** | **77.3** |
| Stddev | .7 | 1. | 3. | 4. | 1. | 2. | .07 | 178. | .216 | .13 | 1. | 2.0 |
| %RSD | .670 | .120 | .148 | .213 | .478 | 1.17 | 4.39 | .918 | 128. | 7.43 | .968 | 2.60 |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9390.** | **6630.** | **2110.** | **3.37** | **22.6** | **17.1** | **-.819** | **5.81** | **.223** | **2.02** | **124.** | **63.9** |
| Stddev | 91. | 16. | 8. | .21 | .9 | 1.8 | 2.80 | 3.08 | 2.15 | .40 | . | 2.1 |
| %RSD | .966 | .234 | .376 | 6.29 | 3.95 | 10.5 | 342. | 52.9 | 961. | 19.7 | .235 | 3.32 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113060.** | **1706600.** | **395050.** |
| Stddev | 400. | 4683. | 1433. |
| %RSD | .35355 | .27438 | .36274 |

Sample Name: ccv1 Acquired: 03/27/2019 16:51:38 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **401.** | **4710.** | **4670.** | **4520.** | **457.** | **4590.** | **470.** | **4710.** | **4940.** | **4490.** | **4680.** | **4820.** |
| Stddev | 2. | 65. | 11. | 32. | 5. | 49. | 1. | 17. | 8. | 38. | 37. | 34. |
| %RSD | .373 | 1.39 | .242 | .697 | 1.12 | 1.07 | .111 | .367 | .163 | .844 | .788 | .713 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | **4650.** | **4640.** | **4710.** | **4570.** | **4710.** | **4590.** | **4550.** | **4670.** |
| Stddev | 18. | 9. | 6. | 12. | 16. | 36. | 11. | 60. | 22. |
| %RSD | .398 | .203 | .135 | .253 | .354 | .760 | .244 | 1.32 | .468 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113590.** | **1727700.** | **400710.** |
| Stddev | 265. | 4275. | 3191. |
| %RSD | .23321 | .24744 | .79627 |

Sample Name: ccv2 Acquired: 03/27/2019 16:57:30 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.3** | **478.** | **510.** | **485.** | **454.** | **481.** | **50.2** | **49.0** | **468.** | **46.9** | **484.** | **472.** |
| Stddev | .7 | 5. | 5. | 8. | 5. | 4. | .2 | .9 | 3. | .6 | 5. | 4. |
| %RSD | 1.36 | .984 | .976 | 1.72 | 1.19 | .914 | .457 | 1.86 | .737 | 1.25 | .957 | .892 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **475.** | **483.** | **501.** | **506.** | **494.** | **492.** | **498.** | **462.** | **509.** | **502.** | **482.** |
| Stddev | 6. | 4. | 4. | 2. | 2. | 4. | 5. | 4. | 4. | 7. | 7. | 5. |
| %RSD | 1.14 | .868 | .849 | .374 | .363 | .772 | 1.12 | .854 | .852 | 1.28 | 1.33 | .999 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **468.** | **507.** | **479.** | **470.** | **475.** | **484.** | **508.** |
| Stddev | 6. | 5. | 5. | 6. | 3. | 5. | 4. | 4. |
| %RSD | 1.27 | 1.16 | .962 | 1.22 | .575 | 1.14 | .919 | .752 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 03/27/2019 16:57:30 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116120.** | **1763300.** | **401260.** |
| Stddev | 515. | 4681. | 3559. |
| %RSD | .44355 | .26544 | .88706 |

Sample Name: ccb Acquired: 03/27/2019 17:03:14 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.170** | **-1.80** | **1.08** | **.516** | **2.05** | **-6.42** | **-.114** | **.139** | **.712** | **-.499** | **-3.62** | **-3.96** |
| Stddev | .734 | .36 | 2.37 | .084 | .09 | .82 | .159 | .333 | .556 | 1.57 | 1.44 | .03 |
| %RSD | 432. | 19.8 | 219. | 16.2 | 4.60 | 12.8 | 139. | 239. | 78.1 | 314. | 39.8 | .623 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.214** | **1.56** | **.218** | **-1.07** | **-.117** | **-.112** | **-.692** | **.354** | **.152** | **5.72** |
| Stddev | .068 | .31 | .245 | 5.45 | 1.26 | 3.84 | 1.57 | .349 | .070 | .60 |
| %RSD | 31.9 | 19.7 | 112. | 510. | 1080. | 3430. | 227. | 98.8 | 46.1 | 10.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116330.** | **1776600.** | **402400.** |
| Stddev | 403. | 10659. | 6249. |
| %RSD | .34615 | .59994 | 1.5529 |

Sample Name: mbs71151 Acquired: 03/27/2019 17:09:30 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.3** | **2450.** | **7.77** | **488.** | **507.** | **1.73** | **28800.** | **-.254** | **1.80** | **60.1** | **72.7** | **12500.** |
| Stddev | .4 | 79. | 2.59 | 2. | 5. | .12 | 1010. | .262 | .26 | .3 | 5.6 | 389. |
| %RSD | .496 | 3.23 | 33.3 | .394 | .894 | 7.12 | 3.51 | 103. | 14.5 | .494 | 7.72 | 3.11 |

| Elem | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6770.** | **211.** | **1.35** | **13.8** | **23.0** | **-.812** | **10.7** | **-2.27** | **4.70** | **159.** | **58.4** |
| Stddev | 299. | 1. | .56 | .3 | 1.9 | 1.51 | 3.3 | 3.10 | .27 | . | 1.1 |
| %RSD | 4.42 | .345 | 41.5 | 2.41 | 8.09 | 186. | 31.2 | 136. | 5.80 | .309 | 1.86 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113770.** | **1719600.** | **399950.** |
| Stddev | 464. | 6652. | 8563. |
| %RSD | .40821 | .38685 | 2.1411 |

Sample Name: 253258 Acquired: 03/27/2019 17:15:55 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.32** | **245000.** | **815.** | **756.** | **2210.** | **27.9** | **164000.** | **2.65** | **193.** | **428.** | **694.** |
| Stddev | .42 | 2440. | 8. | 8. | 22. | .4 | 1550. | .45 | 1. | 6. | 11. |
| %RSD | 31.6 | .997 | 1.03 | 1.04 | .971 | 1.46 | .945 | 17.1 | .270 | 1.44 | 1.63 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **716.** | **423000.** | **40400.** | **31800.** | **10.1** | **327.** | **1350.** | **-4.57** | **10.8** | **65.2** | **788.** |
| Stddev | 14. | 3670. | 425. | 744. | .3 | 2. | 5. | 2.74 | 4.5 | 1.3 | 6. |
| %RSD | 2.00 | .868 | 1.05 | 2.34 | 3.18 | .531 | .379 | 60.0 | 42.3 | 1.95 | .754 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **773.** | **1350.** | **64.6** |
| Stddev | 11. | 5. | 6.1 |
| %RSD | 1.37 | .359 | 9.42 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110010.** | **1665200.** | **387300.** |
| Stddev | 235. | 8675. | 1256. |
| %RSD | .21370 | .52095 | .32439 |

Sample Name: I253258 Acquired: 03/27/2019 17:22:12 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.862** | **50300.** | **184.** | **468.** | **489.** | **7.16** | **36000.** | **.273** | **43.7** | **94.8** | **149.** | **152.** |
| Stddev | .432 | 834. | 3. | 3. | 9. | .12 | 450. | .150 | .2 | 1.4 | 5. | 6. |
| %RSD | 50.1 | 1.66 | 1.42 | .727 | 1.85 | 1.60 | 1.25 | 54.8 | .531 | 1.48 | 3.28 | 4.09 |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **90900.** | **9480.** | **7860.** | **2.04** | **75.5** | **318.** | **-1.55** | **4.71** | **14.4** | **169.** | **170.** | **321.** |
| Stddev | 976. | 151. | 32. | .25 | .6 | 5. | 1.57 | 6.80 | 1.3 | 3. | 1. | 2. |
| %RSD | 1.07 | 1.59 | .409 | 12.2 | .742 | 1.44 | 101. | 144. | 9.29 | 1.78 | .407 | .774 |

| Elem | B_2497 |
|---|---|
| Units | ug/L |
| Avg | **27.5** |
| Stddev | 1.2 |
| %RSD | 4.36 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **115420.** | **1748900.** | **398750.** |
| Stddev | 589. | 5272. | 3036. |
| %RSD | .51007 | .30145 | .76151 |

Sample Name: 253258dup1 Acquired: 03/27/2019 17:28:35 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.88** | **258000.** | **889.** | **833.** | **2190.** | **29.0** | **181000.** | **2.30** | **191.** | **450.** | **681.** |
| Stddev | .53 | 4200. | 3. | 30. | 41. | .5 | 3610. | 1.01 | 3. | 9. | 17. |
| %RSD | 28.1 | 1.63 | .361 | 3.60 | 1.86 | 1.68 | 2.00 | 43.9 | 1.34 | 1.90 | 2.50 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **698.** | **448000.** | **44000.** | **32800.** | **10.9** | **320.** | **1300.** | **-6.10** | **10.5** | **66.6** | **837.** |
| Stddev | 16. | 7940. | 856. | 69. | .3 | 4. | 24. | 3.81 | 4.7 | 6.3 | 11. |
| %RSD | 2.35 | 1.77 | 1.95 | .210 | 2.81 | 1.17 | 1.81 | 62.4 | 44.6 | 9.47 | 1.33 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **819.** | **1360.** | **52.5** |
| Stddev | 18. | 12. | 13.0 |
| %RSD | 2.19 | .859 | 24.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110120.** | **1670300.** | **388240.** |
| Stddev | 754. | 30034. | 2923. |
| %RSD | .68424 | 1.7982 | .75297 |

Sample Name: 253258dup2 Acquired: 03/27/2019 17:34:51 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.884** | **232000.** | **797.** | **730.** | **2120.** | **27.6** | **160000.** | **3.48** | **189.** | **427.** | **665.** |
| Stddev | 1.02 | 3770. | 4. | 2. | 47. | .3 | 2870. | .73 | 2. | 5. | 12. |
| %RSD | 116. | 1.62 | .485 | .292 | 2.19 | 1.24 | 1.79 | 21.0 | .866 | 1.10 | 1.83 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **680.** | **417000.** | **40600.** | **30800.** | **10.5** | **326.** | **1320.** | **-1.22** | **12.2** | **61.8** | **751.** |
| Stddev | 19. | 6410. | 637. | 181. | .9 | 3. | 22. | 2.43 | 3.9 | 2.4 | 12. |
| %RSD | 2.82 | 1.54 | 1.57 | .590 | 8.25 | 1.02 | 1.66 | 200. | 32.1 | 3.87 | 1.55 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **771.** | **1320.** | **57.5** |
| Stddev | 5. | 11. | 9.6 |
| %RSD | .619 | .870 | 16.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110220.** | **1661700.** | **388200.** |
| Stddev | 377. | 8126. | 2991. |
| %RSD | .34223 | .48904 | .77054 |

Sample Name: mss253258 Acquired: 03/27/2019 17:41:07 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.60** | **264000.** | **17000.** | **2260.** | **30.5** | **171000.** | **4.09** | **197.** | **495.** | **693.** | **717.** |
| Stddev | .63 | 7560. | 36. | 16. | .1 | 5930. | 1.75 | 1. | 2. | 10. | 12. |
| %RSD | 39.5 | 2.86 | .213 | .697 | .403 | 3.47 | 42.8 | .278 | .303 | 1.42 | 1.60 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **475000.** | **42300.** | **46600.** | **15.2** | **336.** | **1350.** | **-6.00** | **13.0** | **78.5** | **865.** | **883.** |
| Stddev | 17100. | 1270. | 485. | .8 | 1. | 18. | 1.29 | 5.9 | 2.7 | 31. | 1. |
| %RSD | 3.60 | 3.01 | 1.04 | 5.04 | .232 | 1.32 | 21.5 | 45.6 | 3.45 | 3.62 | .113 |

| Elem | Zn2062 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1400.** | **77.9** |
| Stddev | 4. | 19.2 |
| %RSD | .278 | 24.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109550.** | **1647400.** | **393900.** |
| Stddev | 159. | 4433. | 12123. |
| %RSD | .14498 | .26906 | 3.0778 |

Sample Name: msds253258 Acquired: 03/27/2019 17:47:16 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.54** | **280000.** | **17900.** | **2260.** | **30.6** | **186000.** | **3.52** | **205.** | **491.** | **713.** | **737.** |
| Stddev | .30 | 4400. | 82. | 34. | .3 | 2610. | .77 | 1. | 5. | 11. | 14. |
| %RSD | 19.2 | 1.57 | .459 | 1.49 | .944 | 1.41 | 21.9 | .677 | .949 | 1.57 | 1.94 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **507000.** | **45200.** | **47300.** | **16.7** | **401.** | **343.** | **1340.** | **-6.30** | **9.74** | **79.2** | **887.** |
| Stddev | 6080. | 565. | 482. | .2 | 2. | 2. | 11. | 4.50 | 8.51 | 2.2 | 12. |
| %RSD | 1.20 | 1.25 | 1.02 | 1.23 | .610 | .538 | .799 | 71.5 | 87.4 | 2.80 | 1.33 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **894.** | **1450.** | **65.3** |
| Stddev | 8. | 5. | 14.1 |
| %RSD | .914 | .312 | 21.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109160.** | **1647700.** | **383760.** |
| Stddev | 283. | 4219. | 2975. |
| %RSD | .25898 | .25606 | .77513 |

Sample Name: pdss253258 Acquired: 03/27/2019 17:53:25 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.30** | **255000.** | **18400.** | **2190.** | **29.4** | **181000.** | **3.34** | **193.** | **460.** | **686.** | **698.** |
| Stddev | .86 | 1940. | 48. | 19. | .1 | 1510. | .51 | 1. | 2. | 7. | 5. |
| %RSD | 37.6 | .760 | .262 | .875 | .382 | .834 | 15.4 | .405 | .472 | 1.00 | .656 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **450000.** | **44300.** | **46200.** | **10.9** | **323.** | **1330.** | **-7.31** | **14.3** | **74.7** | **842.** | **833.** |
| Stddev | 3790. | 257. | 286. | 1.3 | 2. | 15. | 1.10 | 6.2 | 1.4 | 1. | 4. |
| %RSD | .843 | .581 | .620 | 12.2 | .693 | 1.10 | 15.0 | 43.5 | 1.84 | .140 | .492 |

| Elem | Zn2062 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1370.** | **52.4** |
| Stddev | 11. | 5.6 |
| %RSD | .815 | 10.7 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110430.** | **1673800.** | **391500.** |
| Stddev | 174. | 1750. | 4016. |
| %RSD | .15747 | .10457 | 1.0259 |

Sample Name: 253274 Acquired: 03/27/2019 17:59:35 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.580** | **298000.** | **338.** | **1610.** | **28.2** | **100000.** | **-1.43** | **150.** | **495.** | **360.** | **369.** |
| Stddev | .342 | 1430. | 10. | 13. | .4 | 749. | .30 | 1. | 8. | 5. | 3. |
| %RSD | 59.0 | .480 | 2.89 | .780 | 1.50 | .747 | 21.0 | .388 | 1.69 | 1.29 | .827 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **509000.** | **40500.** | **13800.** | **6.75** | **430.** | **380.** | **431.** | **596.** | **-11.4** | **3.98** | **72.0** |
| Stddev | 2130. | 138. | 295. | .53 | 1. | 3. | 5. | 6. | 3.3 | 4.84 | 4.6 |
| %RSD | .419 | .340 | 2.13 | 7.84 | .193 | .771 | 1.12 | .931 | 28.4 | 122. | 6.40 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **832.** | **843.** | **829.** | **846.** | **56.4** |
| Stddev | 9. | 14. | 1. | 1. | 10.5 |
| %RSD | 1.03 | 1.68 | .155 | .122 | 18.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111140.** | **1670600.** | **388320.** |
| Stddev | 194. | 2784. | 3148. |
| %RSD | .17429 | .16666 | .81073 |

Sample Name: 253275 Acquired: 03/27/2019 18:05:55 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.120** | **275000.** | **540.** | **487.** | **1850.** | **30.1** | **46200.** | **2.32** | **208.** | **614.** | **690.** |
| Stddev | .424 | 1740. | 10. | 12. | 11. | .4 | 537. | .17 | 1. | 2. | 5. |
| %RSD | 352. | .633 | 1.82 | 2.47 | .582 | 1.19 | 1.16 | 7.41 | .296 | .386 | .782 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **693.** | **523000.** | **33300.** | **52200.** | **27.1** | **473.** | **418.** | **885.** | **967.** | **-12.0** | **11.6** |
| Stddev | 7. | 4440. | 372. | 291. | 1.0 | 1. | 2. | 9. | 3. | 1.4 | 2.8 |
| %RSD | .972 | .850 | 1.12 | .558 | 3.61 | .268 | .410 | 1.00 | .327 | 11.7 | 24.3 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **82.4** | **931.** | **935.** | **2380.** | **58.8** |
| Stddev | 1.4 | 11. | 2. | 3. | 5.3 |
| %RSD | 1.71 | 1.18 | .252 | .110 | 9.06 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111720.** | **1689400.** | **394230.** |
| Stddev | 177. | 4008. | 3321. |
| %RSD | .15832 | .23723 | .84230 |

Sample Name: ccv1 Acquired: 03/27/2019 18:12:25 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **401.** | **4870.** | **4640.** | **4560.** | **464.** | **4680.** | **470.** | **4730.** | **4930.** | **4570.** | **5230.** | **4940.** |
| Stddev | 2. | 121. | 13. | 54. | 5. | 42. | 3. | 20. | 36. | 38. | 625. | 15. |
| %RSD | .542 | 2.49 | .272 | 1.19 | 1.03 | .904 | .645 | .425 | .734 | .827 | 12.0 | .301 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4660.** | **4660.** | **4650.** | **4700.** | **4560.** | **4710.** | **4580.** | **4620.** | **4700.** |
| Stddev | 25. | 20. | 31. | 10. | 22. | 42. | 19. | 20. | 30. |
| %RSD | .528 | .428 | .658 | .217 | .484 | .885 | .408 | .431 | .634 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114970.** | **1745400.** | **398130.** |
| Stddev | 197. | 10120. | 1730. |
| %RSD | .17105 | .57981 | .43445 |

Sample Name: ccv2 Acquired: 03/27/2019 18:18:15 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **482.** | **513.** | **489.** | **460.** | **484.** | **50.4** | **49.0** | **472.** | **47.3** | **489.** | **473.** |
| Stddev | 1.0 | 6. | 7. | 4. | 6. | 3. | 1.1 | .9 | 5. | .6 | 6. | 11. |
| %RSD | 1.99 | 1.17 | 1.42 | .844 | 1.23 | .601 | 2.18 | 1.86 | 1.15 | 1.25 | 1.23 | 2.33 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **482.** | **472.** | **491.** | **503.** | **508.** | **497.** | **495.** | **501.** | **468.** | **512.** | **502.** | **486.** |
| Stddev | 3. | 7. | 13. | 12. | 11. | 8. | 7. | 7. | 5. | 8. | 11. | 8. |
| %RSD | .554 | 1.48 | 2.54 | 2.36 | 2.08 | 1.57 | 1.44 | 1.42 | 1.06 | 1.56 | 2.27 | 1.67 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|
| Avg | **486.** | **476.** | **510.** | **478.** | **472.** | **479.** | **488.** | **506.** |
| Stddev | 7. | 6. | 9. | 9. | 10. | 5. | 6. | 9. |
| %RSD | 1.47 | 1.16 | 1.79 | 1.85 | 2.03 | 1.05 | 1.27 | 1.79 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 03/27/2019 18:18:15 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116510.** | **1775100.** | **403340.** |
| Stddev | 765. | 12958. | 2909. |
| %RSD | .65641 | .73000 | .72127 |

Sample Name: ccb Acquired: 03/27/2019 18:24:00 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.723** | **-1.95** | **4.67** | **.348** | **1.70** | **-5.68** | **.011** | **.320** | **.926** | **4.00** | **-.236** | **-3.56** |
| Stddev | .303 | .44 | 2.36 | .164 | .04 | 1.11 | .153 | .137 | .642 | 4.80 | 2.07 | .05 |
| %RSD | 42.0 | 22.4 | 50.6 | 47.2 | 2.42 | 19.5 | 1400. | 42.9 | 69.4 | 120. | 878. | 1.53 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.417** | **1.77** | **.652** | **.352** | **-.363** | **-.092** | **-.663** | **.688** | **.374** | **6.46** |
| Stddev | .083 | .57 | .632 | 2.16 | 1.21 | 3.00 | .851 | .252 | .108 | .43 |
| %RSD | 19.8 | 32.0 | 97.0 | 615. | 334. | 3260. | 128. | 36.6 | 29.0 | 6.59 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116680.** | **1769900.** | **401710.** |
| Stddev | 707. | 4047. | 3258. |
| %RSD | .60564 | .22867 | .81093 |

Sample Name: 253276 Acquired: 03/27/2019 18:30:15 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.08** | **265000.** | **204.** | **1240.** | **28.2** | **27900.** | **-1.07** | **179.** | **485.** | **319.** | **325.** |
| Stddev | .76 | 2110. | 9. | 9. | .2 | 558. | 1.27 | 1. | 6. | 5. | 2. |
| %RSD | 69.8 | .798 | 4.56 | .704 | .823 | 2.00 | 118. | .429 | 1.18 | 1.43 | .642 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **538000.** | **29800.** | **17900.** | **10.9** | **483.** | **432.** | **512.** | **-12.2** | **5.16** | **73.2** | **852.** |
| Stddev | 9820. | 485. | 229. | .4 | . | 2. | 2. | 2.0 | 6.30 | 3.3 | 11. |
| %RSD | 1.83 | 1.63 | 1.28 | 3.88 | .102 | .400 | .438 | 16.4 | 122. | 4.43 | 1.33 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **865.** | **1030.** | **59.5** |
| Stddev | 7. | 2. | 15.2 |
| %RSD | .755 | .202 | 25.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111800.** | **1679900.** | **390570.** |
| Stddev | 353. | 25803. | 1679. |
| %RSD | .31596 | 1.5360 | .42994 |

Sample Name: 253277 Acquired: 03/27/2019 18:36:47 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.903** | **180000.** | **123.** | **1160.** | **18.3** | **15300.** | **-2.17** | **107.** | **1030.** | **945.** | **254.** |
| Stddev | .472 | 1010. | 3. | 8. | .3 | 84. | .36 | 1. | 10. | 15. | 2. |
| %RSD | 52.3 | .560 | 2.77 | .655 | 1.77 | .550 | 16.6 | 1.29 | .964 | 1.61 | .835 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **254.** | **288000.** | **34400.** | **11200.** | **10.2** | **955.** | **867.** | **395.** | **-5.14** | **.720** | **38.8** |
| Stddev | 7. | 820. | 170. | 143. | .7 | 10. | 6. | 5. | 2.42 | 3.01 | 1.6 |
| %RSD | 2.87 | .285 | .495 | 1.27 | 6.81 | 1.02 | .704 | 1.15 | 47.0 | 418. | 4.10 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **474.** | **483.** | **613.** | **614.** | **42.9** |
| Stddev | 7. | 6. | 6. | 6. | 4.0 |
| %RSD | 1.43 | 1.17 | .979 | .938 | 9.26 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113930.** | **1714800.** | **396980.** |
| Stddev | 514. | 9801. | 4039. |
| %RSD | .45074 | .57159 | 1.0175 |

Sample Name: 253278 Acquired: 03/27/2019 18:43:11 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2055 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.665** | **166000.** | **127.** | **1630.** | **16.7** | **42800.** | **-.028** | **111.** | **3420.** | **448.** | **456.** |
| Stddev | .300 | 3070. | 7. | 4. | .7 | 1060. | .583 | . | 4. | 2. | 7. |
| %RSD | 45.1 | 1.84 | 5.64 | .226 | 3.98 | 2.48 | 2100. | .181 | .114 | .419 | 1.62 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **288000.** | **64500.** | **29400.** | **22.4** | **1740.** | **732.** | **783.** | **-1.57** | **10.4** | **48.7** | **462.** |
| Stddev | 5980. | 1190. | 706. | .8 | 3. | 6. | 6. | 5.64 | 4.8 | 1.3 | 16. |
| %RSD | 2.08 | 1.85 | 2.40 | 3.75 | .151 | .763 | .739 | 360. | 46.0 | 2.57 | 3.50 |

| Elem | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **457.** | **882.** | **898.** | **48.5** |
| Stddev | 13. | 1. | 4. | 8.1 |
| %RSD | 2.88 | .152 | .392 | 16.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112130.** | **1718400.** | **396170.** |
| Stddev | 336. | 41334. | 7671. |
| %RSD | .29931 | 2.4054 | 1.9362 |

Sample Name: 253279 Acquired: 03/27/2019 18:49:45 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-87.7** | **328000.** | **642.** | **504.** | **19600.** | **36.0** | **160000.** | **9.26** | **392.** | **360.** | **1160.** |
| Stddev | 1.9 | 7440. | 11. | 18. | 227. | .4 | 2960. | 1.06 | 1. | 8. | 22. |
| %RSD | 2.13 | 2.27 | 1.66 | 3.52 | 1.16 | 1.07 | 1.85 | 11.4 | .210 | 2.34 | 1.87 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **490000.** | **58100.** | **142000.** | **255.** | **957.** | **673.** | **1540.** | **6.47** | **-264.** | **234.** | **1220.** |
| Stddev | 10000. | 1070. | 964. | 1. | 2. | 5. | 15. | 3.14 | 12. | 1. | 28. |
| %RSD | 2.04 | 1.83 | .678 | .240 | .247 | .727 | .949 | 48.5 | 4.38 | .588 | 2.26 |

| Elem | Zn2062 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **2240.** | **164.** |
| Stddev | 6. | 12. |
| %RSD | .280 | 7.38 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107270.** | **1617100.** | **386900.** |
| Stddev | 171. | 4111. | 3556. |
| %RSD | .15964 | .25423 | .91905 |

Sample Name: 253280 Acquired: 03/27/2019 18:56:57 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-79.4** | **309000.** | **496.** | **15000.** | **33.2** | **99000.** | **5.01** | **315.** | **280.** | **702.** | **729.** |
| Stddev | 1.5 | 4260. | 3. | 166. | .6 | 567. | .62 | . | 12. | 5. | 5. |
| %RSD | 1.92 | 1.38 | .575 | 1.11 | 1.87 | .572 | 12.4 | .142 | 4.33 | .647 | .654 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **572000.** | **41000.** | **141000.** | **235.** | **770.** | **531.** | **825.** | **838.** | **.515** | **-236.** | **211.** |
| Stddev | 6760. | 310. | 1720. | 1. | 1. | 3. | 12. | 6. | 4.27 | 10. | 3. |
| %RSD | 1.18 | .757 | 1.22 | .624 | .113 | .551 | 1.49 | .668 | 829. | 4.37 | 1.37 |

| Elem | V_2908 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **1140.** | **1440.** | **131.** |
| Stddev | 20. | 2. | 11. |
| %RSD | 1.78 | .123 | 8.35 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107920.** | **1643500.** | **385600.** |
| Stddev | 45. | 3086. | 6810. |
| %RSD | .04174 | .18779 | 1.7660 |

Sample Name: 253281 Acquired: 03/27/2019 19:04:12 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.14** | **334000.** | **252.** | **3000.** | **31.4** | **87900.** | **2.00** | **170.** | **519.** | **676.** | **692.** |
| Stddev | .53 | 4180. | 7. | 35. | .5 | 1230. | .41 | 1. | 12. | 10. | 12. |
| %RSD | 46.6 | 1.25 | 2.71 | 1.18 | 1.63 | 1.40 | 20.5 | .755 | 2.23 | 1.46 | 1.70 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **408000.** | **28400.** | **64100.** | **363.** | **401.** | **348.** | **1110.** | **-7.26** | **7.27** | **77.4** | **1130.** |
| Stddev | 4940. | 400. | 571. | 2. | 1. | 1. | 14. | 2.75 | 7.28 | 1.6 | 11. |
| %RSD | 1.21 | 1.41 | .891 | .415 | .315 | .314 | 1.24 | 37.9 | 100. | 2.08 | .997 |

| Elem | Zn2062 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1440.** | **102.** |
| Stddev | 5. | 8. |
| %RSD | .363 | 7.96 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111930.** | **1675200.** | **390760.** |
| Stddev | 102. | 8769. | 199. |
| %RSD | .09068 | .52348 | .05102 |

Sample Name: 253282 Acquired: 03/27/2019 19:10:32 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.072** | **311000.** | **224.** | **1970.** | **28.7** | **44900.** | **-1.04** | **145.** | **498.** | **416.** | **428.** |
| Stddev | .498 | 3880. | 6. | 32. | .1 | 329. | .41 | 1. | 3. | 9. | 14. |
| %RSD | 689. | 1.25 | 2.45 | 1.61 | .261 | .733 | 39.4 | .611 | .641 | 2.26 | 3.24 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **436000.** | **28800.** | **33100.** | **314.** | **462.** | **410.** | **525.** | **705.** | **-7.62** | **5.44** | **66.5** |
| Stddev | 3390. | 295. | 267. | 1. | 1. | 1. | 5. | 3. | 3.08 | 4.80 | 3.3 |
| %RSD | .779 | 1.03 | .807 | .407 | .225 | .355 | .958 | .461 | 40.4 | 88.3 | 4.89 |

| Elem | V_2908 | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **992.** | **982.** | **993.** | **101.** |
| Stddev | 8. | 4. | 3. | 11. |
| %RSD | .804 | .407 | .342 | 11.1 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112800.** | **1692600.** | **395390.** |
| Stddev | 133. | 4939. | 2222. |
| %RSD | .11757 | .29180 | .56205 |

Sample Name: 254587 Acquired: 03/27/2019 19:17:05 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.412** | **319000.** | **661.** | **591.** | **1960.** | **32.6** | **81700.** | **1.02** | **281.** | **551.** | **699.** |
| Stddev | .336 | 1800. | 16. | 15. | 16. | .2 | 996. | .69 | 1. | 5. | 5. |
| %RSD | 81.6 | .562 | 2.44 | 2.46 | .797 | .703 | 1.22 | 67.4 | .515 | .873 | .691 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **723.** | **514000.** | **43500.** | **15900.** | **20.6** | **300.** | **854.** | **970.** | **-7.34** | **8.35** | **69.8** |
| Stddev | 7. | 4880. | 425. | 83. | 1.1 | 1. | 7. | 5. | 3.74 | 4.62 | 1.2 |
| %RSD | .970 | .949 | .975 | .522 | 5.26 | .443 | .834 | .545 | 50.9 | 55.3 | 1.77 |

| Elem | V_2908 | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **943.** | **955.** | **2530.** | **71.6** |
| Stddev | 11. | 6. | 17. | 7.4 |
| %RSD | 1.11 | .631 | .663 | 10.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111400.** | **1679400.** | **391070.** |
| Stddev | 373. | 6856. | 3184. |
| %RSD | .33517 | .40823 | .81418 |

Sample Name: 254588 Acquired: 03/27/2019 19:23:20 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.509** | **335000.** | **482.** | **1770.** | **32.2** | **52400.** | **-1.02** | **342.** | **529.** | **500.** | **501.** |
| Stddev | .440 | 6050. | 13. | 8. | .2 | 1300. | .53 | . | 4. | 1. | 8. |
| %RSD | 86.3 | 1.81 | 2.78 | .476 | .517 | 2.47 | 51.9 | .119 | .817 | .210 | 1.58 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **549000.** | **37500.** | **16000.** | **16.6** | **339.** | **406.** | **602.** | **-7.10** | **9.58** | **72.9** | **926.** |
| Stddev | 10300. | 778. | 102. | .4 | 2. | 19. | 4. | 1.80 | 5.65 | 2.7 | 20. |
| %RSD | 1.88 | 2.08 | .639 | 2.26 | .499 | 4.59 | .737 | 25.3 | 59.0 | 3.63 | 2.18 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **920.** | **2190.** | **59.8** |
| Stddev | 3. | 6. | 12.9 |
| %RSD | .271 | .265 | 21.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112160.** | **1689200.** | **389630.** |
| Stddev | 148. | 5650. | 3641. |
| %RSD | .13182 | .33448 | .93450 |

Sample Name: 254589 Acquired: 03/27/2019 19:29:50 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.259** | **405000.** | **793.** | **725.** | **1990.** | **34.5** | **498000.** | **1.79** | **233.** | **613.** | **366.** |
| Stddev | .848 | 5710. | 13. | 14. | 10. | .1 | 7480. | .73 | . | 3. | 2. |
| %RSD | 328. | 1.41 | 1.68 | 1.88 | .491 | .377 | 1.50 | 40.7 | .140 | .480 | .670 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **398.** | **650000.** | **89400.** | **10600.** | **13.5** | **413.** | **370.** | **411.** | **611.** | **-16.7** | **4.72** |
| Stddev | 2. | 8680. | 898. | 42. | 1.6 | . | 2. | 3. | 4. | 4.3 | 2.33 |
| %RSD | .559 | 1.34 | 1.00 | .392 | 11.6 | .076 | .474 | .691 | .706 | 25.6 | 49.3 |

| Elem | Tl1908 | V_2908 | Zn2062 | B_2497 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **89.4** | **1100.** | **1210.** | **16200.** |
| Stddev | 1.8 | 21. | 2. | 65. |
| %RSD | 1.96 | 1.89 | .187 | .398 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106300.** | **1611800.** | **378510.** |
| Stddev | 125. | 6199. | 3651. |
| %RSD | .11754 | .38458 | .96444 |

Sample Name: ccv1 Acquired: 03/27/2019 19:36:12 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **399.** | **4890.** | **4630.** | **4610.** | **460.** | **4620.** | **468.** | **4690.** | **4940.** | **4610.** | **5350.** | **4930.** |
| Stddev | 4. | 171. | 14. | 61. | 3. | 27. | 2. | 43. | 18. | 51. | 802. | 41. |
| %RSD | 1.07 | 3.50 | .293 | 1.32 | .636 | .575 | .458 | .922 | .361 | 1.10 | 15.0 | .833 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4630.** | **4630.** | **4630.** | **4680.** | **4540.** | **4710.** | **4560.** | **4580.** | **4700.** |
| Stddev | 46. | 24. | 22. | 28. | 22. | 46. | 22. | 25. | 43. |
| %RSD | .991 | .512 | .465 | .590 | .484 | .986 | .491 | .546 | .904 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **115560.** | **1754600.** | **401430.** |
| Stddev | 160. | 11530. | 1535. |
| %RSD | .13879 | .65716 | .38244 |

Sample Name: ccv2 Acquired: 03/27/2019 19:42:02 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.2** | **478.** | **507.** | **487.** | **457.** | **489.** | **50.9** | **49.0** | **480.** | **47.1** | **484.** | **478.** |
| Stddev | .9 | 2. | 5. | 8. | 3. | 2. | .7 | 1.3 | 3. | .5 | 4. | 9. |
| %RSD | 1.82 | .491 | 1.07 | 1.63 | .611 | .494 | 1.41 | 2.56 | .621 | 1.15 | .783 | 1.88 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **494.** | **481.** | **499.** | **502.** | **508.** | **491.** | **493.** | **497.** | **465.** | **507.** | **499.** | **481.** |
| Stddev | 4. | 6. | 8. | 8. | 8. | 3. | 4. | 3. | 2. | 7. | 5. | 5. |
| %RSD | .870 | 1.31 | 1.61 | 1.63 | 1.63 | .624 | .753 | .598 | .450 | 1.32 | .942 | 1.11 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **472.** | **509.** | **484.** | **474.** | **475.** | **484.** | **519.** |
| Stddev | 6. | 5. | 2. | 4. | 9. | 3. | 3. | 6. |
| %RSD | 1.30 | 1.15 | .389 | .917 | 1.86 | .587 | .637 | 1.23 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 03/27/2019 19:42:02 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **117070.** | **1774100.** | **400600.** |
| Stddev | 503. | 14030. | 3680. |
| %RSD | .42928 | .79083 | .91848 |

Sample Name: ccb Acquired: 03/27/2019 19:47:47 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.613** | **-.830** | **2.46** | **.339** | **1.52** | **-5.17** | **.113** | **.452** | **1.33** | **2.08** | **1.26** | **-3.19** |
| Stddev | .383 | .332 | 1.52 | .144 | .07 | 1.01 | .086 | .139 | .37 | 3.36 | 1.23 | .06 |
| %RSD | 62.4 | 40.0 | 61.8 | 42.6 | 4.93 | 19.5 | 75.9 | 30.7 | 28.0 | 162. | 98.0 | 1.74 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.766** | **2.10** | **.462** | **-.190** | **.097** | **2.49** | **-.902** | **.873** | **.600** | **14.0** |
| Stddev | .045 | .22 | .799 | 2.57 | 1.35 | 4.62 | .747 | .509 | .058 | .5 |
| %RSD | 5.86 | 10.6 | 173. | 1350. | 1390. | 185. | 82.8 | 58.3 | 9.67 | 3.83 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116680.** | **1769000.** | **405030.** |
| Stddev | 373. | 5634. | 1413. |
| %RSD | .31965 | .31846 | .34893 |

Sample Name: 254590 Acquired: 03/27/2019 19:54:03 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.61** | **355000.** | **399.** | **1710.** | **35.8** | **144000.** | **-.361** | **209.** | **572.** | **284.** | **302.** |
| Stddev | .40 | 4300. | 12. | 18. | .7 | 952. | 1.06 | 2. | 7. | 3. | 13. |
| %RSD | 24.7 | 1.21 | 2.90 | 1.02 | 1.90 | .660 | 294. | .977 | 1.26 | .983 | 4.23 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **675000.** | **55500.** | **5920.** | **12.5** | **336.** | **451.** | **-15.1** | **-6.41** | **87.0** | **1080.** | **875.** |
| Stddev | 5300. | 267. | 83. | .4 | 4. | 7. | 4.4 | 4.87 | 2.0 | 15. | 7. |
| %RSD | .784 | .481 | 1.41 | 3.52 | 1.20 | 1.53 | 28.9 | 76.0 | 2.32 | 1.39 | .788 |

| Elem | Zn2138 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **903.** | **7740.** |
| Stddev | 10. | 162. |
| %RSD | 1.08 | 2.09 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109130.** | **1634200.** | **384780.** |
| Stddev | 743. | 39255. | 7209. |
| %RSD | .68066 | 2.4021 | 1.8736 |

Sample Name: 254591 Acquired: 03/27/2019 20:00:08 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **19.7** | **100000.** | **223.** | **1550.** | **14.1** | **28100.** | **12.5** | **77.4** | **589.** | **11100.** | **533000.** |
| Stddev | .8 | 1390. | 6. | 20. | .2 | 490. | .6 | .5 | 5. | 124. | 7010. |
| %RSD | 4.00 | 1.39 | 2.69 | 1.28 | 1.26 | 1.74 | 4.56 | .706 | .825 | 1.12 | 1.32 |

| Elem | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **14200.** | **9510.** | **46.0** | **338.** | **12300.** | **170.** | **7.30** | **72.1** | **467.** | **479.** | ***** |
| Stddev | 168. | 43. | .6 | . | 60. | 2. | 2.26 | 1.7 | 6. | 3. | ----- |
| %RSD | 1.19 | .454 | 1.26 | .108 | .486 | .933 | 30.9 | 2.32 | 1.26 | .680 | ----- |

| Elem | B_2497 |
|---|---|
| Units | ug/L |
| Avg | **213.** |
| Stddev | 16. |
| %RSD | 7.44 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112470.** | **1700100.** | **390700.** |
| Stddev | 366. | 9724. | 1575. |
| %RSD | .32502 | .57195 | .40313 |

Sample Name: 254592 Acquired: 03/27/2019 20:06:22 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **28.9** | **97400.** | **250.** | **1850.** | **12.0** | **26800.** | **13.8** | **75.6** | **547.** | **37500.** | **580000.** |
| Stddev | .5 | 972. | 5. | 30. | .3 | 196. | .4 | .5 | 3. | 527. | 2300. |
| %RSD | 1.88 | .998 | 2.15 | 1.60 | 2.83 | .730 | 2.55 | .638 | .506 | 1.41 | .396 |

| Elem | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **11800.** | **14500.** | **63.5** | **525.** | **476.** | **8130.** | **116.** | **-.884** | **78.5** | **453.** | **476.** |
| Stddev | 114. | 137. | .4 | 1. | 2. | 46. | 3. | 6.29 | 1.5 | 8. | 3. |
| %RSD | .968 | .948 | .579 | .275 | .396 | .563 | 2.82 | 712. | 1.96 | 1.79 | .687 |

| Elem | Zn2062 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | ***** | **224.** |
| Stddev | ----- | 6. |
| %RSD | ----- | 2.84 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111330.** | **1687700.** | **391260.** |
| Stddev | 362. | 15592. | 3332. |
| %RSD | .32501 | .92387 | .85168 |

Sample Name: 254593 Acquired: 03/27/2019 20:12:48 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Co2286 | Cr2055 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.46** | **132000.** | **255.** | **2150.** | **56.4** | **56.5** | **99400.** | **17.7** | **81.8** | **1200.** | **2030.** |
| Stddev | .68 | 1620. | 4. | 20. | .6 | 1.0 | 2150. | .5 | .1 | 7. | 26. |
| %RSD | 12.5 | 1.22 | 1.74 | .929 | 1.01 | 1.80 | 2.16 | 2.80 | .154 | .608 | 1.28 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **298000.** | **43700.** | **15000.** | **16.6** | **484.** | **436.** | **52400.** | **3810.** | **11.3** | **42.2** | **532.** |
| Stddev | 5170. | 490. | 233. | .4 | 3. | 2. | 130. | 13. | 3.7 | 2.8 | 8. |
| %RSD | 1.74 | 1.12 | 1.55 | 2.68 | .531 | .353 | .247 | .327 | 32.4 | 6.53 | 1.41 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **531.** | ***** | **83.4** |
| Stddev | 5. | ----- | 3.4 |
| %RSD | .968 | ----- | 4.06 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111600.** | **1697300.** | **393820.** |
| Stddev | 347. | 11829. | 1609. |
| %RSD | .31126 | .69692 | .40845 |

Sample Name: 254594 Acquired: 03/27/2019 20:18:56 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.46** | **117000.** | **408.** | **2160.** | **27.0** | **64900.** | **28.9** | **75.6** | **582.** | **1770.** | **285000.** |
| Stddev | .79 | 4930. | 3. | 18. | .2 | 2690. | 1.1 | .3 | 3. | 7. | 10800. |
| %RSD | 8.38 | 4.21 | .839 | .813 | .923 | 4.15 | 3.89 | .393 | .446 | .415 | 3.79 |

| Elem | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **26600.** | **11800.** | **12.1** | **512.** | **453.** | **213000.** | **20500.** | **14.2** | **39.5** | **421.** | **425.** |
| Stddev | 1020. | 55. | .2 | 3. | 2. | 695. | 55. | 6.6 | 3.1 | 19. | 1. |
| %RSD | 3.83 | .467 | 1.46 | .653 | .438 | .326 | .270 | 46.5 | 7.89 | 4.53 | .323 |

| Elem | Zn2062 | B_2497 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | ***** | **78.0** |
| Stddev | ----- | 12.1 |
| %RSD | ----- | 15.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111720.** | **1704000.** | **384460.** |
| Stddev | 184. | 7468. | 13671. |
| %RSD | .16474 | .43826 | 3.5559 |

Sample Name: 254595 Acquired: 03/27/2019 20:25:14 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.555** | **237000.** | **581.** | **503.** | **1500.** | **24.9** | **41600.** | **-.555** | **166.** | **427.** | **422.** |
| Stddev | .528 | 6950. | 5. | 9. | 22. | .1 | 805. | .756 | . | 3. | 8. |
| %RSD | 95.2 | 2.93 | .815 | 1.82 | 1.45 | .265 | 1.93 | 136. | .296 | .708 | 1.81 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **422.** | **399000.** | **29300.** | **7390.** | **11.9** | **245.** | **2020.** | **112.** | **10.5** | **51.6** | **679.** |
| Stddev | 4. | 8660. | 608. | 36. | .4 | . | 11. | 6. | 4.8 | 2.4 | 16. |
| %RSD | 1.03 | 2.17 | 2.07 | .488 | 3.26 | .174 | .523 | 4.94 | 45.6 | 4.57 | 2.34 |

| Elem | V_2924 | Zn2062 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **670.** | **1050.** | **51.1** |
| Stddev | 3. | 2. | 7.9 |
| %RSD | .411 | .219 | 15.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113060.** | **1707900.** | **386000.** |
| Stddev | 342. | 7676. | 15630. |
| %RSD | .30218 | .44942 | 4.0493 |

Sample Name: 254596 Acquired: 03/27/2019 20:31:34 Type: Unk
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.95** | **298000.** | **434.** | **1190.** | **26.4** | **13000.** | **-2.10** | **171.** | **497.** | **283.** | **282.** |
| Stddev | .78 | 3830. | 4. | 13. | .1 | 179. | .63 | . | 3. | 1. | 6. |
| %RSD | 39.9 | 1.28 | .914 | 1.12 | .280 | 1.37 | 29.8 | .176 | .511 | .435 | 2.00 |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **506000.** | **28000.** | **5060.** | **12.4** | **323.** | **552.** | **-2.22** | **3.92** | **63.9** | **821.** | **819.** |
| Stddev | 4060. | 96. | 6. | 1.1 | 2. | 4. | 3.61 | 6.29 | 4.7 | 16. | 1. |
| %RSD | .802 | .342 | .123 | 9.19 | .518 | .694 | 162. | 161. | 7.38 | 1.97 | .172 |

| Elem | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **862.** | **865.** | **75.4** |
| Stddev | 3. | 1. | 7.4 |
| %RSD | .309 | .129 | 9.82 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **113430.** | **1715000.** | **392550.** |
| Stddev | 163. | 3161. | 1361. |
| %RSD | .14341 | .18434 | .34675 |

Sample Name: ccv1 Acquired: 03/27/2019 20:57:07 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **400.** | **4760.** | **4680.** | **4560.** | **455.** | **4580.** | **468.** | **4710.** | **4940.** | **4540.** | **4710.** | **4920.** |
| Stddev | 3. | 98. | 22. | 45. | 7. | 45. | 1. | 55. | 10. | 38. | 54. | 63. |
| %RSD | .747 | 2.06 | .467 | .976 | 1.53 | .982 | .151 | 1.16 | .210 | .825 | 1.15 | 1.28 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | **4660.** | **4640.** | **4730.** | **4590.** | **4720.** | **4600.** | **4560.** | **4720.** |
| Stddev | 52. | 3. | 6. | 7. | 7. | 10. | 4. | 79. | 52. |
| %RSD | 1.12 | .071 | .137 | .157 | .159 | .220 | .094 | 1.72 | 1.09 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113220.** | **1721800.** | **396650.** |
| Stddev | 68. | 14359. | 2925. |
| %RSD | .05985 | .83399 | .73753 |

Sample Name: ccv2 Acquired: 03/27/2019 21:02:54 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.8** | **476.** | **514.** | **489.** | **453.** | **478.** | **50.1** | **48.7** | **469.** | **46.4** | **484.** | **468.** |
| Stddev | .4 | 2. | 4. | 4. | 2. | 2. | .3 | 1.5 | 2. | .3 | 1. | 3. |
| %RSD | .842 | .518 | .856 | .912 | .466 | .351 | .568 | 3.12 | .325 | .601 | .171 | .697 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **471.** | **464.** | **489.** | **497.** | **502.** | **494.** | **492.** | **498.** | **460.** | **510.** | **500.** | **483.** |
| Stddev | 5. | 2. | 4. | 1. | 2. | 1. | 1. | 1. | 1. | 5. | 3. | 1. |
| %RSD | 1.07 | .416 | .761 | .271 | .302 | .288 | .228 | .249 | .289 | .926 | .560 | .285 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **464.** | **506.** | **475.** | **468.** | **475.** | **485.** | **505.** |
| Stddev | 3. | 3. | 2. | 10. | 1. | 2. | . | 1. |
| %RSD | .695 | .739 | .461 | 2.11 | .196 | .349 | .070 | .267 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 03/27/2019 21:02:54 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116410.** | **1768800.** | **401270.** |
| Stddev | 374. | 3291. | 2341. |
| %RSD | .32141 | .18603 | .58349 |

Sample Name: ccb Acquired: 03/27/2019 21:08:38 Type: QC
Method: DOD Calibration Updated 060614(v3279) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Co2286 | Cr2677 | Cu3273 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.14** | **.837** | **1.92** | **.816** | **1.74** | **-4.60** | **.190** | **.774** | **1.15** | **4.06** | **3.12** | **-2.75** |
| Stddev | .42 | .546 | 1.56 | .346 | .10 | .96 | .177 | .157 | .32 | 4.04 | 1.12 | .06 |
| %RSD | 36.7 | 65.3 | 81.0 | 42.4 | 5.79 | 21.0 | 93.3 | 20.3 | 27.5 | 99.5 | 35.9 | 2.04 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 | B_2497 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.28** | **2.49** | **.787** | **2.46** | **.405** | **4.71** | **.058** | **.364** | **.790** | **8.97** |
| Stddev | .04 | .31 | .333 | 2.58 | 1.52 | 2.59 | .949 | .548 | .124 | .65 |
| %RSD | 2.78 | 12.5 | 42.3 | 105. | 376. | 55.0 | 1650. | 150. | 15.7 | 7.20 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

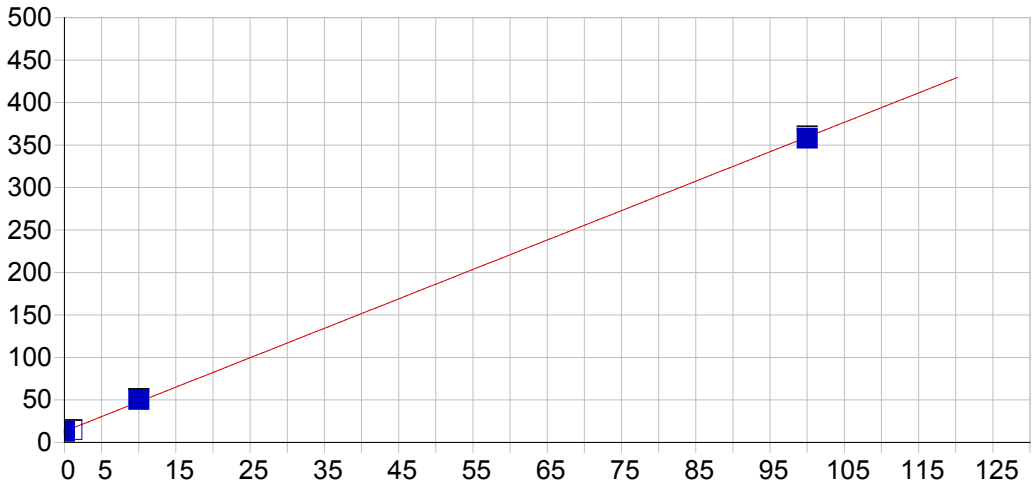
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116140.** | **1775900.** | **400490.** |
| Stddev | 284. | 4817. | 2025. |
| %RSD | .24451 | .27124 | .50569 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/03/2019 11:04:04 | 03/29/2019 11:17:32 | Linear | 1/Var | 13.089522 | 3.463684 | 0.000000 | 1.000000 | 0.999697 | 2.772199 | 0.828783 | 2.762609 |
| Ag 338.289 {100} | 04/03/2019 11:04:04 | 03/29/2019 11:23:07 | Linear | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.926192 | 33.087308 |
| Al 167.079 {501} | 04/03/2019 11:04:04 | 03/29/2019 11:23:08 | Linear | None | 2.068939 | 0.413923 | 0.000000 | 1.000000 | 0.999998 | 0.543380 | 0.714689 | 2.382298 |
| Al 308.215 {109} | 04/03/2019 11:04:04 | 03/29/2019 11:42:22 | Linear | 1/Var | 0.000059 | 0.000000 | 0.000000 | 1.000000 | 0.999837 | 0.000010 | 26.734425 | 89.114751 |
| Al 396.152 { 85} | 04/03/2019 11:04:04 | 03/29/2019 11:56:30 | Curvili | 1/Conc | -5.292152 | 0.621527 | -0.000000 | 1.000000 | 0.999915 | 13.654892 | 9.392166 | 31.307221 |
| As 193.759 {474} | 04/03/2019 11:04:04 | 03/29/2019 11:23:08 | Linear | 1/Var | -0.407326 | 0.101296 | 0.000000 | 1.000000 | 0.999989 | 0.185503 | 4.429608 | 14.765359 |
| As 197.262 {471} | 04/03/2019 11:04:04 | 03/29/2019 11:29:42 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999913 | 0.000000 | 9.305293 | 31.017645 |
| Ba 233.527 {445} | 04/03/2019 11:04:04 | 03/29/2019 11:23:08 | Linear | 1/Conc | -0.229158 | 1.074617 | 0.000000 | 1.000000 | 0.999964 | 0.011470 | 0.421845 | 1.406150 |
| Ba 455.403 { 74} | 04/03/2019 11:04:04 | 03/29/2019 11:29:42 | Linear | 1/Conc | 0.000059 | 0.000046 | 0.000000 | 1.000000 | 0.999934 | 0.000002 | 0.347882 | 1.159608 |
| Ba 493.409 { 68} | 04/03/2019 11:04:04 | 03/29/2019 11:29:43 | Linear | 1/Conc | 3597.7134 | 20.331614 | 0.000000 | 1.000000 | 0.999962 | 8.353012 | 0.746985 | 2.489951 |
| Be 313.042 {108} | 04/03/2019 11:04:04 | 03/29/2019 11:23:08 | Linear | 1/Conc | -0.000186 | 0.000056 | 0.000000 | 1.000000 | 0.999974 | 0.000000 | 0.051357 | 0.171190 |
| Be 234.861 {144} | 04/03/2019 11:04:04 | 03/29/2019 11:23:09 | Linear | 1/Conc | 0.000002 | 0.000003 | 0.000000 | 1.000000 | 0.999909 | 0.000000 | 0.906936 | 3.023120 |
| Ca 315.887 {107} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Linear | 1/Var | 0.000053 | 0.000000 | 0.000000 | 1.000000 | 0.999905 | 0.000014 | 11.428894 | 38.096314 |
| Ca 317.933 {106} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Linear | 1/Conc | 0.003363 | 0.000001 | 0.000000 | 1.000000 | 0.999903 | 0.000016 | 6.633434 | 22.111448 |
| Ca 393.366 { 86} | 04/03/2019 11:04:04 | 03/29/2019 11:23:09 | Linear | 1/Var | 0.002149 | 0.000175 | 0.000000 | 1.000000 | 0.999988 | 0.000193 | 0.065926 | 0.219752 |
| Ca 396.847 { 85} | 04/03/2019 11:04:04 | 03/29/2019 11:29:43 | Linear | 1/Conc | 0.001088 | 0.000088 | 0.000000 | 1.000000 | 0.999983 | 0.000024 | 0.113449 | 0.378163 |
| Cd 226.502 {449} | 04/03/2019 11:04:04 | 03/29/2019 11:23:09 | Linear | 1/Conc | -0.411776 | 2.734793 | 0.000000 | 1.000000 | 0.999962 | 0.020907 | 0.244420 | 0.814732 |
| Cd 228.802 {447} | 04/03/2019 11:04:04 | 03/29/2019 11:23:09 | Linear | 1/Conc | 3.406882 | 5.625665 | 0.000000 | 1.000000 | 0.999980 | 0.031467 | 0.164946 | 0.549820 |
| Co 228.616 {447} | 04/03/2019 11:04:04 | 03/29/2019 11:29:43 | Linear | 1/Conc | 0.000027 | 0.000030 | 0.000000 | 1.000000 | 0.999915 | 0.000001 | 0.415206 | 1.384021 |
| Co 238.892 {141} | 04/03/2019 11:04:04 | 03/29/2019 11:29:43 | Linear | 1/Conc | 0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999917 | 0.000001 | 0.813206 | 2.710687 |
| Cr 205.560 {464} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Var | 2.209865 | 1.440047 | 0.000000 | 1.000000 | 0.998342 | 12.321930 | 0.365377 | 1.217925 |
| Cr 267.716 {126} | 04/03/2019 11:04:04 | 03/29/2019 11:29:43 | Linear | 1/Conc | -0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999946 | 0.000000 | 0.833534 | 2.778447 |
| Cu 224.700 {450} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Conc | 0.000002 | 0.000008 | 0.000000 | 1.000000 | 0.999717 | 0.000011 | 0.486428 | 1.621428 |
| Cu 324.754 {104} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Conc | 195.76035 | 0.956520 | 0.000000 | 1.000000 | 0.999874 | 0.583215 | 2.991096 | 9.970320 |
| Cu 327.396 {103} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Var | 12.073792 | 0.505778 | 0.000000 | 1.000000 | 0.999849 | 2.295697 | 7.411216 | 24.704054 |
| Fe 234.349 {144} | 04/03/2019 11:04:04 | 03/29/2019 11:42:23 | Curvili | 1/Var | 0.000018 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000008 | 1.753079 | 5.843598 |
| Fe 239.562 {140} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Linear | 1/Var | 0.000008 | 0.000000 | 0.000000 | 1.000000 | 0.998467 | 0.000055 | 12.638969 | 42.129896 |
| Fe 259.940 {129} | 04/03/2019 11:04:04 | 03/29/2019 11:49:15 | Curvili | 1/Var | 0.000008 | 0.000001 | 0.000000 | 1.000000 | 0.999835 | 0.000019 | 3.379894 | 11.266312 |
| Mg 202.582 {466} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Linear | 1/Var | 0.000285 | 0.000003 | 0.000000 | 1.000000 | 0.997312 | 0.000302 | 2.846126 | 9.487088 |
| Mg 279.079 {121} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Full Fit | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.040000 | 0.999962 | 0.000001 | 87.776778 | 292.58926 |
| Mg 280.270 {120} | 04/03/2019 11:04:04 | 03/29/2019 11:29:45 | Linear | 1/Var | 0.000098 | 0.000028 | 0.000000 | 1.000000 | 0.999229 | 0.000040 | 0.044666 | 0.148887 |
| Mn 257.610 {131} | 04/03/2019 11:04:04 | 03/29/2019 11:29:45 | Linear | 1/Conc | 0.000003 | 0.000010 | 0.000000 | 1.000000 | 0.999816 | 0.000002 | 0.121527 | 0.405090 |
| Mn 259.373 {130} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Conc | 1.324042 | 1.205809 | 0.000000 | 1.000000 | 0.999827 | 10.572082 | 1.193217 | 3.977391 |
| Mo 202.030 {466} | 04/03/2019 11:04:04 | 03/29/2019 11:23:11 | Linear | None | 0.000004 | 0.000009 | 0.000000 | 1.000000 | 0.999999 | 0.000004 | 0.865243 | 2.884143 |
| Mo 203.844 {465} | 04/03/2019 11:04:04 | 03/29/2019 11:23:11 | Linear | 1/Var | 0.000002 | 0.000009 | 0.000000 | 1.000000 | 0.999971 | 0.000010 | 0.887699 | 2.958997 |
| Mo 204.598 {464} | 04/03/2019 11:04:04 | 03/29/2019 11:29:45 | Linear | 1/Var | -0.000001 | 0.000007 | 0.000000 | 1.000000 | 0.999921 | 0.000014 | 0.955772 | 3.185908 |
| Ni 221.647 {452} | 04/03/2019 11:04:04 | 03/29/2019 11:29:45 | Linear | 1/Conc | 0.000003 | 0.000016 | 0.000000 | 1.000000 | 0.999902 | 0.000011 | 0.708231 | 2.360771 |
| Ni 231.604 {445} | 04/03/2019 11:04:04 | 03/29/2019 11:29:45 | Linear | 1/Conc | -2.353047 | 1.383964 | 0.000000 | 1.000000 | 0.999787 | 0.110528 | 0.631063 | 2.103543 |
| Pb 216.999 {455} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Var | 2.546955 | 0.133028 | 0.000000 | 1.000000 | 0.999746 | 5.169402 | 5.185785 | 17.285951 |
| Pb 220.353 {453} | 04/03/2019 11:04:04 | 03/29/2019 11:23:12 | Linear | 1/Conc | 2.077156 | 0.307375 | 0.000000 | 1.000000 | 0.999422 | 0.031792 | 2.864886 | 9.549621 |
| Pb 220.353 {153} | 04/03/2019 11:04:04 | 03/29/2019 11:36:05 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999945 | 0.000000 | 6.937966 | 23.126552 |
| Sb 206.833 {463} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Linear | 1/Conc | -0.184427 | 0.245628 | 0.000000 | 1.000000 | 0.999902 | 0.047545 | 2.413040 | 8.043467 |
| Sb 217.581 {455} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Linear | 1/Conc | 0.338537 | 0.251103 | 0.000000 | 1.000000 | 0.999826 | 0.041297 | 2.628832 | 8.762774 |
| Se 196.090 {472} | 04/03/2019 11:04:04 | 03/29/2019 11:23:12 | Linear | 1/Conc | 0.679059 | 0.105708 | 0.000000 | 1.000000 | 0.999634 | 0.012576 | 4.543753 | 15.145844 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Curvili | 1/Conc | 0.439141 | 0.020932 | -0.000000 | 1.000000 | 0.999994 | 0.004705 | 28.130359 | 93.767863 |
| Tl 190.856 {476} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Linear | 1/Conc | 0.000000 | 0.000003 | 0.000000 | 1.000000 | 0.999644 | 0.000001 | 2.501568 | 8.338561 |
| Tl 190.856 {477} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Linear | 1/Conc | -0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999648 | 0.000000 | 5.880142 | 19.600472 |
| V 290.882 {116} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 5.460071 | 18.200235 |
| V 292.402 {115} | 04/03/2019 11:04:04 | 03/29/2019 11:29:46 | Linear | 1/Conc | 4.749902 | 8.834460 | 0.000000 | 1.000000 | 0.999898 | 1.578368 | 0.572719 | 1.909064 |
| Zn 206.200 {463} | 04/03/2019 11:04:04 | 03/29/2019 11:36:06 | Linear | 1/Var | 0.000041 | 0.000025 | 0.000000 | 1.000000 | 0.998993 | 0.000078 | 0.384954 | 1.283181 |
| Zn 213.856 {457} | 04/03/2019 11:04:04 | 03/29/2019 11:23:13 | Linear | 1/Conc | 9.720303 | 5.567590 | 0.000000 | 1.000000 | 0.999986 | 0.137560 | 0.125119 | 0.417062 |
| Y 224.306 {450}* | 04/03/2019 11:04:04 | 03/29/2019 10:34:00 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/03/2019 11:04:04 | 03/29/2019 10:34:00 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/03/2019 11:04:04 | 03/29/2019 10:34:00 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/03/2019 11:04:04 | 03/29/2019 11:29:47 | Linear | 1/Conc | 0.003499 | 0.000004 | 0.000000 | 1.000000 | 0.999999 | 0.000001 | 8.969220 | 29.897401 |
| Na 589.592 { 57} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Linear | 1/Conc | 0.000070 | 0.000003 | 0.000000 | 1.000000 | 0.999999 | 0.000006 | 8.631422 | 28.771407 |
| Si 251.611 {134} | 04/03/2019 11:04:04 | 03/29/2019 11:56:31 | Linear | 1/Conc | 0.612957 | 0.081481 | 0.000000 | 1.000000 | 0.998434 | 2.161128 | 17.718901 | 59.063002 |
| Ti 323.452 {104} | 04/03/2019 11:04:04 | 03/29/2019 11:29:47 | Linear | 1/Conc | 0.000244 | 0.000008 | 0.000000 | 1.000000 | 0.999984 | 0.000000 | 1.204931 | 4.016435 |
| Ti 334.941 {101} | 04/03/2019 11:04:04 | 03/29/2019 11:29:47 | Linear | 1/Conc | -0.000001 | 0.000005 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 1.447084 | 4.823613 |
| Sr 407.771 { 83} | 04/03/2019 11:04:04 | 03/29/2019 11:29:47 | Linear | 1/Conc | 0.000047 | 0.000092 | 0.000000 | 1.000000 | 0.999957 | 0.000003 | 0.154610 | 0.515368 |
| Sr 421.552 { 80} | 04/03/2019 11:04:04 | 03/29/2019 11:29:47 | Linear | 1/Conc | -0.000000 | 0.000143 | 0.000000 | 1.000000 | 0.999983 | 0.000003 | 0.099830 | 0.332768 |
| Sn 189.989 {477} | 04/03/2019 11:04:04 | 03/29/2019 11:29:48 | Linear | 1/Conc | 0.000009 | 0.000005 | 0.000000 | 1.000000 | 0.999919 | 0.000001 | 1.532160 | 5.107199 |
| B 249.678 {135} | 04/03/2019 11:04:04 | 03/29/2019 11:29:48 | Linear | 1/Conc | 0.000000 | 0.000002 | 0.000000 | 1.000000 | 0.999983 | 0.000000 | 1.310019 | 4.366729 |
| B 249.773 {135} | 04/03/2019 11:04:04 | 03/29/2019 11:29:48 | Linear | 1/Var | 0.000002 | 0.000003 | 0.000000 | 1.000000 | 0.999967 | 0.000003 | 0.706169 | 2.353898 |
| Li 670.784 { 50} | 04/03/2019 11:04:04 | 03/29/2019 11:29:48 | Linear | 1/Var | -0.000022 | 0.000022 | 0.000000 | 1.000000 | 0.999998 | 0.000006 | 1.453163 | 4.843875 |
| K 766.490 { 44} | 04/03/2019 11:04:04 | 03/29/2019 11:56:32 | Linear | 1/Conc | 0.000017 | 0.000001 | 0.000000 | 1.000000 | 0.999994 | 0.000003 | 68.286071 | 227.62023 |
| P 213.618 {457} | 04/03/2019 11:04:04 | 03/29/2019 11:29:48 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 7.638778 | 25.462592 |
| S 182.034 {485} | 04/03/2019 11:04:04 | 03/29/2019 11:56:32 | Curvili | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.454619 | 21.515396 |
| Hg 184.950 {482} | 04/03/2019 11:04:04 | 03/29/2019 11:23:15 | Linear | 1/Conc | 0.000016 | 0.000005 | 0.000000 | 1.000000 | 0.999966 | 0.000001 | 1.128515 | 3.761718 |
| Ce 404.076 { 83} | 04/03/2019 11:04:04 | 03/29/2019 11:23:16 | Linear | 1/Conc | 0.000033 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 19.599027 | 65.330090 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

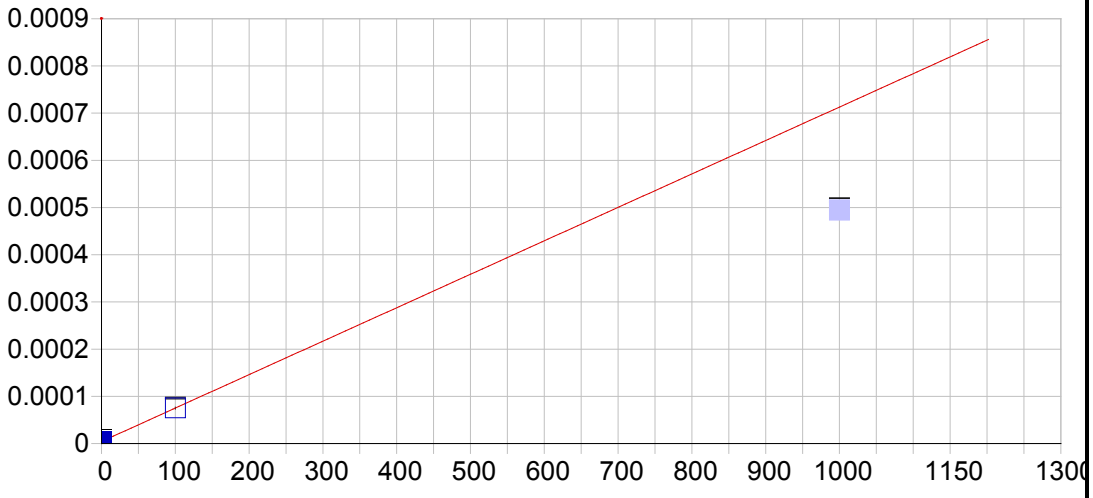



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 13.089522 | Re-Slope: | 1.000000 |
| A1 (Gain): | 3.463684 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999697 | Status: | OK. |
| Std Error of Est: | 2.772199 | | |
| Predicted MDL: | 0.828783 | | |
| Predicted MQL: | 2.762609 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05905 | -.059 | .000 | 12.885 | 2.77 | 1 |
| CalStd5=10 | 10.000 | 10.759 | .759 | 7.59 | 50.355 | 1.01 | 1 |
| CalStd8=100 | 100.00 | 99.589 | -.411 | -.411 | 358.01 | 2.46 | 1 |
| CalStd3=1 | 1.0000 | .55590 | -.444 | -44.4 | 15.015 | .814 | 1 |

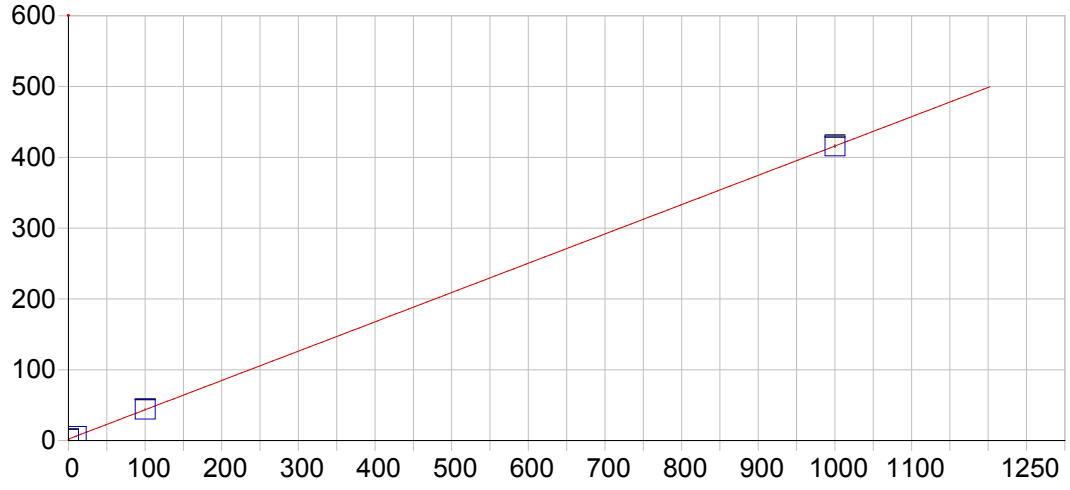



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.926192 | | |
| Predicted MQL: | 33.087308 | | |

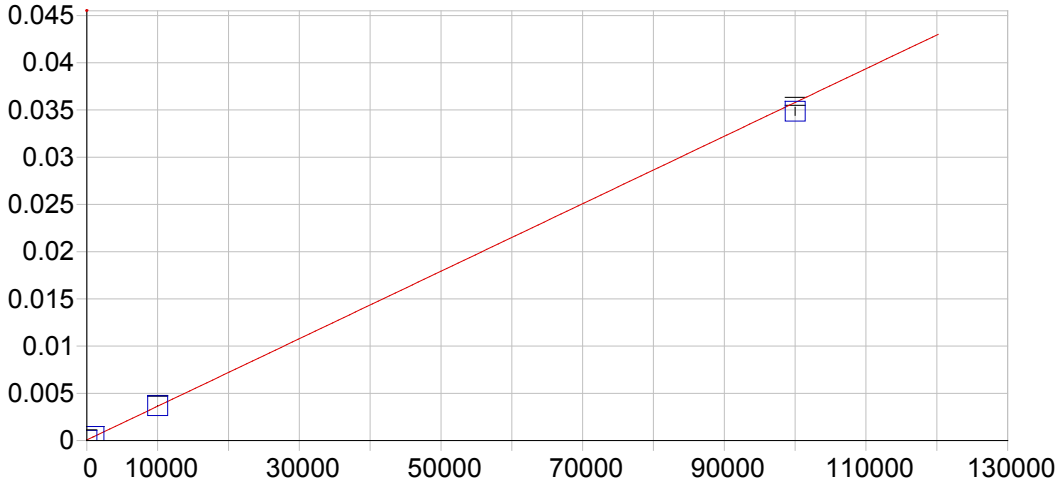
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.00 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 691.50 | -308. | -30.8 | .00049 | .000 | 0 |




**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | None |
| A0 (Offset): | 2.068939 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.413923 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999998 | | Status: | OK. | |
| Std Error of Est: | 0.543380 | | | | |
| Predicted MDL: | 0.714689 | | | | |
| Predicted MQL: | 2.382298 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .07103 | .071 | .000 | 2.0983 | .350 | 1 |
| CalStd9=100 | 1000.0 | 999.88 | -.121 | -.012 | 415.94 | 1.59 | 1 |
| CalStd5=10 | 10.000 | 8.7160 | -1.28 | -12.8 | 5.6767 | .310 | 1 |
| CalStd8=100 | 100.00 | 101.33 | 1.33 | 1.33 | 44.013 | .525 | 1 |

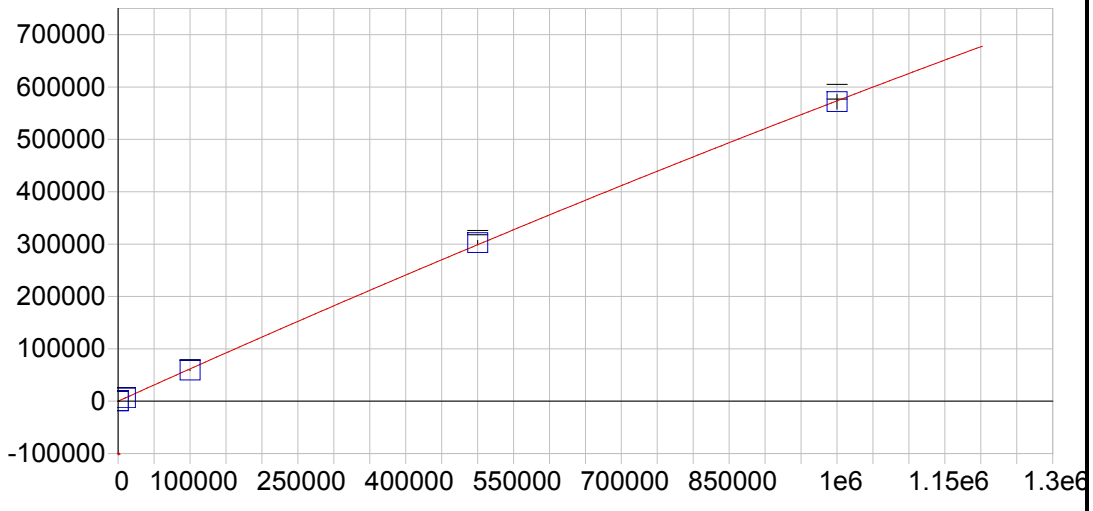



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999837 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 26.734425 | | |
| Predicted MQL: | 89.114751 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3355 | -2.34 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10129. | 129. | 1.29 | .00368 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.2 | 5.17 | .517 | .00042 | .000 | 1 |
| CalStd13=10 | 100000. | 97376. | -2620. | -2.62 | .03486 | .000 | 1 |

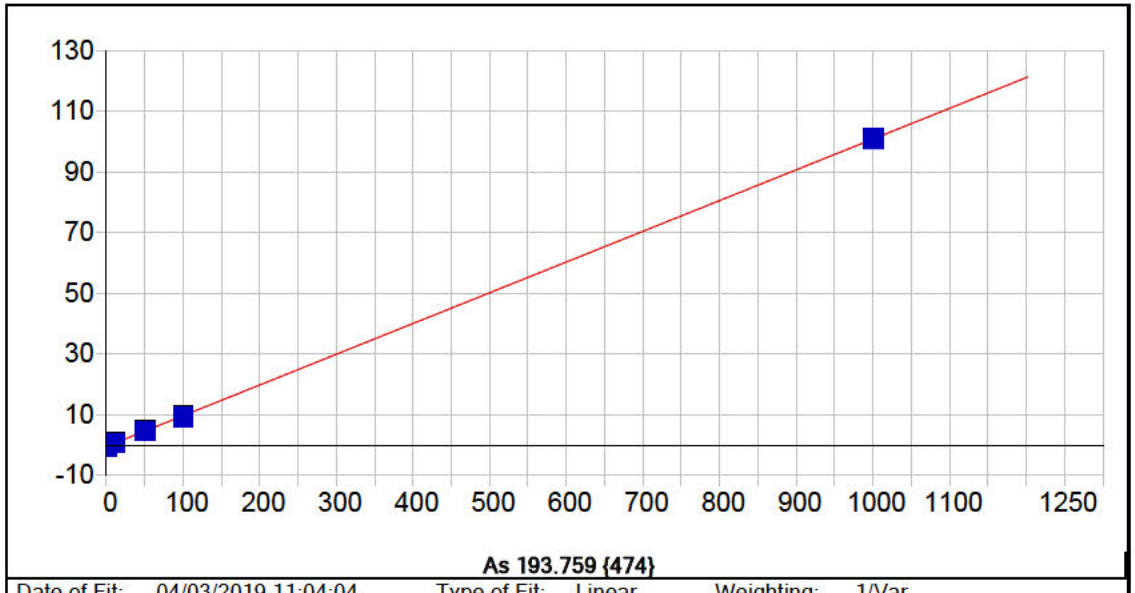



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -5.292152 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.621527 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999915 | Status: | OK. |
| Std Error of Est: | 13.654892 | | |
| Predicted MDL: | 9.392166 | | |
| Predicted MQL: | 31.307221 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03906 | -.039 | .000 | -5.3164 | 2.08 | 1 |
| CalStd14=50 | 500000. | 506880. | 6880. | 1.38 | 302760. | 4110. | 1 |
| CalStd13=10 | 100000. | 96118. | -3880. | -3.88 | 59293. | 732. | 1 |
| CalStd10=10 | 10000. | 10226. | 226. | 2.26 | 6345.5 | 44.1 | 1 |
| CalStd9=100 | 1000.0 | 1044.8 | 44.8 | 4.48 | 644.05 | 5.37 | 1 |
| CalibStd15= | 1000000. | 996700. | -3300. | -.330 | 572020. | 14000. | 1 |

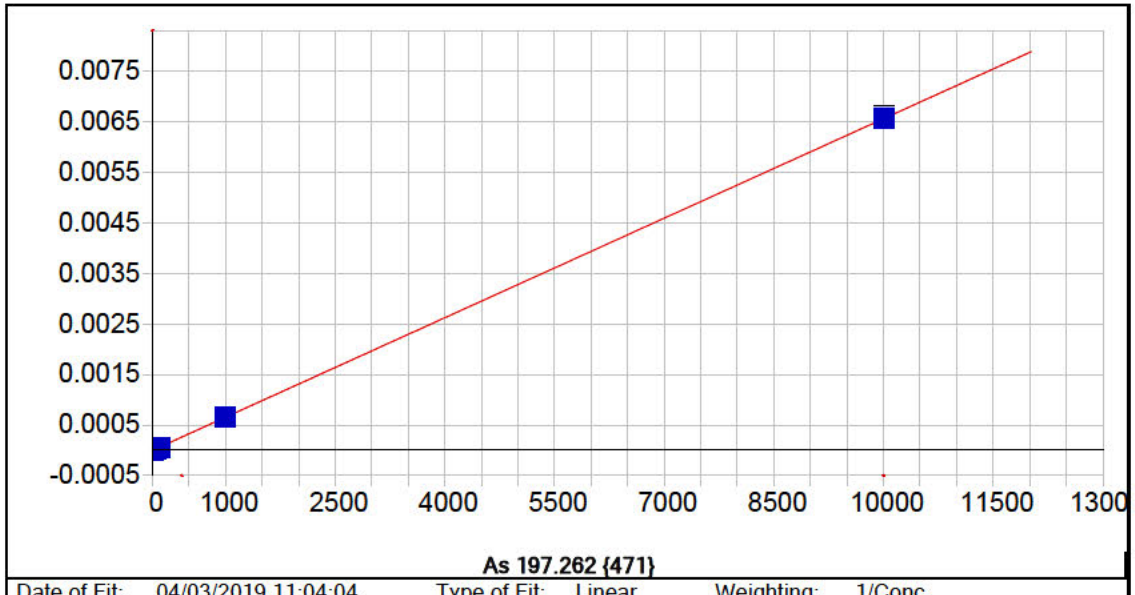



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.407326 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.101296 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.185503 | | |
| Predicted MDL: | 4.429608 | | |
| Predicted MQL: | 14.765359 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.1499 | 1.15 | .000 | -.29085 | .233 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .431 | .043 | 100.58 | .290 | 1 |
| CalStd7=50 | 50.000 | 50.048 | .048 | .096 | 4.6509 | .373 | 1 |
| CalStd5=10 | 10.000 | 10.444 | .444 | 4.44 | .64784 | .127 | 1 |
| CalStd8=100 | 100.00 | 96.452 | -3.55 | -3.55 | 9.3281 | .256 | 1 |

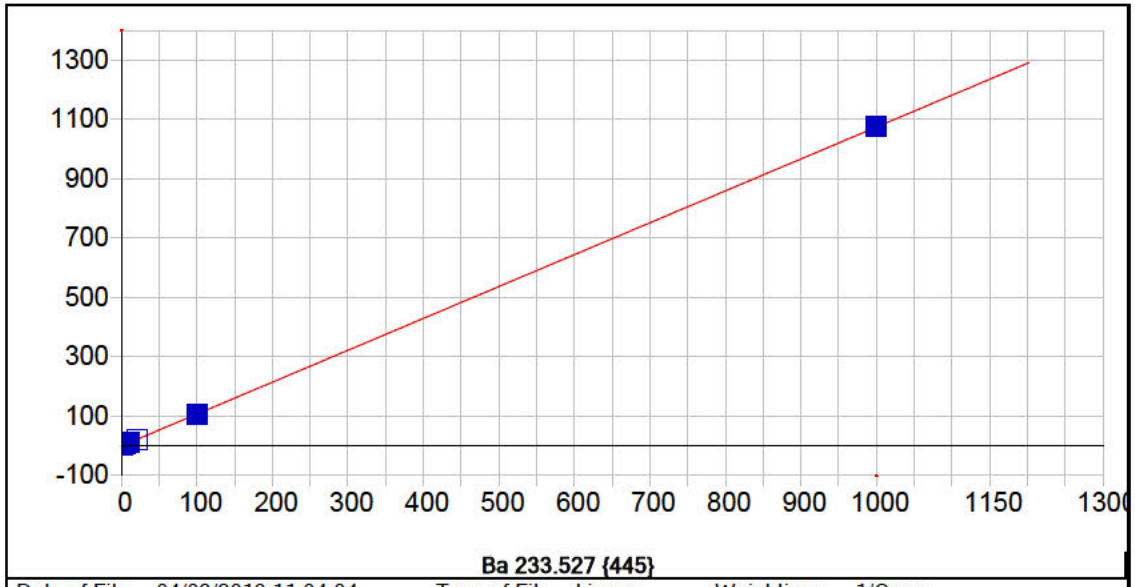



**As 197.262 {471}**

| | | | |
|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear |
| Weighting: | 1/Conc | | |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999913 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.305293 | | |
| Predicted MQL: | 31.017645 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00423 | .004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.9 | 11.9 | 1.19 | .00067 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.780 | -1.22 | -2.44 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.7546 | -3.25 | -32.5 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 91.385 | -8.62 | -8.62 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10001. | 1.14 | .011 | .00660 | .000 | 1 |

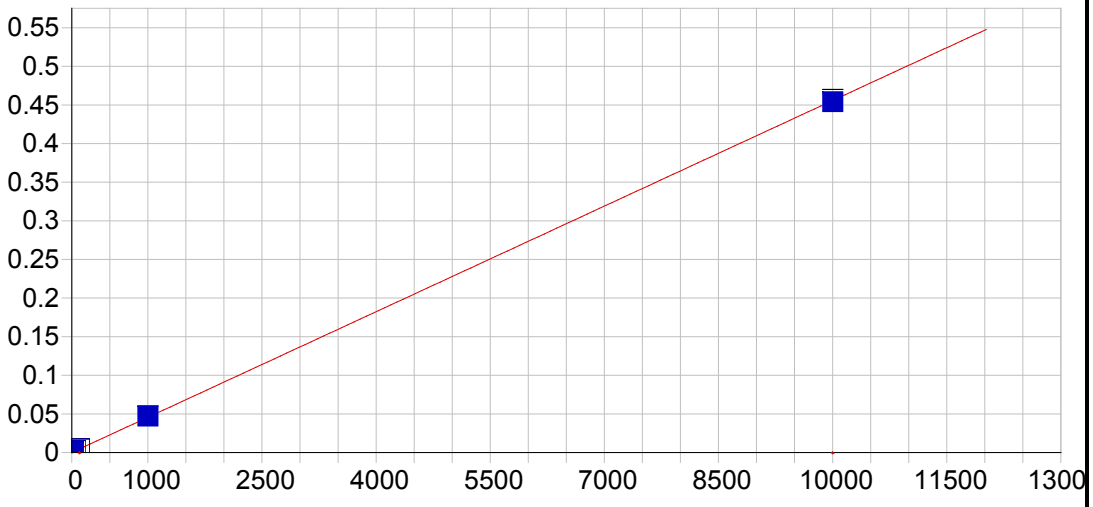



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.229158 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.074617 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999964 | Status: | OK. |
| Std Error of Est: | 0.011470 | | |
| Predicted MDL: | 0.421845 | | |
| Predicted MQL: | 1.406150 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00008 | -.000 | .000 | -.22925 | .083 | 1 |
| CalStd5=10 | 10.000 | 10.738 | .738 | 7.38 | 11.312 | .339 | 1 |
| CalStd6=20 | 20.000 | 19.636 | -.364 | -1.82 | 20.872 | .263 | 1 |
| CalStd8=100 | 100.00 | 99.001 | -.999 | -.999 | 106.17 | .544 | 1 |
| CalStd4=5 | 5.0000 | 4.8405 | -.159 | -3.19 | 4.9732 | .200 | 1 |
| CalStd9=100 | 1000.0 | 1000.7 | .716 | .072 | 1075.2 | 2.77 | 1 |
| CalStd3=1 | 1.0000 | 1.0691 | .069 | 6.91 | .91989 | .686 | 1 |

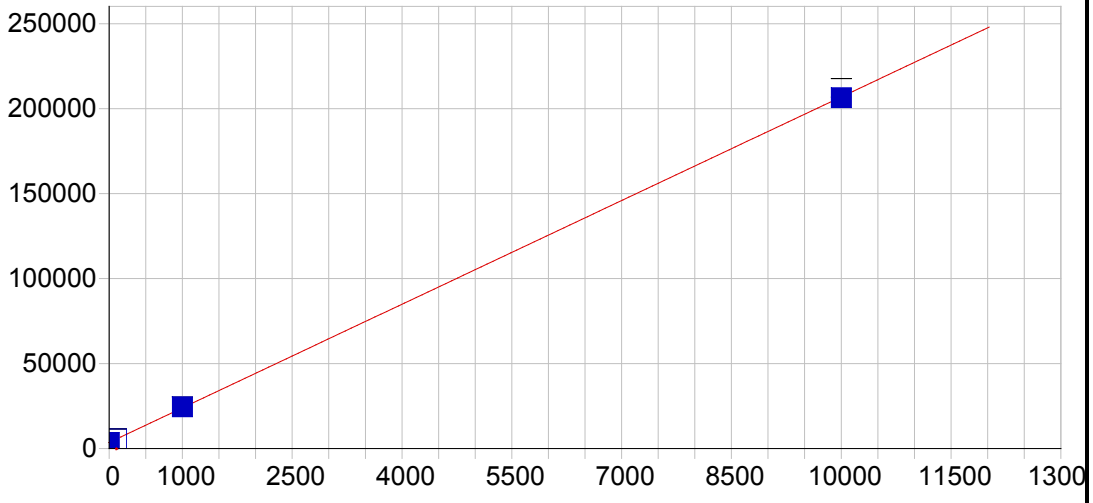



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.347882 | | |
| Predicted MQL: | 1.159608 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00003 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.993 | .993 | 1.99 | .00238 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.253 | 1.25 | 12.5 | .00057 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.500 | .500 | 2.50 | .00099 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.89 | 2.89 | 2.89 | .00475 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0918 | .092 | 1.84 | .00029 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.9 | 31.9 | 3.19 | .04708 | .000 | 1 |
| CalStd3=1 | 1.0000 | .78675 | -.213 | -21.3 | .00010 | .000 | 1 |
| CalStd10=10 | 10000. | 9962.6 | -37.4 | -.374 | .45402 | .003 | 1 |

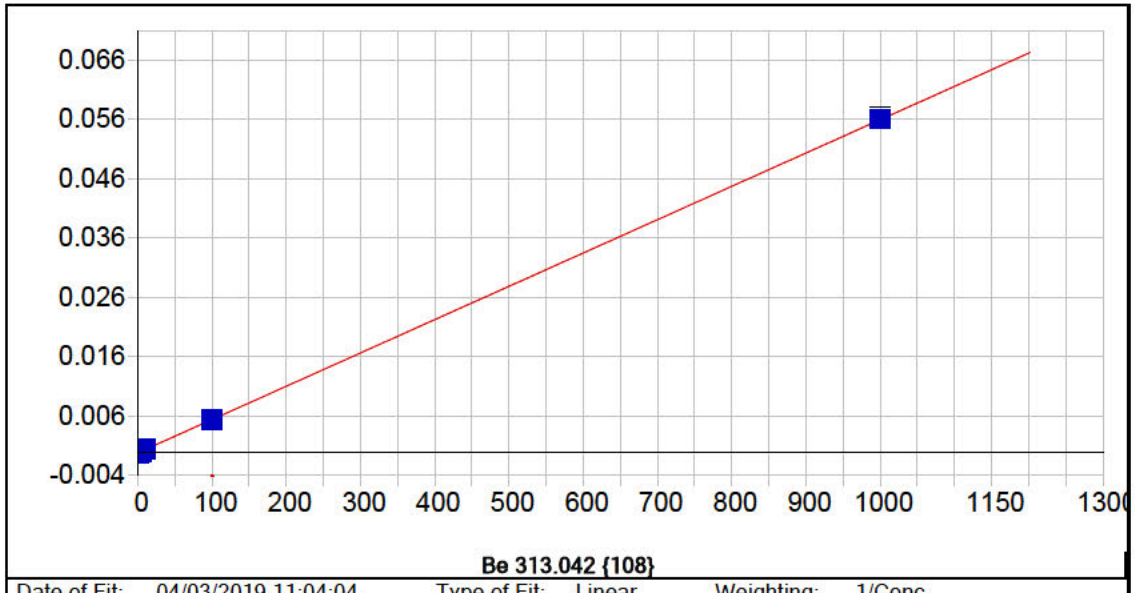



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 3597.713465 | Re-Slope: | 1.000000 |
| A1 (Gain): | 20.331614 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 8.353012 | | |
| Predicted MDL: | 0.746985 | | |
| Predicted MQL: | 2.489951 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00287 | -.003 | .000 | 3597.7 | 6.55 | 1 |
| CalStd9=100 | 1000.0 | 1027.7 | 27.7 | 2.77 | 24494. | 32.9 | 1 |
| CalStd8=100 | 100.00 | 100.38 | .385 | .385 | 5638.7 | 9.01 | 1 |
| CalStd10=10 | 10000. | 9972.0 | -28.0 | -.280 | 206360. | 5460. | 1 |

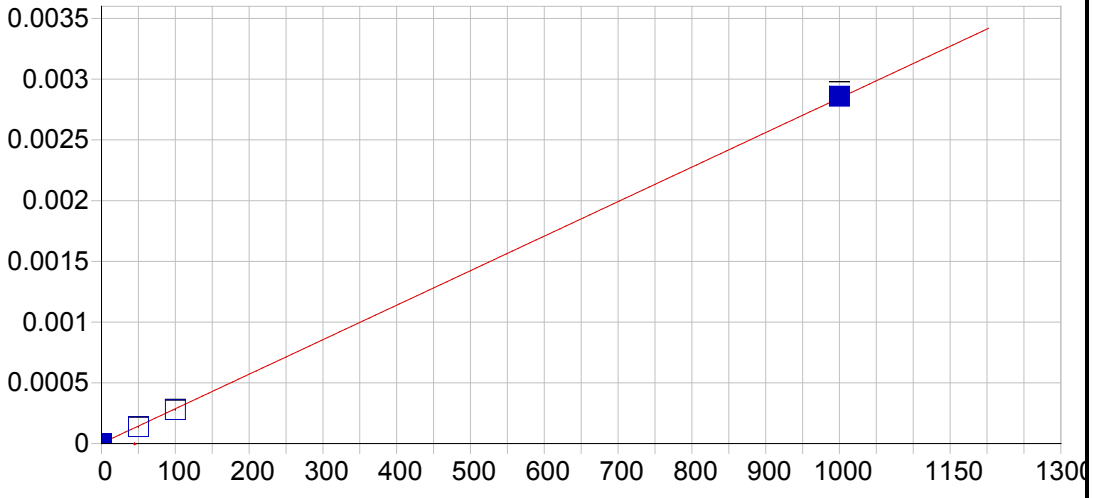



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000186 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.051357 | | |
| Predicted MQL: | 0.171190 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00001 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00040 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.092 | -1.91 | -1.91 | .00532 | .000 | 1 |
| CalStd2=0.5 | .50000 | .50198 | .002 | .397 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9726 | -.027 | -.548 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.5 | 1.50 | .150 | .05605 | .000 | 1 |
| CalStd3=1 | 1.0000 | .99867 | -.001 | -.133 | -.00013 | .000 | 1 |

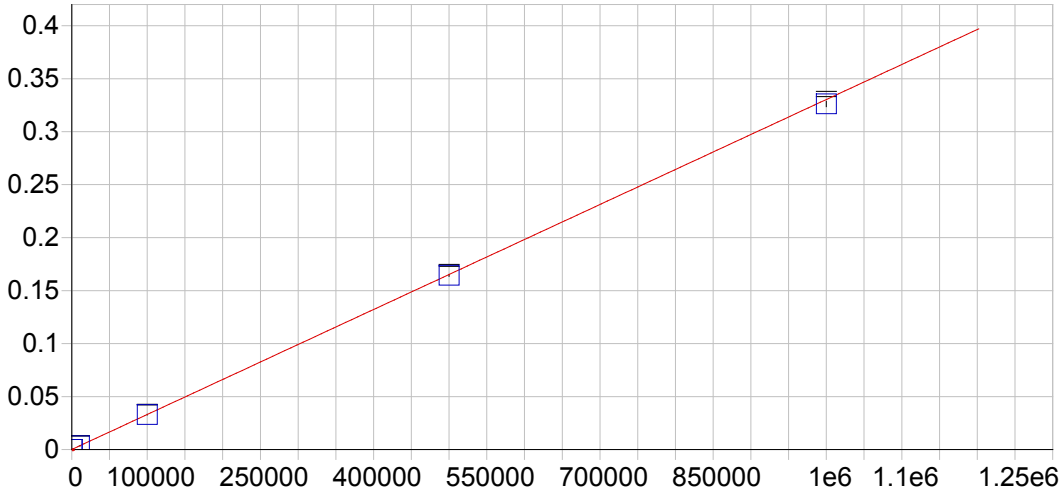



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999909 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.906936 | | |
| Predicted MQL: | 3.023120 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00344 | .003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.1 | 5.07 | .507 | .00286 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.243 | -2.76 | -2.76 | .00028 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.689 | -2.31 | -4.62 | .00014 | .000 | 1 |

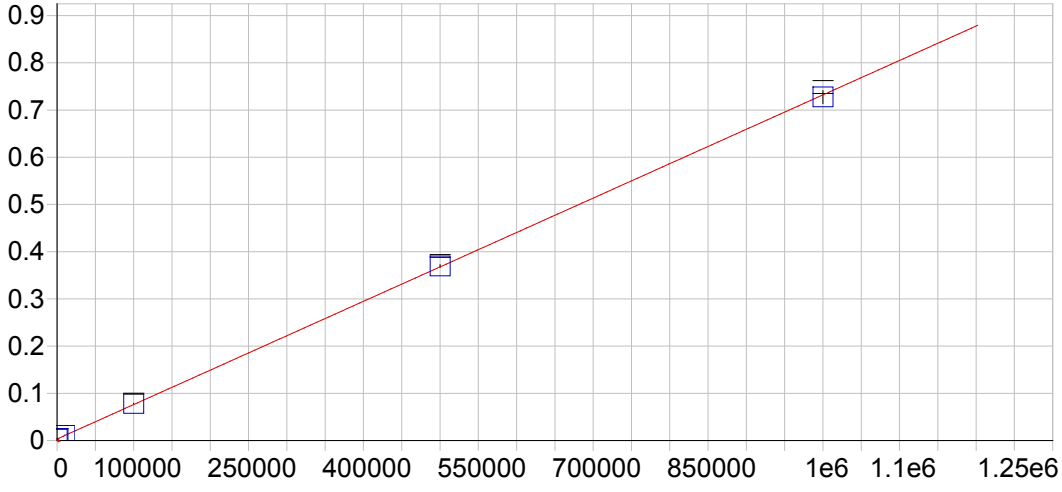



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000053 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999905 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 11.428894 | | |
| Predicted MQL: | 38.096314 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.240 | -24.2 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 10204. | 204. | 2.04 | .00342 | .000 | 1 |
| CalStd13=10 | 100000. | 99613. | -387. | -.387 | .03296 | .000 | 1 |
| CalStd14=50 | 500000. | 497270. | -2730. | -.546 | .16430 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1009.7 | 9.67 | .967 | .00039 | .000 | 1 |
| CalibStd15= | 1000000. | 987190. | -12800. | -1.28 | .32613 | .002 | 1 |

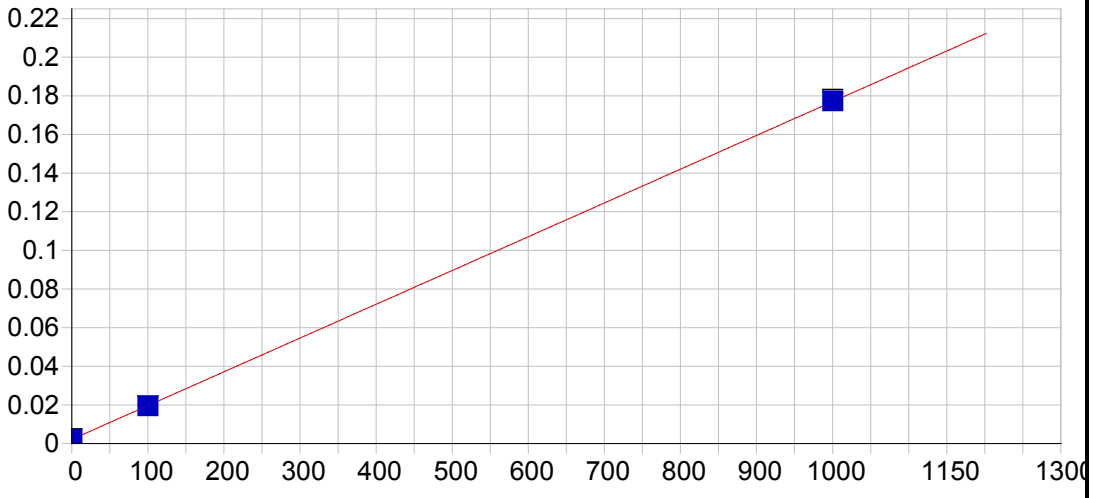



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003363 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999903 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 6.633434 | | |
| Predicted MQL: | 22.111448 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.44586 | -.446 | .000 | .00336 | .000 | 1 |
| CalStd10=10 | 10000. | 10856. | 856. | 8.56 | .01127 | .000 | 1 |
| CalStd13=10 | 100000. | 102690. | 2690. | 2.69 | .07820 | .001 | 1 |
| CalStd14=50 | 500000. | 502560. | 2560. | .513 | .36961 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1334.7 | 335. | 33.5 | .00434 | .000 | 1 |
| CalibStd15= | 1000000. | 993560. | -6440. | -.644 | .72742 | .014 | 1 |

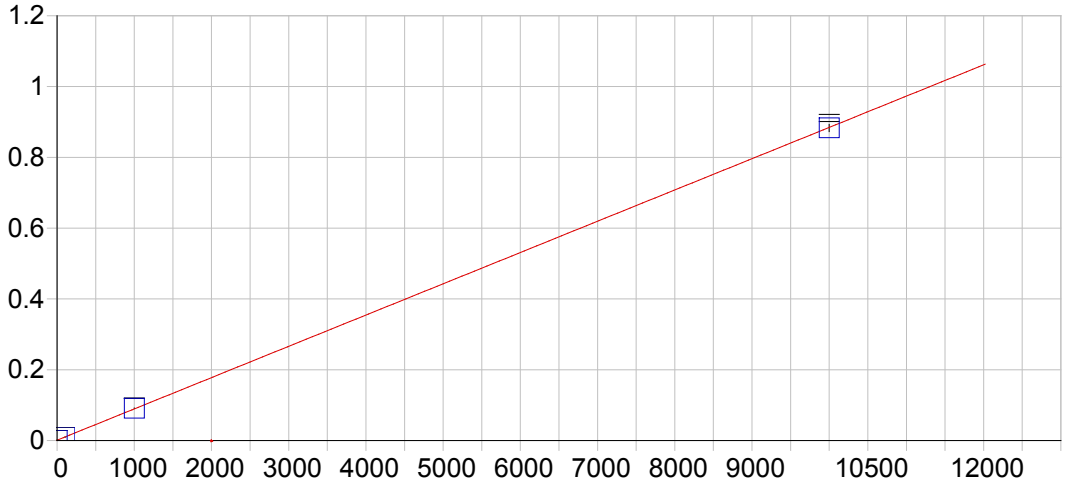



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002149 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000175 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999988 | Status: | OK. |
| Std Error of Est: | 0.000193 | | |
| Predicted MDL: | 0.065926 | | |
| Predicted MQL: | 0.219752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44735 | .447 | .000 | .00223 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.93 | .193 | .17732 | .001 | 1 |
| CalStd8=100 | 100.00 | 99.231 | -.769 | -.769 | .01950 | .000 | 1 |

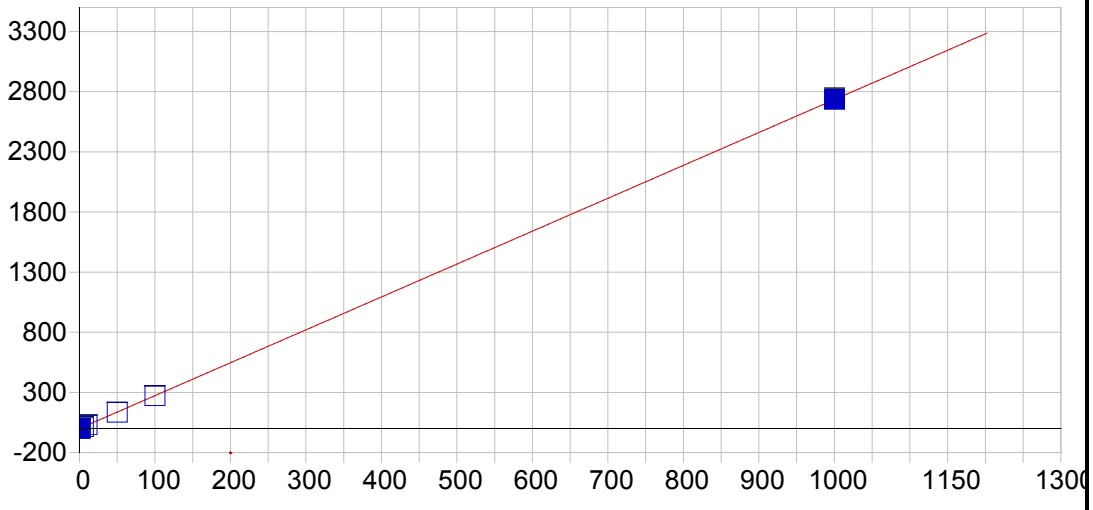



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001088 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000088 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.113449 | | |
| Predicted MQL: | 0.378163 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00200 | -.002 | .000 | .00109 | .000 | 1 |
| CalStd10=10 | 10000. | 9981.4 | -18.6 | -.186 | .88291 | .010 | 1 |
| CalStd8=100 | 100.00 | 100.36 | .361 | .361 | .00995 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.3 | 18.3 | 1.83 | .09105 | .001 | 1 |

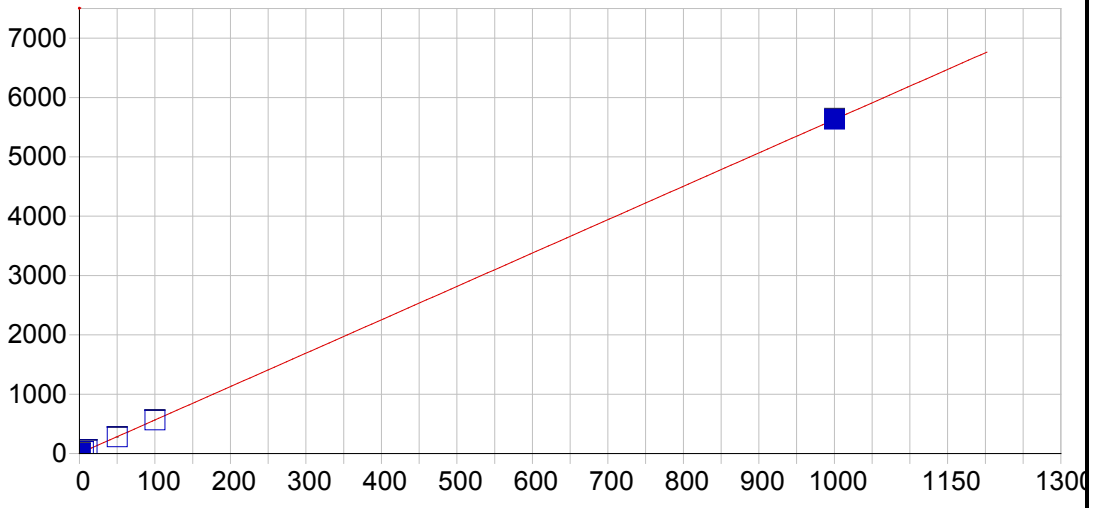



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.411776 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.734793 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.020907 | | |
| Predicted MDL: | 0.244420 | | |
| Predicted MQL: | 0.814732 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00001 | -.000 | .000 | -.41181 | .953 | 1 |
| CalStd7=50 | 50.000 | 49.100 | -.900 | -1.80 | 133.87 | .824 | 1 |
| CalStd3=1 | 1.0000 | 1.1316 | .132 | 13.2 | 2.6829 | .259 | 1 |
| CalStd2=0.5 | .50000 | .42495 | -.075 | -15.0 | .75036 | .354 | 1 |
| CalStd4=5 | 5.0000 | 4.9978 | -.002 | -.044 | 13.256 | .224 | 1 |
| CalStd8=100 | 100.00 | 99.544 | -.456 | -.456 | 271.82 | 1.16 | 1 |
| CalStd5=10 | 10.000 | 10.636 | .636 | 6.36 | 28.677 | .854 | 1 |
| CalStd9=100 | 1000.0 | 1000.7 | .665 | .066 | 2736.6 | 9.86 | 1 |

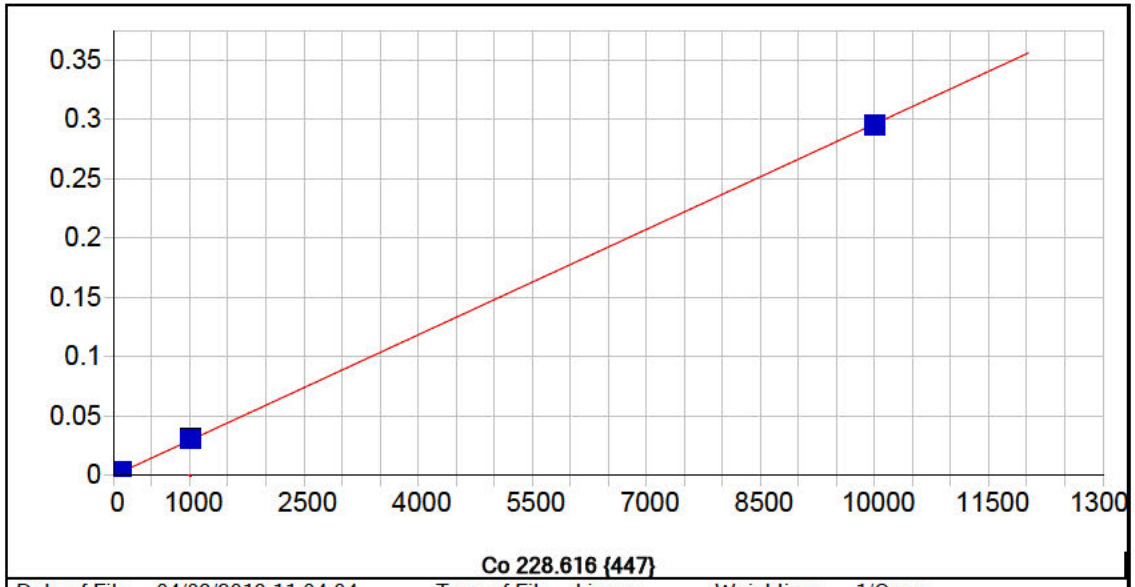



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 3.406882 | Re-Slope: | 1.000000 |
| A1 (Gain): | 5.625665 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.031467 | | |
| Predicted MDL: | 0.164946 | | |
| Predicted MQL: | 0.549820 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | 3.4066 | .494 | 1 |
| CalStd7=50 | 50.000 | 48.987 | -1.01 | -2.03 | 278.99 | .726 | 1 |
| CalStd3=1 | 1.0000 | 1.0356 | .036 | 3.56 | 9.2329 | .918 | 1 |
| CalStd2=0.5 | .50000 | .52153 | .022 | 4.31 | 6.3408 | .530 | 1 |
| CalStd4=5 | 5.0000 | 4.9714 | -.029 | -.572 | 31.374 | .489 | 1 |
| CalStd8=100 | 100.00 | 99.561 | -.439 | -.439 | 563.50 | 2.78 | 1 |
| CalStd5=10 | 10.000 | 10.461 | .461 | 4.61 | 62.257 | .641 | 1 |
| CalStd9=100 | 1000.0 | 1001.0 | .963 | .096 | 5634.5 | 13.4 | 1 |

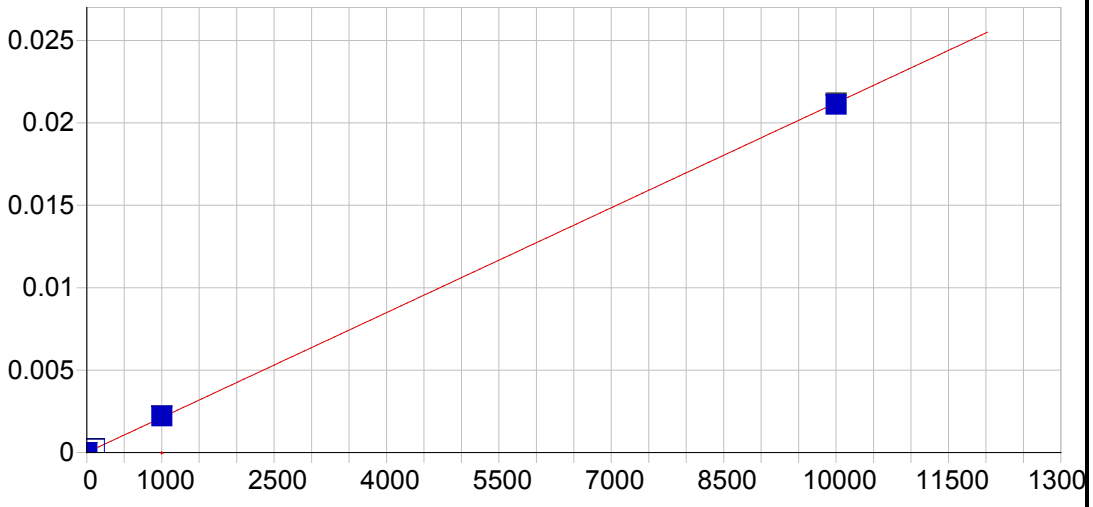



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000030 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999915 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.415206 | | |
| Predicted MQL: | 1.384021 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00036 | .000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.780 | .780 | 1.56 | .00153 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.366 | .366 | 3.66 | .00033 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9505 | -.050 | -.991 | .00017 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.53 | 2.53 | 2.53 | .00307 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.9 | 37.9 | 3.79 | .03079 | .000 | 1 |
| CalStd3=1 | 1.0000 | .53518 | -.465 | -46.5 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9959.0 | -41.0 | -.410 | .29555 | .000 | 1 |

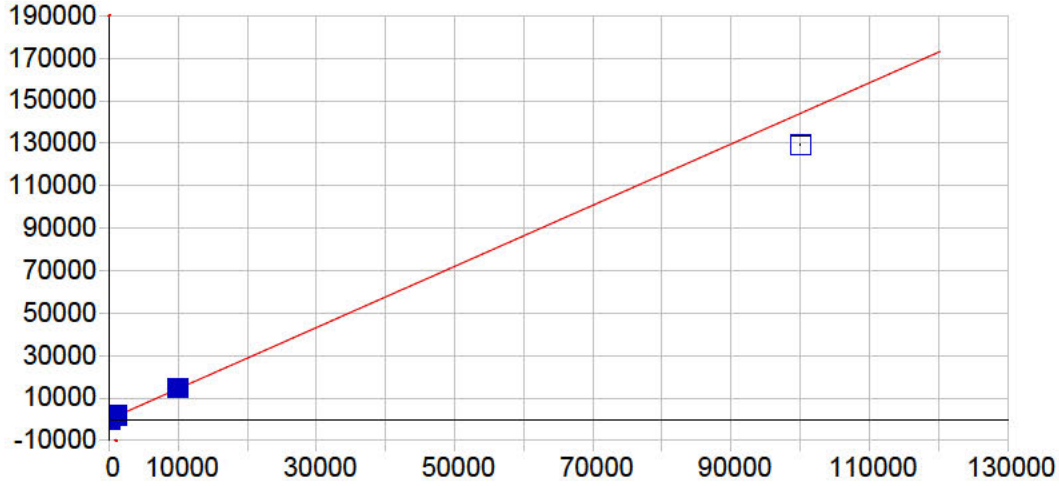



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999917 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.813206 | | |
| Predicted MQL: | 2.710687 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00607 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1040.0 | 40.0 | 4.00 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.5 | -42.5 | -.425 | .02113 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.50 | 2.50 | 2.50 | .00022 | .000 | 1 |

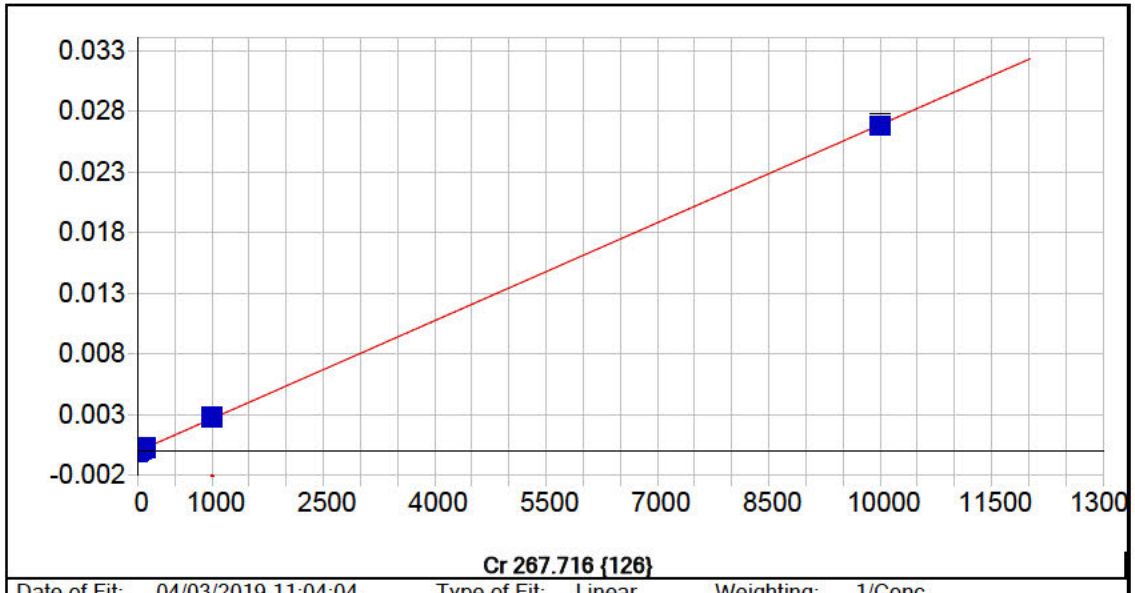



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 2.209865 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.440047 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998342 | Status: | OK. |
| Std Error of Est: | 12.321930 | | |
| Predicted MDL: | 0.365377 | | |
| Predicted MQL: | 1.217925 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.6329 | -1.63 | .000 | -.14162 | .434 | 1 |
| CalStd5=10 | 10.000 | 9.1006 | -.899 | -8.99 | 15.315 | .291 | 1 |
| CalStd7=50 | 50.000 | 51.103 | 1.10 | 2.21 | 75.800 | 1.13 | 1 |
| CalStd9=100 | 1000.0 | 1077.0 | 77.0 | 7.70 | 1553.1 | 5.03 | 1 |
| CalStd8=100 | 100.00 | 104.84 | 4.84 | 4.84 | 153.18 | .404 | 1 |
| CalStd4=5 | 5.0000 | 3.6774 | -1.32 | -26.5 | 7.5054 | .541 | 1 |
| CalStd3=1 | 1.0000 | -1.1063 | -2.11 | -211. | .61681 | .454 | 1 |
| CalStd10=10 | 10000. | 10184. | 184. | 1.84 | 14668. | 16.8 | 1 |
| CalStd12=10 | 100000. | 89614. | -10400. | -10.4 | 129050. | 289. | 1 |

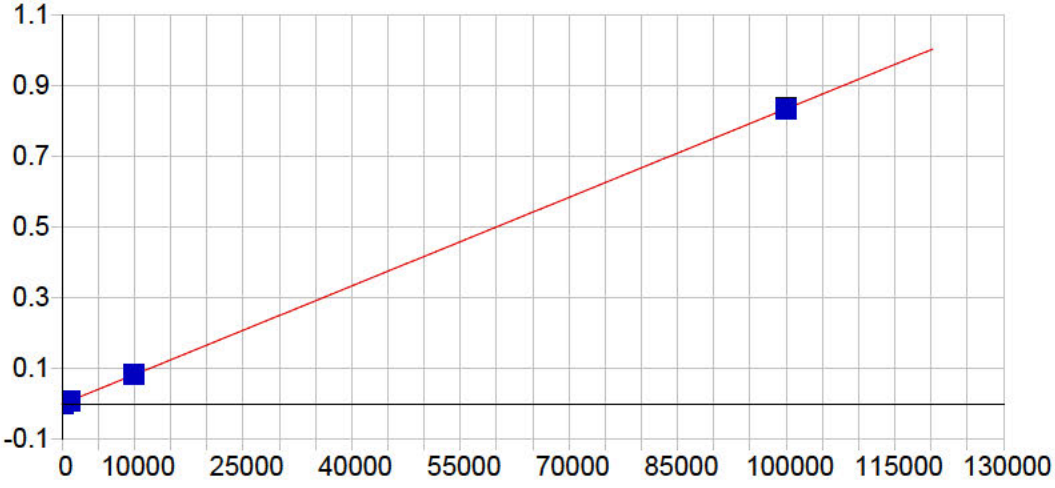



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999946 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.833534 | | |
| Predicted MQL: | 2.778447 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00115 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.751 | .751 | 7.51 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.009 | .009 | .017 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.1 | 31.1 | 3.11 | .00277 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.50 | .500 | .500 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6110 | .611 | 12.2 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.0 | -33.0 | -.330 | .02680 | .000 | 1 |

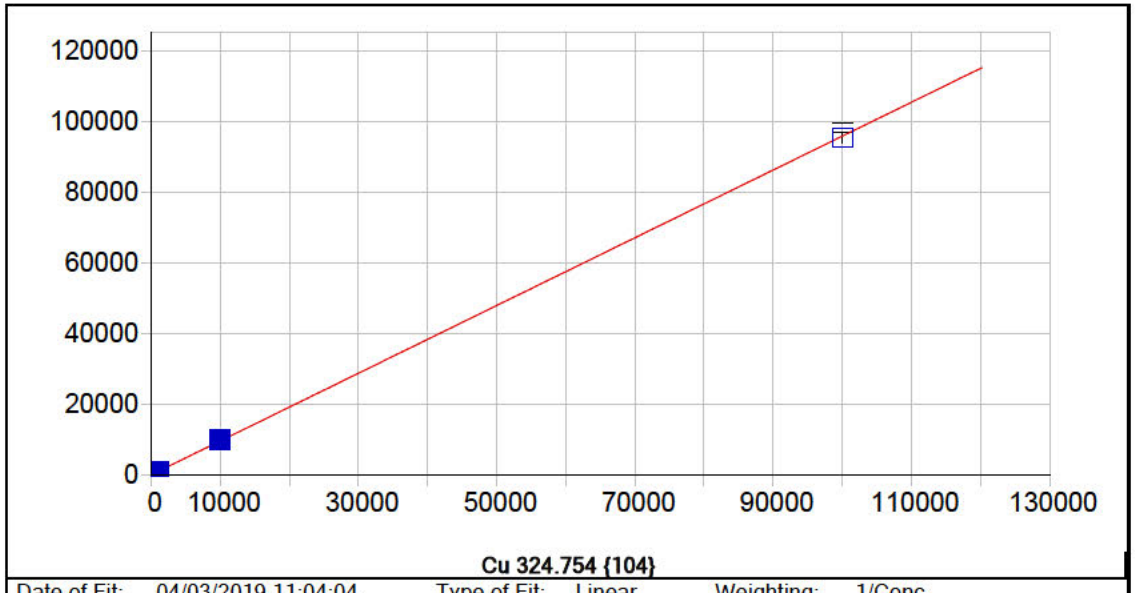



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999717 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.486428 | | |
| Predicted MQL: | 1.621428 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03890 | .039 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.6 | 6.55 | .655 | .00840 | .000 | 1 |
| CalStd7=50 | 50.000 | 14.781 | -35.2 | -70.4 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 54.708 | -45.3 | -45.3 | .00046 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.7288 | -16.3 | -81.4 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99886. | -114. | -.114 | .83352 | .003 | 1 |
| CalStd10=10 | 10000. | 10204. | 204. | 2.04 | .08515 | .000 | 1 |

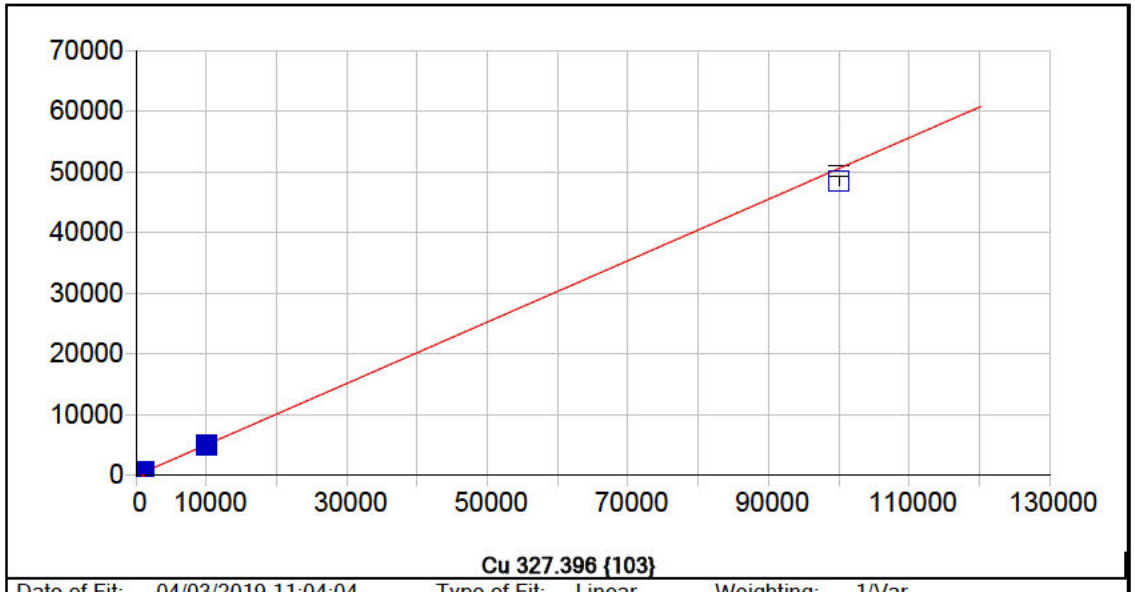



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 195.760352 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.956520 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999874 | Status: | OK. |
| Std Error of Est: | 0.583215 | | |
| Predicted MDL: | 2.991096 | | |
| Predicted MQL: | 9.970320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01093 | -.011 | .000 | 195.75 | 2.84 | 1 |
| CalStd9=100 | 1000.0 | 1068.7 | 68.7 | 6.87 | 1217.9 | 4.25 | 1 |
| CalStd8=100 | 100.00 | 109.73 | 9.73 | 9.73 | 300.72 | 4.95 | 1 |
| CalStd10=10 | 10000. | 10389. | 389. | 3.89 | 10131. | 65.2 | 1 |
| CalStd12=10 | 100000. | 99516. | -484. | -.484 | 95385. | 1390. | 1 |
| CalStd5=10 | 10.000 | 14.534 | 4.53 | 45.3 | 209.66 | 2.45 | 1 |
| CalStd6=20 | 20.000 | 26.366 | 6.37 | 31.8 | 220.98 | 1.94 | 1 |
| CalStd7=50 | 50.000 | 56.065 | 6.07 | 12.1 | 249.39 | 4.12 | 1 |

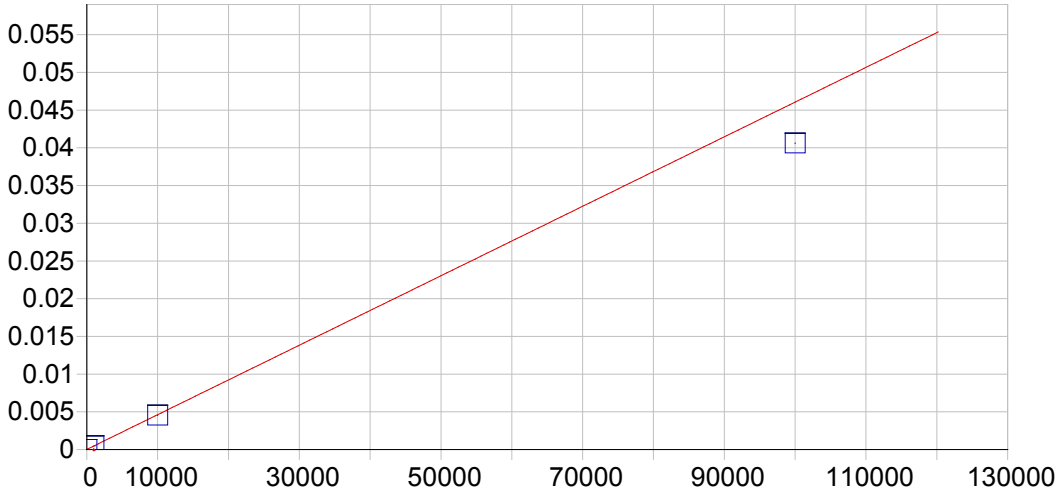



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 12.073792 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.505778 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999849 | Status: | OK. |
| Std Error of Est: | 2.295697 | | |
| Predicted MDL: | 7.411216 | | |
| Predicted MQL: | 24.704054 | | |

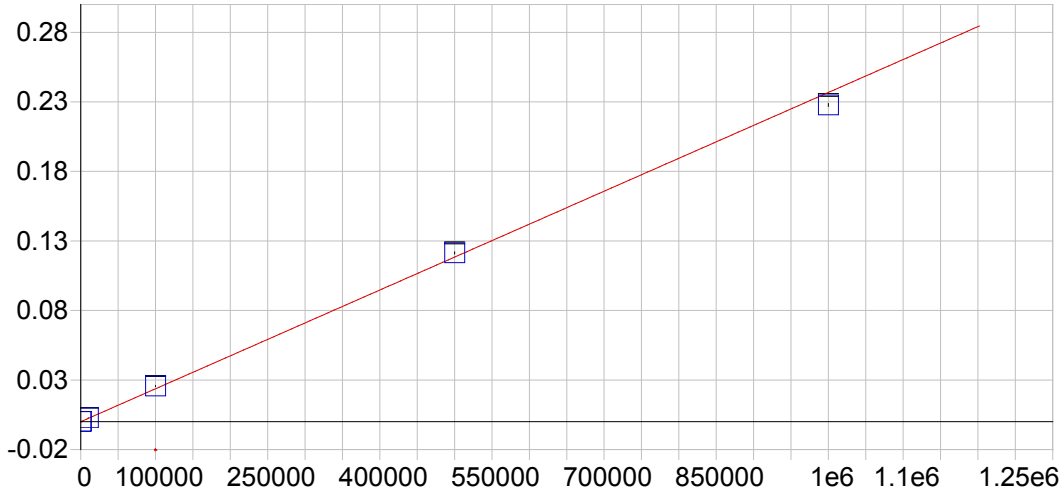
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -5.6884 | -5.69 | .000 | 9.1967 | 5.28 | 1 |
| CalStd6=20 | 20.000 | 19.574 | -.426 | -2.13 | 21.968 | 3.33 | 1 |
| CalStd7=50 | 50.000 | 48.910 | -1.09 | -2.18 | 36.797 | 2.47 | 1 |
| CalStd8=100 | 100.00 | 95.161 | -4.84 | -4.84 | 60.175 | .885 | 1 |
| CalStd9=100 | 1000.0 | 1009.3 | 9.27 | .927 | 522.23 | 2.17 | 1 |
| CalStd10=10 | 10000. | 9907.9 | -92.1 | -.921 | 5023.2 | 35.8 | 1 |
| CalStd12=10 | 100000. | 95899. | -4100. | -4.10 | 48516. | 792. | 1 |
| CalStd4=5 | 5.0000 | 6.2834 | 1.28 | 25.7 | 15.250 | .519 | 1 |
| CalStd5=10 | 10.000 | 8.9555 | -1.04 | -10.4 | 16.600 | 3.80 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000018 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999999 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 1.753079 | | | | |
| Predicted MQL: | 5.843598 | | | | |

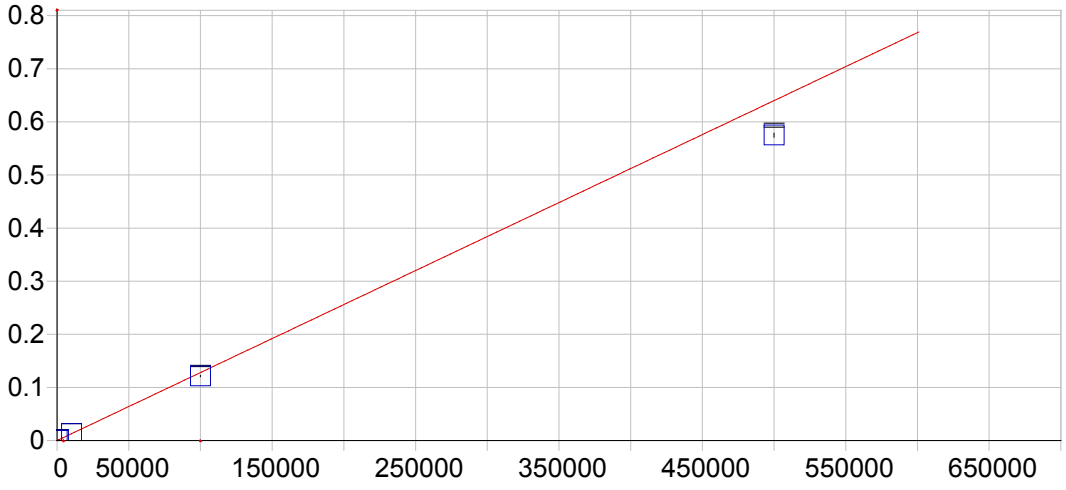
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.9372 | -2.94 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9841.0 | -159. | -1.59 | .00455 | .000 | 1 |
| CalStd13=10 | 100000. | 88164. | -11800. | -11.8 | .04061 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.5 | 17.5 | 1.75 | .00049 | .000 | 1 |




**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000008 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.998467 | | Status: | OK. | |
| Std Error of Est: | 0.000055 | | | | |
| Predicted MDL: | 12.638969 | | | | |
| Predicted MQL: | 42.129896 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -26.032 | -26.0 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 11462. | 1460. | 14.6 | .00272 | .000 | 1 |
| CalStd13=10 | 100000. | 108240. | 8240. | 8.24 | .02564 | .000 | 1 |
| CalStd14=50 | 500000. | 512660. | 12700. | 2.53 | .12138 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1137.2 | 137. | 13.7 | .00028 | .000 | 1 |
| CalibStd15= | 1000000. | 961900. | -38100. | -3.81 | .22774 | .001 | 1 |

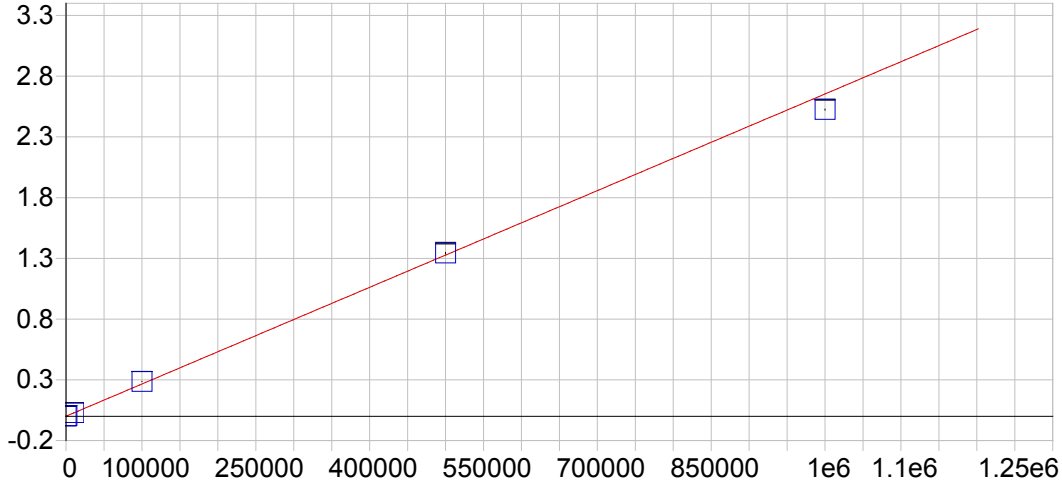



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999835 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 3.379894 | | |
| Predicted MQL: | 11.266312 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.93836 | -.938 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10129. | 129. | 1.29 | .01297 | .000 | 1 |
| CalStd13=10 | 100000. | 94934. | -5070. | -5.07 | .12153 | .001 | 1 |
| CalStd14=50 | 500000. | 449200. | -50800. | -10.2 | .57501 | .004 | 1 |
| CalStd9=100 | 1000.0 | 1026.4 | 26.4 | 2.64 | .00132 | .000 | 1 |

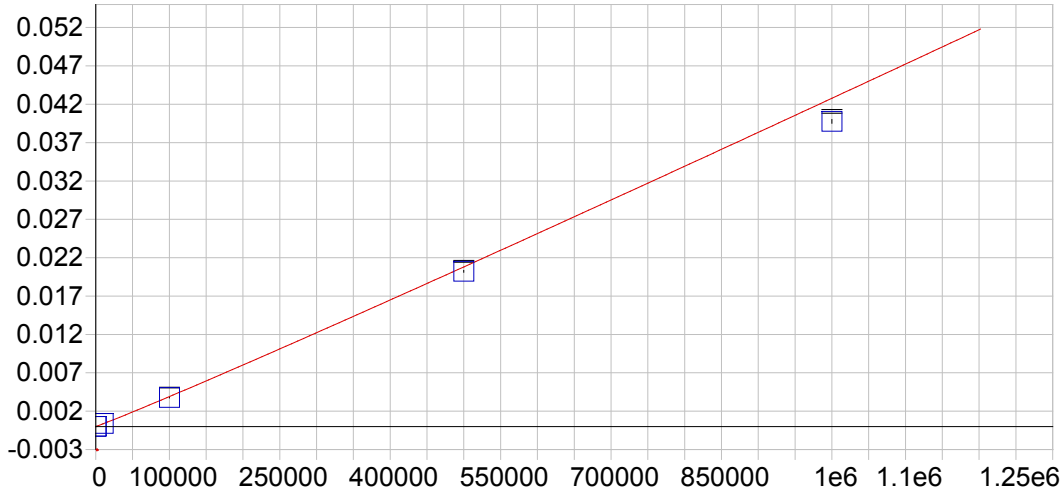



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000285 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997312 | Status: | OK. |
| Std Error of Est: | 0.000302 | | |
| Predicted MDL: | 2.846126 | | |
| Predicted MQL: | 9.487088 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -107.41 | -107. | .000 | .00000 | .000 | 1 |
| CalStd13=10 | 100000. | 107690. | 7690. | 7.69 | .28602 | .001 | 1 |
| CalStd10=10 | 10000. | 10355. | 355. | 3.55 | .02776 | .000 | 1 |
| CalStd14=50 | 500000. | 505990. | 5990. | 1.20 | 1.3429 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1047.3 | 47.3 | 4.73 | .00306 | .000 | 1 |
| CalibStd15= | 1000000. | 951380. | -48600. | -4.86 | 2.5247 | .004 | 1 |

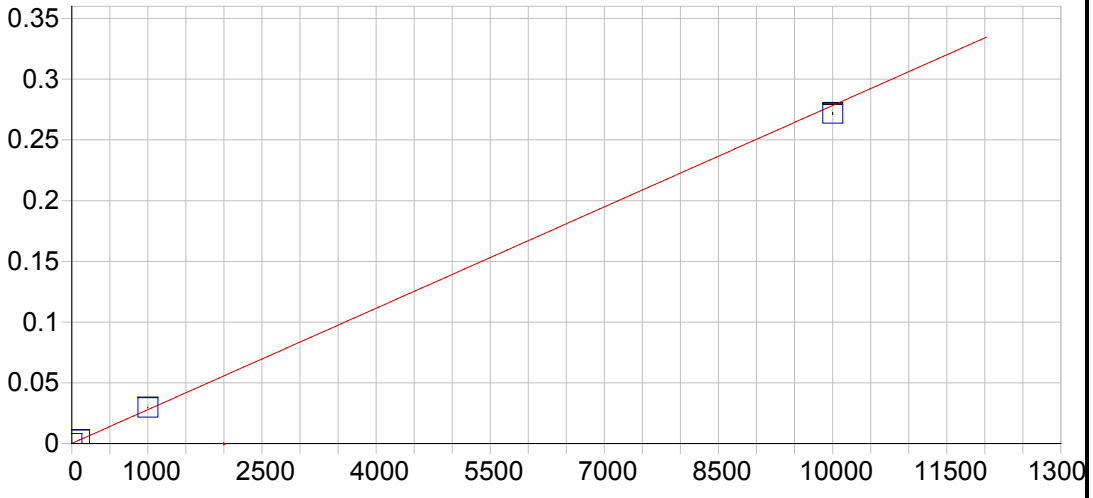



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.040000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 87.776778 | | |
| Predicted MQL: | 292.589261 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 96977. | -3020. | -3.02 | .00378 | .000 | 1 |
| CalStd10=10 | 10000. | 10582. | 582. | 5.82 | .00038 | .000 | 1 |
| CalStd14=50 | 500000. | 486570. | -13400. | -2.69 | .02022 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1132.4 | 132. | 13.2 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 932220. | -67800. | -6.78 | .03977 | .000 | 1 |

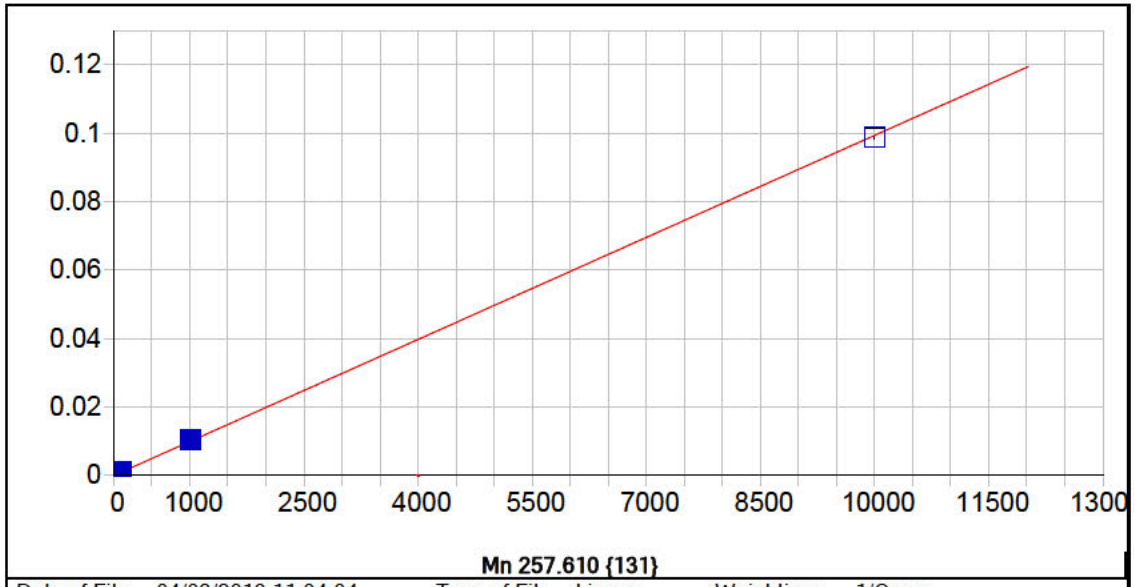



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000098 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000028 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999229 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 0.044666 | | |
| Predicted MQL: | 0.148887 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.06086 | -.061 | .000 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1064.7 | 64.7 | 6.47 | .02973 | .000 | 1 |
| CalStd10=10 | 10000. | 9764.9 | -235. | -2.35 | .27181 | .001 | 1 |
| CalStd8=100 | 100.00 | 106.59 | 6.59 | 6.59 | .00306 | .000 | 1 |

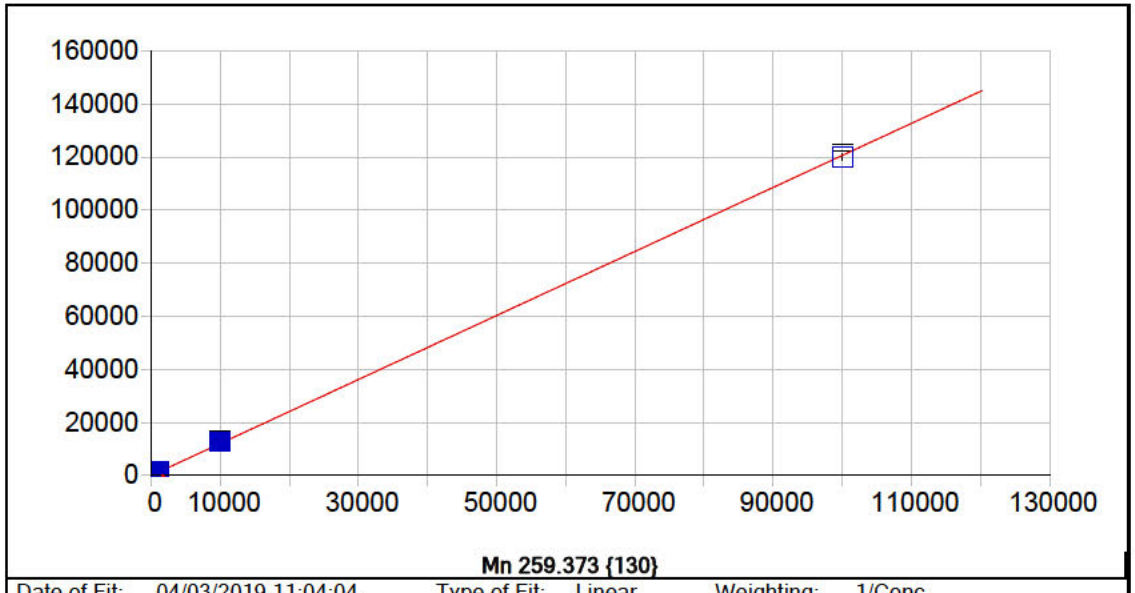



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999816 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.121527 | | |
| Predicted MQL: | 0.405090 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00158 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.831 | .831 | 8.31 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.850 | 1.85 | 3.70 | .00052 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.003 | 1.00 | 5.01 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.45 | 4.45 | 4.45 | .00104 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.2501 | .250 | 5.00 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1057.2 | 57.2 | 5.72 | .01051 | .000 | 1 |
| CalStd10=10 | 10000. | 9934.4 | -65.6 | -.656 | .09872 | .000 | 1 |

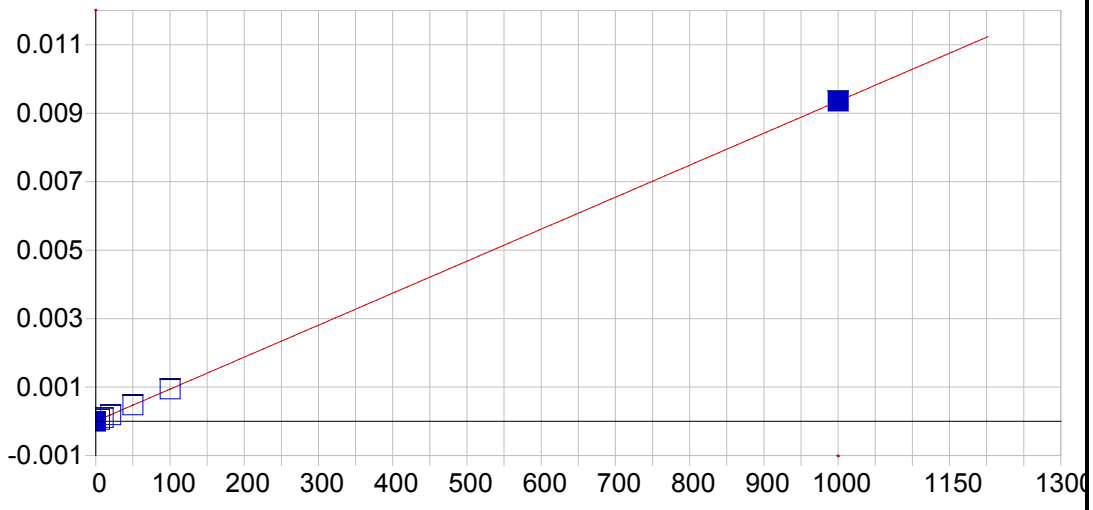



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.324042 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.205809 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999827 | Status: | OK. |
| Std Error of Est: | 10.572082 | | |
| Predicted MDL: | 1.193217 | | |
| Predicted MQL: | 3.977391 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.12446 | -.124 | .000 | 1.1740 | 1.09 | 1 |
| CalStd10=10 | 10000. | 10536. | 536. | 5.36 | 12722. | 60.6 | 1 |
| CalStd9=100 | 1000.0 | 1077.0 | 77.0 | 7.70 | 1301.5 | 8.91 | 1 |
| CalStd12=10 | 100000. | 99386. | -614. | -.614 | 119840. | 1280. | 1 |

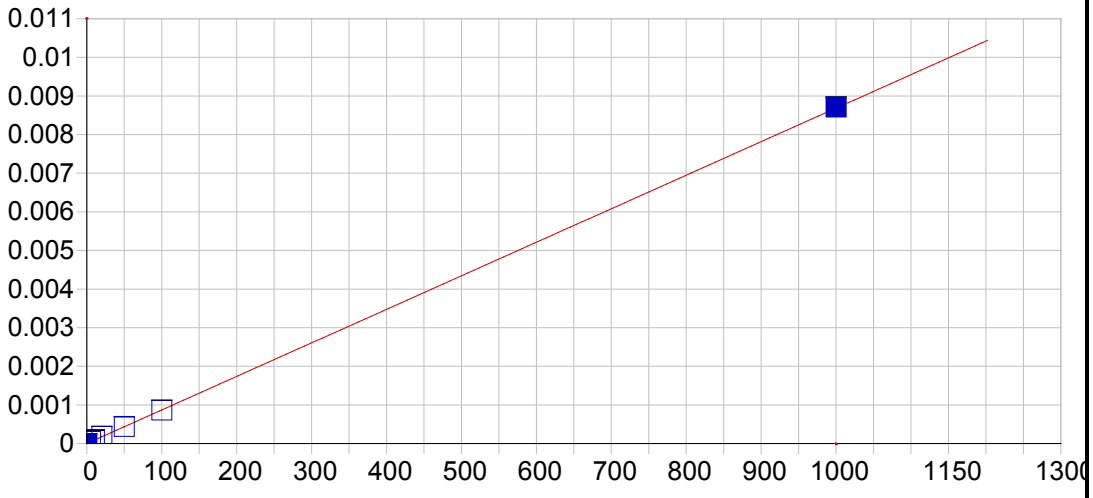



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.865243 | | |
| Predicted MQL: | 2.884143 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.42353 | -.424 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.581 | .581 | 1.16 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.464 | -.536 | -2.68 | .00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.27 | .270 | .270 | .00094 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0528 | .053 | 1.06 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.95 | -.047 | -.005 | .00935 | .000 | 1 |

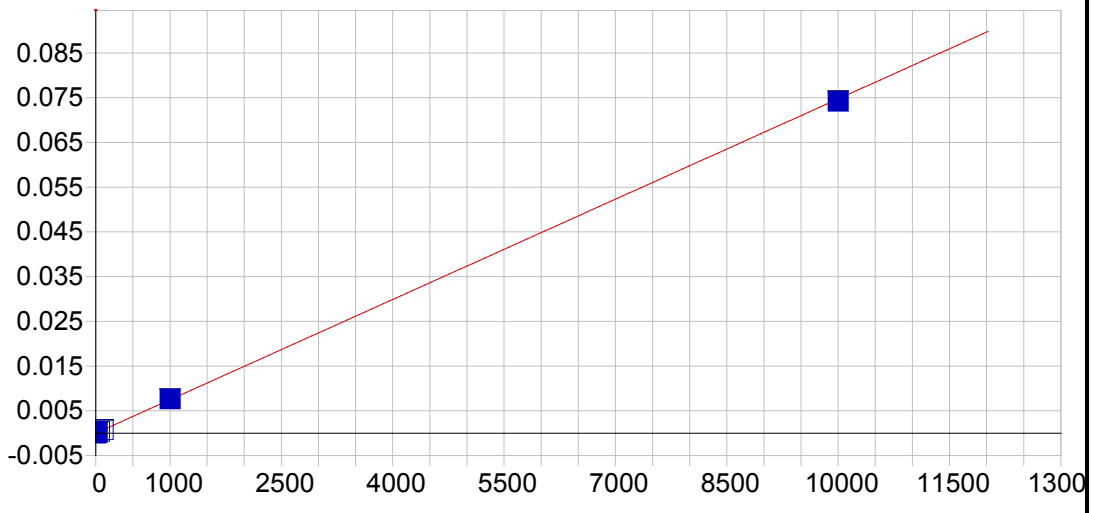



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999971 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.887699 | | |
| Predicted MQL: | 2.958997 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .66048 | .660 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.051 | .051 | .101 | .00044 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.301 | 1.30 | 6.50 | .00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.706 | .706 | 7.06 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.088 | -.912 | -.912 | .00086 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8151 | .815 | 16.3 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.6 | 2.62 | .262 | .00871 | .000 | 1 |

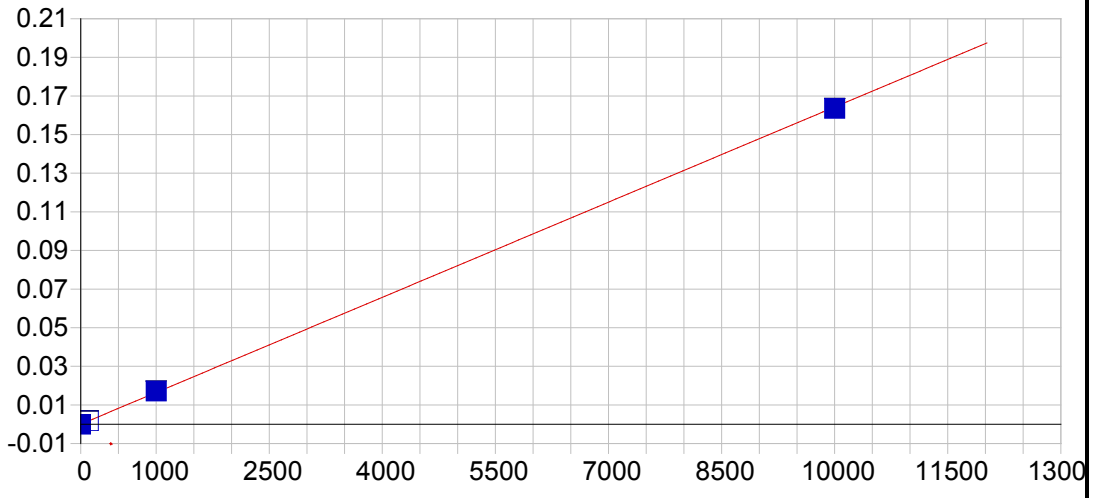



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999921 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.955772 | | |
| Predicted MQL: | 3.185908 | | |

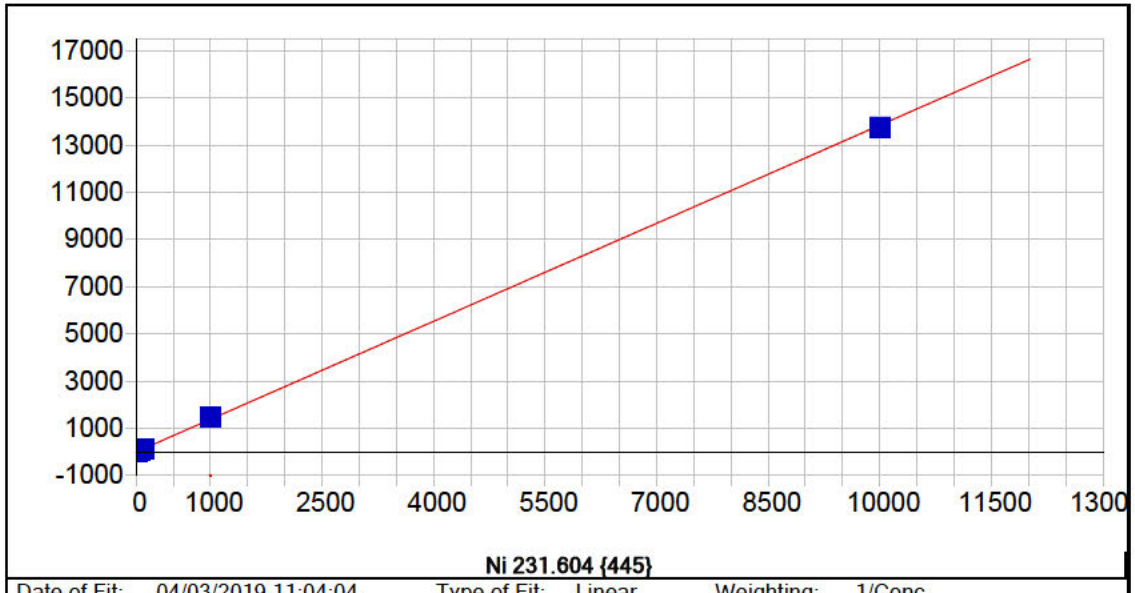
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.31895 | -.319 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.838 | -.162 | -.324 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.258 | .258 | 1.29 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.302 | .302 | 3.02 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.09 | .087 | .087 | .00075 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9755 | -.024 | -.489 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.9 | 21.9 | 2.19 | .00764 | .000 | 1 |
| CalStd10=10 | 10000. | 9927.8 | -72.2 | -.722 | .07420 | .000 | 1 |




**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000003 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000016 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999902 | | Status: | OK. | |
| Std Error of Est: | 0.000011 | | | | |
| Predicted MDL: | 0.708231 | | | | |
| Predicted MQL: | 2.360771 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00718 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9953.6 | -46.4 | -.464 | .16353 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.34 | 3.34 | 3.34 | .00170 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1043.1 | 43.1 | 4.31 | .01714 | .000 | 1 |

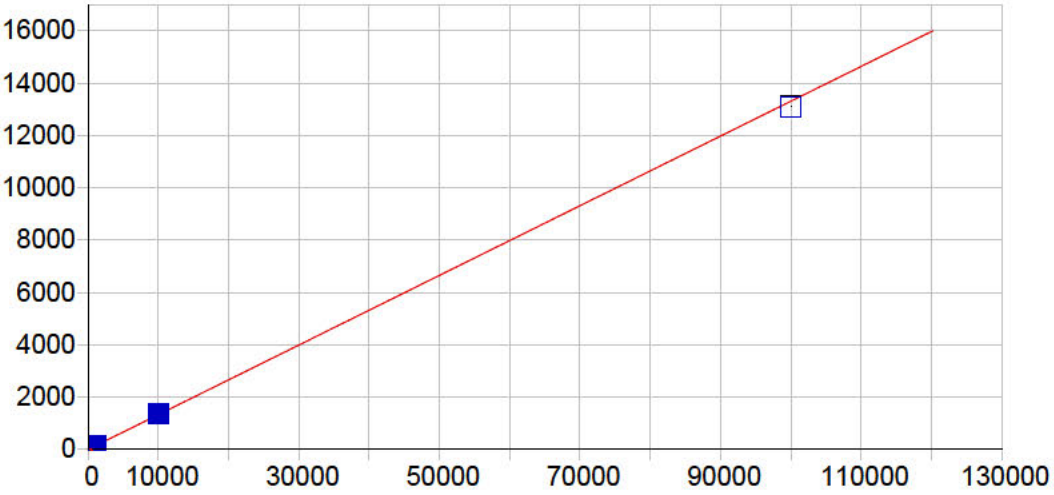



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -2.353047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.383964 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999787 | Status: | OK. |
| Std Error of Est: | 0.110528 | | |
| Predicted MDL: | 0.631063 | | |
| Predicted MQL: | 2.103543 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00065 | -.001 | .000 | -2.3539 | .395 | 1 |
| CalStd7=50 | 50.000 | 52.667 | 2.67 | 5.33 | 70.747 | 1.18 | 1 |
| CalStd5=10 | 10.000 | 11.154 | 1.15 | 11.5 | 13.103 | .682 | 1 |
| CalStd8=100 | 100.00 | 105.63 | 5.63 | 5.63 | 144.03 | .880 | 1 |
| CalStd4=5 | 5.0000 | 5.4673 | .467 | 9.35 | 5.2231 | .537 | 1 |
| CalStd9=100 | 1000.0 | 1059.9 | 59.9 | 5.99 | 1466.4 | 5.63 | 1 |
| CalStd3=1 | 1.0000 | 1.2752 | .275 | 27.5 | -.58647 | .763 | 1 |
| CalStd10=10 | 10000. | 9930.0 | -70.0 | -.700 | 13782. | 18.8 | 1 |

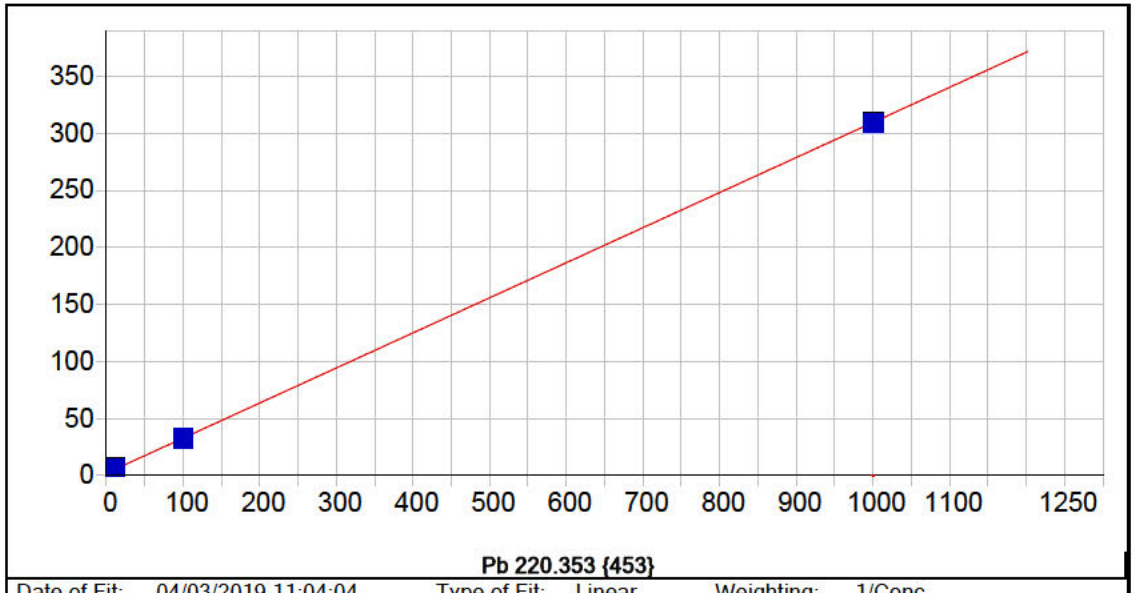



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 2.546955 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.133028 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 5.169402 | | |
| Predicted MDL: | 5.185785 | | |
| Predicted MQL: | 17.285951 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -13.775 | -13.8 | .000 | .71453 | .190 | 1 |
| CalStd9=100 | 1000.0 | 1070.3 | 70.3 | 7.03 | 145.38 | .397 | 1 |
| CalStd10=10 | 10000. | 10089. | 88.6 | .886 | 1344.6 | 1.44 | 1 |
| CalStd8=100 | 100.00 | 96.659 | -3.34 | -3.34 | 15.450 | .261 | 1 |
| CalStd5=10 | 10.000 | .12982 | -9.87 | -98.7 | 2.5687 | .451 | 1 |
| CalStd12=10 | 100000. | 98447. | -1550. | -1.55 | 13099. | 13.4 | 1 |

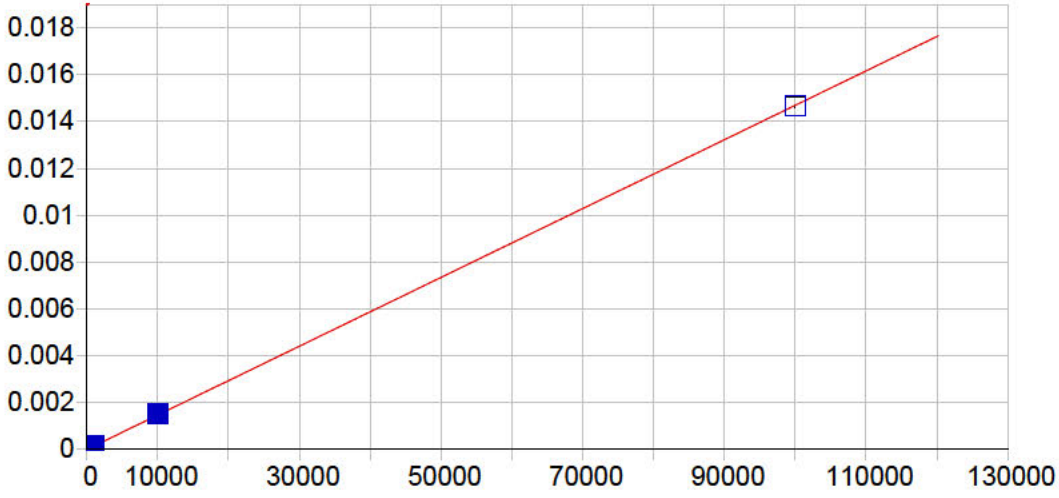



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 2.077156 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.307375 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999422 | Status: | OK. |
| Std Error of Est: | 0.031792 | | |
| Predicted MDL: | 2.864886 | | |
| Predicted MQL: | 9.549621 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00132 | -.001 | .000 | 2.0768 | .177 | 1 |
| CalStd5=10 | 10.000 | 13.523 | 3.52 | 35.2 | 6.2275 | .284 | 1 |
| CalStd8=100 | 100.00 | 98.969 | -1.03 | -1.03 | 32.457 | .404 | 1 |
| CalStd4=5 | 5.0000 | 4.6191 | -.381 | -7.62 | 3.4938 | .465 | 1 |
| CalStd9=100 | 1000.0 | 997.89 | -2.11 | -.211 | 308.40 | .923 | 1 |

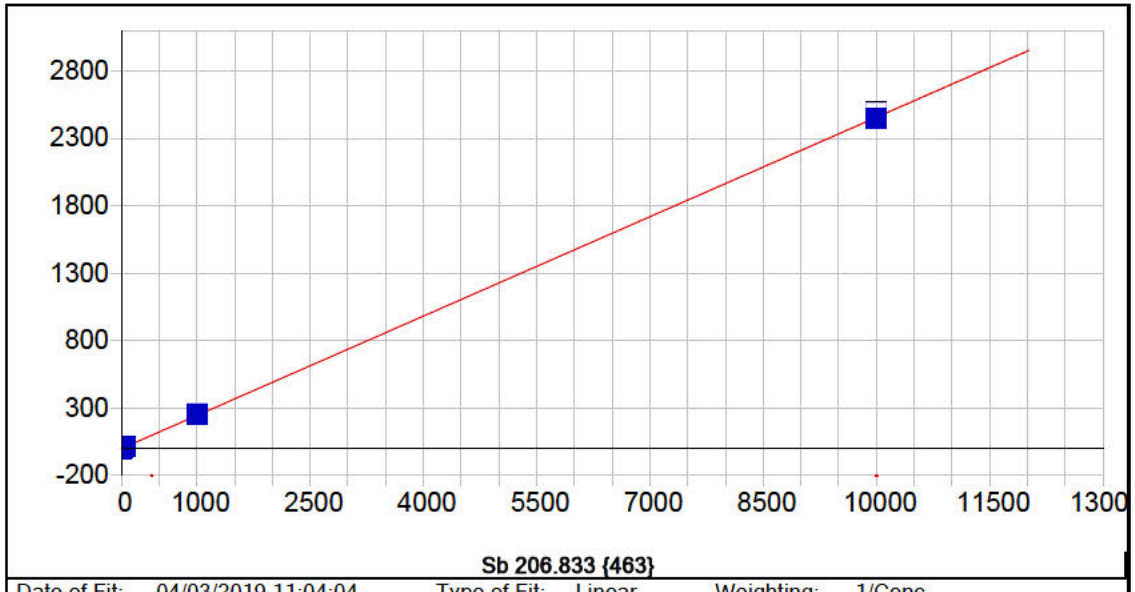



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999945 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.937966 | | |
| Predicted MQL: | 23.126552 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01538 | -.015 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1079.6 | 79.6 | 7.96 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 10218. | 218. | 2.18 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.54 | 5.54 | 5.54 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99697. | -303. | -.303 | .01465 | .000 | 1 |

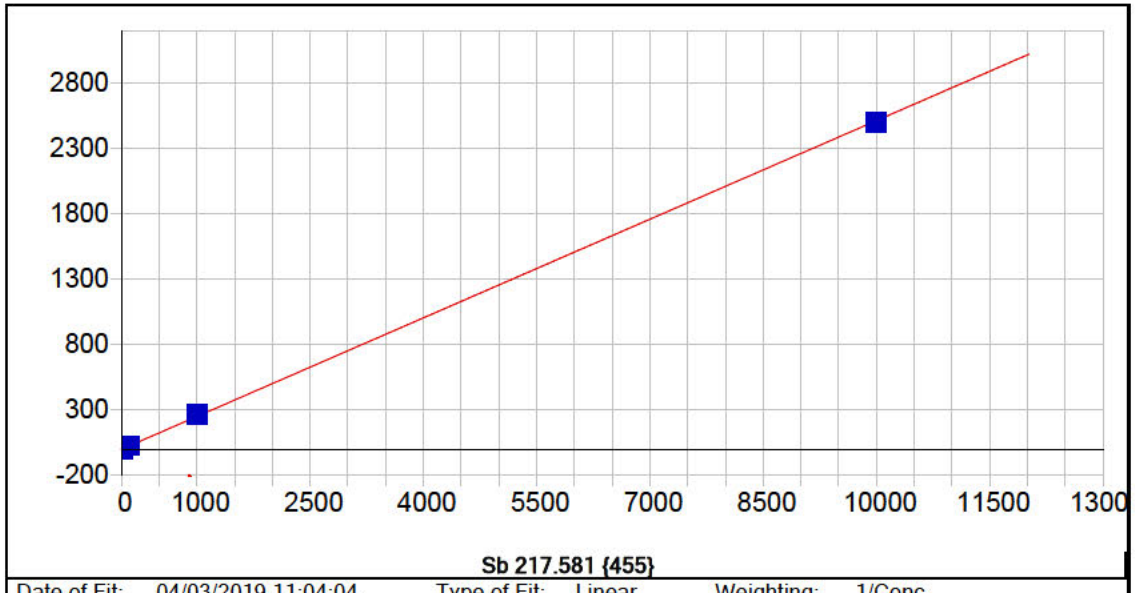



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.184427 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.245628 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999902 | Status: | OK. |
| Std Error of Est: | 0.047545 | | |
| Predicted MDL: | 2.413040 | | |
| Predicted MQL: | 8.043467 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00171 | -.002 | .000 | -.18485 | .142 | 1 |
| CalStd9=100 | 1000.0 | 1043.0 | 43.0 | 4.30 | 260.58 | .407 | 1 |
| CalStd5=10 | 10.000 | 11.430 | 1.43 | 14.3 | 2.6685 | .235 | 1 |
| CalStd7=50 | 50.000 | 49.465 | -.535 | -1.07 | 12.193 | .347 | 1 |
| CalStd10=10 | 10000. | 9956.1 | -43.9 | -.439 | 2491.1 | 4.08 | 1 |

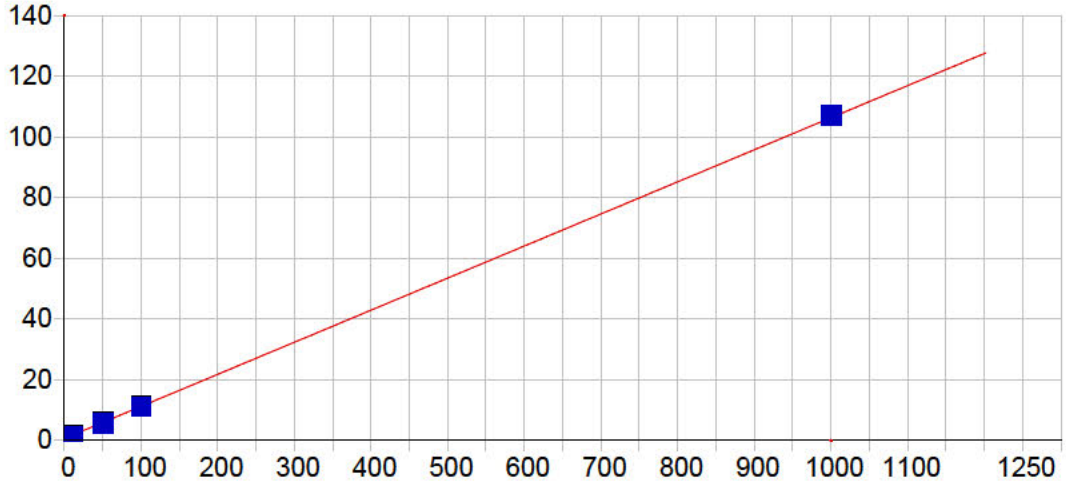



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.338537 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.251103 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999826 | Status: | OK. |
| Std Error of Est: | 0.041297 | | |
| Predicted MDL: | 2.628832 | | |
| Predicted MQL: | 8.762774 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00187 | -.002 | .000 | .33807 | .492 | 1 |
| CalStd9=100 | 1000.0 | 1045.9 | 45.9 | 4.59 | 262.99 | .516 | 1 |
| CalStd6=20 | 20.000 | 23.261 | 3.26 | 16.3 | 6.1796 | .133 | 1 |
| CalStd5=10 | 10.000 | 12.350 | 2.35 | 23.5 | 3.4397 | .457 | 1 |
| CalStd8=100 | 100.00 | 105.40 | 5.40 | 5.40 | 26.808 | .280 | 1 |
| CalStd4=5 | 5.0000 | 4.4075 | -.592 | -11.8 | 1.4453 | .265 | 1 |
| CalStd10=10 | 10000. | 9943.7 | -56.3 | -.563 | 2497.4 | 2.10 | 1 |

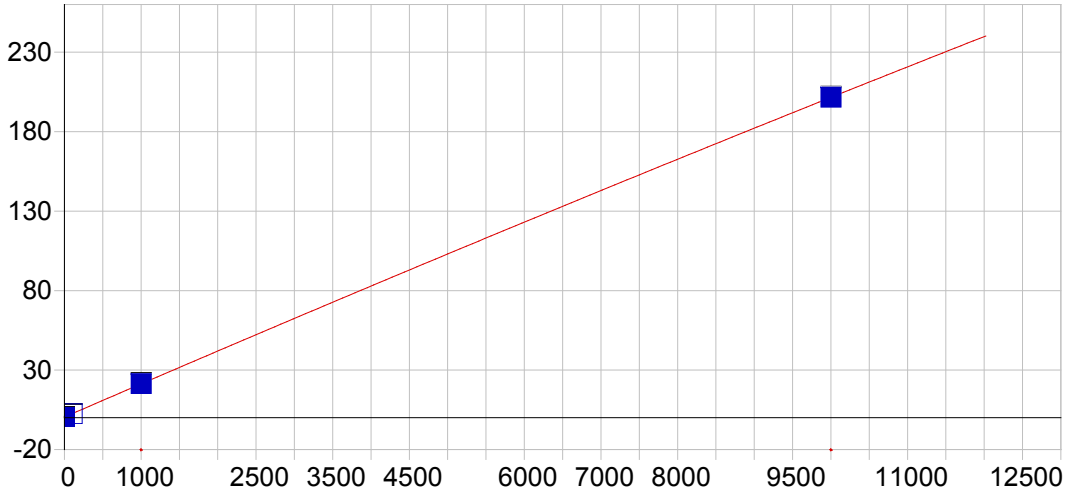



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.679059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.105708 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999634 | Status: | OK. |
| Std Error of Est: | 0.012576 | | |
| Predicted MDL: | 4.543753 | | |
| Predicted MQL: | 15.145844 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00315 | .003 | .000 | .67939 | .349 | 1 |
| CalStd7=50 | 50.000 | 47.571 | -2.43 | -4.86 | 5.7093 | .273 | 1 |
| CalStd9=100 | 1000.0 | 1006.4 | 6.40 | .640 | 107.09 | .314 | 1 |
| CalStd5=10 | 10.000 | 7.4090 | -2.59 | -25.9 | 1.4626 | .281 | 1 |
| CalStd8=100 | 100.00 | 98.618 | -1.38 | -1.38 | 11.107 | .231 | 1 |

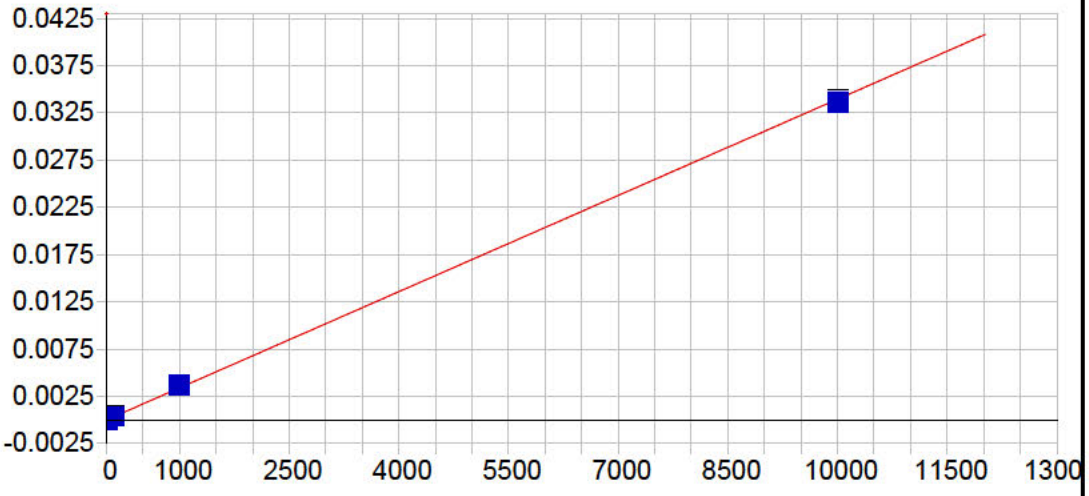



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.439141 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.020932 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.004705 | | |
| Predicted MDL: | 28.130359 | | |
| Predicted MQL: | 93.767863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00299 | .003 | .000 | .43920 | .529 | 1 |
| CalStd9=100 | 1000.0 | 1003.7 | 3.72 | .372 | 21.404 | .535 | 1 |
| CalStd10=10 | 10000. | 9999.6 | -.364 | -.004 | 201.93 | .285 | 1 |
| CalStd8=100 | 100.00 | 96.639 | -3.36 | -3.36 | 2.4612 | .263 | 1 |

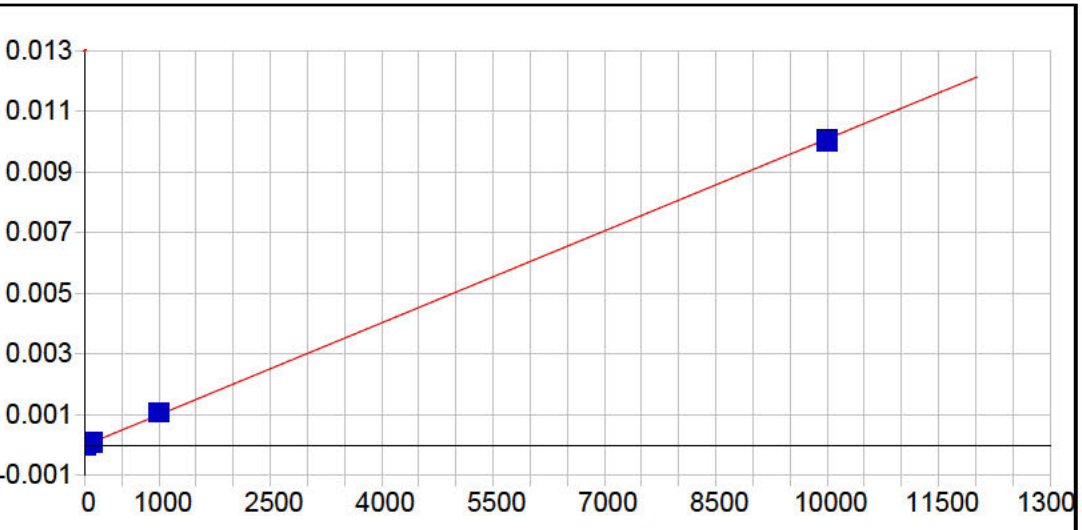



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999644 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.501568 | | |
| Predicted MQL: | 8.338561 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00443 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1075.2 | 75.2 | 7.52 | .00367 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.49 | 8.49 | 8.49 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.918 | 2.92 | 29.2 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9913.4 | -86.6 | -.866 | .03380 | .000 | 1 |

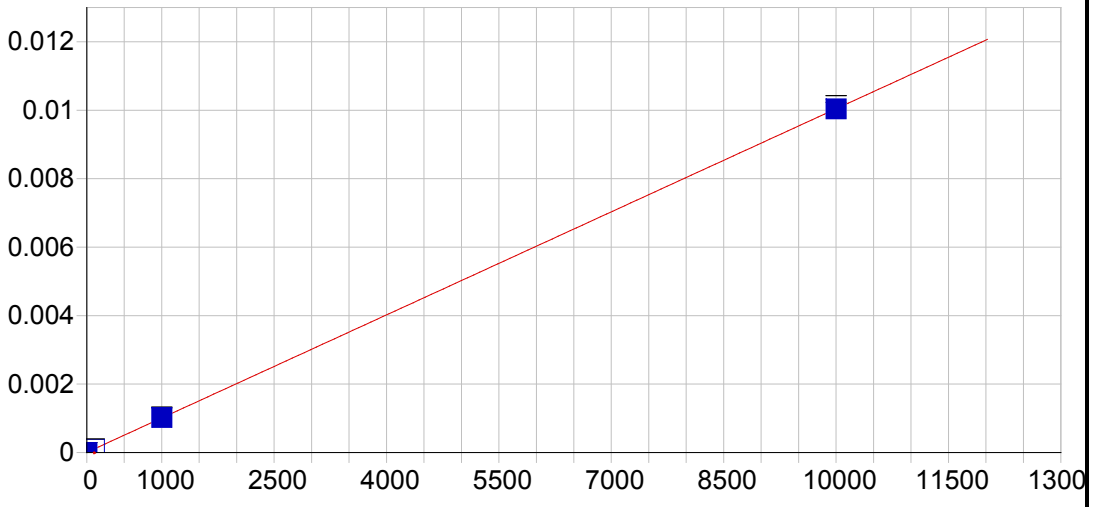



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999648 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.880142 | | |
| Predicted MQL: | 19.600472 | | |

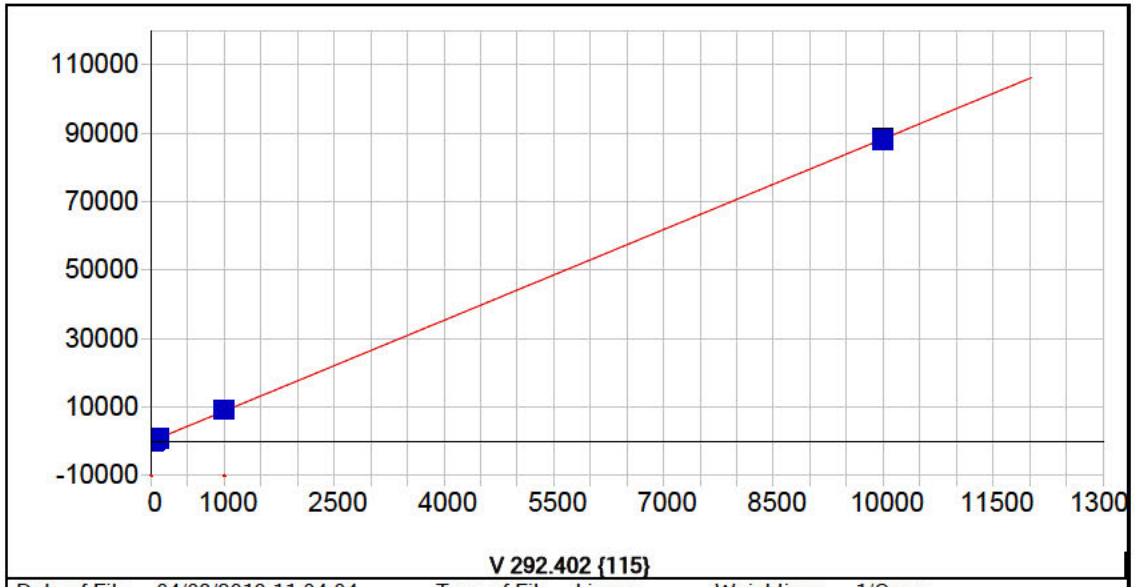
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00417 | -.004 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1073.2 | 73.2 | 7.32 | .00108 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.52 | 10.5 | 10.5 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.472 | 2.47 | 24.7 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9913.8 | -86.2 | -.862 | .01001 | .000 | 1 |




**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999987 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 5.460071 | | | | |
| Predicted MQL: | 18.200235 | | | | |

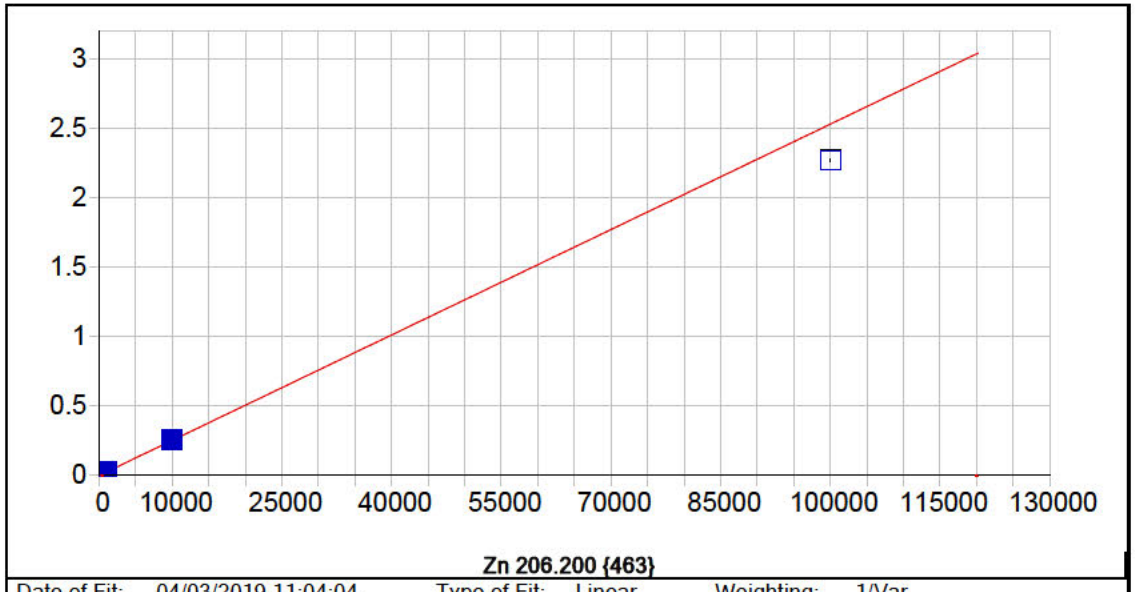
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00268 | .003 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.7 | 11.7 | 1.17 | .00102 | .000 | 1 |
| CalStd10=10 | 10000. | 9992.1 | -7.93 | -.079 | .01003 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.224 | -3.78 | -3.78 | .00010 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 4.749902 | Re-Slope: | 1.000000 |
| A1 (Gain): | 8.834460 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999898 | Status: | OK. |
| Std Error of Est: | 1.578368 | | |
| Predicted MDL: | 0.572719 | | |
| Predicted MQL: | 1.909064 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00140 | -.001 | .000 | 4.7375 | 7.14 | 1 |
| CalStd7=50 | 50.000 | 50.067 | .067 | .134 | 446.95 | 4.51 | 1 |
| CalStd9=100 | 1000.0 | 1044.5 | 44.5 | 4.45 | 9229.9 | 11.0 | 1 |
| CalStd6=20 | 20.000 | 20.347 | .347 | 1.73 | 183.84 | 1.46 | 1 |
| CalStd5=10 | 10.000 | 10.626 | .626 | 6.26 | 98.600 | 5.10 | 1 |
| CalStd8=100 | 100.00 | 101.94 | 1.94 | 1.94 | 905.09 | 3.63 | 1 |
| CalStd10=10 | 10000. | 9952.7 | -47.3 | -.473 | 88242. | 299. | 1 |

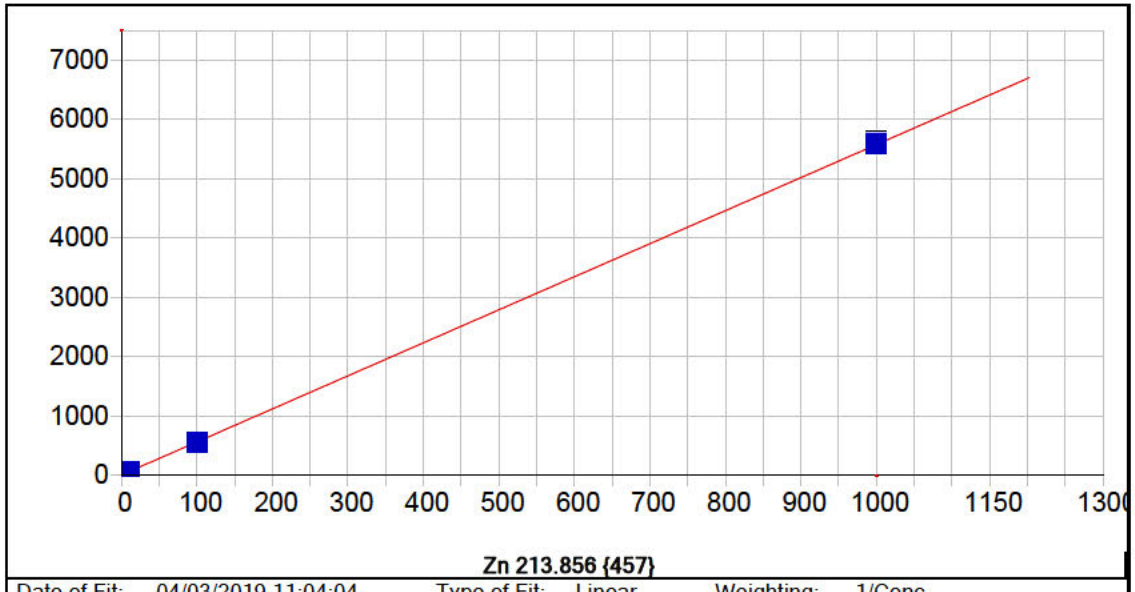



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000041 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000025 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998993 | Status: | OK. |
| Std Error of Est: | 0.000078 | | |
| Predicted MDL: | 0.384954 | | |
| Predicted MQL: | 1.283181 | | |

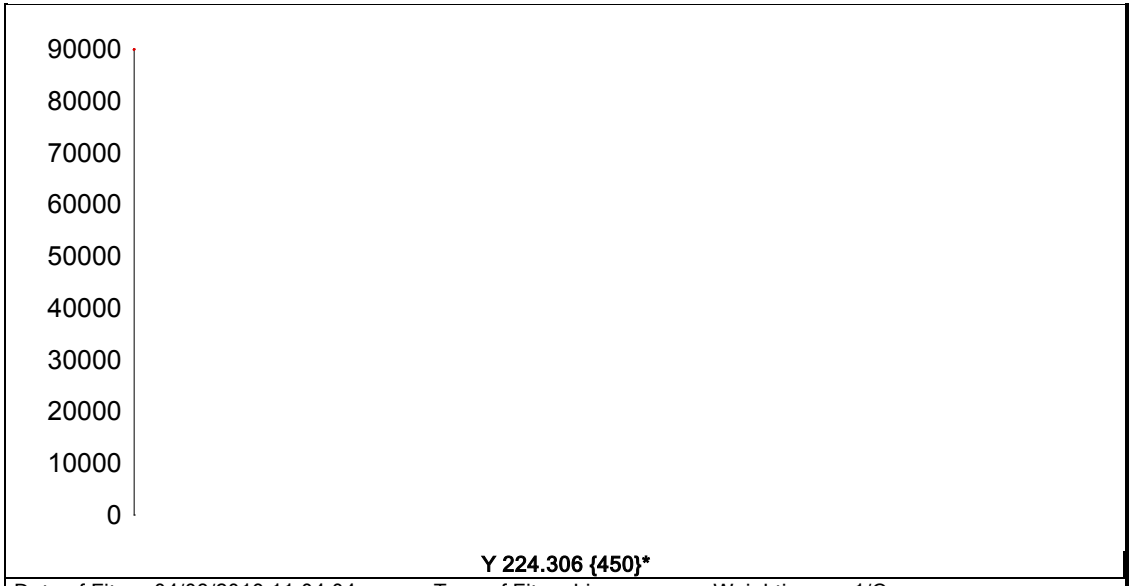
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10088. | 87.6 | .876 | .25490 | .000 | 1 |
| Blank | .00000 | -.06101 | -.061 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1054.8 | 54.8 | 5.48 | .02669 | .000 | 1 |
| CalStd12=10 | 100000. | 89666. | -10300. | -10.3 | 2.2654 | .006 | 1 |
| CalStd5=10 | 10.000 | 9.8645 | -.136 | -1.36 | .00029 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.55 | 3.55 | 3.55 | .00266 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.720303 | Re-Slope: | 1.000000 |
| A1 (Gain): | 5.567590 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.137560 | | |
| Predicted MDL: | 0.125119 | | |
| Predicted MQL: | 0.417062 | | |

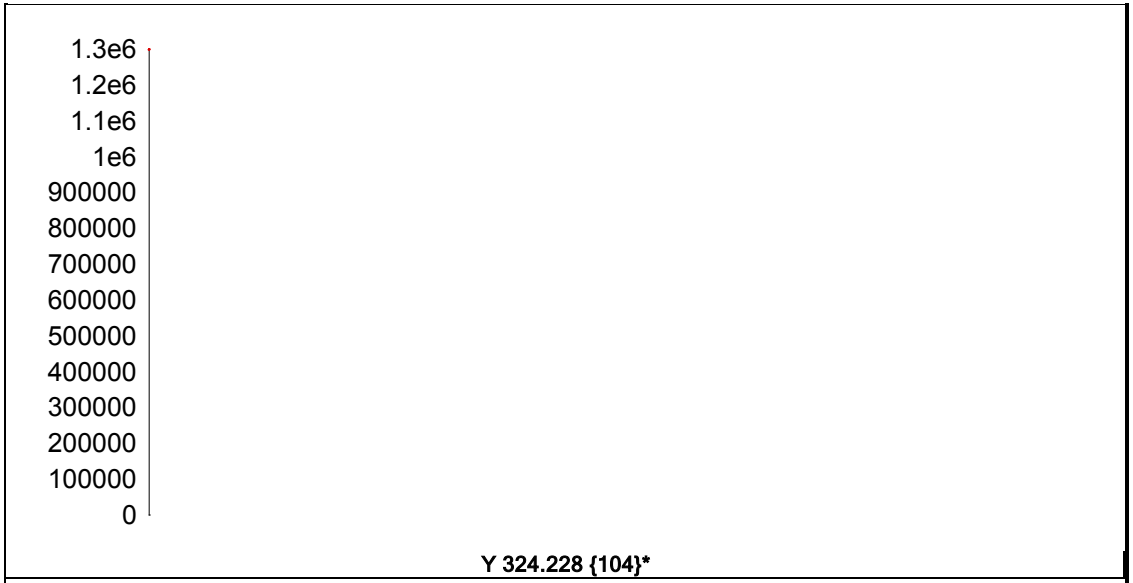
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | 9.7230 | .541 | 1 |
| CalStd9=100 | 1000.0 | 1001.6 | 1.56 | .156 | 5623.1 | 7.52 | 1 |
| CalStd5=10 | 10.000 | 9.6256 | -.374 | -3.74 | 63.347 | .641 | 1 |
| CalStd8=100 | 100.00 | 98.813 | -1.19 | -1.19 | 563.49 | 2.03 | 1 |




**Y 224.306 {450}***

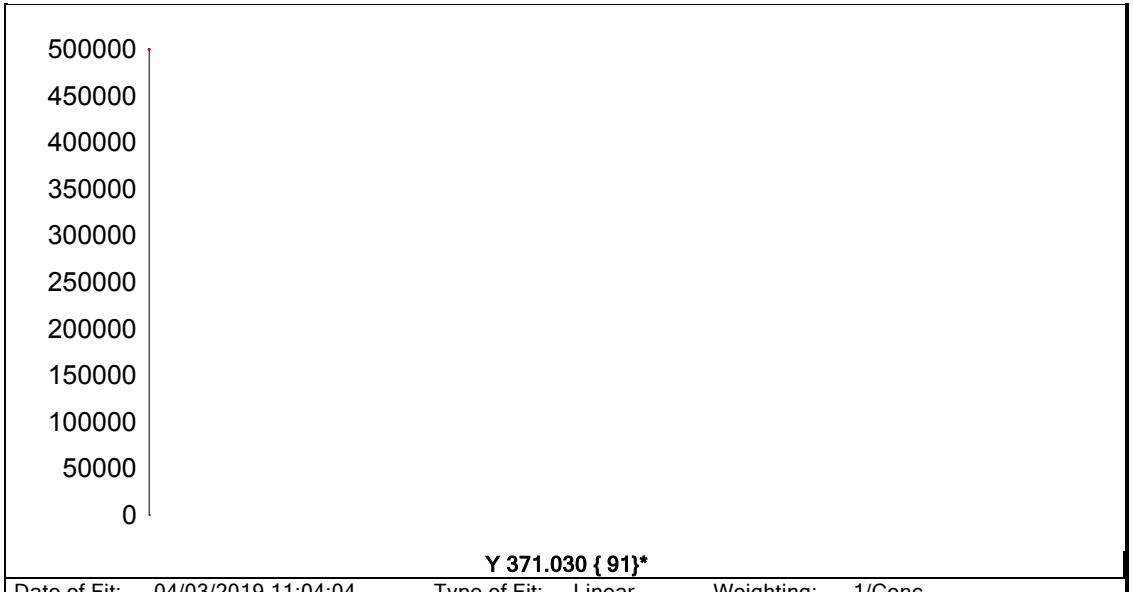
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 81442. | 222. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

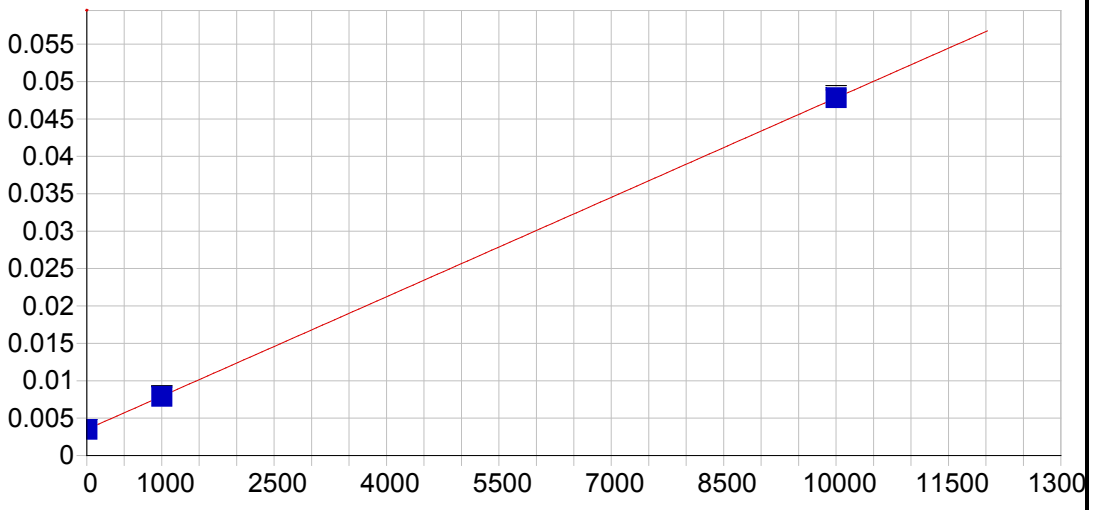
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1235400. | 1770. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 380300. | 3360. | 1 |

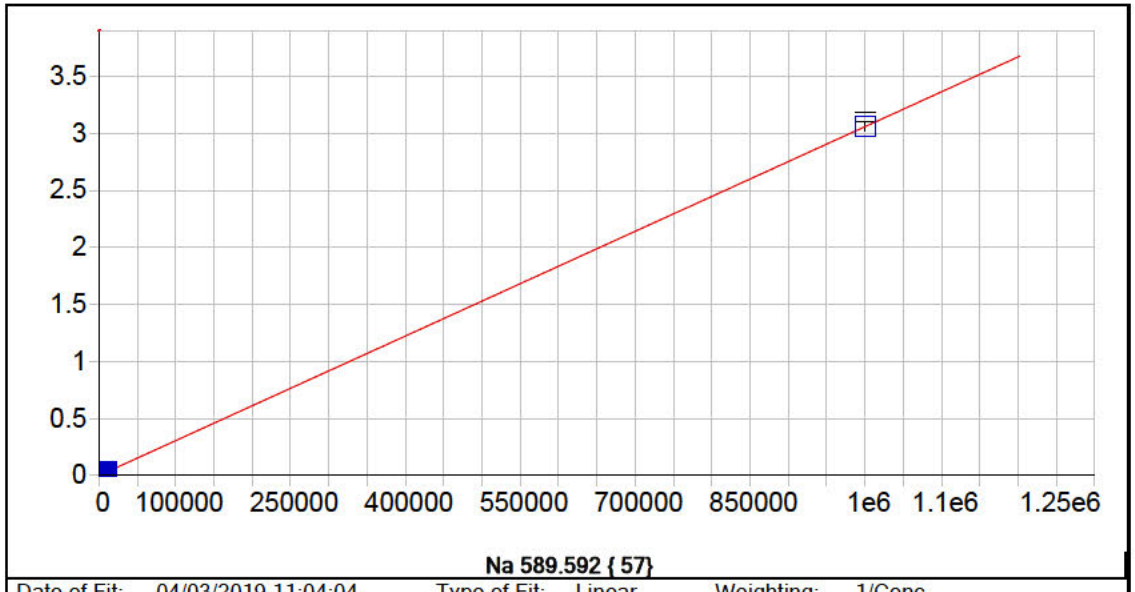



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003499 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 8.969220 | | |
| Predicted MQL: | 29.897401 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00357 | .004 | .000 | .00350 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.04 | -3.96 | -.396 | .00791 | .000 | 1 |
| CalStd10=10 | 10000. | 10004. | 3.96 | .040 | .04784 | .000 | 1 |

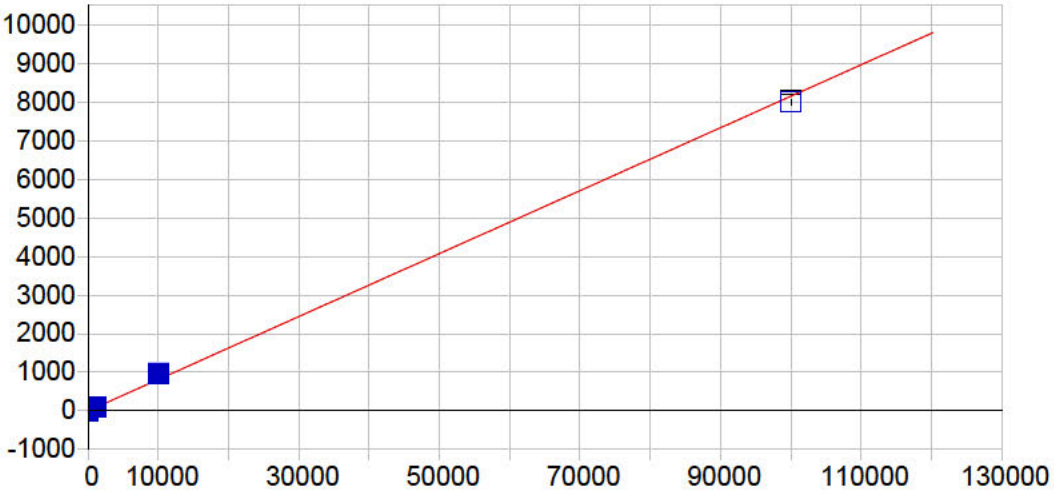



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000070 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 8.631422 | | |
| Predicted MQL: | 28.771407 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02550 | -.025 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.9 | 11.9 | 1.19 | .00316 | .000 | 1 |
| CalStd10=10 | 10000. | 10137. | 137. | 1.37 | .03106 | .000 | 1 |
| CalibStd15= | 1000000. | 999850. | -149. | -.015 | 3.0567 | .042 | 1 |

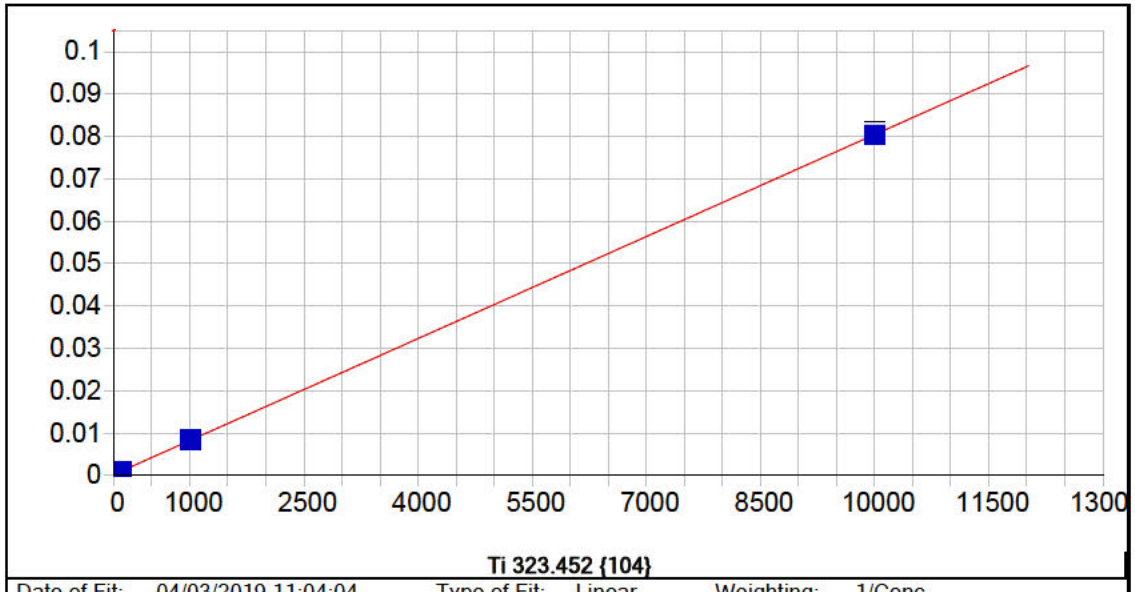



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.612957 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.081481 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998434 | Status: | OK. |
| Std Error of Est: | 2.161128 | | |
| Predicted MDL: | 17.718901 | | |
| Predicted MQL: | 59.063002 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24977 | -.250 | .000 | .59260 | 1.29 | 1 |
| CalStd9=100 | 1000.0 | 1094.3 | 94.3 | 9.43 | 96.207 | 2.22 | 1 |
| CalStd10=10 | 10000. | 11748. | 1750. | 17.5 | 998.68 | 7.16 | 1 |
| CalibStd15= | 100000. | 98062. | -1940. | -1.94 | 7990.9 | 58.3 | 1 |

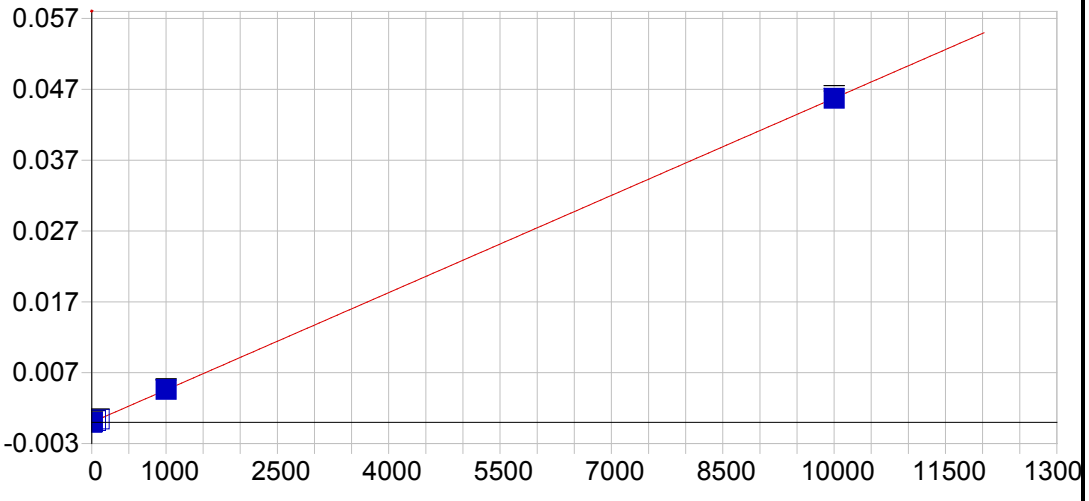



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000244 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.204931 | | |
| Predicted MQL: | 4.016435 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00117 | -.001 | .000 | .00024 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.327 | 1.33 | 13.3 | .00034 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.159 | -.841 | -.841 | .00104 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.1 | 11.1 | 1.11 | .00836 | .000 | 1 |
| CalStd10=10 | 10000. | 9987.6 | -12.4 | -.124 | .08042 | .001 | 1 |
| CalStd7=50 | 50.000 | 50.291 | .291 | .583 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4701 | .470 | 9.40 | .00029 | .000 | 1 |

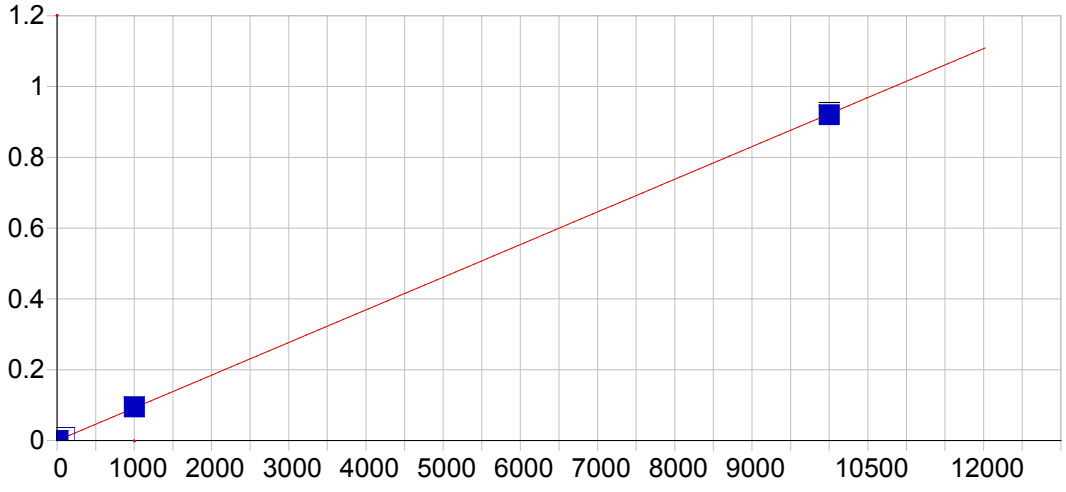



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.447084 | | |
| Predicted MQL: | 4.823613 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00071 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.268 | .268 | 2.68 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.484 | -1.52 | -1.52 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.5 | 9.45 | .945 | .00462 | .000 | 1 |
| CalStd10=10 | 10000. | 9992.0 | -7.99 | -.080 | .04573 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.086 | -.914 | -1.83 | .00022 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7047 | .705 | 14.1 | .00003 | .000 | 1 |

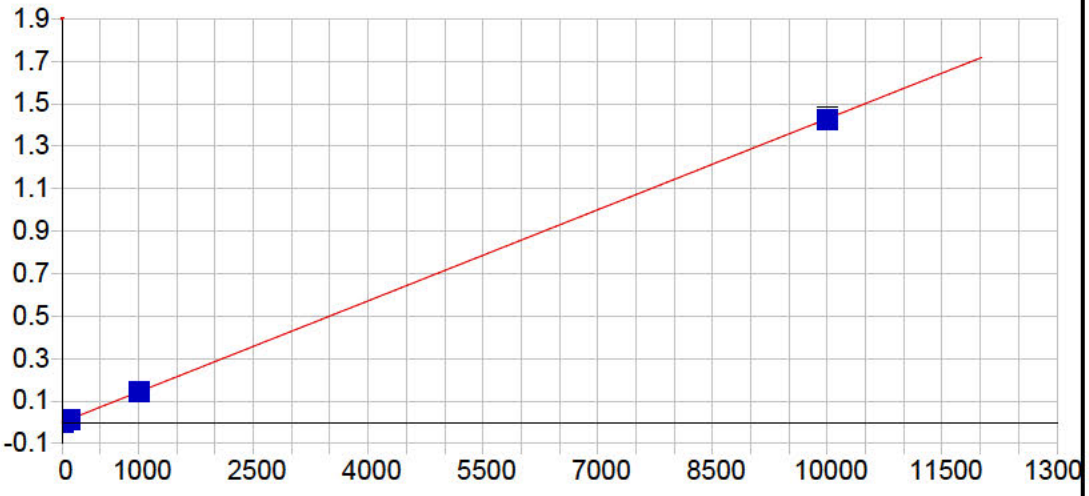



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000092 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999957 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.154610 | | |
| Predicted MQL: | 0.515368 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00026 | -.000 | .000 | .00005 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0322 | .032 | 3.22 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3292 | .329 | 6.58 | .00054 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.137 | 1.14 | 11.4 | .00107 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.05 | 2.05 | 2.05 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.1 | 26.1 | 2.61 | .09475 | .001 | 1 |
| CalStd10=10 | 10000. | 9970.3 | -29.7 | -.297 | .92022 | .007 | 1 |

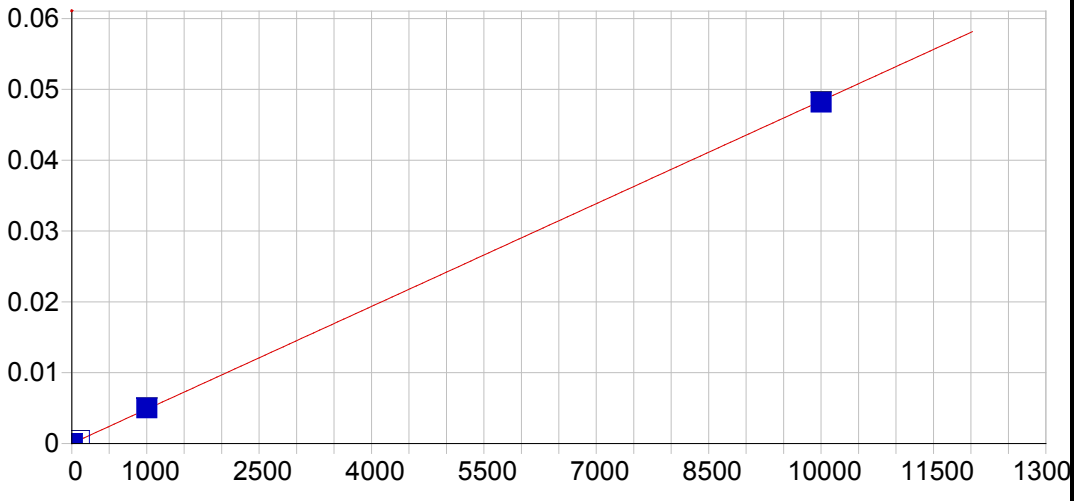



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000143 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.099830 | | |
| Predicted MQL: | 0.332768 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00004 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd3=1 | 1.0000 | .97451 | -.025 | -2.55 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9665 | -.034 | -.671 | .00071 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.531 | .531 | 5.31 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.03 | .033 | .033 | .01430 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.8 | 17.8 | 1.78 | .14549 | .001 | 1 |
| CalStd10=10 | 10000. | 9981.7 | -18.3 | -.183 | 1.4268 | .010 | 1 |

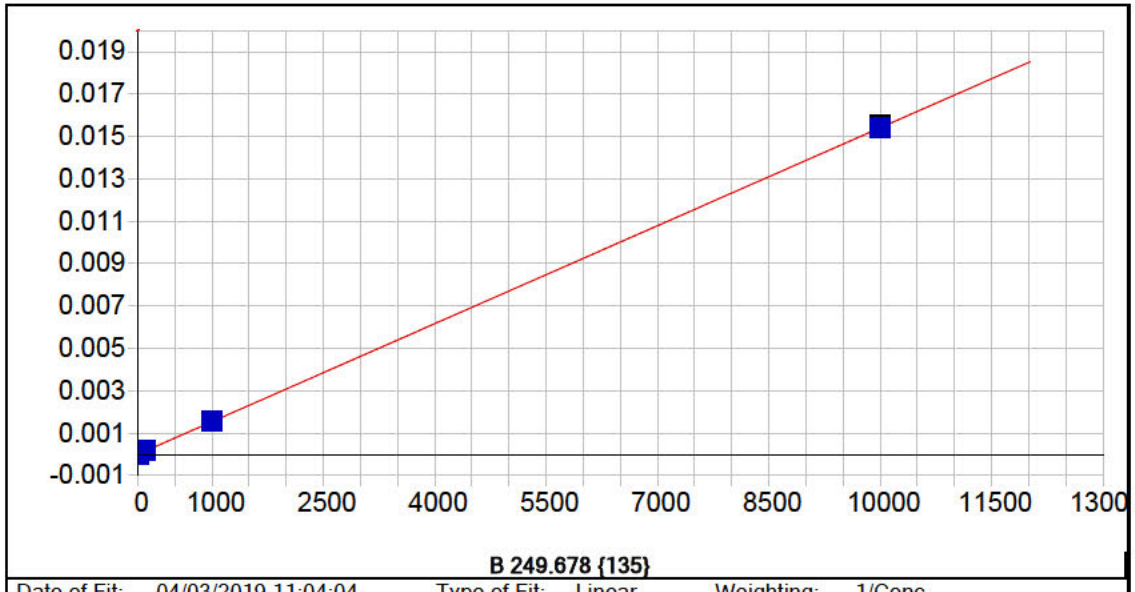



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999919 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.532160 | | |
| Predicted MQL: | 5.107199 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00207 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9961.1 | -38.9 | -.389 | .04819 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.8 | 36.8 | 3.68 | .00502 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.32 | .317 | .317 | .00049 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.708 | 1.71 | 17.1 | .00007 | .000 | 1 |

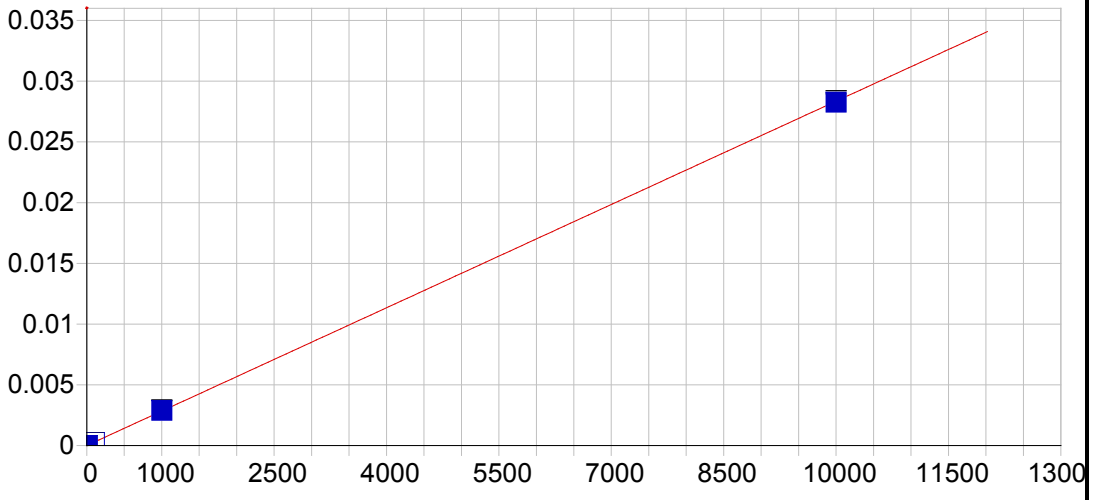



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.310019 | | |
| Predicted MQL: | 4.366729 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00006 | .000 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.68 | .684 | .684 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7088 | -.291 | -2.91 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.2 | 18.2 | 1.82 | .00158 | .000 | 1 |
| CalStd10=10 | 10000. | 9981.4 | -18.6 | -.186 | .01544 | .000 | 1 |

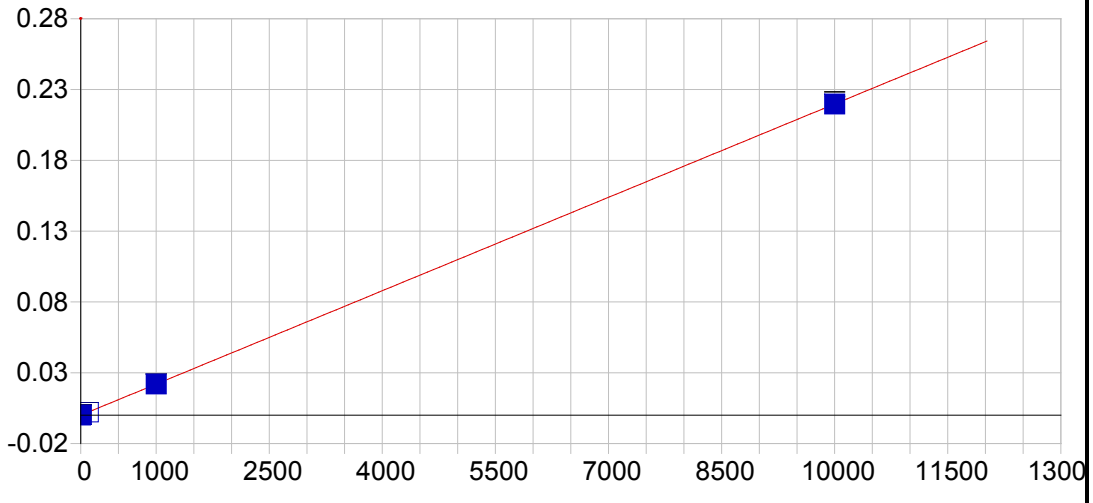



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.706169 | | |
| Predicted MQL: | 2.353898 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .16781 | .168 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.886 | -.114 | -.114 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6378 | -.362 | -3.62 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.0 | 19.0 | 1.90 | .00289 | .000 | 1 |
| CalStd10=10 | 10000. | 9966.5 | -33.5 | -.335 | .02827 | .000 | 1 |

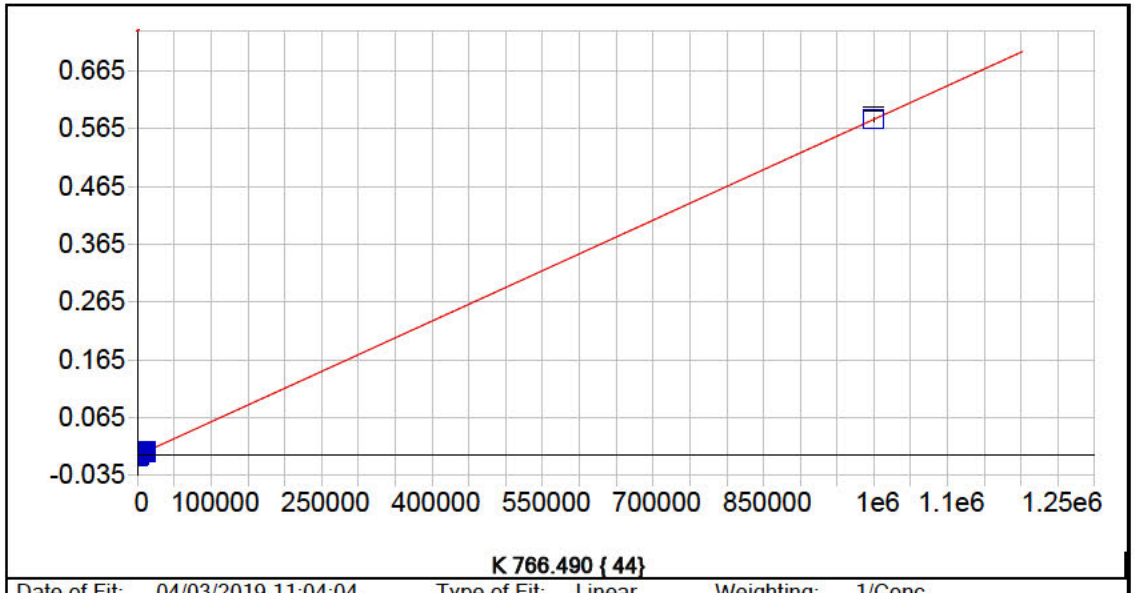



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000022 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 1.453163 | | |
| Predicted MQL: | 4.843875 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .05480 | .055 | .000 | -.00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.017 | .017 | .168 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.927 | -1.07 | -1.07 | .00215 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.33 | .133 | .02199 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.7 | -6.27 | -.063 | .21969 | .002 | 1 |

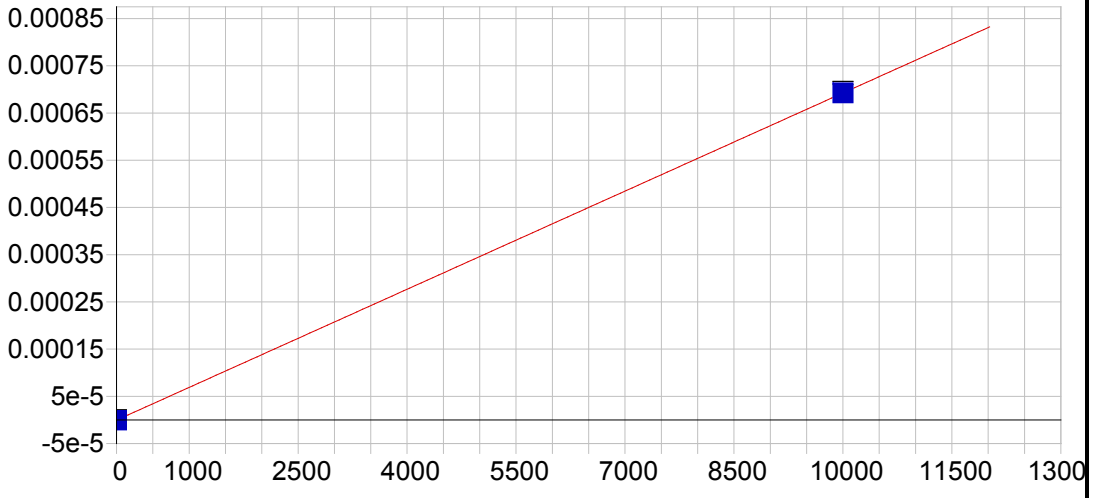



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 68.286071 | | |
| Predicted MQL: | 227.620236 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .05952 | .060 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 973.69 | -26.3 | -2.63 | .00058 | .000 | 1 |
| CalStd10=10 | 10000. | 9664.2 | -336. | -3.36 | .00563 | .000 | 1 |
| CalibStd15= | 1000000. | 1000400. | 362. | .036 | .58141 | .004 | 1 |

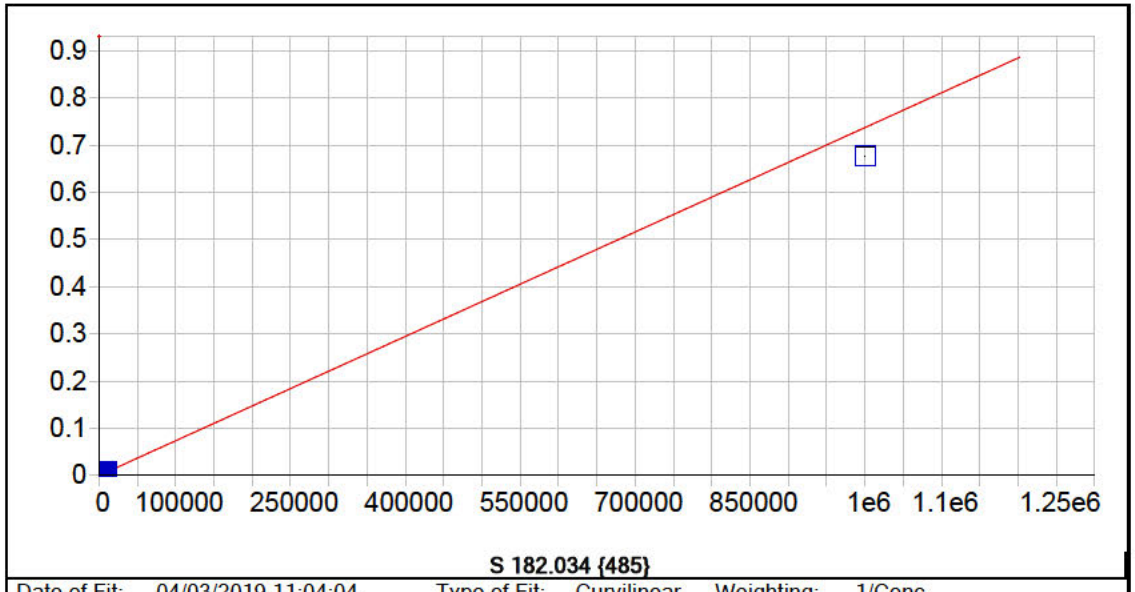



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.638778 | | |
| Predicted MQL: | 25.462592 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00069 | .000 | 1 |

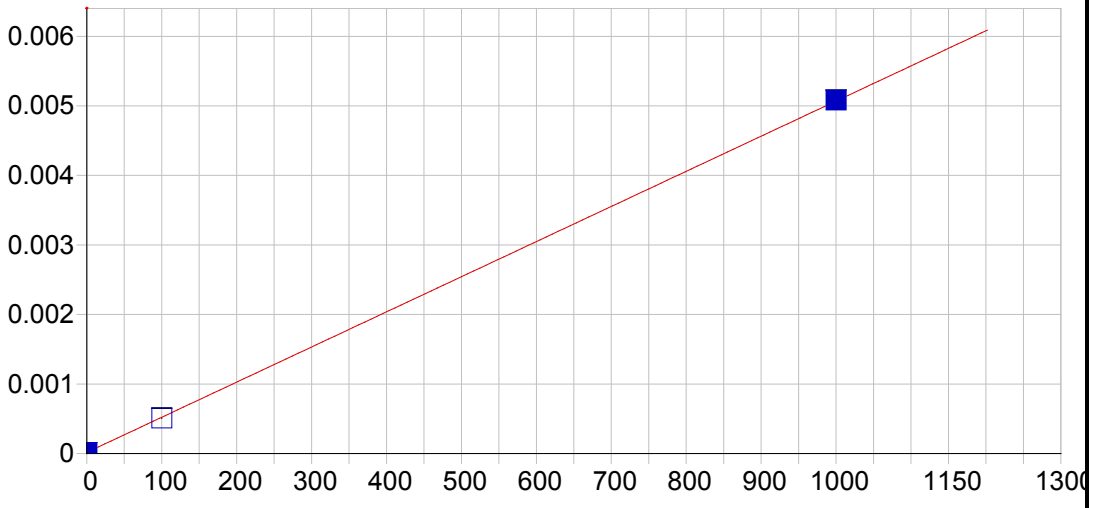



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.454619 | | |
| Predicted MQL: | 21.515396 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00086 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .878 | .088 | .00075 | .000 | 1 |
| CalStd10=10 | 10000. | 9990.8 | -9.22 | -.092 | .00738 | .000 | 1 |
| CalibStd15= | 1000000. | 917490. | -82500. | -8.25 | .67614 | .001 | 1 |

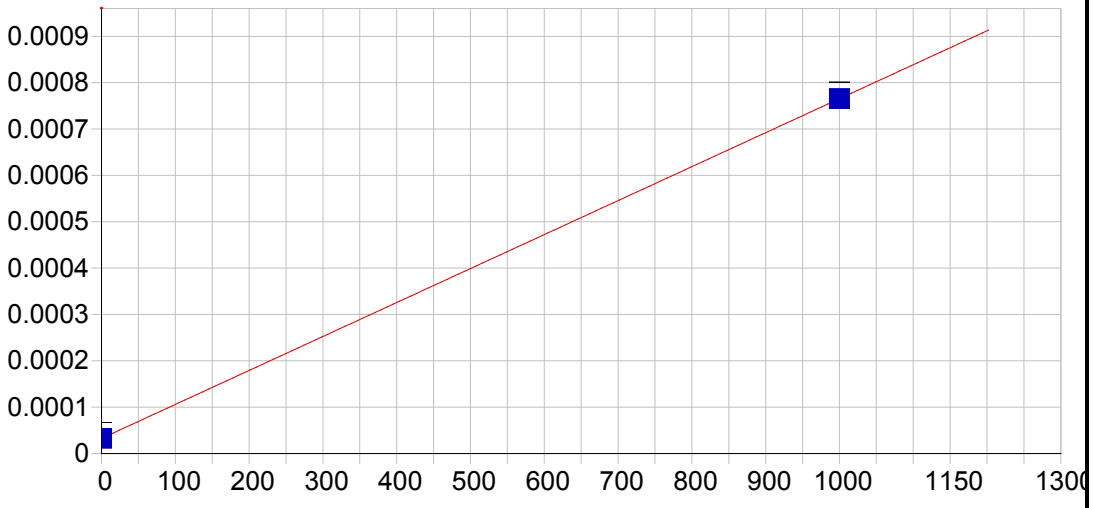



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.128515 | | |
| Predicted MQL: | 3.761718 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00233 | .002 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.412 | -2.59 | -2.59 | .00051 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.6 | 2.59 | .259 | .00508 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/03/2019 11:04:04 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 19.599027 | | |
| Predicted MQL: | 65.330090 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.00 | .000 | .000 | .00077 | .000 | 1 |

Sample Name: Blank Acquired: 03/29/2019 10:27:46 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.9** | **.000** | **2.10** | **-5.32** | **-.291** | **-.000** | **-.229** | **3600.** | **-.000** | **.000** | **.000** | **.001** |
| Stddev | 2.8 | .000 | .35 | 2.08 | .233 | .000 | .083 | 7. | .000 | .000 | .000 | .000 |
| %RSD | 21.5 | 98.5 | 16.7 | 39.1 | 80.1 | 300. | 36.2 | .182 | .959 | 91.8 | 10.5 | 5.25 |

| Elem | Cd2265 | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu2247 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.412** | **3.41** | **.000** | **.000** | **-.142** | **-.000** | **.000** | **196.** | **9.20** | **.000** | **.000** | **.000** |
| Stddev | .953 | .49 | .000 | .000 | .434 | .000 | .000 | 3. | 5.28 | .000 | .000 | .000 |
| %RSD | 231. | 14.5 | 46.8 | 63.2 | 307. | 43.3 | 213. | 1.45 | 57.4 | 8.54 | 129. | 47.1 |

| Elem | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **1.17** | **-.000** | **.000** | **-2.35** | **.715** | **2.08** | **-.185** | **.338** | **.679** |
| Stddev | .000 | .000 | .000 | 1.09 | .000 | .000 | .40 | .190 | .18 | .142 | .492 | .349 |
| %RSD | 137. | 1.97 | 61.8 | 92.5 | 116. | 115. | 16.8 | 26.6 | 8.55 | 76.7 | 146. | 51.4 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.439** | **.000** | **.000** | **4.74** | **.000** | **9.72** |
| Stddev | .529 | .000 | .000 | 7.14 | .000 | .54 |
| %RSD | 120. | 550. | 80.7 | 151. | 3.50 | 5.56 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **81442.** | **1235400.** | **380300.** |
| Stddev | 222. | 1774. | 3360. |
| %RSD | .27288 | .14356 | .88355 |

Sample Name: CalStd2=0.5 Acquired: 03/29/2019 10:34:05 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.750** | **6.34** |
| Stddev | .000 | .354 | .53 |
| %RSD | 1.35 | 47.2 | 8.36 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1235600.** |
| Stddev | 2506. |
| %RSD | .20282 |

Sample Name: CalStd3=1 Acquired: 03/29/2019 10:40:19 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **15.0** | **.920** | **-.000** | **2.68** | **9.23** | **.000** | **.617** | **-.586** |
| Stddev | .8 | .686 | .000 | .26 | .92 | .000 | .454 | .763 |
| %RSD | 5.42 | 74.5 | 1.67 | 9.67 | 9.94 | 29.3 | 73.6 | 130. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82985.** | **1240600.** | **377310.** |
| Stddev | 192. | 4408. | 3884. |
| %RSD | .23091 | .35530 | 1.0293 |

Sample Name: CalStd4=5 Acquired: 03/29/2019 10:46:37 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.97** | **.000** | **13.3** | **31.4** | **.000** | **7.51** | **.000** | **15.3** | **.000** | **.000** | **5.22** | **3.49** |
| Stddev | .20 | .000 | .2 | .5 | .000 | .54 | .000 | .5 | .000 | .000 | .54 | .47 |
| %RSD | 4.03 | 2.15 | 1.69 | 1.56 | 8.78 | 7.21 | 14.9 | 3.40 | .903 | 8.57 | 10.3 | 13.3 |

| Elem | Sb2175 |
|---|---|
| Units | Cts/S |
| Avg | **1.45** |
| Stddev | .27 |
| %RSD | 18.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82722.** | **1245400.** | **378020.** |
| Stddev | 247. | 3300. | 1326. |
| %RSD | .29857 | .26501 | .35078 |

Sample Name: CalStd5=10 Acquired: 03/29/2019 10:52:54 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **50.4** | **5.68** | **.648** | **.000** | **11.3** | **.000** | **28.7** | **62.3** | **.000** | **15.3** | **.000** | **210.** |
| Stddev | 1.0 | .31 | .127 | .000 | .3 | .000 | .9 | .6 | .000 | .3 | .000 | 2. |
| %RSD | 2.00 | 5.47 | 19.6 | 151. | 3.00 | 1.07 | 2.98 | 1.03 | 1.60 | 1.90 | 9.32 | 1.17 |

| Elem | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **16.6** | **.000** | **.000** | **13.1** | **2.57** | **6.23** | **2.67** | **3.44** | **1.46** | **.000** | **98.6** | **.000** |
| Stddev | 3.8 | .000 | .000 | .7 | .45 | .28 | .23 | .46 | .28 | .000 | 5.1 | .000 |
| %RSD | 22.9 | 1.47 | 10.7 | 5.20 | 17.5 | 4.55 | 8.80 | 13.3 | 19.2 | 11.1 | 5.17 | 1.77 |

| Elem | Zn2138 |
|---|---|
| Units | Cts/S |
| Avg | **63.3** |
| Stddev | .6 |
| %RSD | 1.01 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84043.** | **1249800.** | **374880.** |
| Stddev | 346. | 2677. | 966. |
| %RSD | .41110 | .21423 | .25760 |

Sample Name: CalStd6=20 Acquired: 03/29/2019 10:59:14 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu2247 | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **20.9** | **.000** | **221.** | **22.0** | **.000** | **.000** | **6.18** | **184.** |
| Stddev | .3 | .000 | 2. | 3.3 | .000 | .000 | .13 | 1. |
| %RSD | 1.26 | 1.98 | .877 | 15.1 | 1.13 | 2.54 | 2.16 | .795 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83642.** | **1248000.** | **377130.** |
| Stddev | 110. | 5864. | 3357. |
| %RSD | .13151 | .46986 | .89006 |

Sample Name: CalStd7=50 Acquired: 03/29/2019 11:05:24 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu2247 | Cu3247 | Cu3273 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.65** | **.000** | **.000** | **134.** | **279.** | **.002** | **75.8** | **.000** | **.000** | **249.** | **36.8** | **.001** |
| Stddev | .37 | .000 | .000 | 1. | 1. | .000 | 1.1 | .000 | .000 | 4. | 2.5 | .000 |
| %RSD | 8.03 | 18.1 | 1.45 | .615 | .260 | .897 | 1.49 | .684 | 5.12 | 1.65 | 6.71 | .772 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **70.7** | **12.2** | **5.71** | **447.** |
| Stddev | .000 | 1.2 | .3 | .27 | 5. |
| %RSD | .481 | 1.67 | 2.84 | 4.78 | 1.01 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84132.** | **1249800.** | **373320.** |
| Stddev | 136. | 6871. | 4477. |
| %RSD | .16219 | .54974 | 1.1992 |

Sample Name: CalStd8=100 Acquired: 03/29/2019 11:11:34 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **358.** | **.000** | **44.0** | **9.33** | **.000** | **106.** | **5640.** | **.005** | **.000** | **.010** | **272.** | **564.** |
| Stddev | 2. | .000 | .5 | .26 | .000 | 1. | 9. | .000 | .000 | .000 | 1. | 3. |
| %RSD | .688 | 2.44 | 1.19 | 2.74 | 4.65 | .513 | .160 | .438 | 1.28 | .998 | .428 | .494 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu2247 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.000** | **153.** | **.000** | **.000** | **301.** | **60.2** | **.003** | **.001** | **.001** | **.002** | **144.** |
| Stddev | .000 | .000 | . | .000 | .000 | 5. | .9 | .000 | .000 | .000 | .000 | 1. |
| %RSD | .334 | .575 | .264 | .876 | 1.93 | 1.65 | 1.47 | .670 | .327 | .512 | .803 | .611 |

| Elem | Pb2169 | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **15.5** | **32.5** | **26.8** | **11.1** | **2.46** | **.000** | **.000** | **905.** | **.003** | **563.** |
| Stddev | .3 | .4 | .3 | .2 | .26 | .000 | .000 | 4. | .000 | 2. |
| %RSD | 1.69 | 1.24 | 1.05 | 2.08 | 10.7 | 2.19 | 5.81 | .401 | .465 | .361 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84427.** | **1252600.** | **374120.** |
| Stddev | 388. | 3503. | 3357. |
| %RSD | .46006 | .27966 | .89724 |

Sample Name: CalStd9=1000 Acquired: 03/29/2019 11:17:41 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3382 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **416.** | **644.** | **101.** | **.001** | **1080.** | **24500.** | **.056** | **.003** | **.000** | **.091** |
| Stddev | .000 | 2. | 5. | . | .000 | 3. | 33. | .000 | .000 | .000 | .001 |
| %RSD | .862 | .383 | .834 | .288 | .426 | .257 | .134 | .495 | 1.32 | .929 | .866 |

| Elem | Cd2265 | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu2247 | Cu3247 | Cu3273 | Fe2343 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2740.** | **5630.** | **.031** | **.002** | **1550.** | **.003** | **.008** | **1220.** | **522.** | **.000** | **.000** |
| Stddev | 10. | 13. | .000 | .000 | 5. | .000 | .000 | 4. | 2. | .000 | .000 |
| %RSD | .360 | .237 | .245 | .767 | .324 | .796 | .164 | .349 | .415 | .706 | 3.05 |

| Elem | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.030** | **.011** | **1300.** | **.008** | **.017** | **1470.** | **145.** | **308.** | **261.** |
| Stddev | .000 | .000 | .000 | .000 | 9. | .000 | .000 | 6. | . | 1. | . |
| %RSD | 1.27 | 7.30 | .659 | .567 | .685 | .264 | .141 | .384 | .273 | .299 | .156 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **263.** | **107.** | **21.4** | **.004** | **.001** | **9230.** | **.027** | **5620.** |
| Stddev | 1. | . | .5 | .000 | .000 | 11. | .000 | 8. |
| %RSD | .196 | .293 | 2.50 | .258 | 1.25 | .119 | .240 | .134 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84791.** | **1250100.** | **372580.** |
| Stddev | 289. | 6506. | 2872. |
| %RSD | .34142 | .52045 | .77094 |

Sample Name: CalStd10=10000 Acquired: 03/29/2019 11:23:19 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu2247 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6350.** | **.007** | **206000.** | **.003** | **.883** | **.296** | **.021** | **14700.** | **.027** | **.085** |
| Stddev | 44. | .000 | 5460. | .000 | .010 | .000 | .000 | 17. | .000 | .000 |
| %RSD | .695 | .131 | 2.65 | .720 | 1.13 | .056 | .302 | .115 | .509 | .483 |

| Elem | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **10100.** | **5020.** | **.005** | **.003** | **.013** | **.000** | **.272** | **.099** | **12700.** | **.074** |
| Stddev | 65. | 36. | .000 | .000 | .000 | .000 | .001 | .000 | 61. | .000 |
| %RSD | .644 | .712 | .336 | 1.10 | 1.21 | .801 | .313 | .357 | .476 | .158 |

| Elem | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.164** | **13800.** | **1340.** | **2490.** | **2500.** | **202.** | **.034** | **.010** | **88200.** | **.255** |
| Stddev | .000 | 19. | 1. | 4. | 2. | . | .000 | .000 | 299. | .000 |
| %RSD | .020 | .136 | .107 | .164 | .084 | .141 | .090 | .984 | .339 | .111 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83653.** | **1229400.** | **371350.** |
| Stddev | 249. | 1776. | 1984. |
| %RSD | .29748 | .14449 | .53428 |

Sample Name: CalStd12=100K Acquired: 03/29/2019 11:29:52 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu2247 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **129000.** | **.834** | **95400.** | **48500.** | **120000.** | **13100.** | **2.27** |
| Stddev | 289. | .003 | 1390. | 792. | 1280. | 13. | .01 |
| %RSD | .224 | .347 | 1.46 | 1.63 | 1.07 | .102 | .276 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **83950.** | **1242500.** |
| Stddev | 221. | 2666. |
| %RSD | .26297 | .21455 |

Sample Name: CalStd13=100000 Acquired: 03/29/2019 11:36:10 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **59300.** | **.033** | **.041** | **.026** | **.122** | **.004** |
| Stddev | 732. | .000 | .000 | .000 | .001 | .000 |
| %RSD | 1.23 | 1.00 | .049 | 1.01 | 1.02 | 1.09 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82072.** | **1216300.** | **367740.** |
| Stddev | 204. | 1784. | 2528. |
| %RSD | .24829 | .14669 | .68749 |

Sample Name: CalStd14=500000 Acquired: 03/29/2019 11:42:28 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **303000.** | **.164** | **.121** | **.575** | **.020** |
| Stddev | 4110. | .001 | .001 | .004 | .000 |
| %RSD | 1.36 | .547 | .605 | .641 | .568 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **76278.** | **349210.** |
| Stddev | 313. | 1935. |
| %RSD | .41072 | .55408 |

Sample Name: CalibStd15=1000k Acquired: 03/29/2019 11:49:20 Type: Cal
Method: DOD Calibration Updated 060614(v3287) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **572000.** | **.326** | **.228** | **.040** |
| Stddev | 14000. | .002 | .001 | .000 |
| %RSD | 2.45 | .764 | .417 | .610 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **68602.** | **325930.** |
| Stddev | 92. | 891. |
| %RSD | .13377 | .27344 |

Sample Name: icv Acquired: 03/29/2019 12:09:09 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.0** | **11500.** | **1970.** | **1990.** | **1960.** | **47.5** | **45.9** | **9890.** | **47.2** | **54.7** | **506.** | **195.** |
| Stddev | .8 | 30. | 2. | 7. | 3. | .2 | .1 | 115. | .2 | .2 | 1. | 1. |
| %RSD | 1.69 | .262 | .109 | .372 | .158 | .368 | .247 | 1.16 | .368 | .384 | .272 | .617 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **258.** | **232.** | **4960.** | **10500.** | **510.** | **512.** | **500.** | **505.** | **483.** | **474.** | **497.** | **496.** |
| Stddev | 4. | 7. | 18. | 173. | 1. | 2. | 1. | 1. | 5. | . | 2. | 1. |
| %RSD | 1.51 | 3.08 | .357 | 1.64 | .238 | .351 | .270 | .225 | 1.07 | .071 | .345 | .125 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Avg | **2020.** | **2030.** | **479.** | **497.** | **505.** | **476.** |
| Stddev | 10. | 1. | 8. | 2. | 2. | . |
| %RSD | .473 | .037 | 1.58 | .487 | .439 | .104 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

Sample Name: icv Acquired: 03/29/2019 12:09:09 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **84641.** | **1248200.** | **369960.** |
| Stddev | 277. | 3541. | 254. |
| %RSD | .32718 | .28369 | .06870 |

Sample Name: ICVLL Acquired: 03/29/2019 12:15:23 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **30.7** | F **31.3** | **1130.** | **1180.** | **64.5** | **28.2** | **11.5** | **1440.** | **14.4** | **14.5** | **28.9** | **28.3** |
| Stddev | .7 | 7.0 | 2. | 10. | 2.9 | .4 | .0 | 15. | .1 | .2 | .2 | .4 |
| %RSD | 2.40 | 22.3 | .153 | .858 | 4.55 | 1.31 | .232 | 1.02 | .696 | 1.21 | .675 | 1.48 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | 60.0 | | | | | | | | | | |
| Range | -30.0% | -30.0% | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **33.4** | **27.0** | **907.** | **1520.** | **32.8** | **30.7** | **30.1** | **27.7** | **63.7** | **63.9** | **60.2** | **29.4** |
| Stddev | .5 | 5.2 | 14. | 10. | .3 | .8 | .1 | 1.8 | 3.6 | 3.0 | 1.5 | .3 |
| %RSD | 1.56 | 19.1 | 1.57 | .688 | 1.04 | 2.59 | .444 | 6.32 | 5.74 | 4.71 | 2.41 | 1.09 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **27.7** |
| Stddev | .1 |
| %RSD | .286 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 03/29/2019 12:15:23 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **84185.** | **1246900.** | **370570.** |
| Stddev | 198. | 6601. | 3850. |
| %RSD | .23475 | .52937 | 1.0389 |

Sample Name: icb Acquired: 03/29/2019 12:27:44 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.067** | **-16.9** | **1.29** | **1.83** | **-.118** | **.147** | **-10.6** | **.006** | **-.069** | **-.154** | **-.496** | **-.045** |
| Stddev | .570 | 2.3 | .39 | 4.64 | .308 | .058 | .4 | .188 | .166 | .206 | .435 | .338 |
| %RSD | 855. | 13.5 | 30.4 | 254. | 261. | 39.4 | 3.40 | 3380. | 240. | 134. | 87.7 | 747. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-4.82** | **1.47** | **-1.85** | **-.292** | **.082** | **-.199** | **.068** | **-1.55** | **.475** | **-.202** | **-.335** | **-.789** |
| Stddev | 2.22 | .90 | .35 | .061 | .864 | .436 | 4.01 | 1.36 | 4.28 | 1.33 | .330 | .146 |
| %RSD | 46.1 | 61.5 | 18.9 | 20.8 | 1050. | 219. | 5870. | 87.8 | 900. | 660. | 98.3 | 18.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **84196.** | **1249300.** | **372110.** |
| Stddev | 288. | 5335. | 2228. |
| %RSD | .34228 | .42705 | .59863 |

Sample Name: MRL/LLOQ Acquired: 03/29/2019 12:33:59 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.6** | **384.** | **21.0** | **9.15** | **3.91** | **480.** | **4.79** | **4.70** | **9.35** | **9.88** | **12.7** | **12.0** |
| Stddev | .8 | 2. | 1.5 | .27 | .05 | 6. | .09 | .17 | .31 | 1.18 | .3 | 5.0 |
| %RSD | 7.76 | .641 | 7.22 | 2.95 | 1.24 | 1.24 | 1.81 | 3.58 | 3.33 | 11.9 | 2.29 | 41.6 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **290.** | **500.** | **10.0** | **10.9** | **9.84** | **10.1** | **21.3** | **15.8** | **21.6** | **9.10** | **9.23** |
| Stddev | 1. | . | .1 | .3 | .25 | .6 | 2.0 | 2.1 | 1.2 | .39 | .07 |
| %RSD | .477 | .052 | 1.22 | 2.54 | 2.58 | 5.75 | 9.29 | 13.4 | 5.75 | 4.25 | .754 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **84891.** | **1249900.** | **368410.** |
| Stddev | 30. | 3654. | 1284. |
| %RSD | .03481 | .29238 | .34843 |

Sample Name: ICSA Acquired: 03/29/2019 12:40:10 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.023** | **-.040** | **481000.** | **.084** | **.956** | **-.474** | **477000.** | **.005** | **.000** | **1.86** | **-1.21** |
| Stddev | .280 | 11.3 | 5900. | 11.9 | .631 | .177 | 4430. | .502 | .313 | .44 | 1.70 |
| %RSD | 1240. | 28000. | 1.23 | 14200. | 66.0 | 37.3 | .930 | 10300. | 2940000. | 23.6 | 140. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Cu2247 | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.000** | **.000** | **.002** | **481000.** | **471000.** | **-3.19** | **-.000** | **-2.05** | **.838** | **1.74** | **3.01** |
| Stddev | 1.95 | 3.69 | 4.25 | 4540. | 3740. | .11 | 1.22 | .51 | 4.16 | 4.29 | 4.65 |
| %RSD | 132e6 | 1010000. | 219000. | .943 | .794 | 3.56 | 782000. | 24.8 | 496. | 246. | 154. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|
| Avg | **-6.98** | **9460.** | **-6.95** |
| Stddev | 2.05 | 102. | .56 |
| %RSD | 29.4 | 1.08 | 8.10 |
| Check ? | Chk Pass | None | Chk Pass |
| High Limit | | | |
| Low Limit | | | |

Sample Name: ICSA Acquired: 03/29/2019 12:40:10 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **76576.** | **1135100.** | **348570.** |
| Stddev | 278. | 1435. | 1089. |
| %RSD | .36263 | .12638 | .31249 |

Sample Name: ICSAB Acquired: 03/29/2019 12:47:28 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **430.** | **500.** | **508000.** | **572.** | **420.** | **438.** | **466.** | **506000.** | **444.** | **474.** | **481.** |
| Stddev | 1. | 3. | 5000. | 19. | 2. | 4. | 4. | 5090. | 1. | . | 1. |
| %RSD | .234 | .540 | .985 | 3.26 | .424 | .866 | .957 | 1.01 | .134 | .078 | .278 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu2247 | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **486.** | **520.** | **480.** | **517000.** | **499000.** | **509.** | **495.** | **454.** | **413.** | **433.** | **408.** |
| Stddev | 2. | 4. | 8. | 4290. | 3540. | 2. | 2. | 1. | 2. | 6. | 3. |
| %RSD | .509 | .750 | 1.64 | .830 | .709 | .376 | .382 | .137 | .513 | 1.49 | .676 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **453.** | **427.** | **471.** | **505.** | **457.** | **477.** | **422.** |
| Stddev | 7. | 4. | 2. | 5. | 1. | 1. | 1. |
| %RSD | 1.59 | .828 | .513 | 1.01 | .204 | .221 | .238 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: ICSAB Acquired: 03/29/2019 12:47:28 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **75309.** | **1125400.** | **348150.** |
| Stddev | 275. | 6486. | 1501. |
| %RSD | .36451 | .57635 | .43110 |

Sample Name: ccv1 Acquired: 03/30/2019 05:05:58 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **401.** | **562.** | F **4480.** | **4640.** | **4610.** | **472.** | **4690.** | **467.** | **5220.** | **5090.** | **4900.** | **4660.** |
| Stddev | 3. | 19. | 20. | 21. | 49. | 9. | 33. | 2. | 38. | 11. | 57. | 67. |
| %RSD | .772 | 3.39 | .454 | .451 | 1.07 | 1.98 | .707 | .328 | .718 | .218 | 1.16 | 1.44 |
| Check ? | None | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | | | | | | |
| Range | | | -10.4% | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4920.** | **5020.** | **5140.** | **4960.** | **4760.** | **4860.** | **4900.** | **4770.** | **5010.** | **5130.** |
| Stddev | 74. | 47. | 9. | 3. | 7. | 12. | 20. | 16. | 107. | 11. |
| %RSD | 1.51 | .935 | .182 | .056 | .153 | .236 | .400 | .339 | 2.13 | .218 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **62487.** | **1072400.** | **395050.** |
| Stddev | 148. | 6892. | 4920. |
| %RSD | .23611 | .64273 | 1.2454 |

Sample Name: ccv2 Acquired: 03/30/2019 05:11:55 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.0** | **54.6** | **498.** | **493.** | **473.** | **497.** | **485.** | **51.0** | **49.3** | **482.** | **50.8** | **51.0** |
| Stddev | .9 | 5.6 | 1. | 7. | 14. | 1. | 3. | .2 | 1.7 | 6. | .1 | .2 |
| %RSD | 1.92 | 10.3 | .182 | 1.37 | 3.03 | .178 | .669 | .305 | 3.35 | 1.32 | .256 | .340 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Co2286 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **522.** | **490.** | **468.** | **550.** | **501.** | **470.** | **464.** | **536.** | **523.** | **516.** | **510.** | **502.** |
| Stddev | 1. | 2. | 8. | 10. | 4. | 1. | 1. | 1. | 1. | 2. | 5. | 4. |
| %RSD | .198 | .494 | 1.72 | 1.81 | .894 | .282 | .283 | .265 | .228 | .336 | 1.06 | .742 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **516.** | **493.** | **451.** | **523.** | **522.** | **495.** | **535.** | **505.** |
| Stddev | 4. | 2. | 7. | 6. | 12. | 2. | 1. | 1. |
| %RSD | .717 | .419 | 1.62 | 1.22 | 2.22 | .424 | .254 | .145 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 03/30/2019 05:11:55 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **62627.** | **1084900.** | **397840.** |
| Stddev | 130. | 7048. | 7805. |
| %RSD | .20833 | .64959 | 1.9618 |

Sample Name: ccb Acquired: 03/30/2019 05:17:40 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.26** | **-8.58** | **-.431** | **2.60** | **.340** | **-.695** | **-3.29** | **-.001** | **-.105** | **.443** | **.819** | **.583** |
| Stddev | .61 | 3.01 | 1.08 | 3.75 | .337 | .035 | 1.58 | .087 | .143 | .067 | .937 | .285 |
| %RSD | 48.8 | 35.1 | 251. | 144. | 99.1 | 4.97 | 48.0 | 12100. | 136. | 15.1 | 114. | 48.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **6.67** | **-10.8** | **-.175** | **.378** | **1.47** | **1.06** | **1.80** | **-.545** | **1.47** | **3.15** | **.414** | **-.235** |
| Stddev | 1.31 | 1.4 | .017 | .108 | .69 | .65 | 2.02 | 2.36 | 4.20 | 1.72 | .249 | .119 |
| %RSD | 19.7 | 13.2 | 9.62 | 28.5 | 46.5 | 61.4 | 112. | 432. | 286. | 54.5 | 60.3 | 50.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **62739.** | **1085800.** | **396170.** |
| Stddev | 198. | 2326. | 6622. |
| %RSD | .31549 | .21421 | 1.6715 |

Sample Name: 253279 Acquired: 03/30/2019 05:50:00 Type: Unk
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Ag3382 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-3.38** | **-27.9** | **31300.** | **49.2** | **1900.** | **1.50** | **15900.** | **1.49** | **1.50** | **43.3** | **43.4** | **192.** |
| Stddev | 1.04 | 7.1 | 2400. | 6.1 | 13. | .11 | 166. | .16 | .10 | .4 | 1.3 | 1. |
| %RSD | 30.7 | 25.6 | 7.67 | 12.3 | .657 | 7.12 | 1.04 | 10.8 | 6.30 | .901 | 3.05 | .737 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **82.4** | **154.** | **47300.** | **6220.** | **92700.** | **25.2** | **92.5** | **169.** | **2.80** | **5.98** | **82.2** | **181.** |
| Stddev | 20.3 | 22. | 461. | 119. | 570. | .7 | .9 | 3. | 2.73 | 5.38 | 3.1 | 51. |
| %RSD | 24.7 | 14.0 | .974 | 1.91 | .615 | 2.83 | 1.01 | 1.81 | 97.3 | 89.9 | 3.77 | 28.0 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **123.** | **251.** |
| Stddev | 2. | . |
| %RSD | 1.42 | .132 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **62139.** | **1071400.** | **393680.** |
| Stddev | 186. | 6530. | 3697. |
| %RSD | .29854 | .60947 | .93920 |

Sample Name: 253280 Acquired: 03/30/2019 05:56:41 Type: Unk
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Ag3382 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.34** | **-37.7** | **25500.** | **30.9** | **1480.** | **1.32** | **9780.** | **1.33** | **.839** | **35.1** | **38.3** | **115.** |
| Stddev | .74 | 4.9 | 268. | 1.6 | 21. | .06 | 77. | .43 | .082 | .7 | .8 | 1. |
| %RSD | 55.3 | 13.0 | 1.05 | 5.14 | 1.40 | 4.78 | .783 | 32.0 | 9.76 | 2.00 | 2.03 | .914 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **17.8** | **88.8** | **55400.** | **4370.** | **74200.** | **22.6** | **76.3** | **101.** | **2.91** | **6.90** | **68.7** | **119.** |
| Stddev | 1.5 | 7.0 | 585. | 18. | 521. | .9 | .8 | 3. | 2.11 | 2.92 | 1.8 | 2. |
| %RSD | 8.21 | 7.85 | 1.06 | .400 | .702 | 4.08 | .985 | 2.49 | 72.5 | 42.3 | 2.62 | 1.87 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **113.** | **160.** |
| Stddev | 1. | 1. |
| %RSD | .532 | .377 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **62165.** | **1079500.** | **394990.** |
| Stddev | 266. | 3159. | 1746. |
| %RSD | .42774 | .29268 | .44195 |

Sample Name: ccv1 Acquired: 03/30/2019 06:09:32 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **398.** | **567.** | **4840.** | **4730.** | **4620.** | **479.** | **4630.** | **464.** | **5330.** | **5090.** | **4900.** | **4680.** |
| Stddev | . | 5. | 82. | 30. | 53. | 10. | 76. | 1. | 38. | 8. | 52. | 74. |
| %RSD | .109 | .829 | 1.70 | .631 | 1.15 | 2.11 | 1.63 | .138 | .716 | .164 | 1.06 | 1.58 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4910.** | **5030.** | **5250.** | **5030.** | **4770.** | **4870.** | **4930.** | **4840.** | **5110.** | **5200.** |
| Stddev | 150. | 52. | 3. | 4. | 13. | 10. | 42. | 9. | 96. | 14. |
| %RSD | 3.05 | 1.03 | .066 | .072 | .264 | .201 | .846 | .186 | 1.87 | .280 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **59884.** | **1047400.** | **391100.** |
| Stddev | 175. | 5685. | 3479. |
| %RSD | .29187 | .54275 | .88940 |

Sample Name: ccv2 Acquired: 03/30/2019 06:15:37 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.1** | F **64.1** | **540.** | **505.** | **482.** | **503.** | **490.** | **52.1** | **50.9** | **489.** | **51.6** | **51.3** |
| Stddev | 1.2 | 5.8 | 1. | 3. | 7. | 3. | 4. | .3 | .8 | 9. | .2 | .1 |
| %RSD | 2.42 | 9.04 | .224 | .552 | 1.47 | .501 | .842 | .518 | 1.57 | 1.90 | .294 | .271 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 50.0 | | | | | | | | | | |
| Range | | 10.4% | | | | | | | | | | |

| Elem | Co2286 | Cr2677 | Cu2247 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **532.** | **498.** | F **905.** | **472.** | F **559.** | **515.** | **475.** | **470.** | **550.** | **533.** | **520.** | **517.** |
| Stddev | 1. | 1. | 4. | 3. | 5. | 4. | 2. | 2. | 4. | 1. | 2. | 4. |
| %RSD | .172 | .171 | .444 | .661 | .827 | .808 | .412 | .419 | .805 | .182 | .344 | .859 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 500. | | 500. | | | | | | | |
| Range | | | 10.4% | | 10.4% | | | | | | | |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **507.** | **522.** | **499.** | **454.** | **532.** | **541.** | **500.** | **544.** | **512.** |
| Stddev | 4. | 4. | 3. | 3. | 2. | 16. | 1. | 2. | 1. |
| %RSD | .799 | .728 | .502 | .704 | .380 | 2.96 | .220 | .354 | .220 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Sample Name: ccv2 Acquired: 03/30/2019 06:15:37 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 61261. | 1070900. | 393870. |
| Stddev | 146. | 5547. | 5769. |
| %RSD | .23794 | .51796 | 1.4646 |

Sample Name: ccb Acquired: 03/30/2019 06:21:23 Type: QC
Method: DOD Calibration Updated 060614(v3287) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ag3382 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.29** | **-11.9** | **3.72** | **2.61** | **.400** | **-.744** | **-9.81** | **-.062** | **-.099** | **-.064** | **.338** | **.022** |
| Stddev | .42 | 4.8 | .57 | 2.84 | .479 | .052 | 1.46 | .111 | .250 | .435 | .594 | .303 |
| %RSD | 32.7 | 40.1 | 15.4 | 109. | 120. | 7.01 | 14.9 | 180. | 252. | 678. | 176. | 1390. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **11.3** | **-11.0** | **-3.04** | **-.134** | **1.31** | **.331** | **.659** | **1.32** | **-.501** | **.846** | **-.166** | **-.715** |
| Stddev | 4.5 | 1.3 | .04 | .079 | 1.06 | .671 | 2.82 | 1.63 | 1.57 | 1.56 | .369 | .041 |
| %RSD | 39.5 | 11.6 | 1.30 | 59.3 | 80.9 | 203. | 428. | 124. | 312. | 185. | 223. | 5.74 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

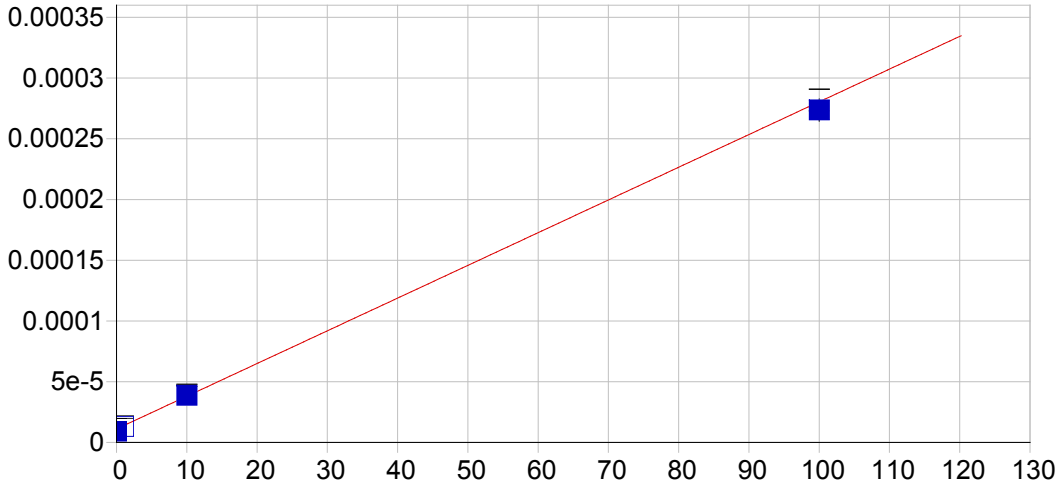
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **61369.** | **1078700.** | **396700.** |
| Stddev | 291. | 5236. | 9674. |
| %RSD | .47409 | .48539 | 2.4386 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/12/2019 12:30:12 | 04/03/2019 14:55:03 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.998948 | 0.000002 | 0.840534 | 2.801781 |
| Ag 338.289 {100} | 04/12/2019 12:30:12 | 04/03/2019 15:00:39 | Linear | 1/Conc | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.469763 | 31.565876 |
| Al 167.079 {501} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | None | 0.000038 | 0.000005 | 0.000000 | 1.000000 | 0.999974 | 0.000020 | 0.710137 | 2.367124 |
| Al 308.215 {109} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Linear | 1/Var | 0.000061 | 0.000000 | 0.000000 | 1.000000 | 0.999866 | 0.000013 | 29.257129 | 97.523765 |
| Al 396.152 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:34:05 | Curvili | 1/Conc | -0.000025 | 0.000001 | 0.000000 | 1.000000 | 0.999969 | 0.000016 | 14.461269 | 48.204230 |
| As 193.759 {474} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Var | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999984 | 0.000002 | 3.702299 | 12.340998 |
| As 197.262 {471} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | -0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 8.640076 | 28.800254 |
| Ba 233.527 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Conc | -0.000000 | 0.000014 | 0.000000 | 1.000000 | 0.999978 | 0.000000 | 0.385605 | 1.285350 |
| Ba 455.403 { 74} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.000059 | 0.000044 | 0.000000 | 1.000000 | 0.999967 | 0.000001 | 0.386546 | 1.288486 |
| Ba 493.409 { 68} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Var | 0.008860 | 0.000040 | 0.000000 | 1.000000 | 0.999994 | 0.000024 | 1.031177 | 3.437257 |
| Be 313.042 {108} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000024 | 0.000054 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.038732 | 0.129107 |
| Be 234.861 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999985 | 0.000000 | 1.063490 | 3.544965 |
| Ca 315.887 {107} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000073 | 0.000000 | 0.000000 | 1.000000 | 0.999814 | 0.000026 | 12.703344 | 42.344479 |
| Ca 317.933 {106} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.003777 | 0.000001 | 0.000000 | 1.000000 | 0.999902 | 0.000015 | 7.356272 | 24.520908 |
| Ca 393.366 { 86} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Var | 0.005182 | 0.000159 | 0.000000 | 1.000000 | 0.995263 | 0.005641 | 0.080763 | 0.269209 |
| Ca 396.847 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.017159 | 0.000120 | 0.000000 | 1.000000 | 0.994122 | 0.000616 | 0.099859 | 0.332864 |
| Cd 226.502 {449} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000013 | 0.000034 | 0.000000 | 1.000000 | 0.999928 | 0.000000 | 0.235113 | 0.783710 |
| Cd 228.802 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:00:42 | Linear | 1/Conc | 0.000028 | 0.000062 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 0.164609 | 0.548698 |
| Co 228.616 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000006 | 0.000029 | 0.000000 | 1.000000 | 0.999923 | 0.000001 | 0.387286 | 1.290953 |
| Co 238.892 {141} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999986 | 0.000001 | 0.807762 | 2.692542 |
| Cr 205.560 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Var | 0.000020 | 0.000016 | 0.000000 | 1.000000 | 0.997587 | 0.000066 | 0.368554 | 1.228514 |
| Cr 267.716 {126} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.932952 | 3.109840 |
| Cu 224.700 {450} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999685 | 0.000011 | 0.487339 | 1.624464 |
| Cu 324.754 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | 198.71895 | 0.845033 | 0.000000 | 1.000000 | 0.999907 | 0.442229 | 3.237496 | 10.791653 |
| Cu 327.396 {103} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 7.283647 | 0.431855 | 0.000000 | 1.000000 | 0.999882 | 0.176994 | 8.308669 | 27.695563 |
| Fe 234.349 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Curvili | 1/Var | 0.000019 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000000 | 1.712355 | 5.707849 |
| Fe 239.562 {140} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000029 | 0.000000 | 0.000000 | 1.000000 | 0.998865 | 0.000064 | 11.697136 | 38.990454 |
| Fe 259.940 {129} | 04/12/2019 12:30:12 | 04/03/2019 15:26:42 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.998255 | 0.000033 | 3.951315 | 13.171051 |
| Mg 202.582 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000058 | 0.000003 | 0.000000 | 1.000000 | 0.999028 | 0.000109 | 2.561991 | 8.539971 |
| Mg 279.079 {121} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Full Fit | 1/Conc | -0.000003 | 0.000000 | 0.000000 | 1.030000 | 0.999974 | 0.000001 | 87.004312 | 290.01437 |
| Mg 280.270 {120} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | 0.000148 | 0.000027 | 0.000000 | 1.000000 | 0.999796 | 0.000033 | 0.040780 | 0.135933 |
| Mn 257.610 {131} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Conc | 0.000001 | 0.000009 | 0.000000 | 1.000000 | 0.999926 | 0.000001 | 0.120880 | 0.402933 |
| Mn 259.373 {130} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999853 | 0.000026 | 1.336755 | 4.455850 |
| Mo 202.030 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:00:43 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.468446 | 1.561488 |
| Mo 203.844 {465} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Var | 0.000008 | 0.000008 | 0.000000 | 1.000000 | 0.999951 | 0.000008 | 0.885886 | 2.952955 |
| Mo 204.598 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | -0.000007 | 0.000007 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 0.880737 | 2.935789 |
| Ni 221.647 {452} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999923 | 0.000009 | 0.659772 | 2.199241 |
| Ni 231.604 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000031 | 0.000017 | 0.000000 | 1.000000 | 0.999914 | 0.000001 | 0.636840 | 2.122800 |
| Pb 216.999 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999755 | 0.000022 | 5.202291 | 17.340971 |
| Pb 220.353 {453} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Conc | 0.000030 | 0.000004 | 0.000000 | 1.000000 | 0.999244 | 0.000000 | 2.562058 | 8.540192 |
| Pb 220.353 {153} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999906 | 0.000000 | 6.767648 | 22.558828 |
| Sb 206.833 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000007 | 0.000003 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 2.380937 | 7.936456 |
| Sb 217.581 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999893 | 0.000000 | 2.579773 | 8.599243 |
| Se 196.090 {472} | 04/12/2019 12:30:12 | 04/03/2019 15:00:45 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999018 | 0.000000 | 4.530040 | 15.100132 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Curvili | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999905 | 0.000000 | 23.155478 | 77.184928 |
| Tl 190.856 {476} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999705 | 0.000001 | 2.323578 | 7.745262 |
| Tl 190.856 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999828 | 0.000000 | 5.817160 | 19.390533 |
| V 290.882 {116} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 5.979888 | 19.932959 |
| V 292.402 {115} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 0.564743 | 1.882477 |
| Zn 206.200 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000041 | 0.000024 | 0.000000 | 1.000000 | 0.997616 | 0.000150 | 0.362951 | 1.209837 |
| Zn 213.856 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:00:46 | Linear | 1/Conc | 0.000072 | 0.000044 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.176452 | 0.588174 |
| Y 224.306 {450}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:38 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.004390 | 0.000005 | 0.000000 | 1.000000 | 1.000000 | 0.000001 | 8.191976 | 27.306587 |
| Na 589.592 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000051 | 0.000003 | 0.000000 | 1.000000 | 1.000000 | 0.000003 | 9.323428 | 31.078092 |
| Si 251.611 {134} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.092998 | 0.072976 | 0.000000 | 1.000000 | 0.998832 | 1.671194 | 19.062042 | 63.540140 |
| Ti 323.452 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000253 | 0.000008 | 0.000000 | 1.000000 | 0.999959 | 0.000001 | 1.317547 | 4.391824 |
| Ti 334.941 {101} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000002 | 0.000005 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 1.513558 | 5.045195 |
| Sr 407.771 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000066 | 0.000090 | 0.000000 | 1.000000 | 0.999998 | 0.000001 | 0.170987 | 0.569955 |
| Sr 421.552 { 80} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000007 | 0.000084 | 0.000000 | 1.000000 | 0.999990 | 0.000001 | 0.184340 | 0.614467 |
| Sn 189.989 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999932 | 0.000001 | 1.392712 | 4.642373 |
| B 249.678 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 1.807993 | 6.026642 |
| B 249.773 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999987 | 0.000001 | 0.680433 | 2.268110 |
| Li 670.784 { 50} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000001 | 0.000034 | 0.000000 | 1.000000 | 0.999980 | 0.000015 | 1.018434 | 3.394779 |
| K 766.490 { 44} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000066 | 0.000002 | 0.000000 | 1.000000 | 1.000000 | 0.000002 | 27.773860 | 92.579535 |
| P 213.618 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:07:20 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.557307 | 15.191024 |
| S 182.034 {485} | 04/12/2019 12:30:12 | 04/03/2019 15:34:07 | Curvili | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.132317 | 20.441056 |
| Hg 184.950 {482} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000009 | 0.000005 | 0.000000 | 1.000000 | 0.999910 | 0.000001 | 1.117100 | 3.723667 |
| Ce 404.076 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 21.843516 | 72.811721 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

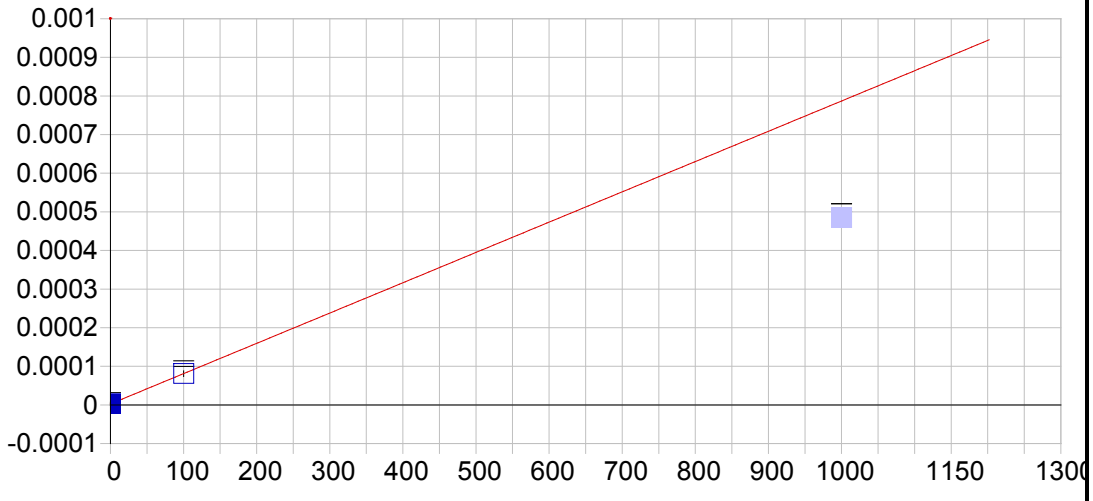



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998948 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.840534 | | |
| Predicted MQL: | 2.801781 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.69812 | -.698 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.271 | .271 | 2.71 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.483 | -2.52 | -2.52 | .00027 | .000 | 1 |
| CalStd3=1 | 1.0000 | .69860 | -.301 | -30.1 | .00001 | .000 | 1 |

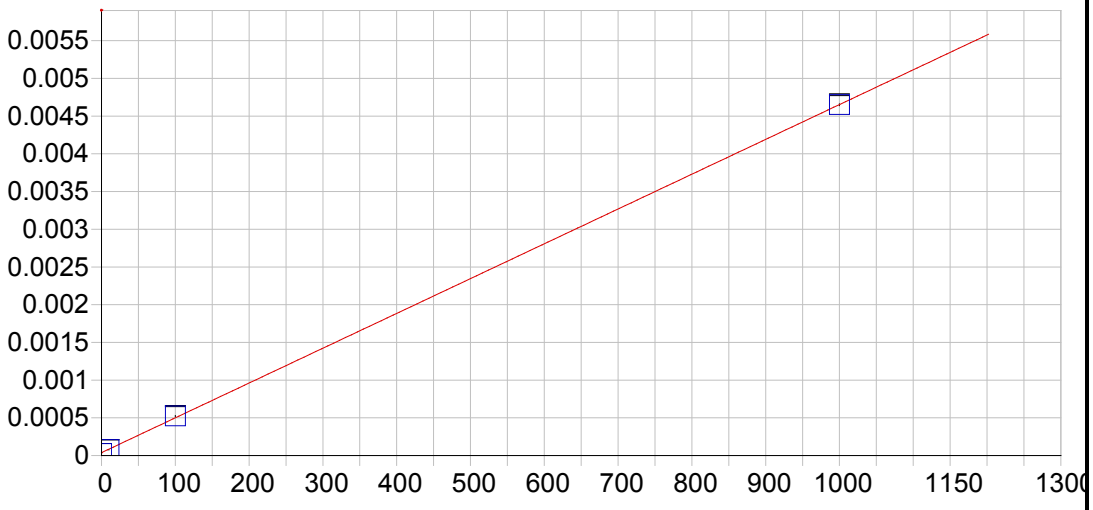



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.469763 | | |
| Predicted MQL: | 31.565876 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.00 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 614.67 | -385. | -38.5 | .00048 | .000 | 0 |

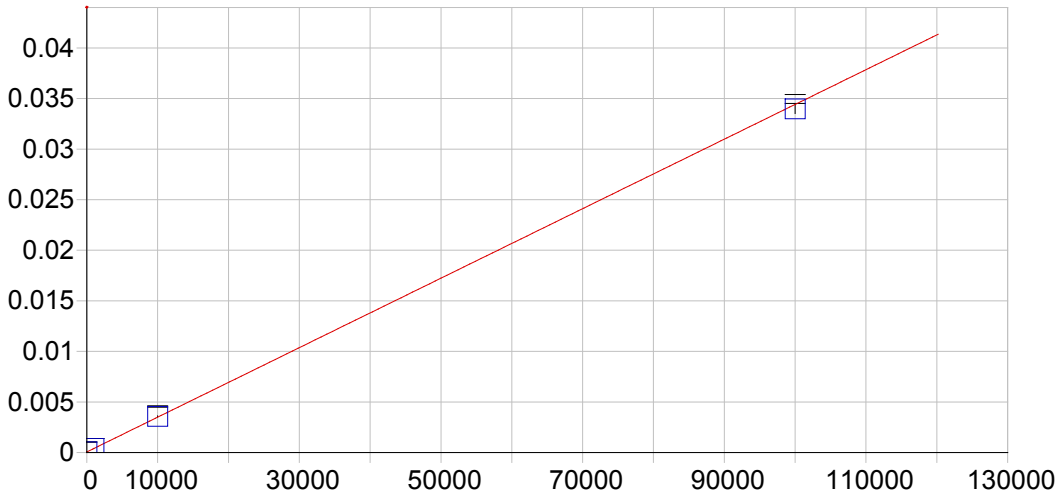



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 0.710137 | | |
| Predicted MQL: | 2.367124 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.9331 | -2.93 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.51 | -.488 | -.049 | .00465 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3797 | -1.62 | -16.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.04 | 5.04 | 5.04 | .00052 | .000 | 1 |

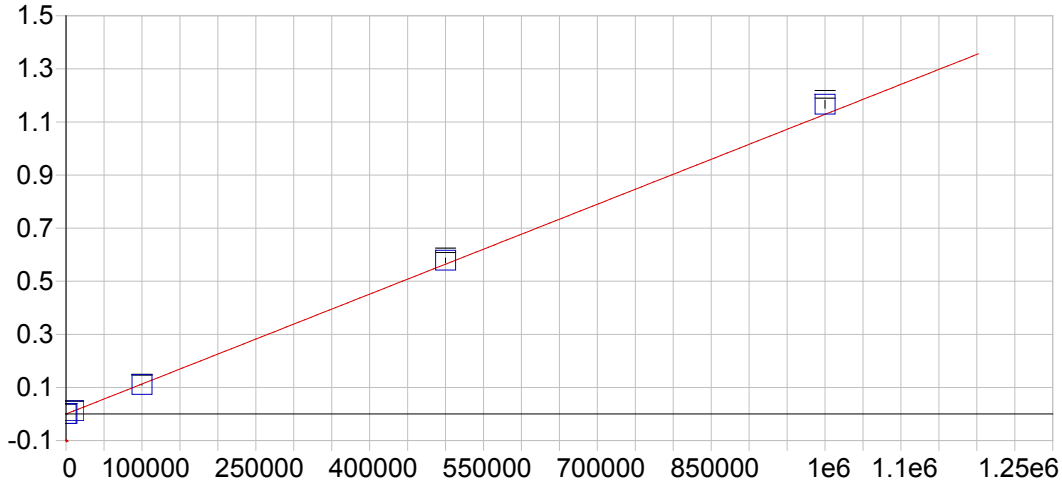



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 29.257129 | | |
| Predicted MQL: | 97.523765 | | |

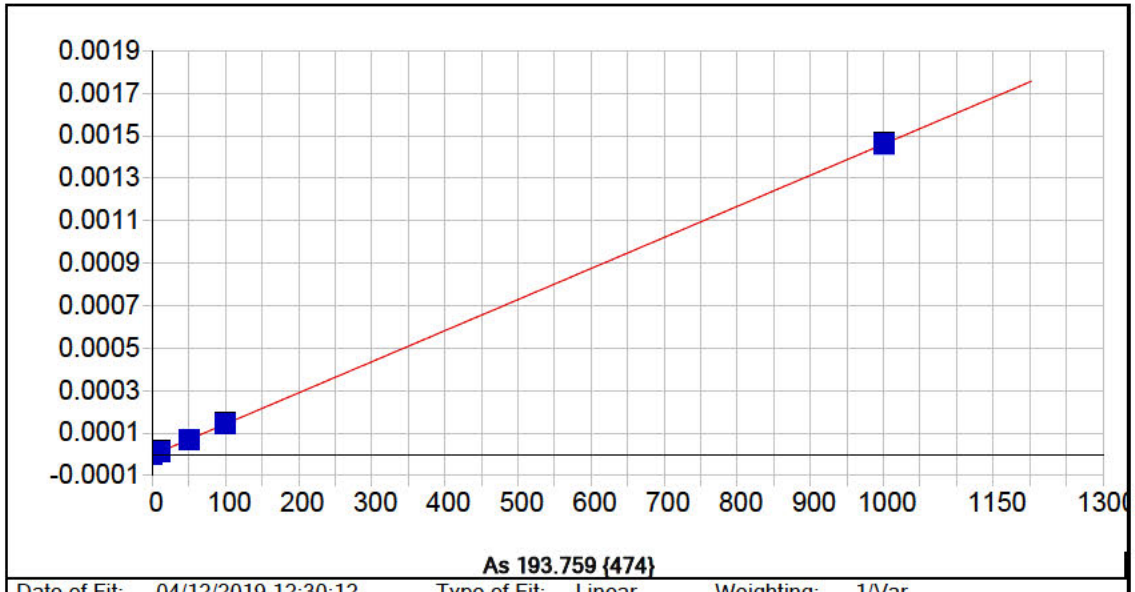
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -11.568 | -11.6 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10191. | 191. | 1.91 | .00356 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.7 | 6.70 | .670 | .00041 | .000 | 1 |
| CalStd13=10 | 100000. | 98668. | -1330. | -1.33 | .03396 | .000 | 1 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000025 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999969 | | Status: | OK. | |
| Std Error of Est: | 0.000016 | | | | |
| Predicted MDL: | 14.461269 | | | | |
| Predicted MQL: | 48.204230 | | | | |

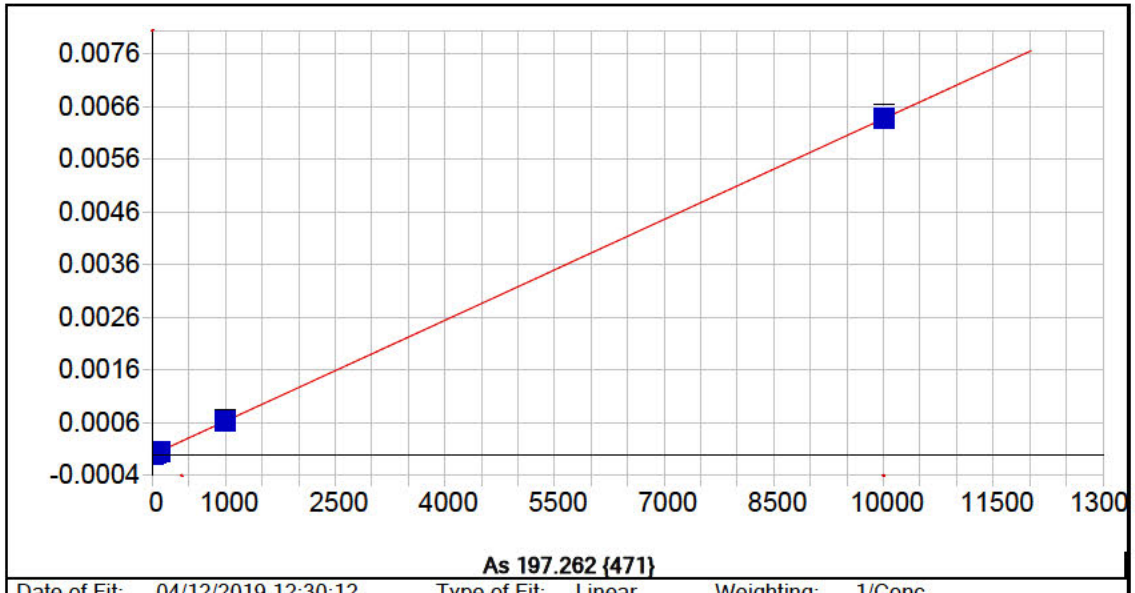
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02340 | -.023 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 512920. | 12900. | 2.58 | .57884 | .009 | 1 |
| CalStd13=10 | 100000. | 97807. | -2190. | -2.19 | .11036 | .002 | 1 |
| CalStd10=10 | 10000. | 10194. | 194. | 1.94 | .01148 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.3 | 23.3 | 2.33 | .00113 | .000 | 1 |
| CalibStd15= | 1000000. | 1033300. | 33300. | 3.33 | 1.1661 | .014 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 3.702299 | | |
| Predicted MQL: | 12.340998 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.7697 | 1.77 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .522 | .052 | .00146 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.090 | -.910 | -1.82 | .00007 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.885 | .885 | 8.85 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.42 | .418 | .418 | .00014 | .000 | 1 |

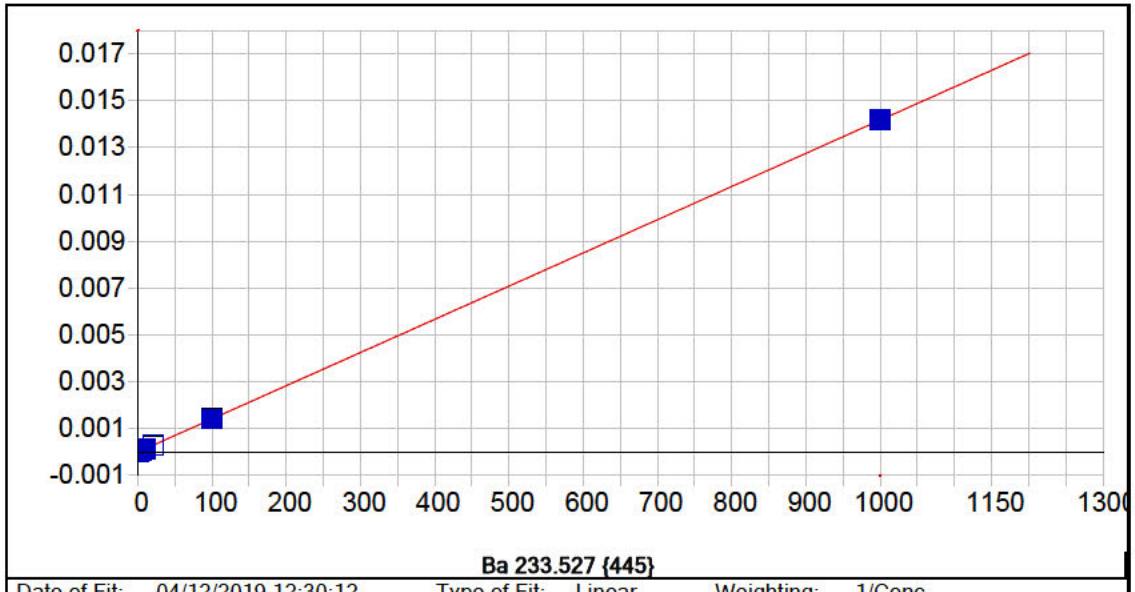



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.640076 | | |
| Predicted MQL: | 28.800254 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00220 | .002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.1 | 8.14 | .814 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.623 | -1.38 | -2.75 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7994 | -2.20 | -22.0 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.98 | 1.98 | 1.98 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.4 | -6.56 | -.066 | .00641 | .000 | 1 |

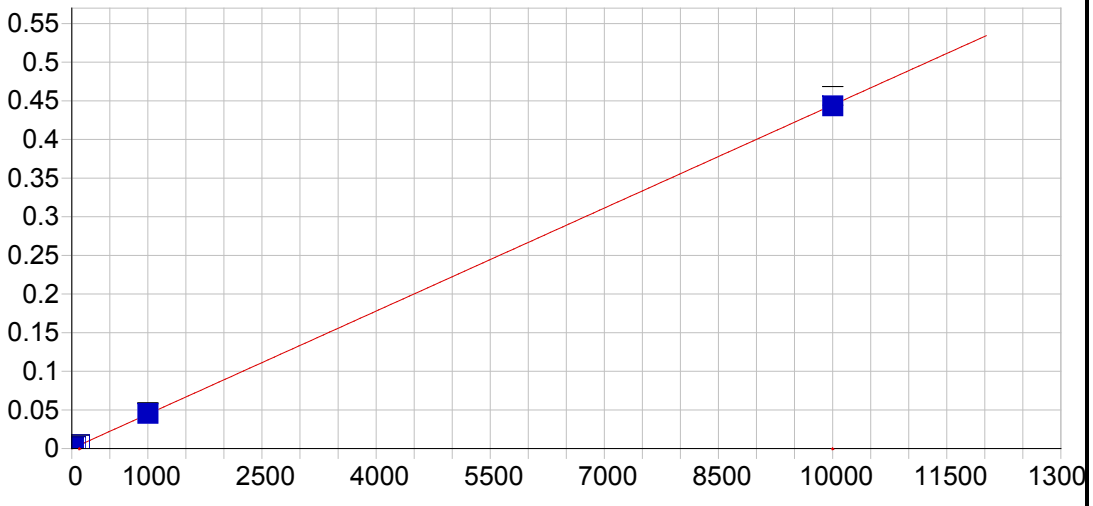



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.385605 | | |
| Predicted MQL: | 1.285350 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00007 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.489 | .489 | 4.89 | .00015 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.897 | -.103 | -.514 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00141 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6838 | -.316 | -6.32 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .462 | .046 | .01418 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95385 | -.046 | -4.62 | .00001 | .000 | 1 |

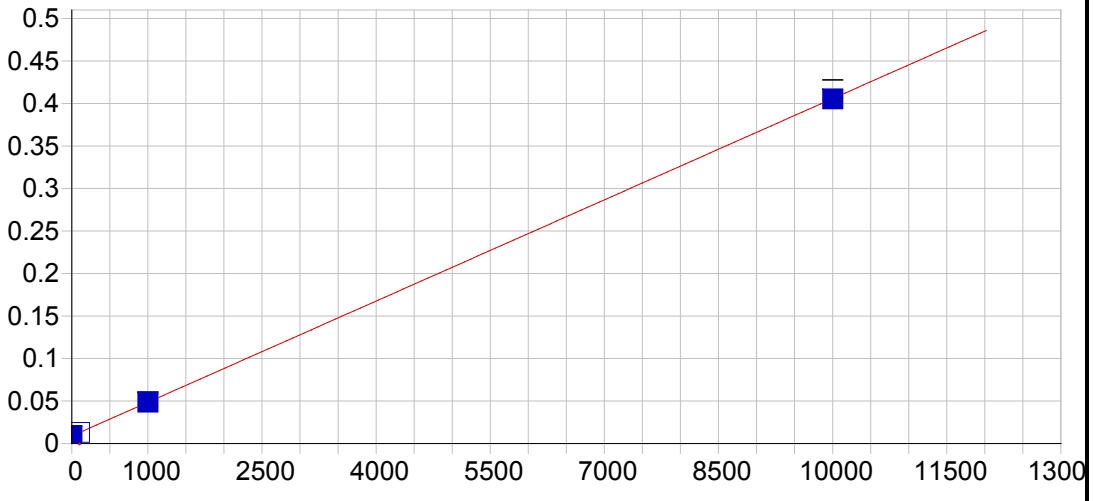



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.386546 | | |
| Predicted MQL: | 1.288486 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.643 | .643 | 1.29 | .00231 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.735 | .735 | 7.35 | .00054 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.036 | .036 | .179 | .00095 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.69 | 3.69 | 3.69 | .00467 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9429 | -.057 | -1.14 | .00028 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.5 | 21.5 | 2.15 | .04547 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0828 | .083 | 8.28 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9973.4 | -26.6 | -.266 | .44343 | .012 | 1 |

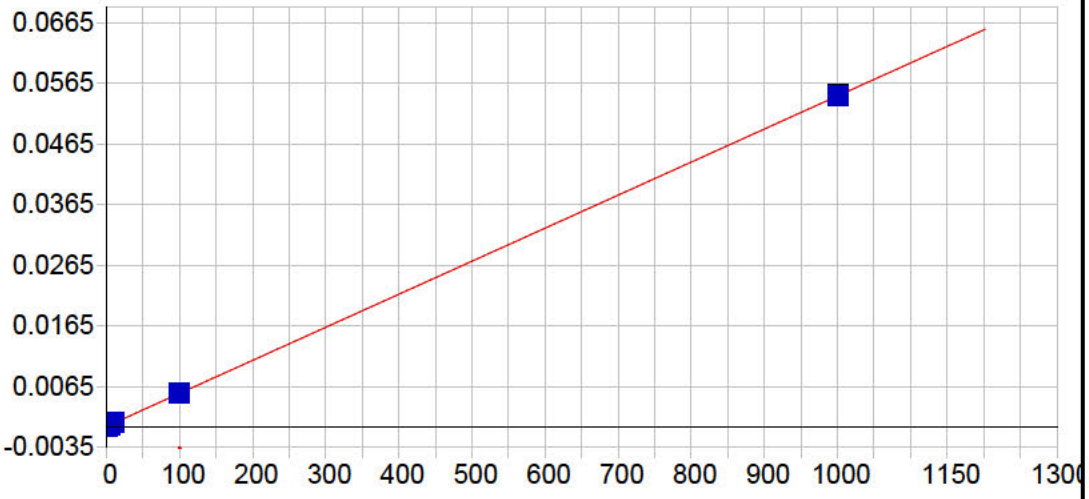



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008860 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000040 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 1.031177 | | |
| Predicted MQL: | 3.437257 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05731 | -.057 | .000 | .00886 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.74 | -.258 | -.026 | .04854 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.90 | 2.90 | 2.90 | .01294 | .000 | 1 |
| CalStd10=10 | 10000. | 9990.0 | -9.96 | -.100 | .40536 | .011 | 1 |

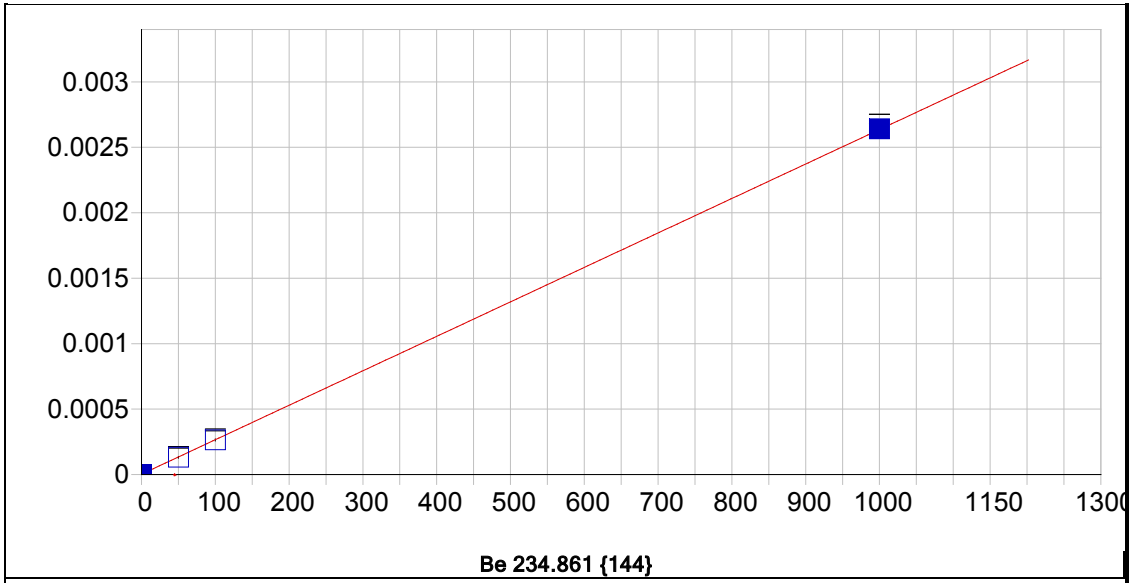



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.038732 | | |
| Predicted MQL: | 0.129107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00002 | .000 | .000 | -.00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.342 | .342 | 3.42 | .00054 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.895 | -1.11 | -1.11 | .00536 | .000 | 1 |
| CalStd2=0.5 | .50000 | .49707 | -.003 | -.586 | .00000 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8966 | -.103 | -2.07 | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .913 | .091 | .05447 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95674 | -.043 | -4.33 | .00003 | .000 | 1 |

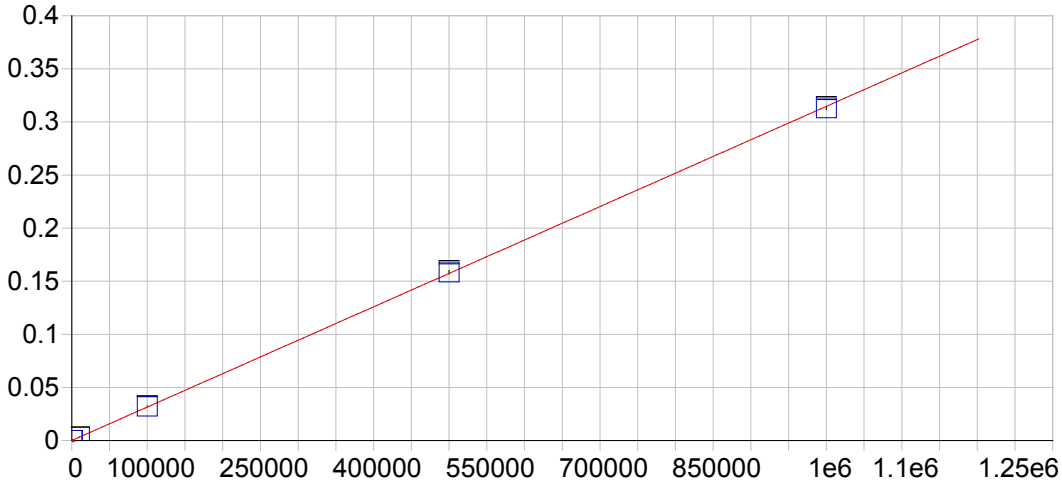



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.063490 | | |
| Predicted MQL: | 3.544965 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00139 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.312 | -.688 | -.688 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00013 | .000 | 1 |

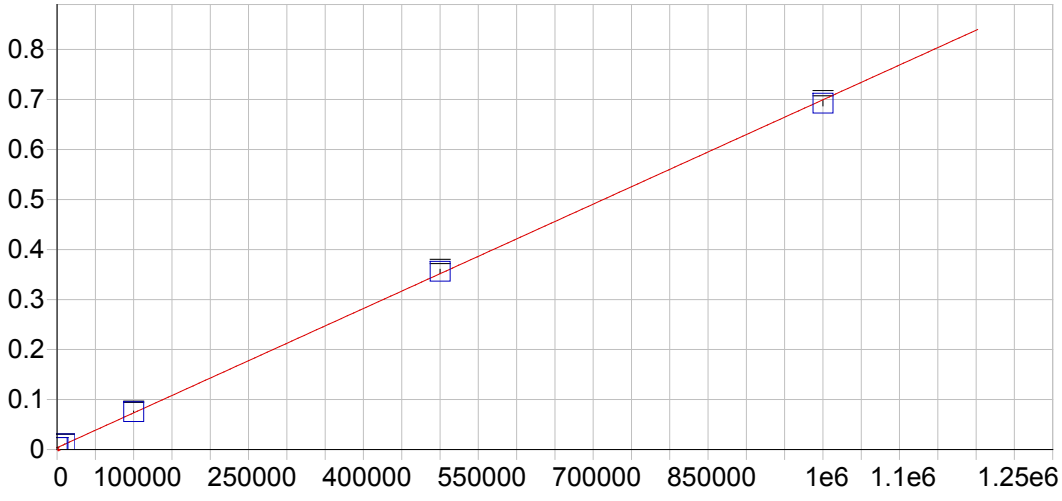



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000073 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999814 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 12.703344 | | |
| Predicted MQL: | 42.344479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 49.256 | 49.3 | .000 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 10409. | 409. | 4.09 | .00335 | .000 | 1 |
| CalStd13=10 | 100000. | 102410. | 2410. | 2.41 | .03229 | .000 | 1 |
| CalStd14=50 | 500000. | 503620. | 3620. | .724 | .15852 | .002 | 1 |
| CalStd9=100 | 1000.0 | 954.41 | -45.6 | -4.56 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 994810. | -5190. | -.519 | .31306 | .001 | 1 |

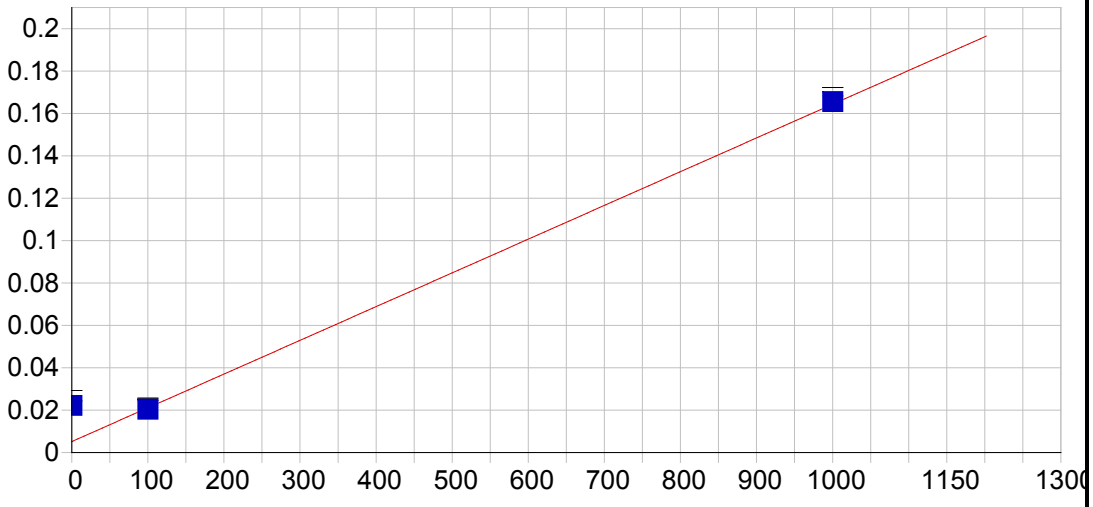



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003777 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999902 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 7.356272 | | |
| Predicted MQL: | 24.520908 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02441 | .024 | .000 | .00378 | .000 | 1 |
| CalStd10=10 | 10000. | 10475. | 475. | 4.75 | .01106 | .000 | 1 |
| CalStd13=10 | 100000. | 103110. | 3110. | 3.11 | .07551 | .001 | 1 |
| CalStd14=50 | 500000. | 506500. | 6500. | 1.30 | .35615 | .004 | 1 |
| CalStd9=100 | 1000.0 | 893.99 | -106. | -10.6 | .00440 | .000 | 1 |
| CalibStd15= | 1000000. | 990030. | -9970. | -.997 | .69254 | .005 | 1 |

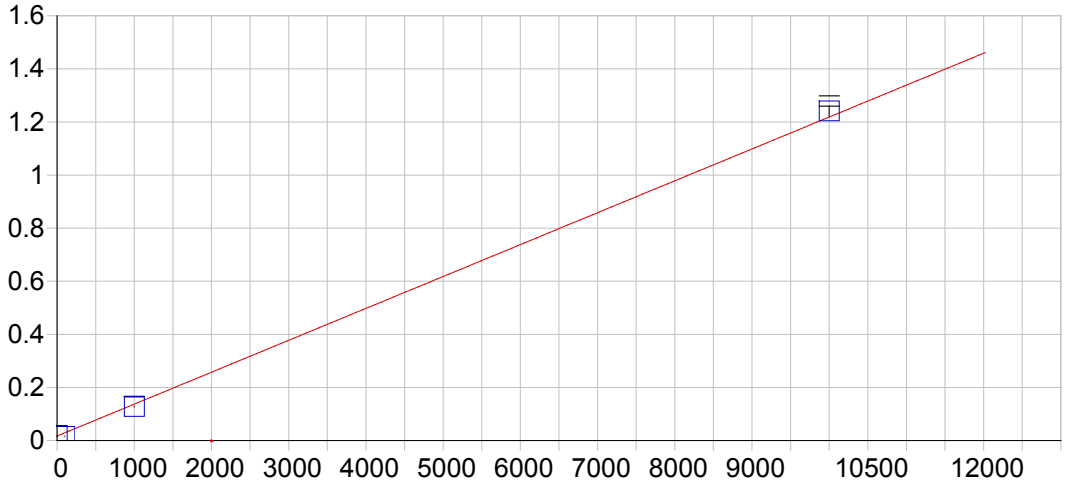



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005182 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000159 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995263 | Status: | OK. |
| Std Error of Est: | 0.005641 | | |
| Predicted MDL: | 0.080763 | | |
| Predicted MQL: | 0.269209 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 106.57 | 107. | .000 | .02215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1007.3 | 7.32 | .732 | .16553 | .002 | 1 |
| CalStd8=100 | 100.00 | 95.448 | -4.55 | -4.55 | .02038 | .000 | 1 |

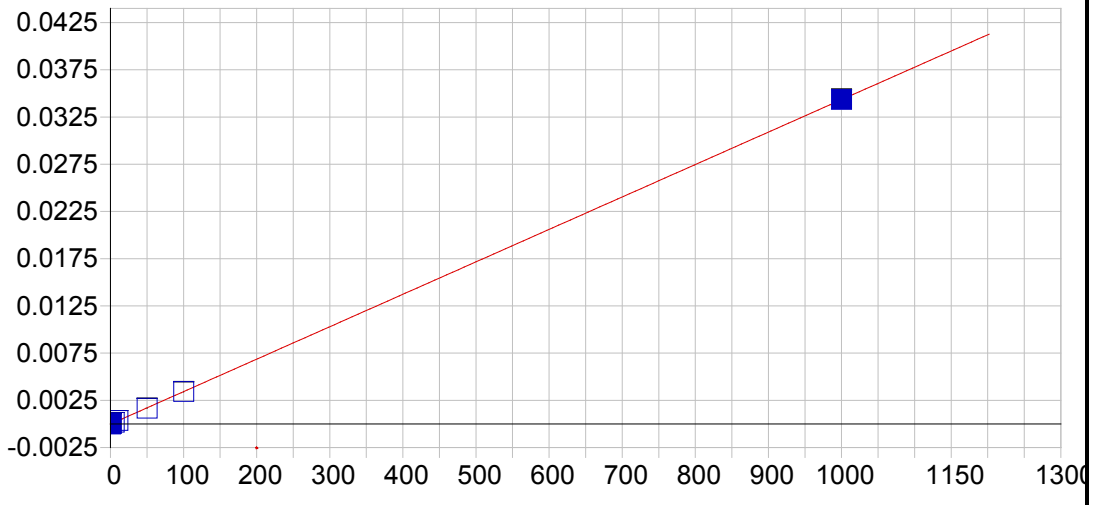



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.017159 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000120 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994122 | Status: | OK. |
| Std Error of Est: | 0.000616 | | |
| Predicted MDL: | 0.099859 | | |
| Predicted MQL: | 0.332864 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11631 | .116 | .000 | .01717 | .002 | 1 |
| CalStd10=10 | 10000. | 10188. | 188. | 1.88 | 1.2411 | .019 | 1 |
| CalStd8=100 | 100.00 | -10.442 | -110. | -110. | .01590 | .000 | 1 |
| CalStd9=100 | 1000.0 | 922.57 | -77.4 | -7.74 | .12800 | .001 | 1 |

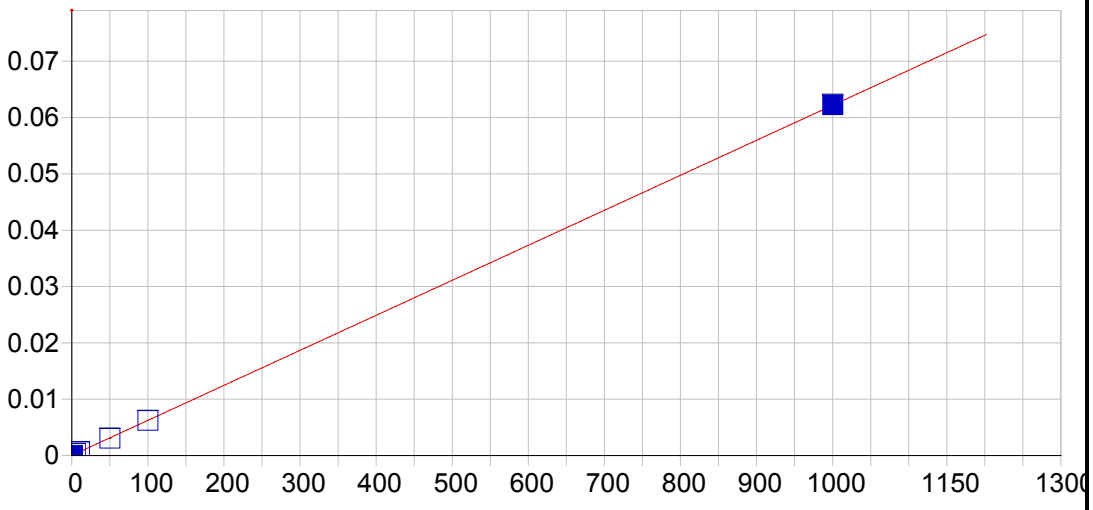



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.235113 | | |
| Predicted MQL: | 0.783710 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00026 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.536 | -1.46 | -2.93 | .00165 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1985 | .199 | 19.9 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .62555 | .126 | 25.1 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0937 | .094 | 1.87 | .00016 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.923 | -.077 | -.077 | .00342 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.717 | .717 | 7.17 | .00035 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .406 | .041 | .03435 | .000 | 1 |

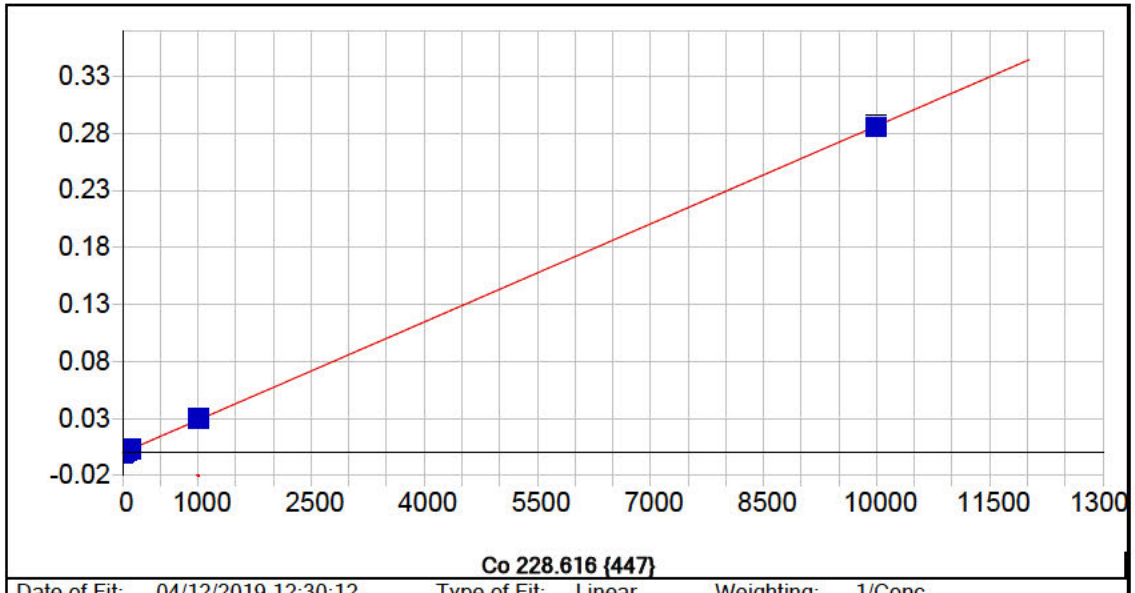



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.164609 | | |
| Predicted MQL: | 0.548698 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00007 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.735 | -1.26 | -2.53 | .00306 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0788 | .079 | 7.88 | .00010 | .000 | 1 |
| CalStd2=0.5 | .50000 | .53614 | .036 | 7.23 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9219 | -.078 | -1.56 | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.720 | -.280 | -.280 | .00623 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.327 | .327 | 3.27 | .00067 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.2 | 1.18 | .118 | .06225 | .000 | 1 |

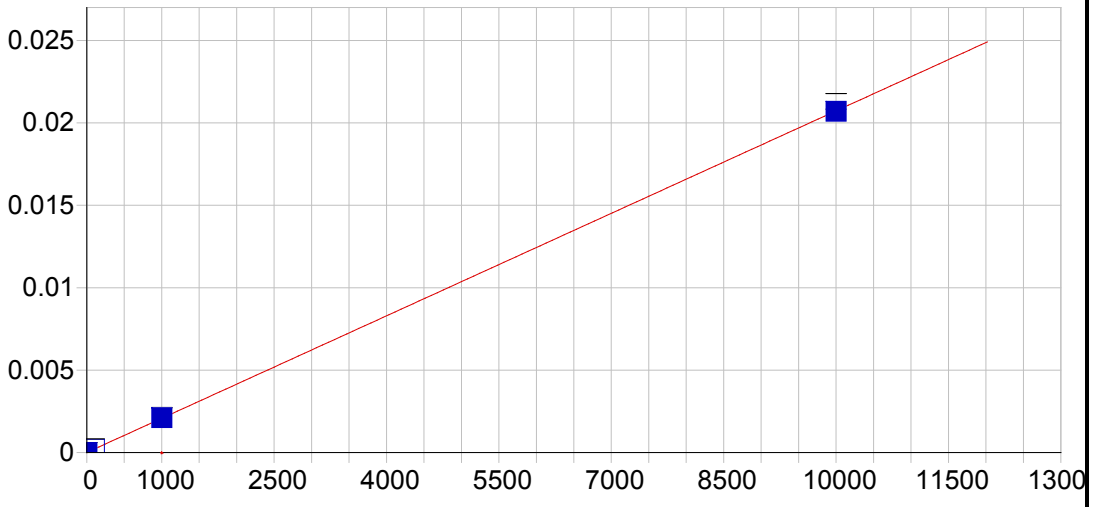



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000029 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.387286 | | |
| Predicted MQL: | 1.290953 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00075 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.263 | 1.26 | 2.53 | .00148 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.964 | .964 | 9.64 | .00032 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6897 | .690 | 13.8 | .00017 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.99 | 3.99 | 3.99 | .00299 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.7 | 31.7 | 3.17 | .02958 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4274 | .427 | 42.7 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9961.0 | -39.0 | -.390 | .28586 | .002 | 1 |

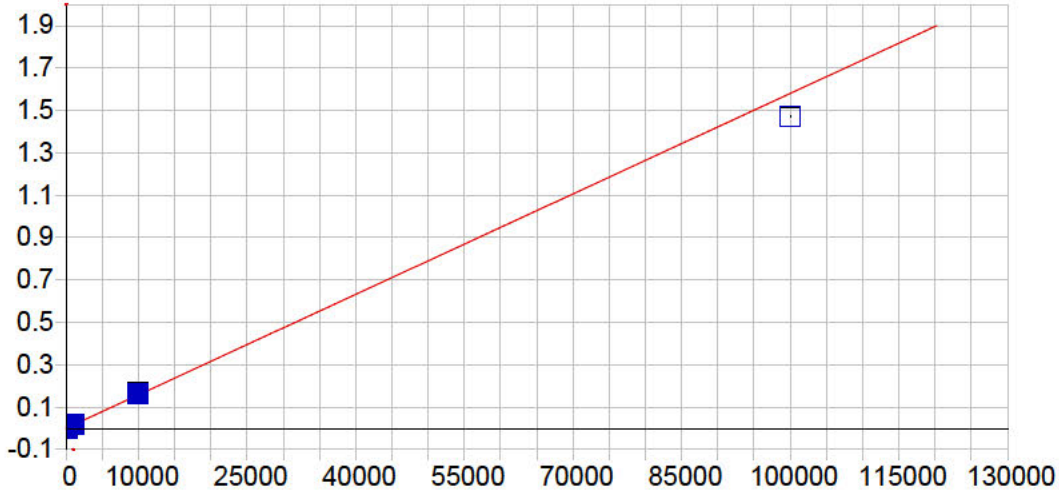



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.807762 | | |
| Predicted MQL: | 2.692542 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00322 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.0 | 16.0 | 1.60 | .00211 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.2 | -17.8 | -.178 | .02070 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.80 | 1.80 | 1.80 | .00021 | .000 | 1 |

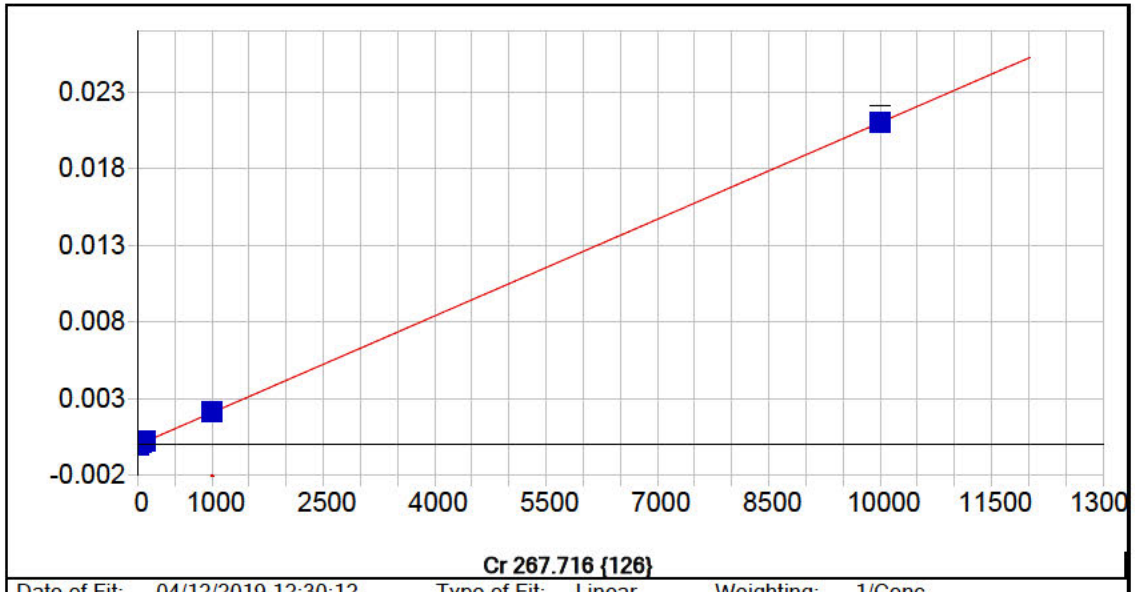



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997587 | Status: | OK. |
| Std Error of Est: | 0.000066 | | |
| Predicted MDL: | 0.368554 | | |
| Predicted MQL: | 1.228514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8471 | -1.85 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4526 | -.547 | -5.47 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.308 | .308 | .615 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1079.6 | 79.6 | 7.96 | .01708 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | .00166 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8868 | -1.11 | -22.3 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -.73498 | -1.73 | -173. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10462. | 462. | 4.62 | .16539 | .001 | 1 |
| CalStd12=10 | 100000. | 93104. | -6900. | -6.90 | 1.4716 | .004 | 1 |

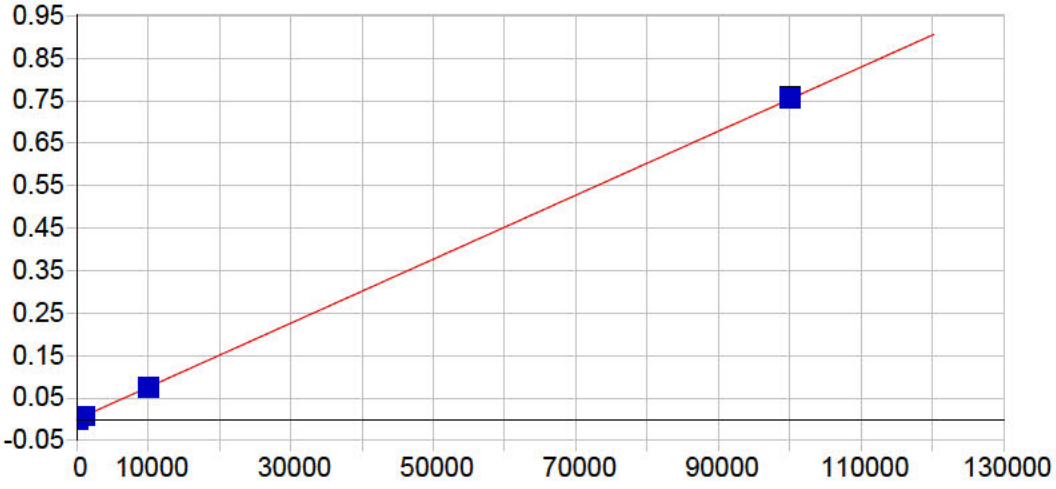



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.932952 | | |
| Predicted MQL: | 3.109840 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00114 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.003 | 1.00 | 10.0 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.830 | -.170 | -.339 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.7 | 9.72 | .972 | .00212 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.836 | -.164 | -.164 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6215 | .621 | 12.4 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.0 | -11.0 | -.110 | .02098 | .000 | 1 |

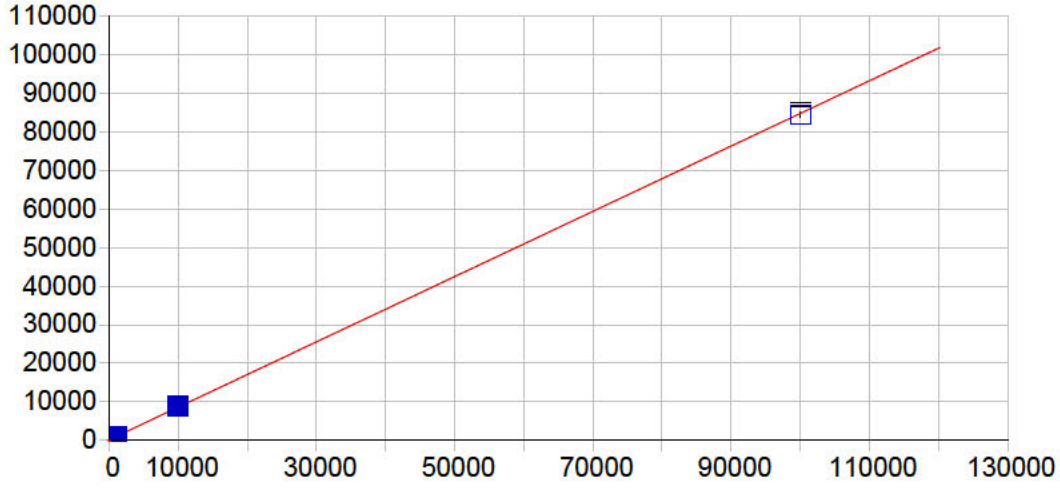



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999685 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.487339 | | |
| Predicted MQL: | 1.624464 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .04243 | .042 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 975.82 | -24.2 | -2.42 | .00735 | .000 | 1 |
| CalStd7=50 | 50.000 | 10.378 | -39.6 | -79.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 50.380 | -49.6 | -49.6 | .00038 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.8599 | -16.1 | -80.7 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100160. | 162. | .162 | .75474 | .006 | 1 |
| CalStd10=10 | 10000. | 9967.6 | -32.4 | -.324 | .07511 | .001 | 1 |

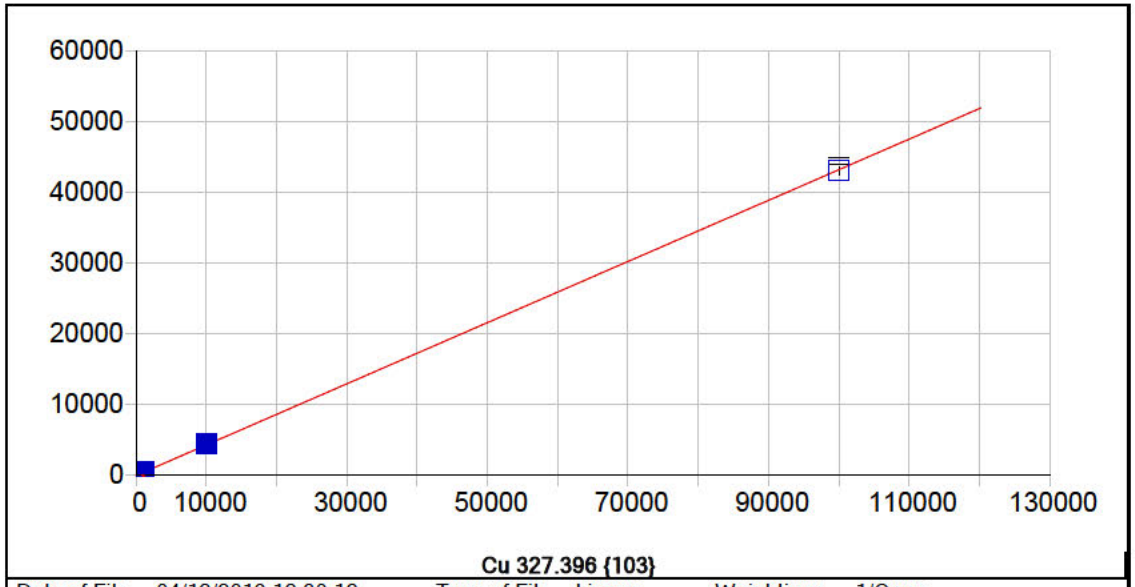



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 198.718958 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.845033 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999907 | Status: | OK. |
| Std Error of Est: | 0.442229 | | |
| Predicted MDL: | 3.237496 | | |
| Predicted MQL: | 10.791653 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00638 | .006 | .000 | 198.72 | 2.77 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | 1082.6 | 11.6 | 1 |
| CalStd8=100 | 100.00 | 100.50 | .505 | .505 | 283.65 | 4.53 | 1 |
| CalStd10=10 | 10000. | 10367. | 367. | 3.67 | 8958.9 | 92.7 | 1 |
| CalStd12=10 | 100000. | 99602. | -398. | -.398 | 84365. | 667. | 1 |
| CalStd5=10 | 10.000 | 6.5763 | -3.42 | -34.2 | 204.28 | 2.61 | 1 |
| CalStd6=20 | 20.000 | 15.469 | -4.53 | -22.7 | 211.79 | 2.62 | 1 |
| CalStd7=50 | 50.000 | 42.368 | -7.63 | -15.3 | 234.52 | .971 | 1 |

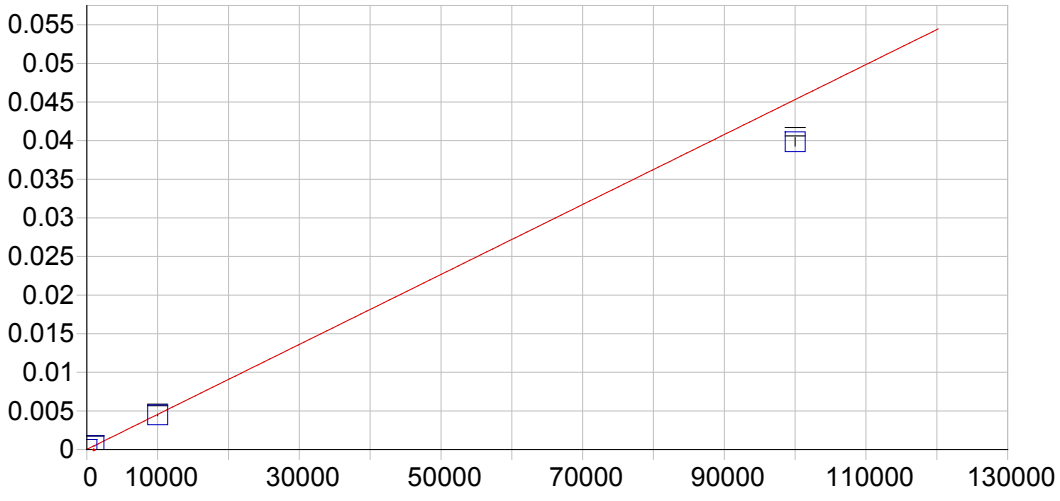



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.283647 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.431855 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.176994 | | |
| Predicted MDL: | 8.308669 | | |
| Predicted MQL: | 27.695563 | | |

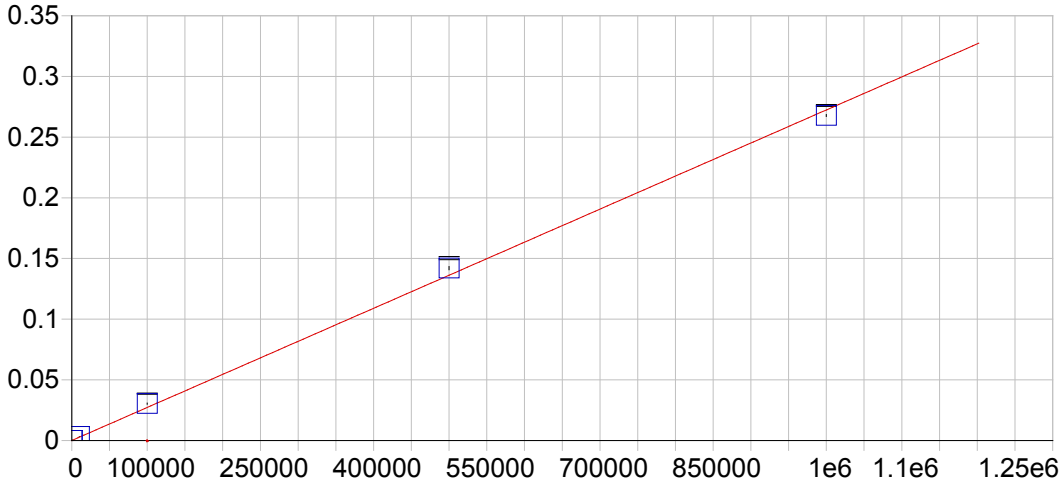
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00942 | -.009 | .000 | 7.2796 | 1.90 | 1 |
| CalStd6=20 | 20.000 | 25.187 | 5.19 | 25.9 | 18.156 | 2.77 | 1 |
| CalStd7=50 | 50.000 | 51.906 | 1.91 | 3.81 | 29.687 | 2.69 | 1 |
| CalStd8=100 | 100.00 | 108.69 | 8.69 | 8.69 | 54.196 | 2.95 | 1 |
| CalStd9=100 | 1000.0 | 1048.4 | 48.4 | 4.84 | 459.79 | 5.77 | 1 |
| CalStd10=10 | 10000. | 10300. | 300. | 3.00 | 4455.6 | 59.3 | 1 |
| CalStd12=10 | 100000. | 99623. | -377. | -.377 | 43030. | 510. | 1 |
| CalStd4=5 | 5.0000 | 7.0329 | 2.03 | 40.7 | 10.320 | 4.08 | 1 |
| CalStd5=10 | 10.000 | 20.184 | 10.2 | 102. | 15.998 | 2.74 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000019 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999999 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 1.712355 | | | | |
| Predicted MQL: | 5.707849 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00371 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9842.6 | -157. | -1.57 | .00448 | .000 | 1 |
| CalStd13=10 | 100000. | 87917. | -12100. | -12.1 | .03984 | .001 | 1 |
| CalStd9=100 | 1000.0 | 999.28 | -.719 | -.072 | .00047 | .000 | 1 |

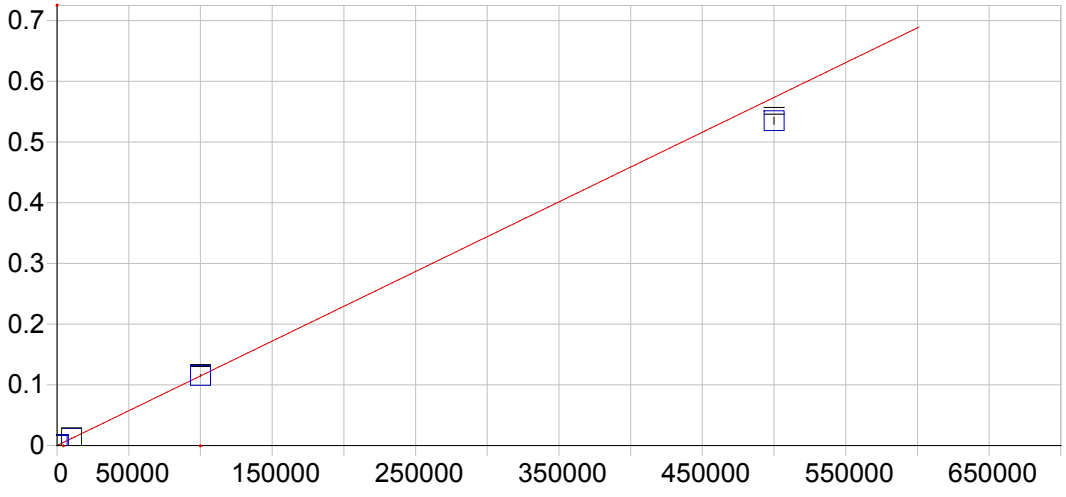



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998865 | Status: | OK. |
| Std Error of Est: | 0.000064 | | |
| Predicted MDL: | 11.697136 | | |
| Predicted MQL: | 38.990454 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -86.800 | -86.8 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11756. | 1760. | 17.6 | .00323 | .000 | 1 |
| CalStd13=10 | 100000. | 111610. | 11600. | 11.6 | .03043 | .000 | 1 |
| CalStd14=50 | 500000. | 521270. | 21300. | 4.25 | .14200 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1098.5 | 98.5 | 9.85 | .00033 | .000 | 1 |
| CalibStd15= | 1000000. | 983110. | -16900. | -1.69 | .26778 | .001 | 1 |

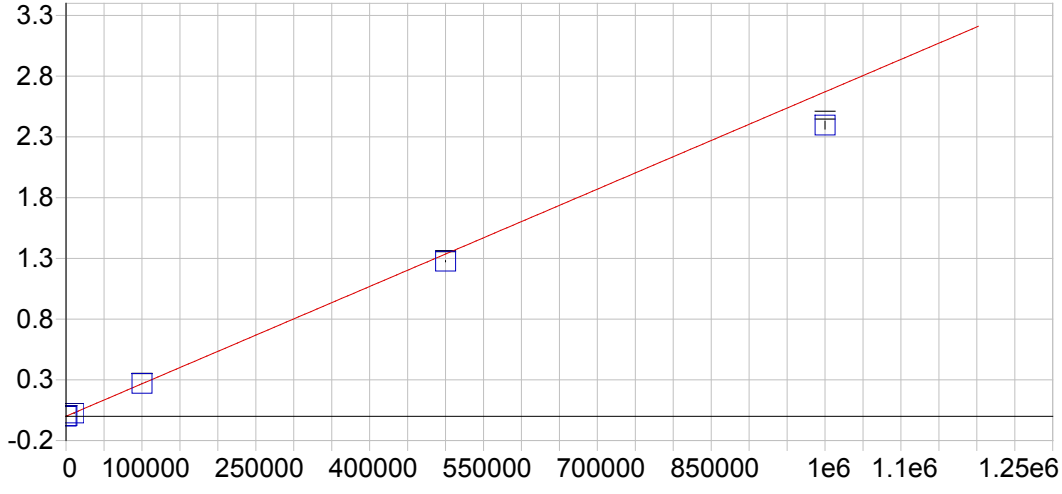



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998255 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 3.951315 | | |
| Predicted MQL: | 13.171051 | | |

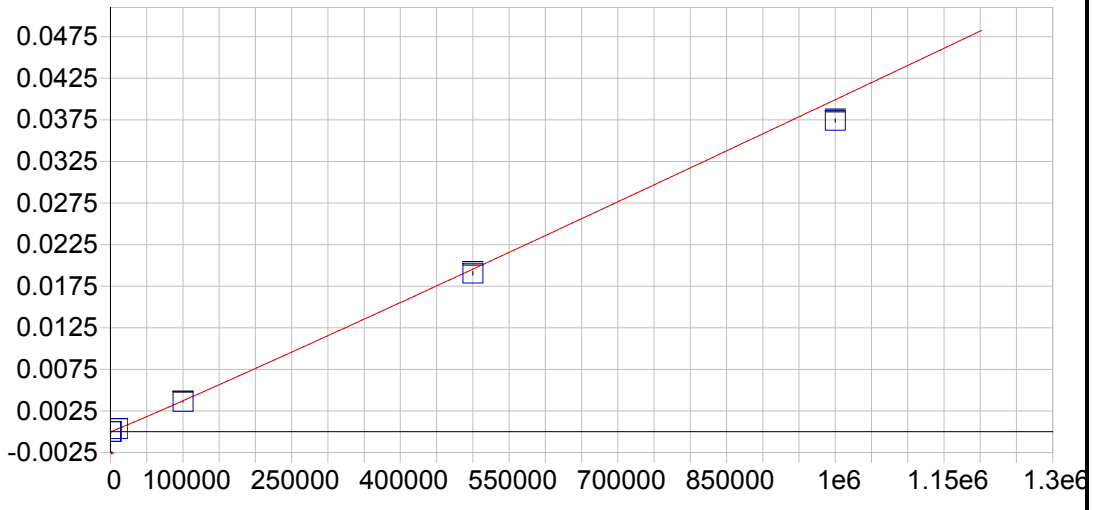
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0632 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10666. | 666. | 6.66 | .01225 | .000 | 1 |
| CalStd13=10 | 100000. | 100420. | 420. | .420 | .11519 | .001 | 1 |
| CalStd14=50 | 500000. | 466320. | -33700. | -6.74 | .53486 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1063.7 | 63.7 | 6.37 | .00123 | .000 | 1 |




**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000058 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000003 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999028 | | Status: | OK. | |
| Std Error of Est: | 0.000109 | | | | |
| Predicted MDL: | 2.561991 | | | | |
| Predicted MQL: | 8.539971 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -21.852 | -21.9 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 100950. | 947. | .947 | .26969 | .002 | 1 |
| CalStd10=10 | 10000. | 9590.2 | -410. | -4.10 | .02567 | .000 | 1 |
| CalStd14=50 | 500000. | 477840. | -22200. | -4.43 | 1.2764 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1022.1 | 22.1 | 2.21 | .00279 | .000 | 1 |
| CalibStd15= | 1000000. | 897240. | -103000. | -10.3 | 2.3966 | .032 | 1 |

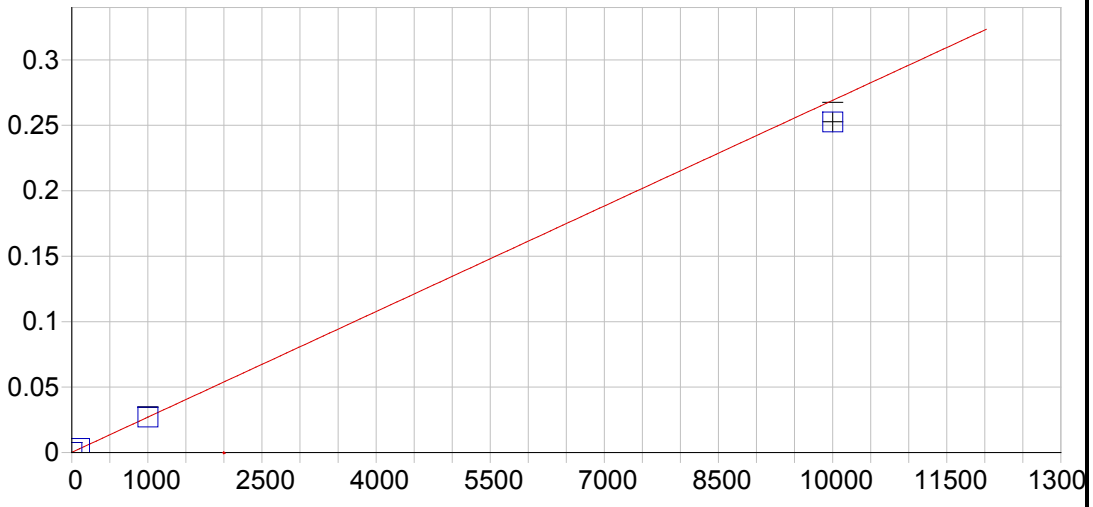



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.030000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 87.004312 | | |
| Predicted MQL: | 290.014373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97451. | -2550. | -2.55 | .00363 | .000 | 1 |
| CalStd10=10 | 10000. | 10451. | 451. | 4.51 | .00036 | .000 | 1 |
| CalStd14=50 | 500000. | 487720. | -12300. | -2.46 | .01905 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1117.3 | 117. | 11.7 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 939270. | -60700. | -6.07 | .03742 | .000 | 1 |

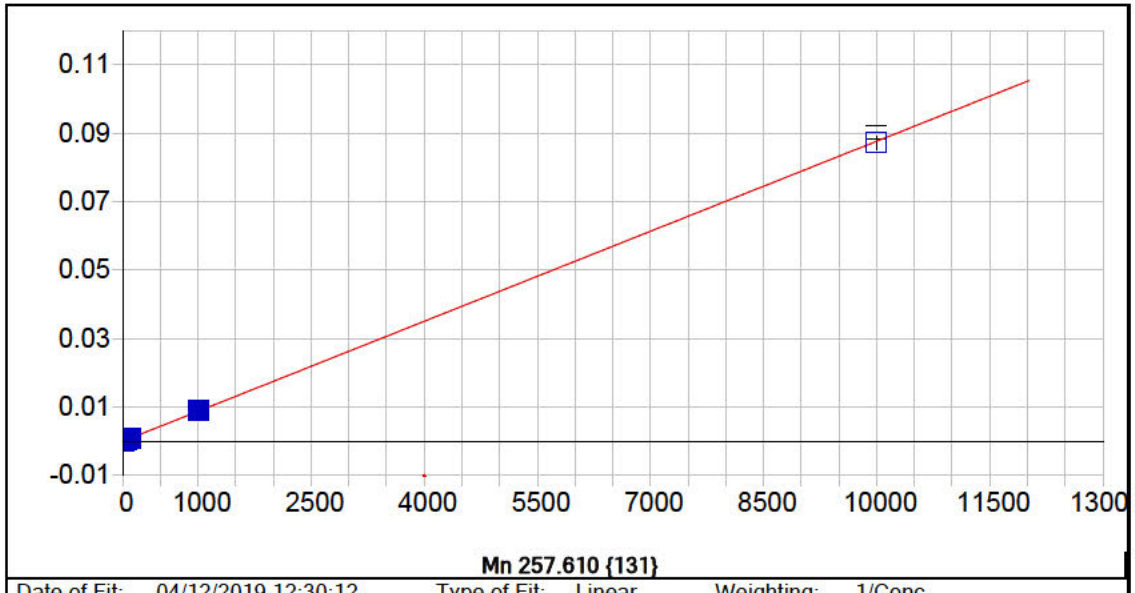



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000148 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999796 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 0.040780 | | |
| Predicted MQL: | 0.135933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.06296 | -.063 | .000 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.06 | -.935 | -.094 | .02701 | .000 | 1 |
| CalStd10=10 | 10000. | 9383.2 | -617. | -6.17 | .25247 | .007 | 1 |
| CalStd8=100 | 100.00 | 107.03 | 7.03 | 7.03 | .00303 | .000 | 1 |

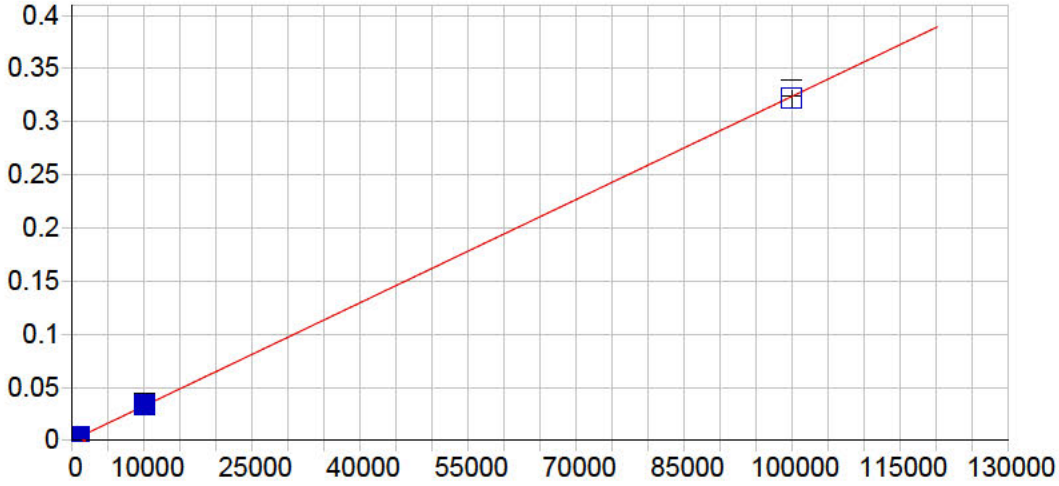



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999926 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.120880 | | |
| Predicted MQL: | 0.402933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00125 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.773 | .773 | 7.73 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.792 | .792 | 1.58 | .00045 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.275 | .275 | 1.38 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.73 | 3.73 | 3.73 | .00091 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3757 | .376 | 7.51 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.3 | 35.3 | 3.53 | .00908 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.7 | -41.3 | -.413 | .08729 | .002 | 1 |

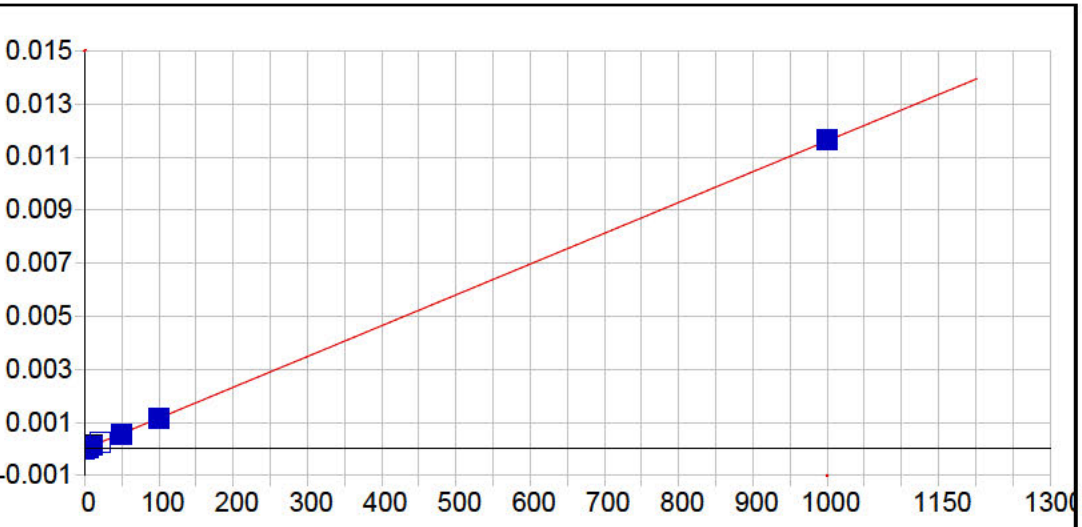



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999853 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 1.336755 | | |
| Predicted MQL: | 4.455850 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09654 | -.097 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10518. | 518. | 5.18 | .03410 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1050.4 | 50.4 | 5.04 | .00341 | .000 | 1 |
| CalStd12=10 | 100000. | 99431. | -569. | -.569 | .32194 | .007 | 1 |

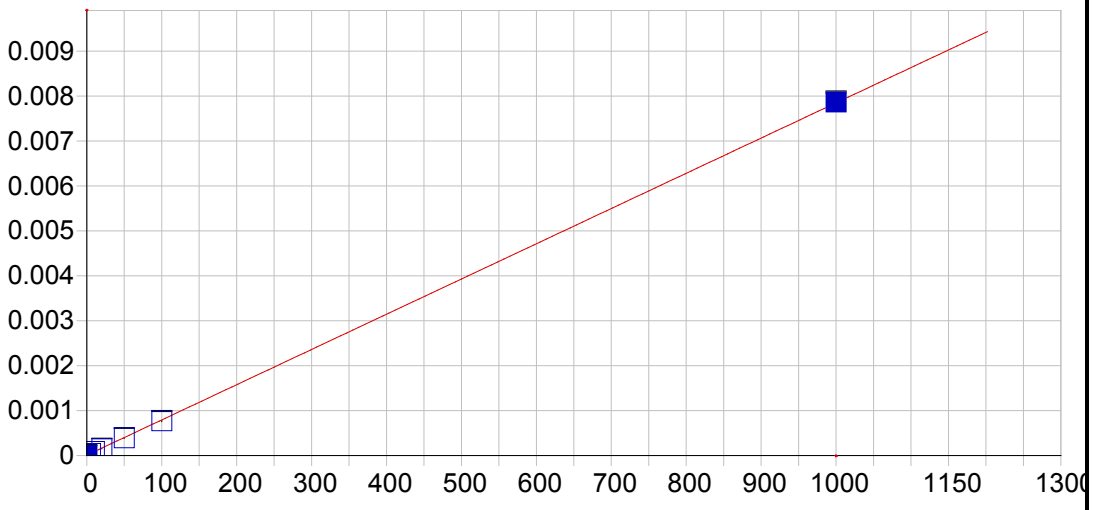



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.468446 | | |
| Predicted MQL: | 1.561488 | | |

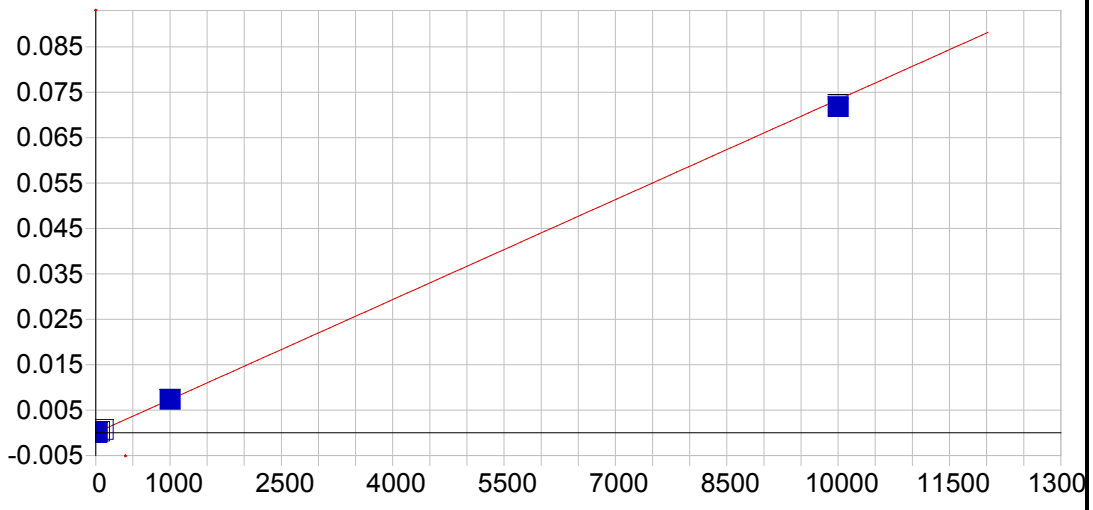
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00011 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.448 | -1.55 | -3.10 | .00057 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.754 | -.246 | -1.23 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.528 | .528 | 5.28 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.223 | -.777 | -.777 | .00116 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8741 | -.126 | -2.52 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.17 | .217 | .01165 | .000 | 1 |




**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000008 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000008 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999951 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 0.885886 | | | | |
| Predicted MQL: | 2.952955 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .17179 | .172 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.589 | -1.41 | -2.82 | .00039 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.954 | -1.05 | -5.23 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.634 | .634 | 6.34 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.851 | -3.15 | -3.15 | .00077 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7680 | -.232 | -4.64 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00786 | .000 | 1 |

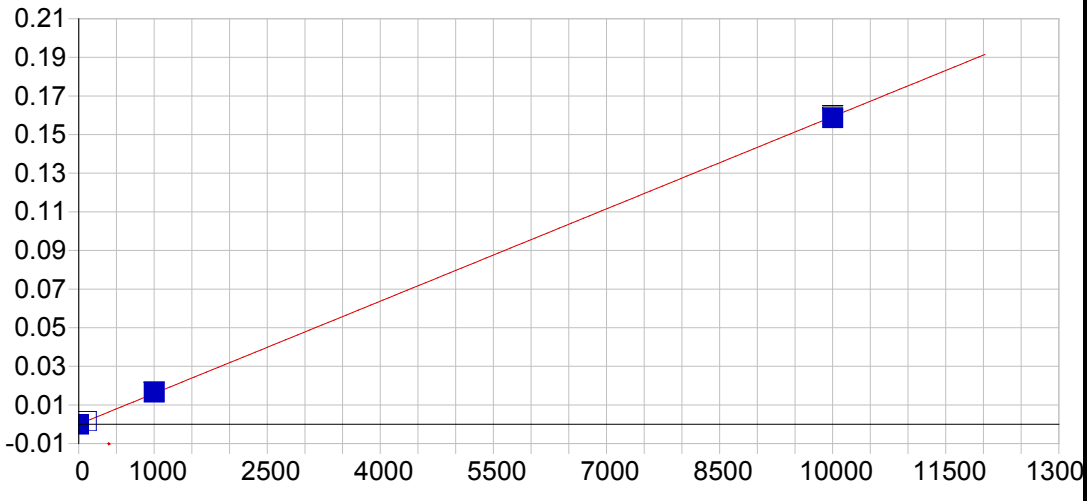



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.880737 | | |
| Predicted MQL: | 2.935789 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .12357 | .124 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.302 | -.698 | -1.40 | .00036 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.989 | -.011 | -.057 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.727 | .727 | 7.27 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.790 | -.210 | -.210 | .00073 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9852 | -.015 | -.296 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.3 | .333 | .033 | .00733 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.0 | -215. | -2.15 | .07180 | .000 | 1 |

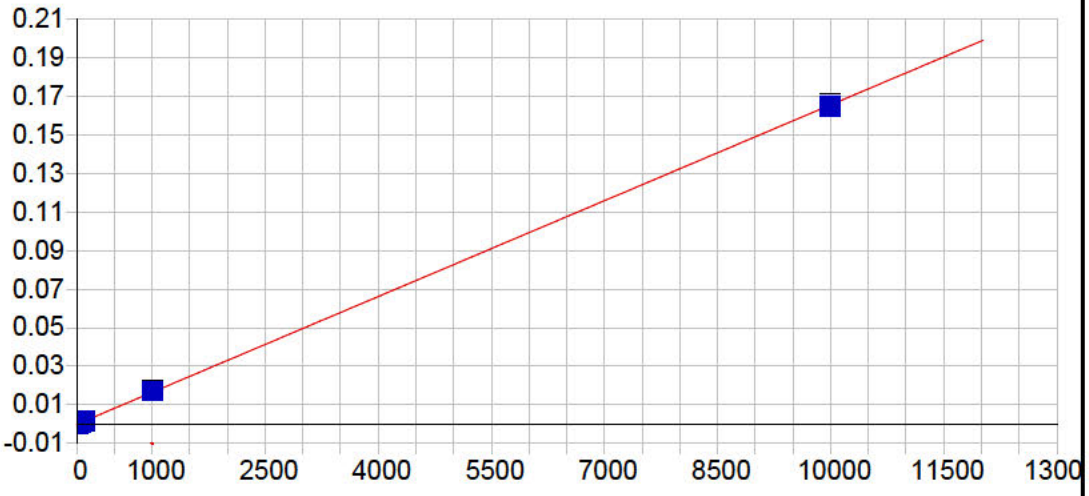



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.659772 | | |
| Predicted MQL: | 2.199241 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00701 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.8 | -41.2 | -.412 | .15867 | .001 | 1 |
| CalStd8=100 | 100.00 | 103.67 | 3.67 | 3.67 | .00165 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.6 | 37.6 | 3.76 | .01653 | .000 | 1 |

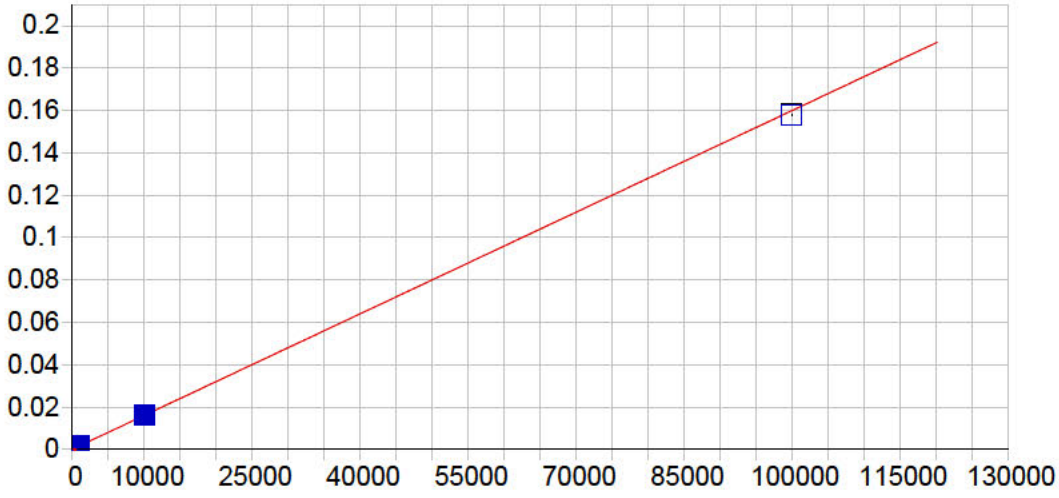



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000031 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999914 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.636840 | | |
| Predicted MQL: | 2.122800 | | |

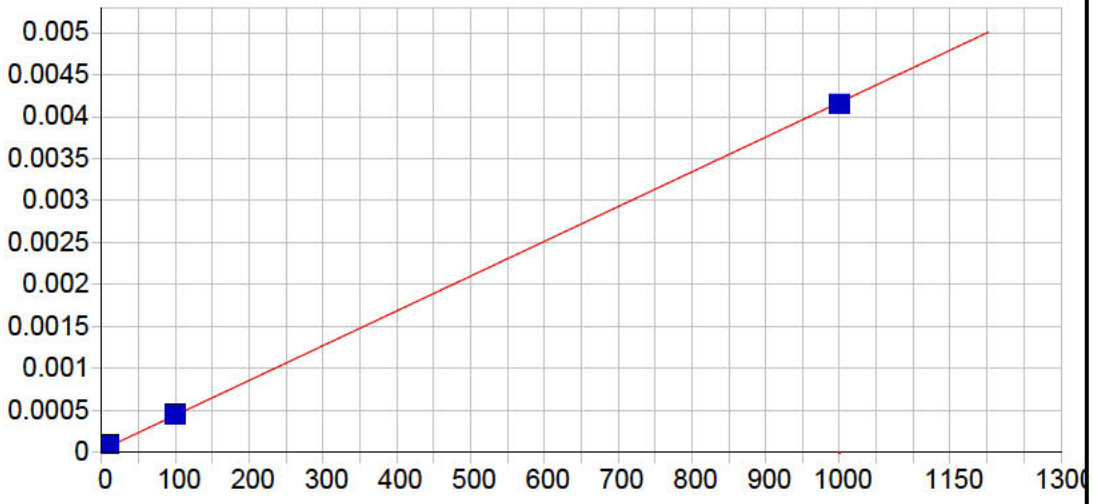
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00042 | -.000 | .000 | -.00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.044 | .044 | .088 | .00080 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.998 | .998 | 9.98 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.76 | 3.76 | 3.76 | .00169 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0907 | .091 | 1.81 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.9 | 37.9 | 3.79 | .01714 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2347 | .235 | 23.5 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.0 | -43.0 | -.430 | .16501 | .001 | 1 |




**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000010 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000002 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999755 | | Status: | OK. | |
| Std Error of Est: | 0.000022 | | | | |
| Predicted MDL: | 5.202291 | | | | |
| Predicted MQL: | 17.340971 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1114 | -3.11 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1054.0 | 54.0 | 5.40 | .00170 | .000 | 1 |
| CalStd10=10 | 10000. | 10128. | 128. | 1.28 | .01620 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.27 | 1.27 | 1.27 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.5570 | -3.44 | -34.4 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 98862. | -1140. | -1.14 | .15805 | .000 | 1 |

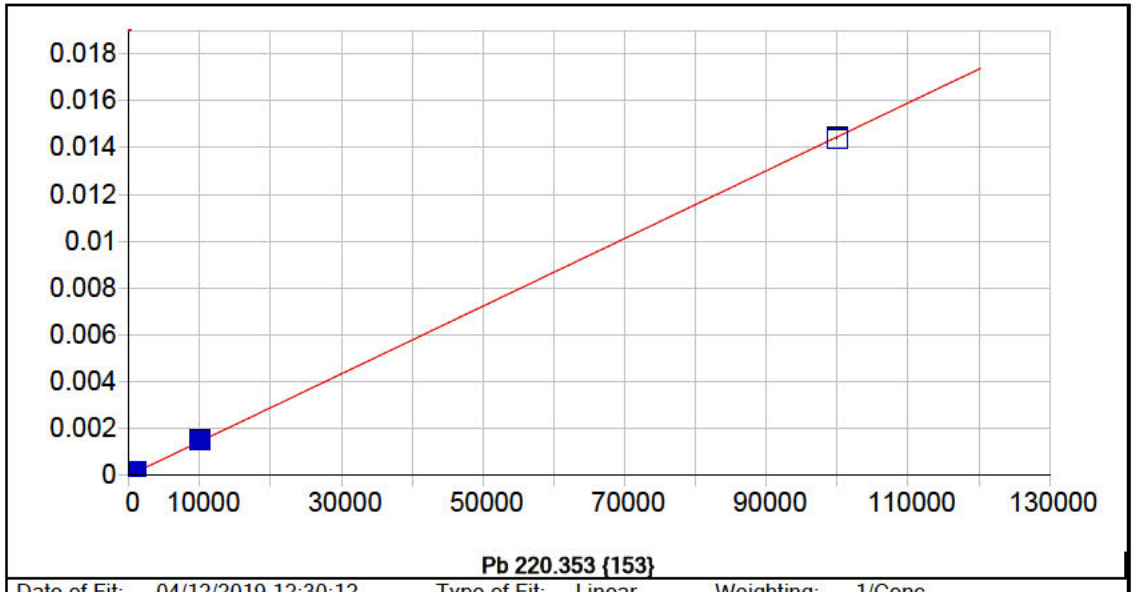



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999244 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.562058 | | |
| Predicted MQL: | 8.540192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00338 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.254 | 1.25 | 12.5 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.86 | .861 | .861 | .00045 | .000 | 1 |
| CalStd4=5 | 5.0000 | 7.7362 | 2.74 | 54.7 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.15 | -4.85 | -.485 | .00415 | .000 | 1 |

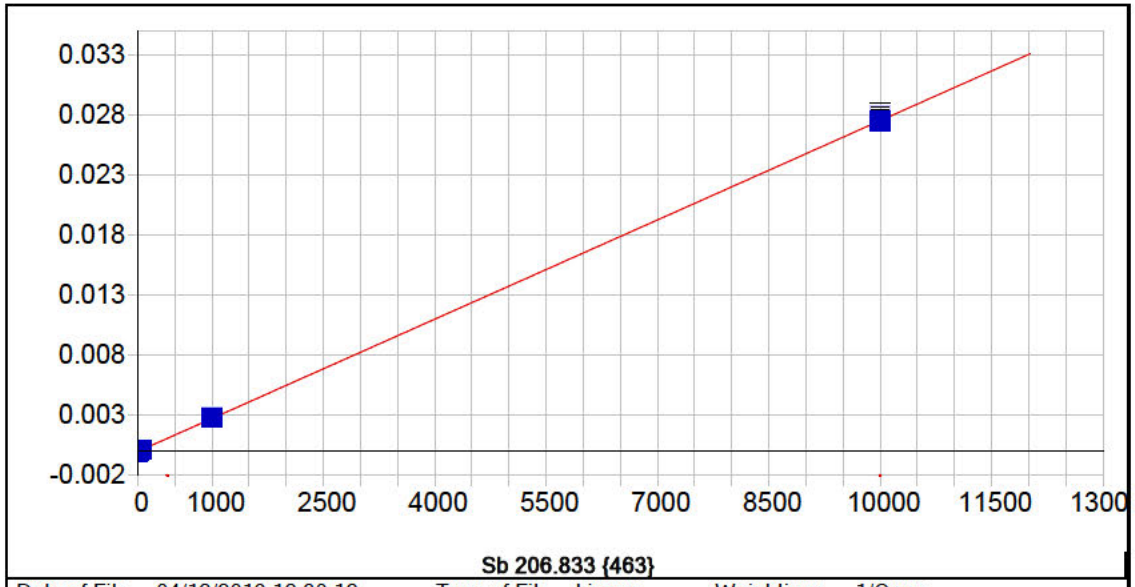



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.767648 | | |
| Predicted MQL: | 22.558828 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02275 | -.023 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1071.6 | 71.6 | 7.16 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 10350. | 350. | 3.50 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.53 | 12.5 | 12.5 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99566. | -434. | -.434 | .01440 | .000 | 1 |

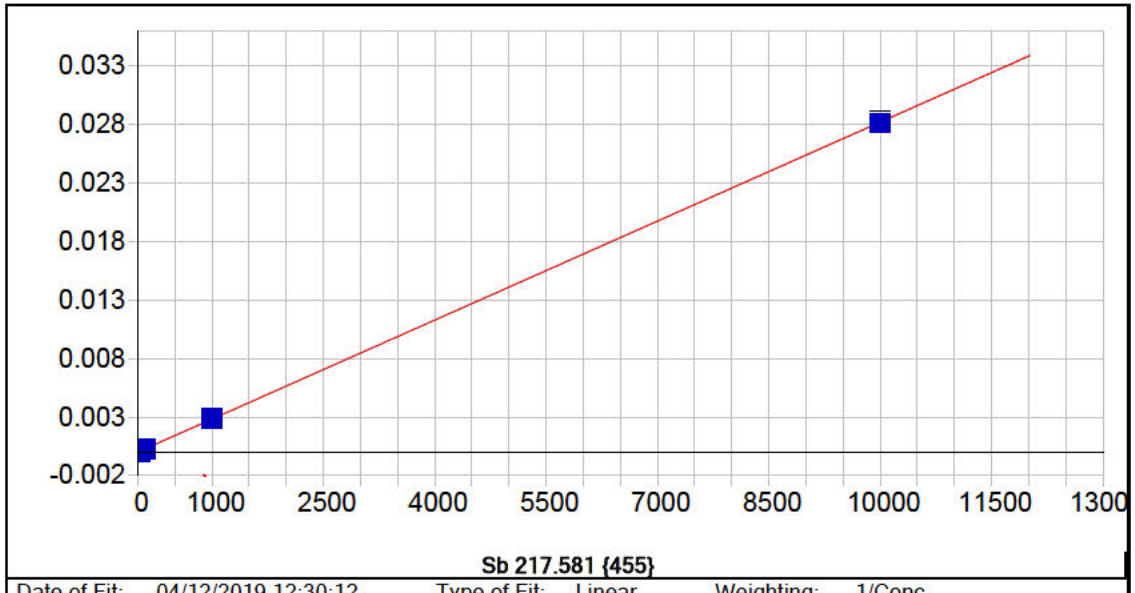



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.380937 | | |
| Predicted MQL: | 7.936456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00221 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.0 | 21.0 | 2.10 | .00285 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.803 | .803 | 1.61 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9976.3 | -23.7 | -.237 | .02795 | .000 | 1 |

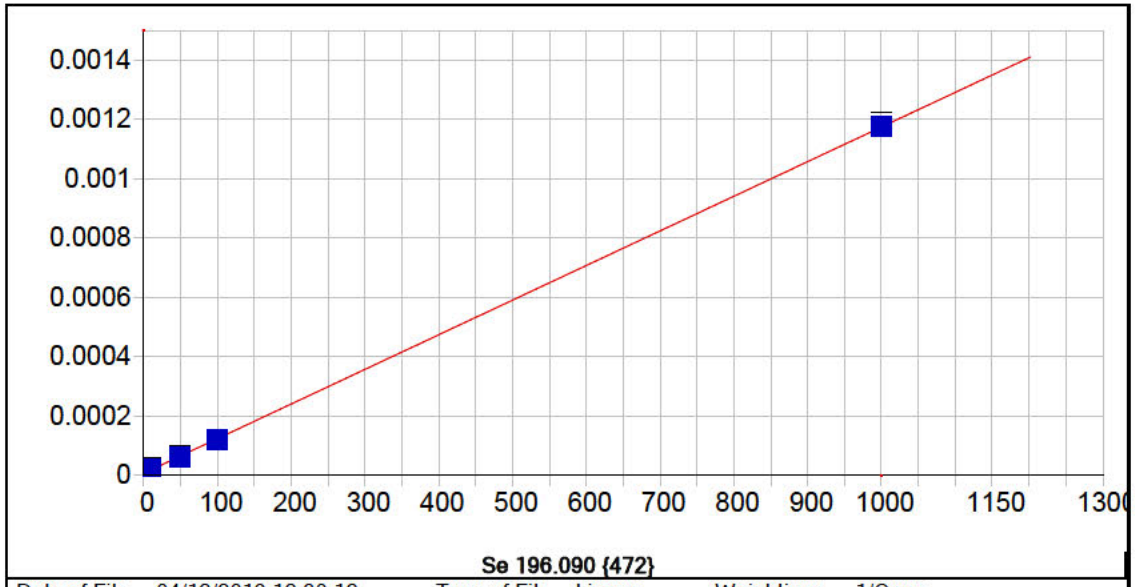



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999893 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.579773 | | |
| Predicted MQL: | 8.599243 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00385 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1024.5 | 24.5 | 2.45 | .00289 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.721 | 1.72 | 8.61 | .00006 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.974 | 2.97 | 29.7 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.61 | 1.61 | 1.61 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7418 | 1.74 | 34.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.4 | -32.6 | -.326 | .02809 | .000 | 1 |

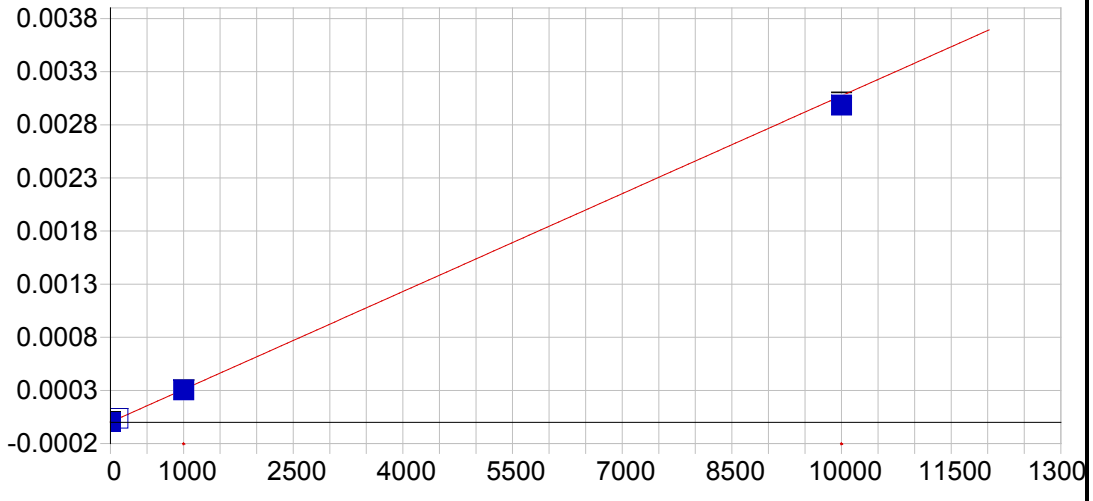



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999018 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.530040 | | |
| Predicted MQL: | 15.100132 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00354 | -.004 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.484 | -2.52 | -5.03 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.3 | 2.28 | .228 | .00118 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.441 | 4.44 | 44.4 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.794 | -4.21 | -4.21 | .00012 | .000 | 1 |

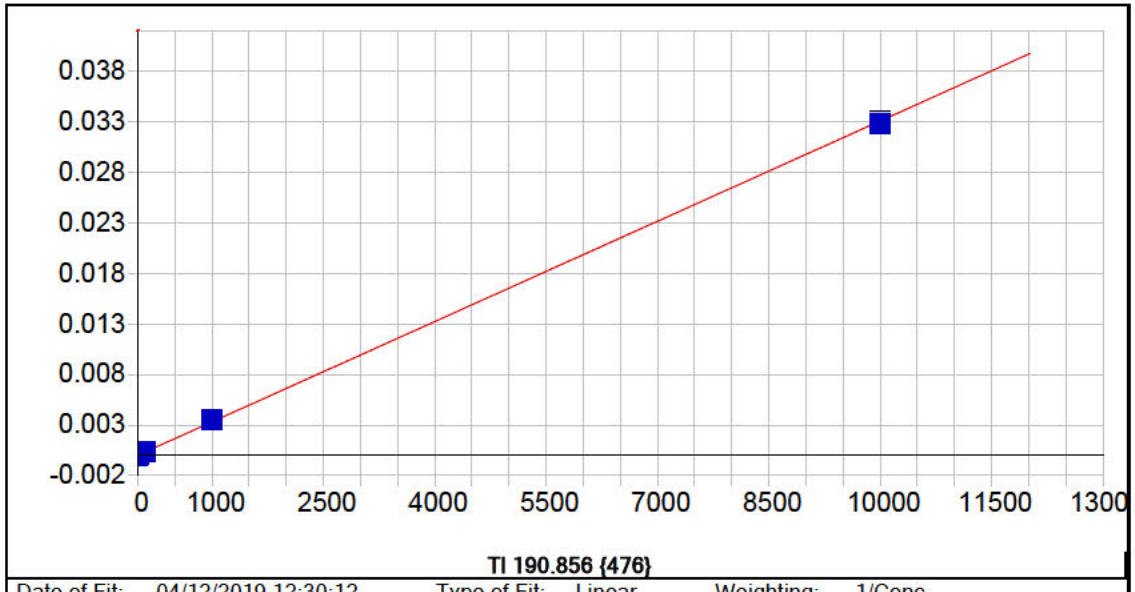



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999905 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.155478 | | |
| Predicted MQL: | 77.184928 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01194 | -.012 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.34 | -17.7 | -1.77 | .00030 | .000 | 1 |
| CalStd10=10 | 10000. | 9706.8 | -293. | -2.93 | .00299 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.37 | 13.4 | 13.4 | .00004 | .000 | 1 |

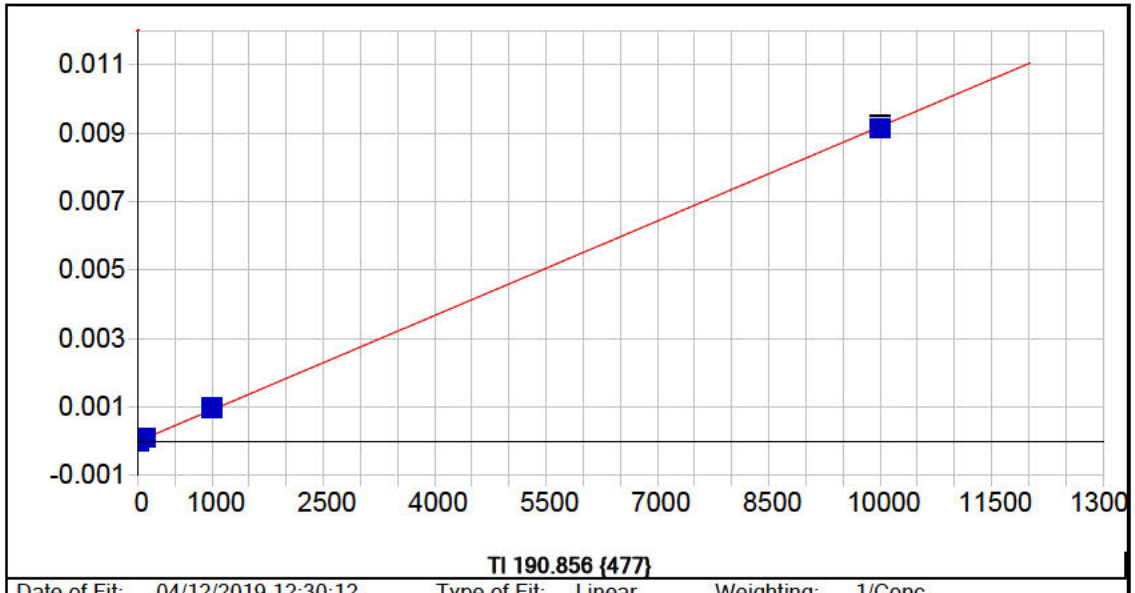



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999705 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.323578 | | |
| Predicted MQL: | 7.745262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00356 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.8 | 67.8 | 6.78 | .00354 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.89 | 9.89 | 9.89 | .00036 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.977 | 1.98 | 19.8 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9920.3 | -79.7 | -.797 | .03293 | .000 | 1 |

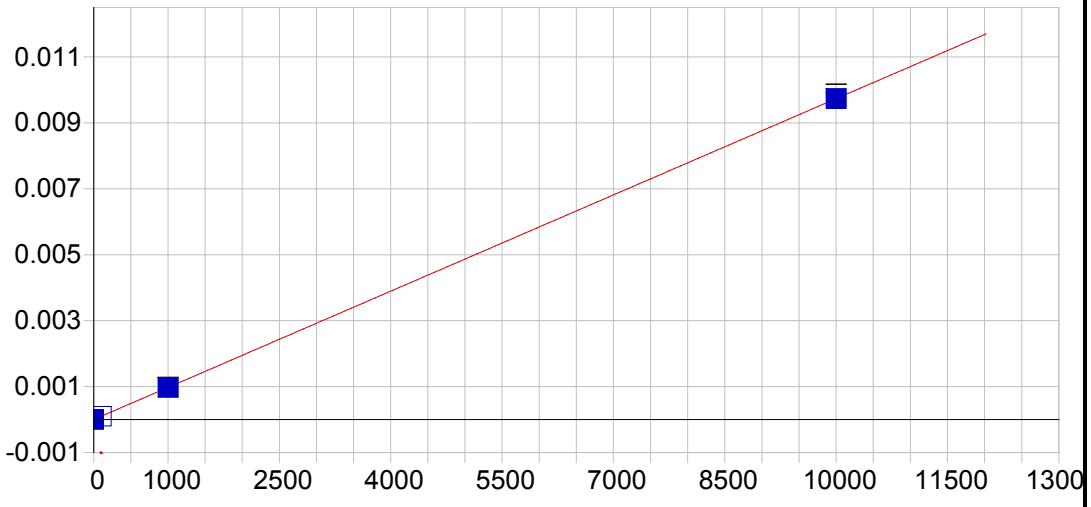



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999828 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.817160 | | |
| Predicted MQL: | 19.390533 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00108 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.9 | 52.9 | 5.29 | .00097 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7966 | -.203 | -2.03 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .00914 | .000 | 1 |

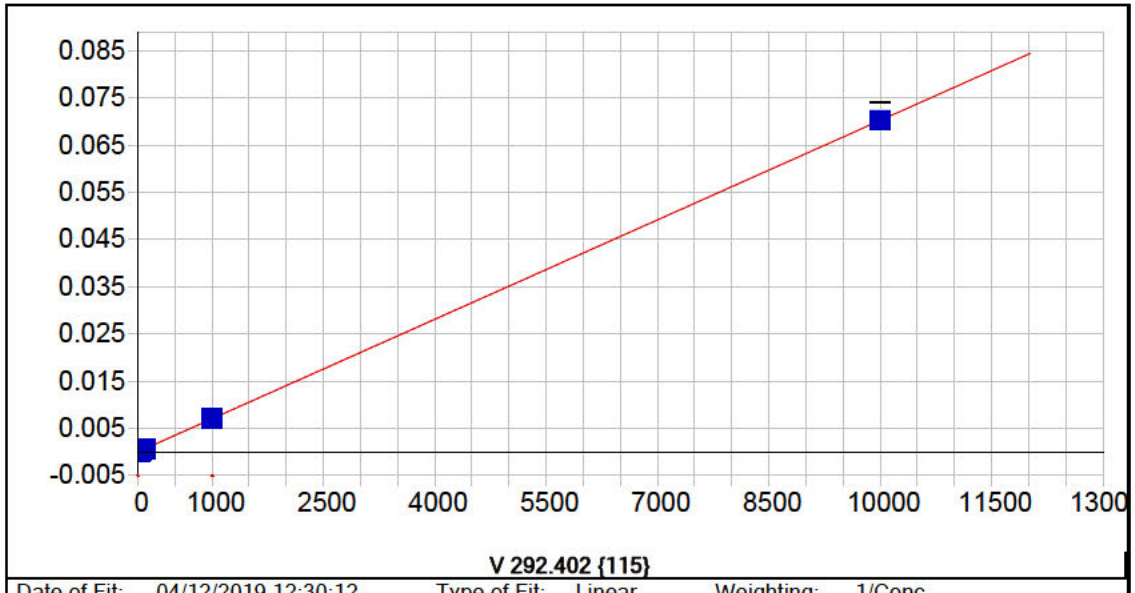



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.979888 | | |
| Predicted MQL: | 19.932959 | | |

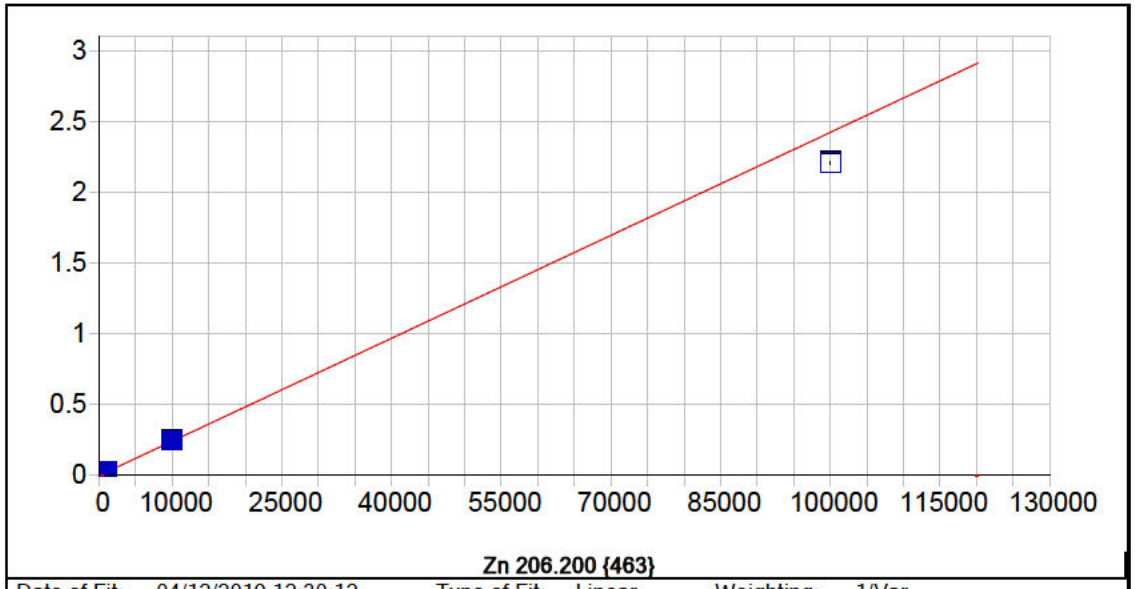
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00253 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.69 | -5.31 | -.531 | .00097 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.27 | .023 | .00974 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.04 | 3.04 | 3.04 | .00010 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.564743 | | |
| Predicted MQL: | 1.882477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.192 | -1.81 | -3.62 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.16 | .416 | .00705 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.266 | -.734 | -3.67 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.279 | .279 | 2.79 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.303 | -.697 | -.697 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 9998.8 | -1.20 | -.012 | .07046 | .002 | 1 |

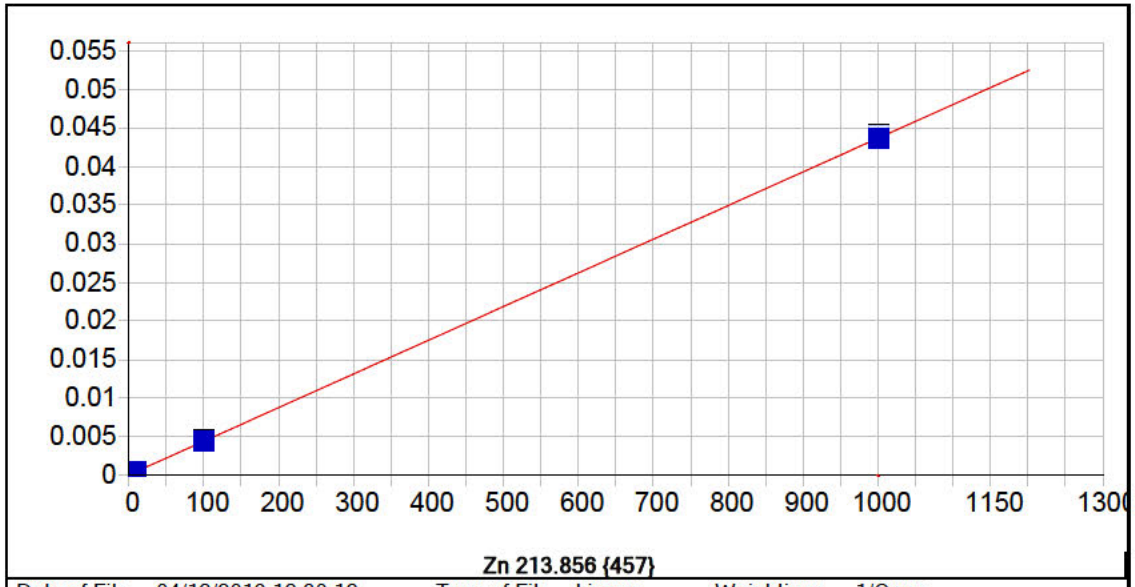



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000041 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997616 | Status: | OK. |
| Std Error of Est: | 0.000150 | | |
| Predicted MDL: | 0.362951 | | |
| Predicted MQL: | 1.209837 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10196. | 196. | 1.96 | .24704 | .002 | 1 |
| Blank | .00000 | -.53103 | -.531 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1057.2 | 57.2 | 5.72 | .02565 | .000 | 1 |
| CalStd12=10 | 100000. | 91151. | -8850. | -8.85 | 2.2081 | .007 | 1 |
| CalStd5=10 | 10.000 | 9.9077 | -.092 | -.923 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.31 | 5.31 | 5.31 | .00259 | .000 | 1 |

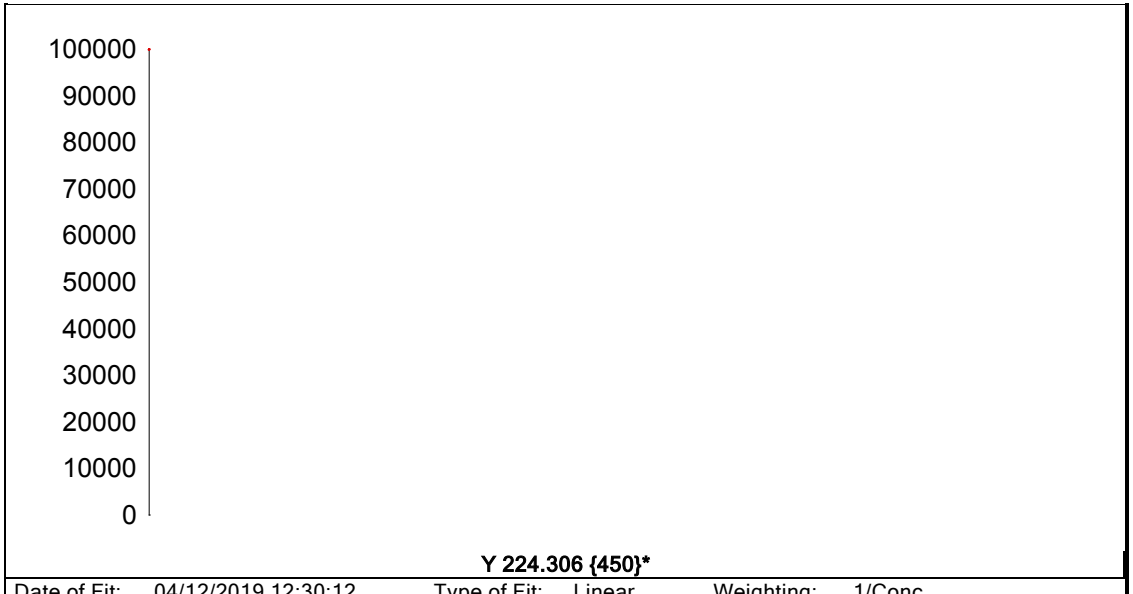



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000072 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.176452 | | |
| Predicted MQL: | 0.588174 | | |

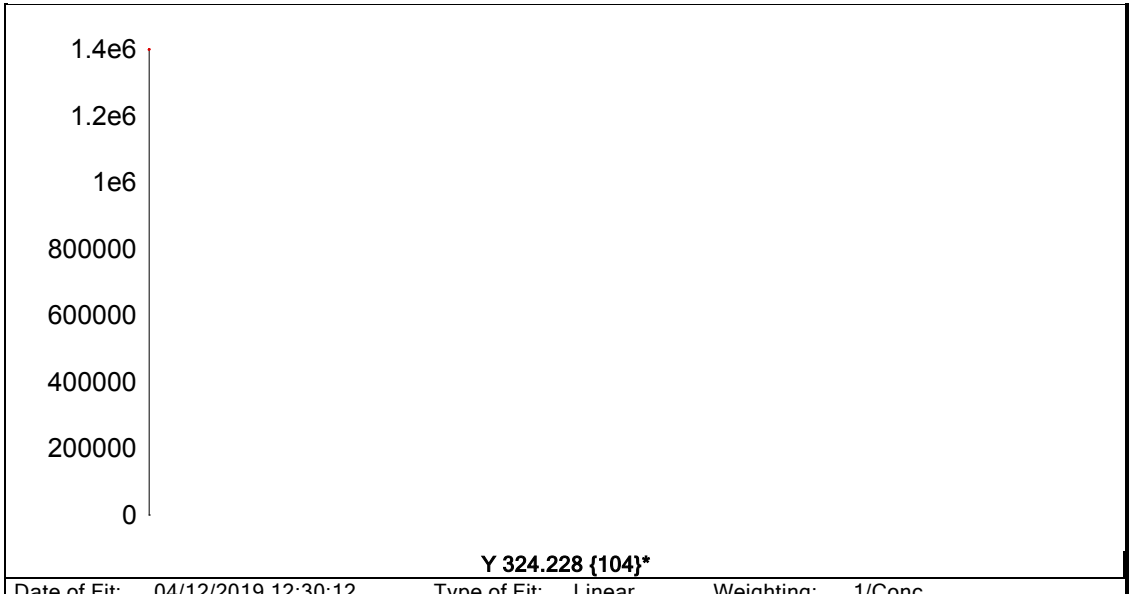
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.97 | -1.03 | -.103 | .04402 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.156 | .156 | 1.56 | .00052 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.87 | .871 | .871 | .00451 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

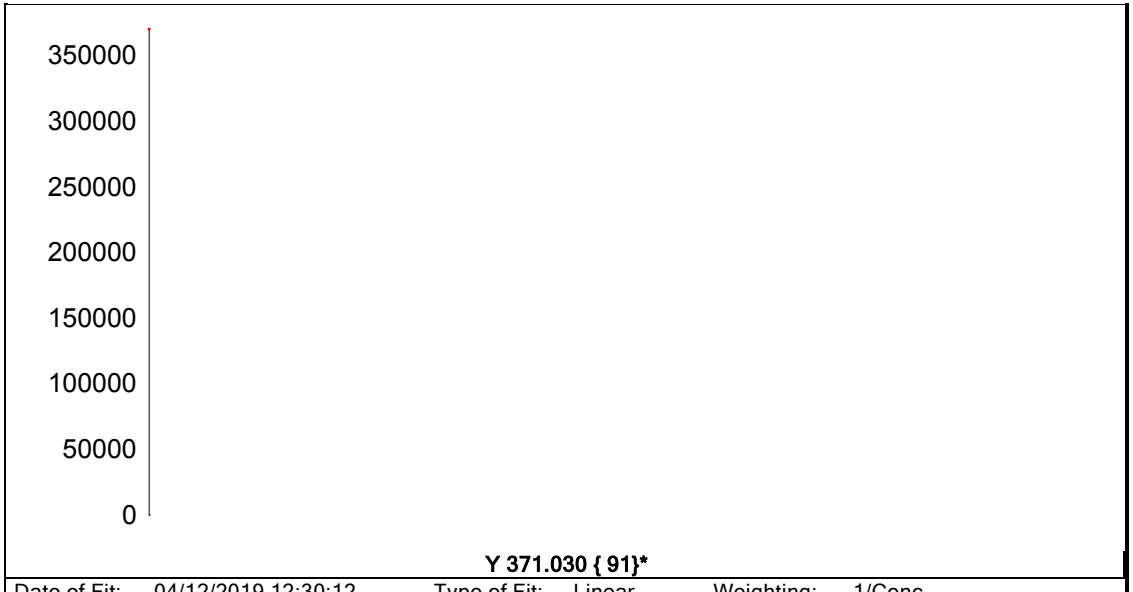
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 90406. | 120. | 1 |




**Y 324.228 {104}***

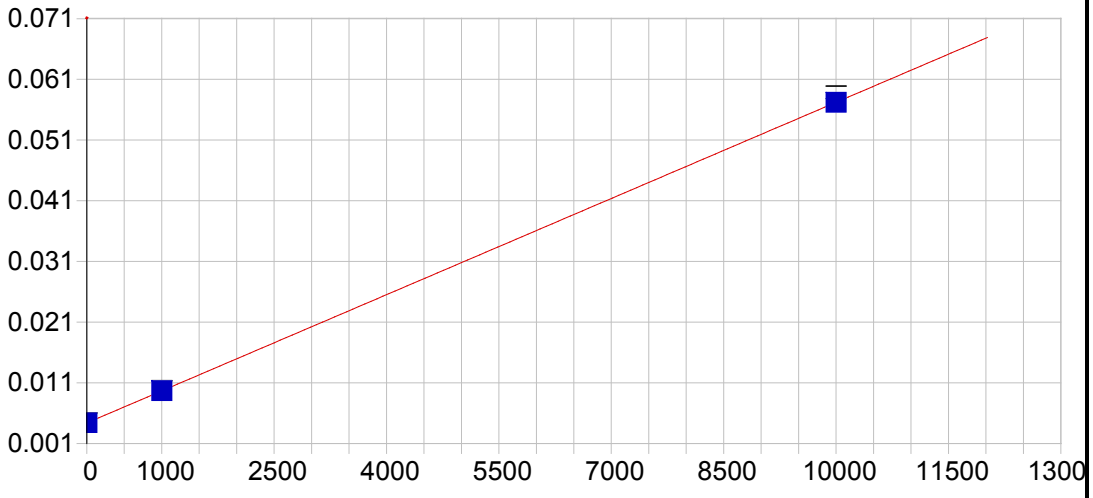
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1279400. | 28800. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 342950. | 3000. | 1 |

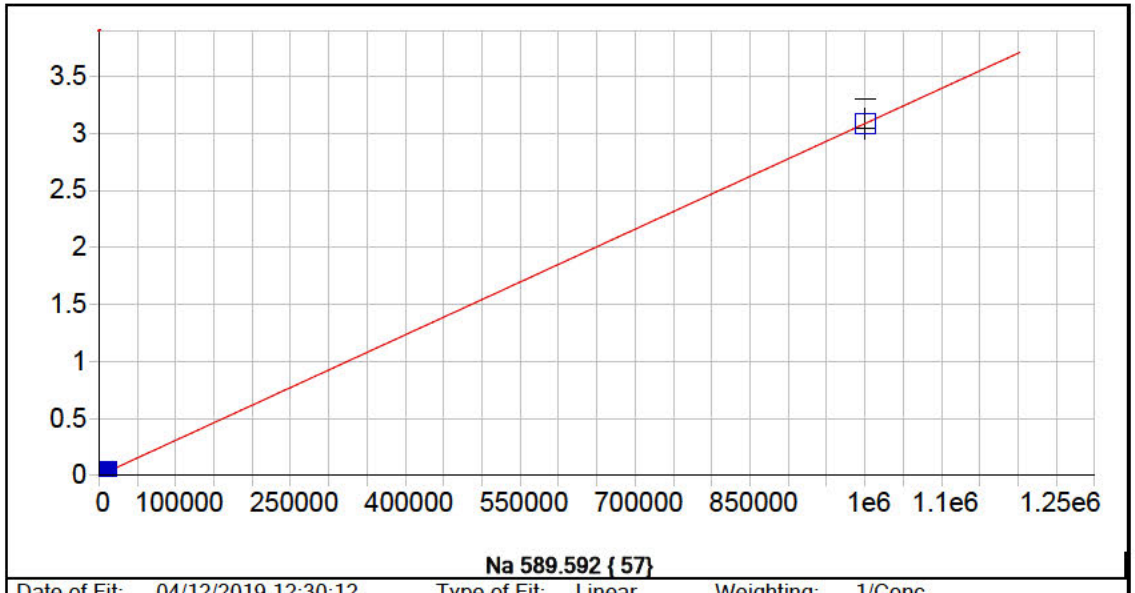



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004390 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 8.191976 | | |
| Predicted MQL: | 27.306587 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00217 | -.002 | .000 | .00439 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.4 | 2.41 | .241 | .00969 | .000 | 1 |
| CalStd10=10 | 10000. | 9997.6 | -2.41 | -.024 | .05721 | .001 | 1 |

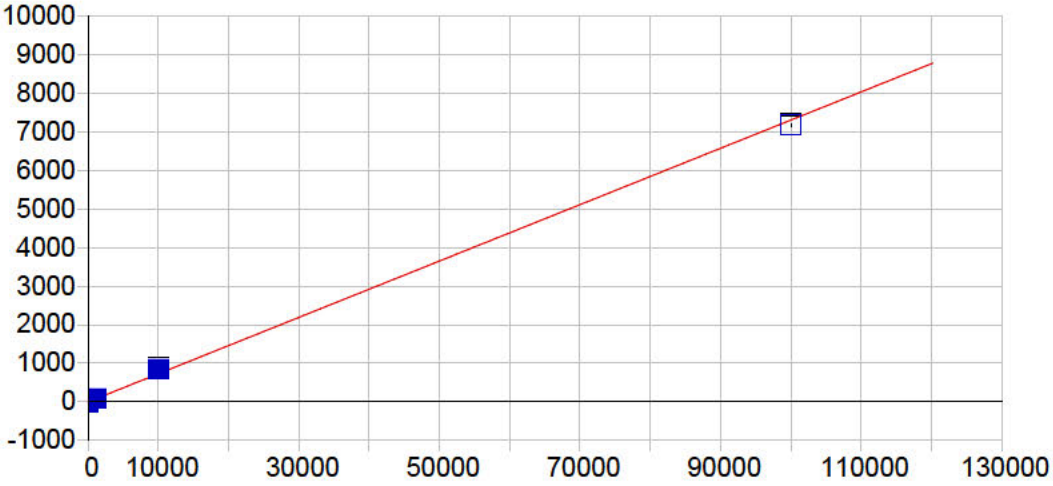



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 9.323428 | | |
| Predicted MQL: | 31.078092 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02539 | .025 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.31 | -23.7 | -2.37 | .00306 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.6 | -17.4 | -.174 | .03084 | .001 | 1 |
| CalibStd15= | 1000000. | 1000000. | 41.1 | .004 | 3.0844 | .129 | 1 |

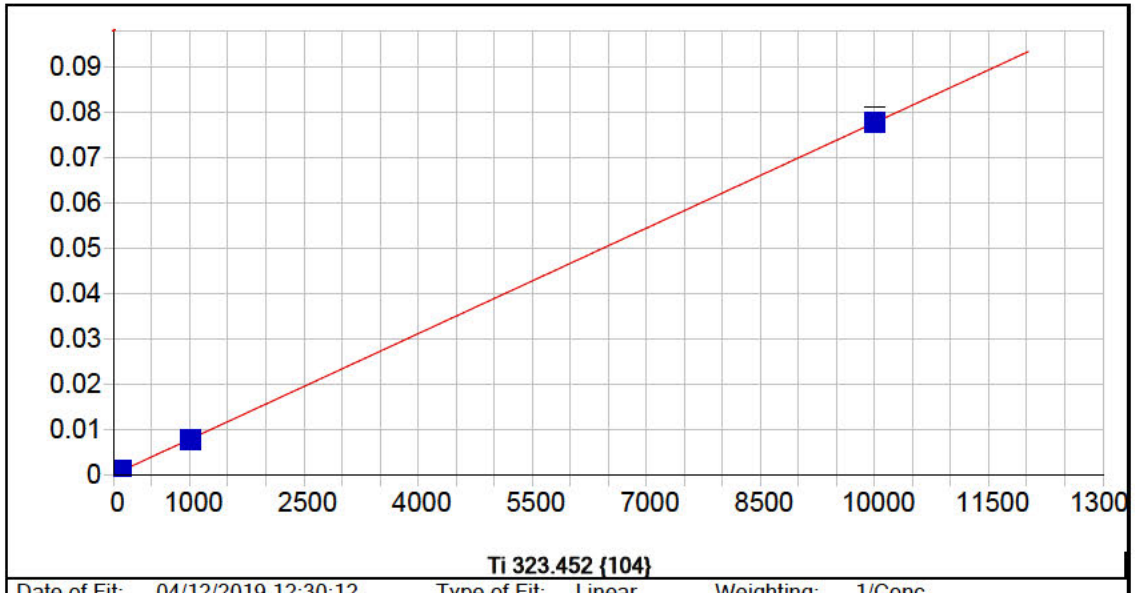



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.092998 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.072976 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998832 | Status: | OK. |
| Std Error of Est: | 1.671194 | | |
| Predicted MDL: | 19.062042 | | |
| Predicted MQL: | 63.540140 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.22814 | -.228 | .000 | .07635 | .463 | 1 |
| CalStd9=100 | 1000.0 | 1094.8 | 94.8 | 9.48 | 85.745 | 1.71 | 1 |
| CalStd10=10 | 10000. | 11501. | 1500. | 15.0 | 875.94 | 7.94 | 1 |
| CalibStd15= | 100000. | 98322. | -1680. | -1.68 | 7175.2 | 32.9 | 1 |

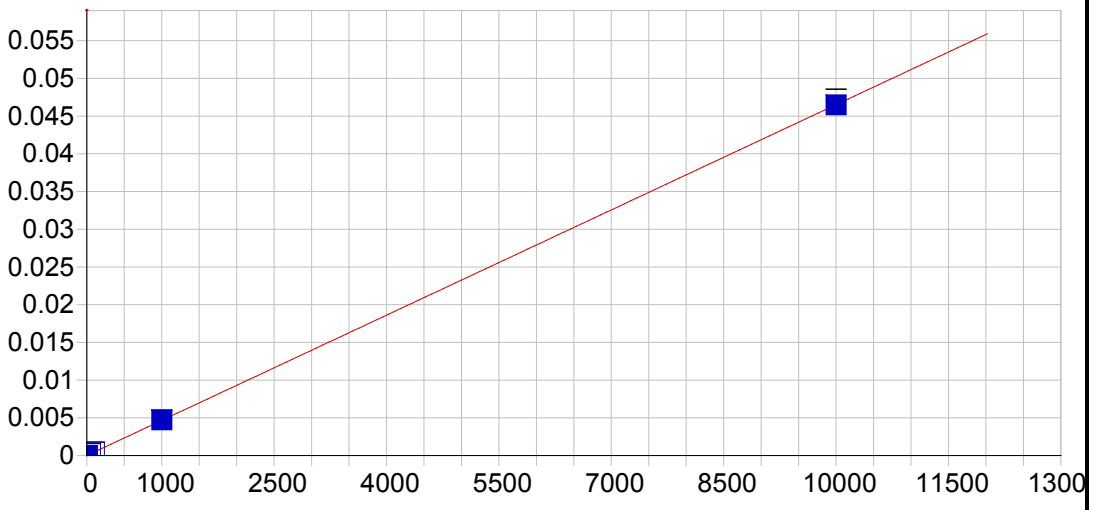



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000253 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.317547 | | |
| Predicted MQL: | 4.391824 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | .00025 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.697 | 2.70 | 27.0 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.74 | 1.74 | 1.74 | .00104 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.76 | -10.2 | -1.02 | .00792 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 4.82 | .048 | .07783 | .001 | 1 |
| CalStd7=50 | 50.000 | 50.460 | .460 | .921 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5203 | .520 | 10.4 | .00030 | .000 | 1 |

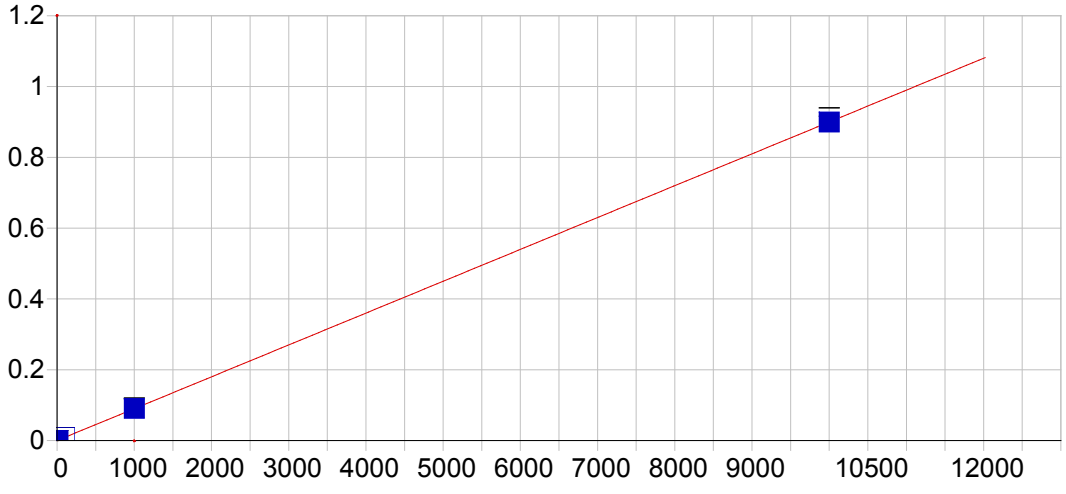



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.513558 | | |
| Predicted MQL: | 5.045195 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00009 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.669 | .669 | 6.69 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.12 | 1.12 | 1.12 | .00047 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | .00471 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.2 | -11.8 | -.118 | .04648 | .001 | 1 |
| CalStd7=50 | 50.000 | 49.425 | -.575 | -1.15 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5304 | -.470 | -9.39 | .00002 | .000 | 1 |

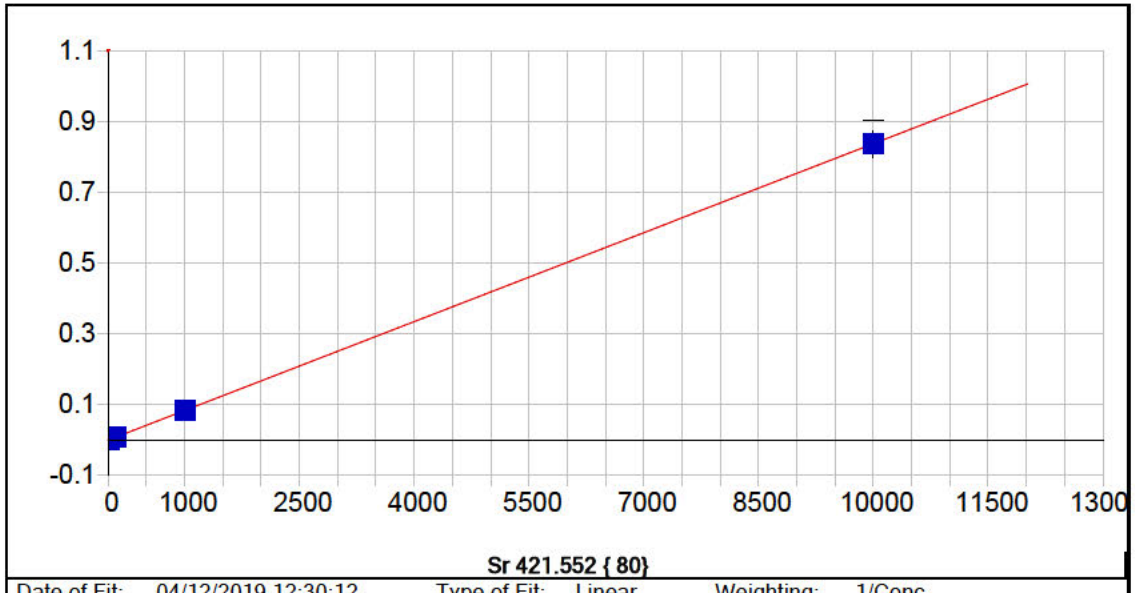



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.170987 | | |
| Predicted MQL: | 0.569955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00003 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .92247 | -.078 | -7.75 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9516 | -.048 | -.969 | .00051 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.411 | .411 | 4.11 | .00100 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.99 | .993 | .993 | .00915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.7 | 3.66 | .366 | .09041 | .001 | 1 |
| CalStd10=10 | 10000. | 9995.1 | -4.94 | -.049 | .89974 | .012 | 1 |

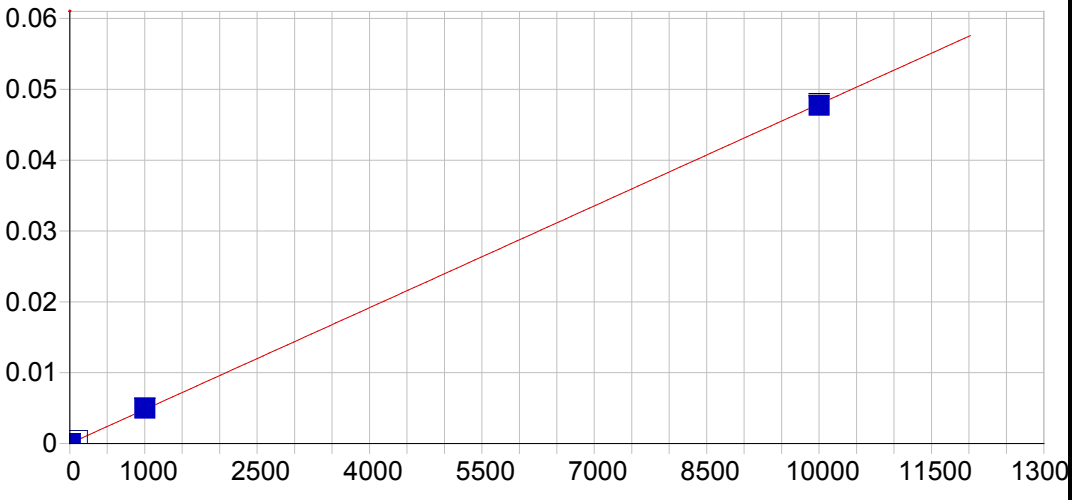



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000084 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.184340 | | |
| Predicted MQL: | 0.614467 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00001 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .81806 | -.182 | -18.2 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1857 | .186 | 3.71 | .00044 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.122 | 1.12 | 11.2 | .00094 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.11 | 2.11 | 2.11 | .00856 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.57 | -.428 | -.043 | .08369 | .001 | 1 |
| CalStd10=10 | 10000. | 9997.2 | -2.81 | -.028 | .83696 | .037 | 1 |

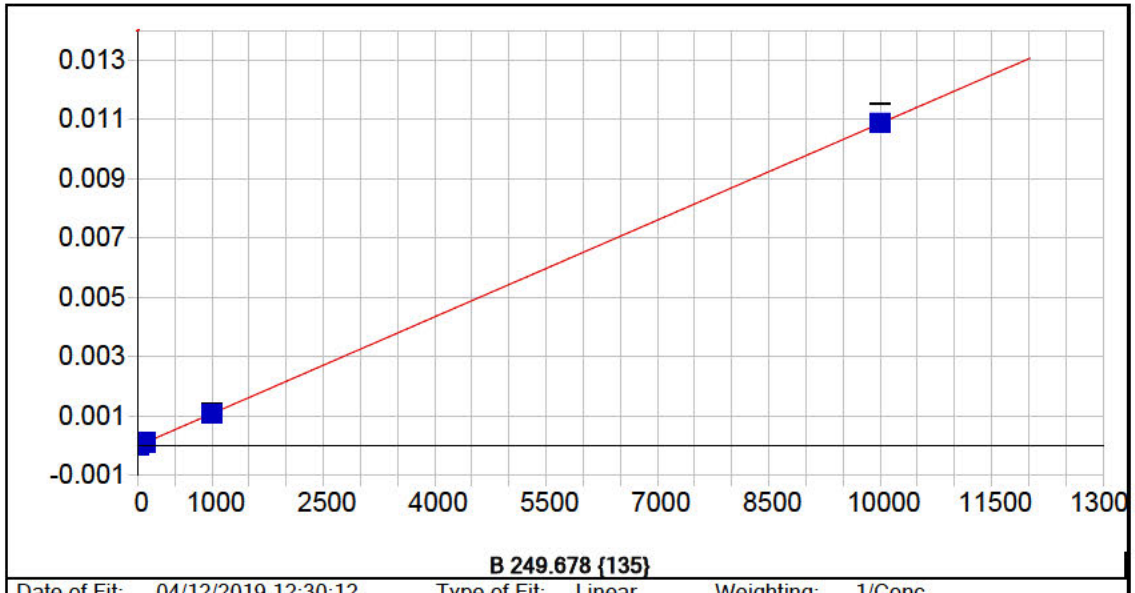



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999932 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.392712 | | |
| Predicted MQL: | 4.642373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00137 | -.001 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9962.8 | -37.2 | -.372 | .04774 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.7 | 35.7 | 3.57 | .00498 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.48 | .482 | .482 | .00050 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.006 | 1.01 | 10.1 | .00007 | .000 | 1 |

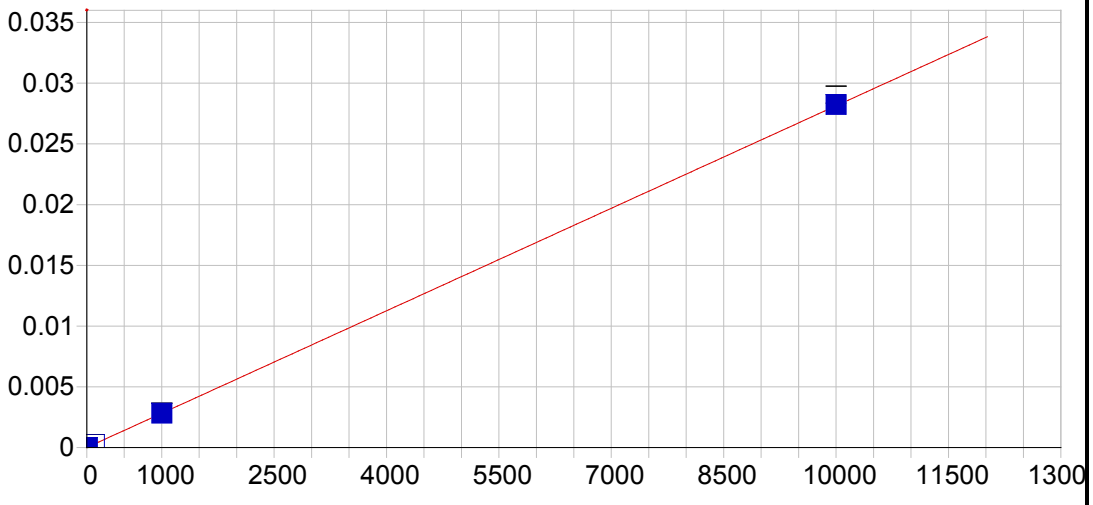



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.807993 | | |
| Predicted MQL: | 6.026642 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00158 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.865 | -.135 | -.135 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.651 | 1.65 | 16.5 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.32 | -5.68 | -.568 | .00109 | .000 | 1 |
| CalStd10=10 | 10000. | 10004. | 4.17 | .042 | .01092 | .000 | 1 |

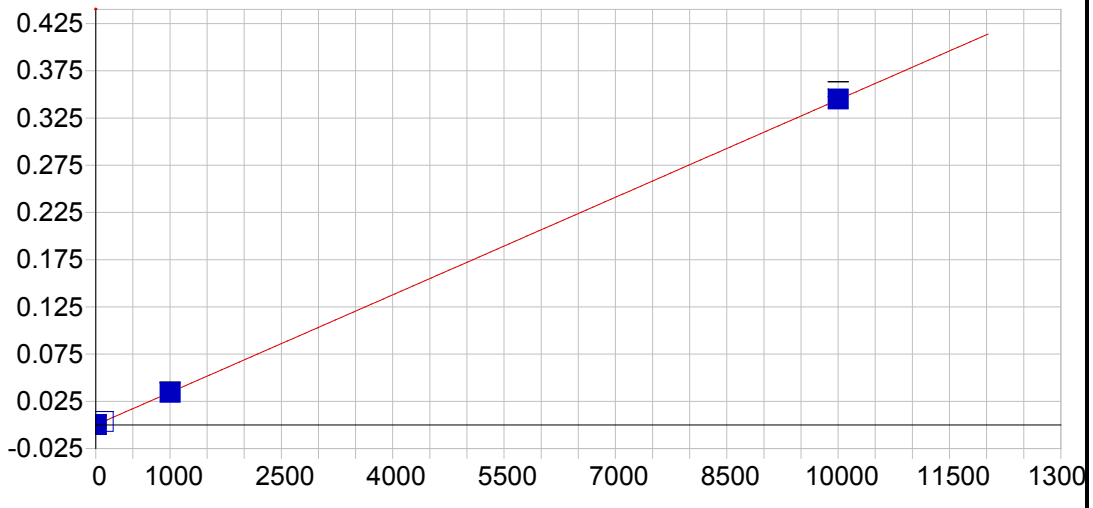



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.680433 | | |
| Predicted MQL: | 2.268110 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01088 | -.011 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.427 | -1.57 | -1.57 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.097 | .097 | .966 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.31 | .131 | .00282 | .000 | 1 |
| CalStd10=10 | 10000. | 10031. | 30.9 | .309 | .02824 | .001 | 1 |

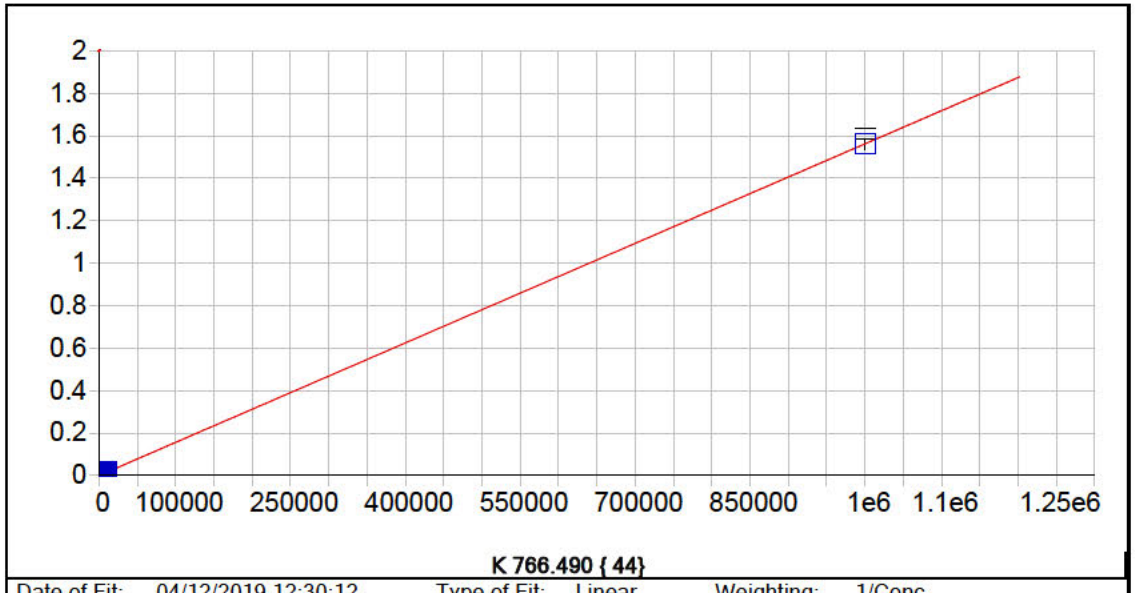



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 1.018434 | | |
| Predicted MQL: | 3.394779 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24804 | -.248 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.273 | .273 | 2.73 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.67 | .671 | .671 | .00347 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.33 | -3.67 | -.367 | .03431 | .000 | 1 |
| CalStd10=10 | 10000. | 10018. | 18.4 | .184 | .34500 | .008 | 1 |

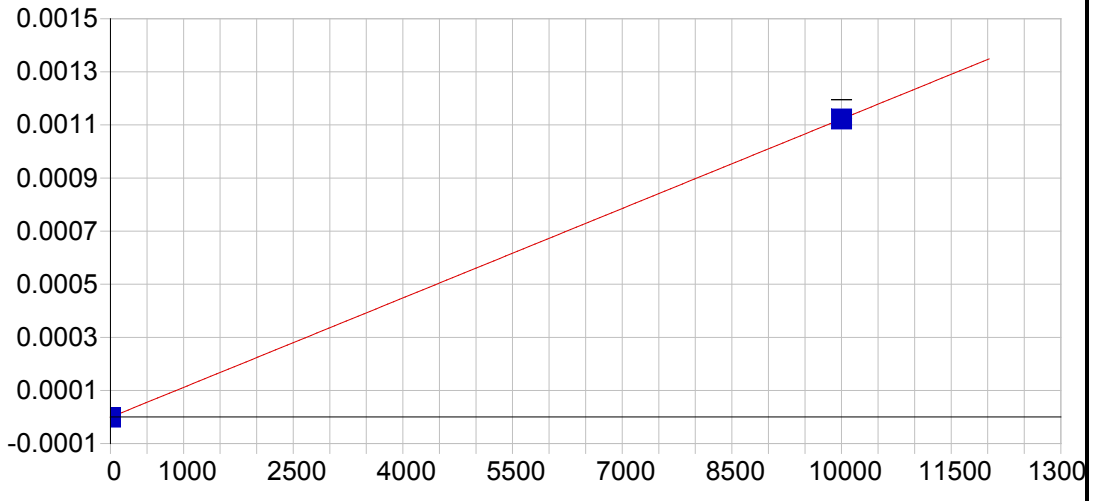



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 27.773860 | | |
| Predicted MQL: | 92.579535 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01771 | .018 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 978.29 | -21.7 | -2.17 | .00159 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.2 | .402 | .01573 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -18.5 | -.002 | 1.5615 | .025 | 1 |

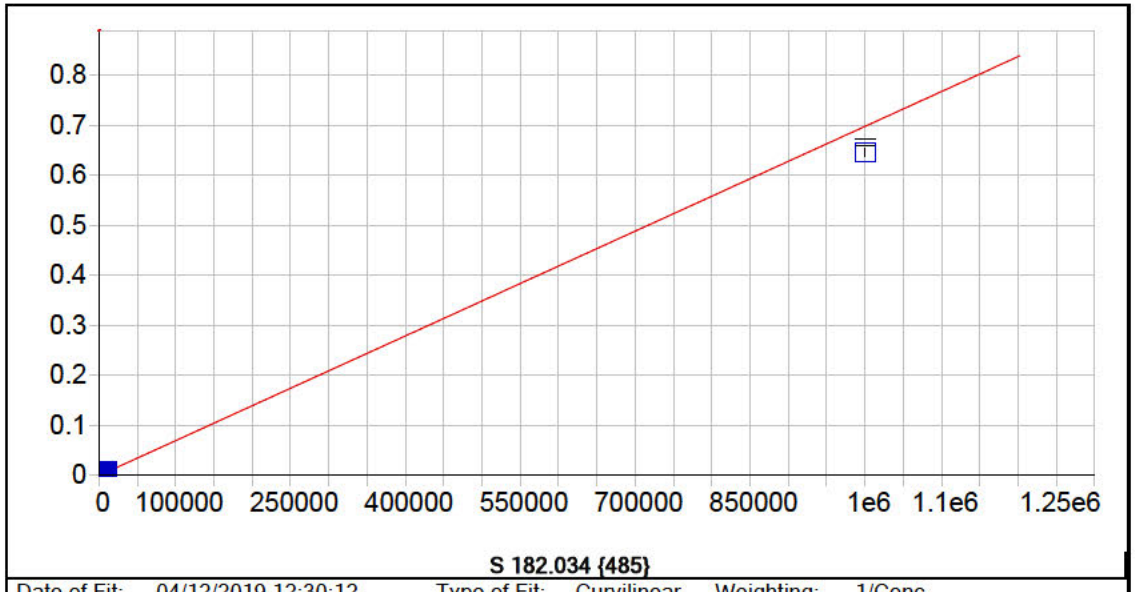



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.557307 | | |
| Predicted MQL: | 15.191024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00112 | .000 | 1 |

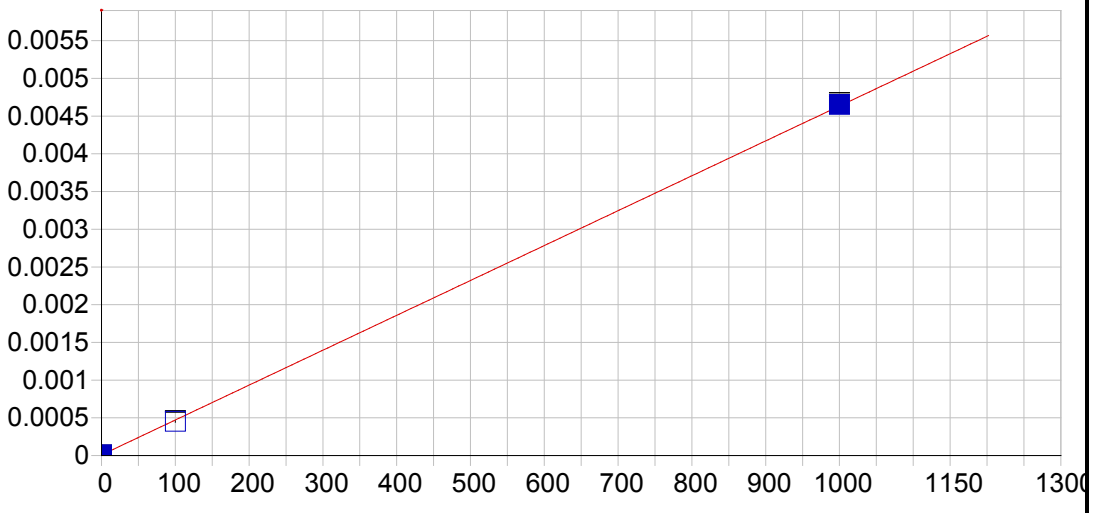



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.132317 | | |
| Predicted MQL: | 20.441056 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00127 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.51 | -1.49 | -.149 | .00071 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.0 | -6.04 | -.060 | .00700 | .000 | 1 |
| CalibStd15= | 1000000. | 925340. | -74700. | -7.47 | .64607 | .007 | 1 |

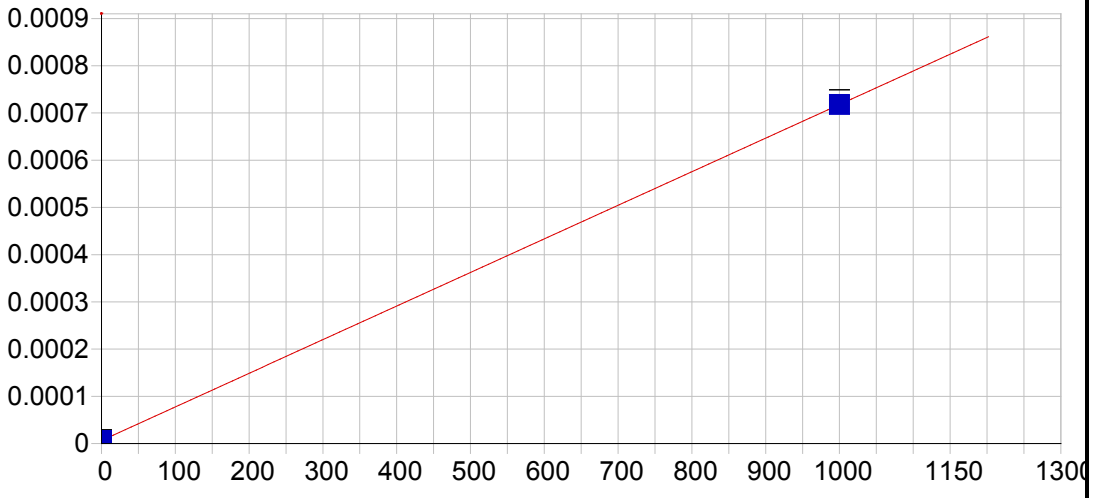



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999910 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.117100 | | |
| Predicted MQL: | 3.723667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00381 | .004 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.765 | -4.24 | -4.24 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.24 | .424 | .00465 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.843516 | | |
| Predicted MQL: | 72.811721 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00072 | .000 | 1 |

Sample Name: Blank Acquired: 04/03/2019 14:05:25 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.000** | **-.000** | **-.000** | **.009** | **-.000** | **.000** | **.000** | **.022** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .003 | .000 |
| %RSD | 24.8 | 6.66 | 10.8 | 538. | 45.7 | 2350. | .636 | 6.42 | 25.7 | 7.14 | 11.4 | 27.9 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **199.** | **7.28** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 3. | 1.90 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 24.5 | 155. | 59.7 | 86.6 | 77.4 | 1.39 | 26.1 | 1.89 | 73.0 | 24.9 | 51.8 | 4.55 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 84.5 | 173. | 43.7 | 1730. | 20.7 | 68.6 | 40.4 | 78.4 | 875. | 37.3 | 278. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 571. | 429. | 109. | 20.8 | 7.53 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90406.** | **1279400.** | **342950.** |
| Stddev | 120. | 28809. | 2998. |
| %RSD | .13307 | 2.2518 | .87414 |

Sample Name: CalStd2=0.5 Acquired: 04/03/2019 14:11:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 55.7 | 76.6 | 17.0 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **90922.** | **1301600.** |
| Stddev | 436. | 1985. |
| %RSD | .47910 | .15254 |

Sample Name: CalStd3=1 Acquired: 04/03/2019 14:17:55 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.4 | 31.8 | 5.58 | 18.1 | 1.18 | 20.2 | 45.3 | 28.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91336.** | **1305800.** | **337010.** |
| Stddev | 382. | 3154. | 3855. |
| %RSD | .41843 | .24150 | 1.1440 |

Sample Name: CalStd4=5 Acquired: 04/03/2019 14:24:11 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.3** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 4.1 | .000 | .000 | .000 | .000 |
| %RSD | 3.10 | 1.34 | 1.95 | 2.35 | 5.59 | 10.4 | 6.47 | 39.5 | 1.37 | 9.35 | 2.31 | 9.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 16.0 | 28.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91987.** | **1303700.** | **333570.** |
| Stddev | 432. | 1881. | 9363. |
| %RSD | .46942 | .14428 | 2.8070 |

Sample Name: CalStd5=10 Acquired: 04/03/2019 14:30:26 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .000 | .000 | .000 | .000 | .000 | .001 | .000 | .001 | .000 | .000 | .000 | 204. |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3. |
| %RSD | 2.33 | 4.01 | 43.7 | 2350. | 3.80 | .489 | .588 | 1.41 | 2.86 | 3.57 | 6.49 | 1.28 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 16.0 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| Stddev | 2.7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 17.1 | 1.51 | 3.02 | 7.48 | 1.36 | 18.4 | 15.0 | 14.9 | 13.9 | 13.4 | 23.8 | 2.83 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | .000 | .001 |
| Stddev | .000 | .000 |
| %RSD | 1.44 | 1.24 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 91123. | 1299600. | 332850. |
| Stddev | 264. | 10600. | 2007. |
| %RSD | .28932 | .81569 | .60289 |

Sample Name: CalStd6=20 Acquired: 04/03/2019 14:36:43 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **212.** | **18.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 3. | 2.8 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.23 | 1.24 | 15.2 | 1.47 | 1.85 | 5.06 | 5.09 | 2.74 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90653.** | **1313200.** | **339920.** |
| Stddev | 69. | 24223. | 5797. |
| %RSD | .07648 | 1.8446 | 1.7053 |

Sample Name: CalStd7=50 Acquired: 04/03/2019 14:42:54 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.002** | **.003** | **.001** | **.001** | **.000** | **235.** | **29.7** | **.000** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1. | 2.7 | .000 | .000 |
| %RSD | 3.96 | 8.74 | 4.48 | .384 | .244 | .749 | .190 | 2.61 | .414 | 9.06 | .777 | 1.56 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.76 | .992 | 3.52 | 7.93 | .901 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90317.** | **1297000.** | **335950.** |
| Stddev | 200. | 7789. | 4440. |
| %RSD | .22163 | .60054 | 1.3215 |

Sample Name: CalStd8=100 Acquired: 04/03/2019 14:49:03 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.001** | **.013** | **.005** | **.000** | **.020** | **.003** | **.006** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.26 | 1.51 | 5.03 | 1.19 | 1.36 | 3.00 | 2.24 | 2.59 | 2.43 | .787 | .588 | 1.30 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **284.** | **54.2** | **.003** | **.001** | **.001** | **.001** | **.002** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 5. | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.83 | .968 | 1.45 | 1.60 | 5.44 | 2.28 | 2.26 | 1.42 | .802 | 1.17 | .757 | 2.09 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.003** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.24 | 2.34 | 1.42 | 7.13 | 1.65 | 4.80 | 2.48 | 1.14 | .870 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90096.** | **1281700.** | **333110.** |
| Stddev | 318. | 34678. | 9032. |
| %RSD | .35306 | 2.7055 | 2.7113 |

Sample Name: CalStd9=1000 Acquired: 04/03/2019 14:55:12 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.001** | **.001** | **.001** | **.014** | **.049** | **.054** | **.003** | **.000** | **.166** | **.034** | **.062** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .244 | 1.88 | .693 | 1.69 | .225 | 1.03 | .572 | 1.32 | 1.49 | 1.20 | .116 | .126 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.030** | **.002** | **.017** | **.002** | **1080.** | **460.** | **.000** | **.000** | **.001** | **.000** | **.027** | **.009** |
| Stddev | .000 | .000 | .000 | .000 | 12. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .281 | .654 | .256 | .580 | 1.07 | 1.25 | .811 | 1.38 | 1.26 | 7.07 | .594 | .537 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.012** | **.007** | **.017** | **.017** | **.002** | **.004** | **.003** | **.003** | **.001** | **.000** | **.004** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.07 | .135 | .075 | .350 | .296 | .696 | .329 | .362 | .370 | 1.17 | 1.22 | .533 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.026** | **.044** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .731 | .555 | .244 | .137 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89178.** | **1290700.** | **340890.** |
| Stddev | 85. | 1862. | 1611. |
| %RSD | .09528 | .14429 | .47248 |

Sample Name: CalStd10=10000 Acquired: 04/03/2019 15:00:51 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.405** | **.003** | **.286** | **.021** | **.165** | **.021** | **8960.** | **4460.** | **.004** | **.003** |
| Stddev | .000 | .000 | .011 | .000 | .002 | .000 | .001 | .000 | 93. | 59. | .000 | .000 |
| %RSD | 2.04 | .615 | 2.62 | 1.25 | .602 | 2.29 | .722 | 2.23 | 1.03 | 1.33 | 2.22 | 1.19 |

| Elem | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.012** | **.000** | **.252** | **.087** | **.034** | **.072** | **.159** | **.165** | **.016** | **.028** | **.028** | **.003** |
| Stddev | .000 | .000 | .007 | .002 | .001 | .000 | .001 | .001 | .000 | .000 | .000 | .000 |
| %RSD | 1.30 | 2.26 | 2.95 | 2.24 | 1.58 | .659 | .669 | .638 | .645 | .681 | .810 | .813 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.033** | **.010** | **.070** | **.247** |
| Stddev | .000 | .000 | .002 | .002 |
| %RSD | .535 | 1.35 | 2.18 | .649 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87946.** | **1248500.** | **338940.** |
| Stddev | 455. | 36835. | 3085. |
| %RSD | .51701 | 2.9504 | .91020 |

Sample Name: CalStd12=100K  Acquired: 04/03/2019 15:07:24  Type: Cal
Method: DOD Calibration Updated 060614(v3294)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.47** | **84400.** | **43000.** | **.322** | **.158** | **2.21** |
| Stddev | .00 | 667. | 510. | .007 | .000 | .01 |
| %RSD | .246 | .791 | 1.18 | 2.32 | .298 | .337 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87399.** | **1271700.** | **338840.** |
| Stddev | 369. | 4886. | 4117. |
| %RSD | .42252 | .38418 | 1.2150 |

Sample Name: CalStd13=100000 Acquired: 04/03/2019 15:13:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.110** | **.032** | **.040** | **.030** | **.115** | **.004** |
| Stddev | .002 | .000 | .001 | .000 | .001 | .000 |
| %RSD | 1.39 | 1.48 | 1.38 | 1.58 | 1.30 | 1.57 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85755.** | **1246700.** | **334390.** |
| Stddev | 316. | 3104. | 5912. |
| %RSD | .36868 | .24898 | 1.7680 |

Sample Name: CalStd14=500000 Acquired: 04/03/2019 15:20:06 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.579** | **.159** | **.142** | **.535** | **.019** |
| Stddev | .009 | .002 | .001 | .006 | .000 |
| %RSD | 1.49 | .997 | .916 | 1.04 | 1.11 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **79215.** | **323820.** |
| Stddev | 268. | 2683. |
| %RSD | .33828 | .82857 |

Sample Name: CalibStd15=1000k Acquired: 04/03/2019 15:26:47 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.313** | **.268** | **.037** |
| Stddev | .01 | .001 | .001 | .000 |
| %RSD | 1.24 | .448 | .290 | .450 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **71185.** | **304600.** |
| Stddev | 647. | 2218. |
| %RSD | .90824 | .72828 |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.6** | **11400.** | **1990.** | **1990.** | **1900.** | **48.6** | **46.7** | **9890.** | **48.0** | **56.9** | **508.** | **196.** |
| Stddev | 1.5 | 79. | 13. | 13. | 12. | 1.0 | 1.7 | 44. | .3 | .5 | 4. | 3. |
| %RSD | 3.19 | .690 | .646 | .664 | .631 | 2.08 | 3.62 | .441 | .562 | .855 | .747 | 1.49 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **243.** | **252.** | **5140.** | **10000.** | **513.** | **506.** | **508.** | **501.** | **503.** | **491.** | **478.** | **501.** |
| Stddev | 6. | 13. | 24. | 99. | 9. | 3. | 3. | 3. | 4. | 7. | 2. | 5. |
| %RSD | 2.39 | 4.97 | .474 | .983 | 1.79 | .644 | .651 | .505 | .705 | 1.51 | .505 | .924 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **502.** | **1990.** | **2030.** | **469.** | **493.** | **510.** | **483.** |
| Stddev | 5. | 19. | 14. | 9. | 10. | 2. | 3. |
| %RSD | .954 | .957 | .666 | 1.90 | 2.09 | .466 | .699 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88846.** | **1266900.** | **348410.** |
| Stddev | 316. | 32909. | 1933. |
| %RSD | .35620 | 2.5976 | .55489 |

Sample Name: ICVLL Acquired: 04/03/2019 15:52:57 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **30.1** | **1160.** | **1180.** | **65.1** | **28.4** | **11.4** | **1470.** | **14.7** | **15.1** | **29.5** | **30.0** | **26.0** |
| Stddev | .9 | 6. | 19. | 4.8 | .2 | .2 | 35. | .3 | .2 | .2 | 1.3 | 4.5 |
| %RSD | 3.10 | .499 | 1.59 | 7.44 | .632 | 1.53 | 2.39 | 1.76 | 1.45 | .698 | 4.18 | 17.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **43.1** | **884.** | **1420.** | **32.2** | **29.7** | **29.3** | **32.4** | **62.6** | **65.9** | **61.9** | **29.2** | **29.0** |
| Stddev | 5.0 | 16. | 22. | .5 | .2 | .3 | 1.9 | 1.0 | 2.5 | 2.3 | .8 | .1 |
| %RSD | 11.7 | 1.77 | 1.56 | 1.56 | .655 | .944 | 5.70 | 1.63 | 3.83 | 3.69 | 2.70 | .380 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 30.0 | | | | | | | | | | | |
| Range | 20.0% | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88382.** | **1277700.** | **345540.** |
| Stddev | 413. | 5455. | 2447. |
| %RSD | .46689 | .42698 | .70812 |

Sample Name: icb Acquired: 04/03/2019 16:05:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.053** | **-1.45** | **2.96** | **-.150** | **.025** | **-27.7** | **.130** | **.033** | **.457** | **.931** | **8.55** | **1.49** |
| Stddev | .378 | .53 | 3.68 | .279 | .037 | .7 | .174 | .055 | .223 | .186 | 1.89 | 1.10 |
| %RSD | 716. | 36.5 | 124. | 186. | 144. | 2.46 | 134. | 167. | 48.9 | 20.0 | 22.1 | 73.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.732** | **-.076** | **-.001** | **.334** | **1.42** | **-.014** | **3.11** | **1.07** | **-.550** | **-.468** |
| Stddev | .058 | .119 | .297 | .563 | 2.84 | 2.48 | 2.26 | 1.50 | .340 | .099 |
| %RSD | 7.91 | 158. | 26900. | 168. | 200. | 17500. | 72.4 | 140. | 61.7 | 21.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89871.** | **1294600.** | **342360.** |
| Stddev | 216. | 5657. | 8297. |
| %RSD | .24065 | .43698 | 2.4236 |

Sample Name: MRL/LLOQ Acquired: 04/03/2019 16:11:32 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **11.4** | **386.** | **20.2** | **8.91** | **3.70** | **462.** | **4.91** | **4.83** | **9.86** | **10.2** | **9.30** | **282.** |
| Stddev | .5 | 2. | 2.5 | .62 | .05 | 15. | .15 | .08 | .48 | .5 | 9.28 | 3. |
| %RSD | 4.55 | .561 | 12.4 | 7.00 | 1.38 | 3.24 | 3.05 | 1.70 | 4.83 | 4.69 | 99.8 | .993 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **462.** | **9.94** | **9.85** | **9.86** | **10.7** | **21.7** | **20.7** | **21.1** | **9.29** | **9.96** |
| Stddev | 5. | .12 | .29 | .36 | 1.2 | .6 | 3.3 | 1.6 | .38 | .20 |
| %RSD | .973 | 1.22 | 3.00 | 3.62 | 11.4 | 2.56 | 15.9 | 7.39 | 4.12 | 1.99 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89155.** | **1289400.** | **342840.** |
| Stddev | 389. | 2710. | 4343. |
| %RSD | .43646 | .21015 | 1.2669 |

Sample Name: ICSA Acquired: 04/03/2019 16:17:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.504** | **547000.** | **-.250** | **-.747** | **-.035** | **530000.** | **1.23** | **-.075** | **.295** | **-.966** | **.002** |
| Stddev | .913 | 25100. | 9.22 | .784 | .170 | 8010. | 1.16 | .222 | .484 | 1.88 | 5.37 |
| %RSD | 181. | 4.58 | 3690. | 105. | 492. | 1.51 | 94.3 | 298. | 164. | 194. | 299000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **540000.** | **519000.** | **-4.02** | **-.349** | **-.210** | **1.31** | **-2.11** | **3.97** | **-4.38** | **10200.** | **-.325** |
| Stddev | 8910. | 7340. | .31 | .897 | 1.51 | 5.62 | 1.03 | 7.59 | 3.62 | 147. | 1.09 |
| %RSD | 1.65 | 1.41 | 7.81 | 257. | 719. | 428. | 49.0 | 191. | 82.7 | 1.45 | 336. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **79719.** | **1164100.** | **326960.** |
| Stddev | 256. | 8532. | 6010. |
| %RSD | .32061 | .73292 | 1.8383 |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **446.** | **535000.** | F **658.** | **571.** | **490.** | **471.** | **477.** | **522000.** | **516.** | **480.** | **482.** |
| Stddev | 3. | 15900. | 11. | 11. | 1. | 5. | 1. | 3840. | 1. | 1. | 4. |
| %RSD | .697 | 2.97 | 1.66 | 1.86 | .247 | 1.13 | .225 | .735 | .253 | .237 | .817 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 500. | | | | | | | | |
| Range | | | 20.0% | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **496.** | **516.** | **538000.** | **510000.** | **511.** | **496.** | **501.** | **464.** | **469.** | **449.** | **425.** |
| Stddev | 2. | 11. | 2870. | 4040. | 3. | 1. | 4. | 1. | 2. | 36. | 4. |
| %RSD | .380 | 2.06 | .534 | .792 | .606 | .223 | .836 | .219 | .364 | 8.08 | 1.01 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **513.** | **494.** | **477.** | **495.** | **504.** | **493.** | **498.** |
| Stddev | 3. | 3. | 5. | 5. | 2. | 4. | 2. | 2. |
| %RSD | .558 | .515 | .954 | .985 | .462 | .835 | .312 | .426 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **80242.** | **1169100.** | **327370.** |
| Stddev | 148. | 8653. | 2108. |
| %RSD | .18400 | .74012 | .64380 |

Sample Name: ccv1 Acquired: 04/04/2019 10:10:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **5100.** | **4810.** | **4710.** | **480.** | **5020.** | **495.** | **4830.** | **5110.** | **4900.** | **5510.** | **5100.** |
| Stddev | 3. | 120. | 22. | 15. | 3. | 17. | 2. | 22. | 20. | 14. | 331. | 27. |
| %RSD | .538 | 2.36 | .461 | .327 | .652 | .334 | .372 | .450 | .398 | .290 | 6.00 | .525 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4710.** | **4830.** | **4770.** | **4810.** | **4710.** | **4760.** | **4820.** | **5090.** |
| Stddev | 10. | 11. | 1. | 22. | 21. | 40. | 11. | 23. | 7. |
| %RSD | .202 | .227 | .012 | .457 | .435 | .855 | .230 | .478 | .147 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89772.** | **1276400.** | **341380.** |
| Stddev | 406. | 5001. | 1002. |
| %RSD | .45219 | .39180 | .29353 |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **482.** | **471.** | **477.** | **469.** | **473.** | **50.5** | **50.6** | **468.** | **50.2** | **52.1** | **481.** |
| Stddev | 1.1 | 3. | 4. | 6. | 2. | 5. | .2 | .6 | 7. | .3 | .2 | 1. |
| %RSD | 2.22 | .520 | .848 | 1.17 | .509 | 1.14 | .380 | 1.19 | 1.45 | .696 | .370 | .119 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **498.** | **504.** | **480.** | **470.** | **490.** | **466.** | **467.** | **489.** | **489.** | **487.** | **464.** |
| Stddev | 1. | 5. | 13. | 5. | 2. | 1. | 1. | 2. | . | 1. | 7. | 2. |
| %RSD | .283 | 1.08 | 2.48 | 1.14 | .357 | .168 | .247 | .454 | .080 | .277 | 1.39 | .350 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **476.** | **483.** | **502.** | **481.** | **473.** | **510.** | **476.** |
| Stddev | 3. | 4. | 2. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .674 | .810 | .400 | .669 | 1.09 | .476 | .331 | .142 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **92064.** | **1309300.** | **342930.** |
| Stddev | 461. | 1761. | 2615. |
| %RSD | .50117 | .13449 | .76242 |

Sample Name: ccb Acquired: 04/04/2019 10:22:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.248** | **-4.89** | **3.19** | **-.017** | **-.003** | **-27.9** | **-.103** | **.187** | **.409** | **.743** | **10.4** | **7.05** |
| Stddev | .682 | .63 | 2.44 | .334 | .037 | 2.0 | .145 | .127 | .182 | .658 | 2.0 | 7.33 |
| %RSD | 274. | 12.8 | 76.3 | 1930. | 1270. | 7.19 | 142. | 67.7 | 44.5 | 88.5 | 19.2 | 104. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **2.86** | **-3.04** | **.019** | **.965** | **.147** | **1.96** | **.817** | **1.11** | **2.01** | **-.455** | **-.487** |
| Stddev | 2.58 | .05 | .096 | .059 | .354 | 2.80 | 1.36 | 2.92 | .83 | .133 | .098 |
| %RSD | 90.1 | 1.71 | 494. | 6.12 | 241. | 142. | 167. | 262. | 41.4 | 29.3 | 20.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91996.** | **1307100.** | **343800.** |
| Stddev | 263. | 10823. | 3238. |
| %RSD | .28579 | .82800 | .94175 |

Sample Name: lcss71264 Acquired: 04/04/2019 10:54:44 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **101.** | **675.** | **1960.** | **2020.** | **163.** | **172.** | **-.090** | **19600.** | **.222** | **8.90** | **2.19** | **114.** |
| Stddev | 1. | 8. | 9. | 13. | 1. | 7. | .027 | 371. | .101 | .25 | .22 | . |
| %RSD | .635 | 1.14 | .436 | .630 | .874 | 3.80 | 30.6 | 1.89 | 45.6 | 2.80 | 9.91 | .409 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **95.6** | **99.2** | **9970.** | **6510.** | **2060.** | **2190.** | **2.48** | **28.5** | **18.9** | **2.63** | **5.54** | **3.19** |
| Stddev | 4.2 | 6.7 | 265. | 116. | 4. | 41. | .45 | .5 | 4.1 | .86 | 3.56 | 1.68 |
| %RSD | 4.39 | 6.79 | 2.66 | 1.78 | .170 | 1.87 | 18.1 | 1.89 | 21.5 | 32.7 | 64.3 | 52.8 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.867** | **109.** |
| Stddev | .074 | . |
| %RSD | 8.54 | .457 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **92595.** | **1306200.** | **334620.** |
| Stddev | 125. | 4532. | 4446. |
| %RSD | .13493 | .34693 | 1.3287 |

Sample Name: mbs71264 Acquired: 04/04/2019 11:01:21 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.8** | **2330.** | **10.1** | **436.** | **455.** | **-.128** | **34000.** | **-.098** | **.703** | **2.46** | **79.0** | **57.4** |
| Stddev | .5 | 19. | 4.7 | 1. | 3. | .009 | 353. | .144 | .095 | .21 | 1.2 | 3.3 |
| %RSD | .657 | .796 | 46.9 | .241 | .654 | 7.12 | 1.04 | 147. | 13.6 | 8.48 | 1.50 | 5.82 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **70.6** | **17600.** | **7700.** | **246.** | **2.11** | **20.8** | **40.1** | **1.84** | **9.89** | **1.19** | **3.86** | **157.** |
| Stddev | 3.8 | 128. | 33. | 2. | .11 | .5 | 1.0 | 2.45 | .70 | 3.27 | .52 | . |
| %RSD | 5.40 | .726 | .428 | .895 | 5.15 | 2.53 | 2.44 | 133. | 7.05 | 274. | 13.4 | .191 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90399.** | **1276600.** | **327690.** |
| Stddev | 69. | 6114. | 1917. |
| %RSD | .07669 | .47891 | .58503 |

Sample Name: 254964 Acquired: 04/04/2019 11:07:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.47** | **335000.** | **1510.** | **1470.** | **2330.** | **12.9** | **59800.** | **3.26** | **10.8** | **227.** | **544.** |
| Stddev | .58 | 1870. | 7. | 21. | 17. | .0 | 558. | .45 | .2 | 1. | 3. |
| %RSD | 23.5 | .559 | .485 | 1.41 | .715 | .320 | .934 | 13.8 | 2.30 | .459 | .560 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **609.** | **618.** | **544000.** | **37300.** | **13600.** | **20.4** | **408.** | **393.** | **1540.** | **-2.04** | **16.8** |
| Stddev | 11. | 15. | 4250. | 307. | 82. | .4 | 2. | 1. | 9. | 4.43 | 6.2 |
| %RSD | 1.72 | 2.46 | .781 | .824 | .605 | 2.16 | .391 | .145 | .584 | 217. | 37.1 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.5** | **832.** | **860.** | **2120.** |
| Stddev | 2.3 | 2. | 3. | 6. |
| %RSD | 4.85 | .289 | .365 | .300 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89100.** | **1251400.** | **331540.** |
| Stddev | 268. | 2546. | 1935. |
| %RSD | .30049 | .20347 | .58364 |

Sample Name: I254964 Acquired: 04/04/2019 11:14:24 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.415** | **88100.** | **317.** | **448.** | **611.** | **2.54** | **16000.** | **-3.95** | **2.58** | **46.0** | **123.** |
| Stddev | .791 | 4130. | 13. | 15. | 28. | .10 | 771. | .32 | .27 | 1.4 | 6. |
| %RSD | 190. | 4.68 | 4.07 | 3.26 | 4.61 | 4.06 | 4.83 | 8.17 | 10.6 | 3.01 | 5.17 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **175.** | **173.** | **151000.** | **10300.** | **2900.** | **3710.** | **4.25** | **82.6** | **263.** | **3.84** | **4.32** |
| Stddev | 10. | 7. | 7220. | 447. | 134. | 178. | .14 | 3.5 | 10. | 2.82 | 2.16 |
| %RSD | 5.67 | 3.80 | 4.76 | 4.33 | 4.63 | 4.79 | 3.30 | 4.25 | 3.70 | 73.5 | 50.0 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **15.8** | **229.** | **191.** | **443.** | **410.** |
| Stddev | 1.9 | 7. | 9. | 13. | 13. |
| %RSD | 11.7 | 2.98 | 4.45 | 2.97 | 3.12 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **93268.** | **1312800.** | **340770.** |
| Stddev | 330. | 2525. | 1991. |
| %RSD | .35382 | .19229 | .58420 |

Sample Name: 1dup254964 Acquired: 04/04/2019 11:20:49 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.24** | **330000.** | **1520.** | **1490.** | **2340.** | **12.9** | **61500.** | **2.77** | **10.9** | **225.** | **537.** |
| Stddev | .84 | 1550. | 12. | 21. | 21. | .0 | 708. | .79 | .2 | 2. | 2. |
| %RSD | 26.0 | .470 | .791 | 1.39 | .893 | .302 | 1.15 | 28.7 | 1.80 | .677 | .315 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **621.** | **629.** | **542000.** | **36600.** | **14600.** | **20.8** | **408.** | **394.** | **1530.** | **-2.69** | **22.8** |
| Stddev | 7. | 14. | 5380. | 155. | 88. | .4 | 4. | 3. | 16. | 2.27 | 5.8 |
| %RSD | 1.11 | 2.19 | .994 | .422 | .607 | 1.75 | .941 | .762 | 1.01 | 84.7 | 25.3 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **48.6** | **842.** | **855.** | **2110.** |
| Stddev | 3.7 | 6. | 2. | 16. |
| %RSD | 7.58 | .739 | .223 | .765 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88718.** | **1242600.** | **328060.** |
| Stddev | 576. | 6083. | 2272. |
| %RSD | .64925 | .48950 | .69251 |

Sample Name: mss254964 Acquired: 04/04/2019 11:27:21 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.55** | **311000.** | **20200.** | **2360.** | **13.0** | **63400.** | **2.85** | **88.7** | **225.** | **515.** | **616.** |
| Stddev | .31 | 2770. | 45. | 21. | .2 | 514. | .39 | .1 | 1. | 5. | 8. |
| %RSD | 12.2 | .890 | .222 | .904 | 1.19 | .810 | 13.6 | .122 | .262 | .905 | 1.26 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **623.** | **528000.** | **35800.** | **34900.** | **18.4** | **415.** | **400.** | **1630.** | **-2.04** | **15.5** | **54.5** |
| Stddev | 1. | 4120. | 361. | 282. | 1.2 | 3. | 1. | 5. | 3.77 | 6.0 | 3.5 |
| %RSD | .086 | .781 | 1.01 | .808 | 6.59 | .604 | .206 | .305 | 185. | 38.4 | 6.40 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **817.** | **828.** | **2120.** |
| Stddev | 13. | 6. | 9. |
| %RSD | 1.61 | .719 | .420 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87330.** | **1238900.** | **327800.** |
| Stddev | 259. | 7088. | 4806. |
| %RSD | .29659 | .57217 | 1.4662 |

Sample Name: ccv1 Acquired: 04/04/2019 11:33:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **5040.** | **4890.** | **4820.** | **488.** | **5100.** | **491.** | **4790.** | **5060.** | **4900.** | **5450.** | **5170.** |
| Stddev | . | 106. | 15. | 66. | 7. | 75. | 1. | 23. | 5. | 28. | 275. | 133. |
| %RSD | .056 | 2.10 | .314 | 1.37 | 1.50 | 1.47 | .152 | .488 | .092 | .569 | 5.05 | 2.57 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5130.** | **4750.** | **4860.** | **4810.** | **4790.** | **4760.** | **4810.** | **4880.** | **5100.** |
| Stddev | 65. | 10. | 10. | 20. | 8. | 9. | 3. | 42. | 7. |
| %RSD | 1.26 | .214 | .196 | .406 | .164 | .192 | .056 | .859 | .134 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **90115.** | **1280100.** | **334390.** |
| Stddev | 121. | 2059. | 3748. |
| %RSD | .13480 | .16083 | 1.1208 |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.0** | **480.** | **473.** | **478.** | **468.** | **482.** | **50.8** | **53.1** | **467.** | **50.0** | **52.0** | **482.** |
| Stddev | .5 | 3. | 3. | 6. | 2. | 11. | .1 | 1.1 | 7. | .5 | .3 | 1. |
| %RSD | 1.06 | .664 | .616 | 1.22 | .415 | 2.18 | .150 | 2.05 | 1.42 | 1.03 | .632 | .153 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **500.** | **496.** | **487.** | **472.** | **492.** | **467.** | **468.** | **489.** | **487.** | **487.** | **466.** |
| Stddev | 2. | 4. | 14. | 3. | 1. | 1. | 1. | 1. | 1. | 1. | 3. | 1. |
| %RSD | .452 | .754 | 2.82 | .604 | .238 | .201 | .188 | .306 | .299 | .261 | .656 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **476.** | **475.** | **479.** | **502.** | **476.** | **473.** | **507.** | **477.** |
| Stddev | 3. | 4. | 4. | 2. | 6. | 2. | 1. | . |
| %RSD | .588 | .740 | .925 | .444 | 1.33 | .435 | .226 | .063 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91823.** | **1304900.** | **338310.** |
| Stddev | 357. | 1653. | 4392. |
| %RSD | .38883 | .12669 | 1.2981 |

Sample Name: ccb Acquired: 04/04/2019 11:45:23 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.054** | **-4.09** | **3.65** | **.052** | **.032** | **-28.1** | **.052** | **.114** | **.361** | **.112** | **6.03** | **2.36** |
| Stddev | .584 | .58 | 4.18 | .248 | .038 | 1.8 | .108 | .202 | .165 | .303 | 3.43 | 2.66 |
| %RSD | 1090. | 14.1 | 114. | 475. | 117. | 6.34 | 208. | 177. | 45.8 | 270. | 57.0 | 113. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.92** | **.214** | **1.01** | **.617** | **2.01** | **2.30** | **.100** | **.277** | **-.515** | **-.387** |
| Stddev | .03 | .124 | .23 | .291 | 1.83 | .26 | 5.47 | 1.78 | .562 | .188 |
| %RSD | 1.03 | 58.3 | 23.0 | 47.1 | 91.1 | 11.2 | 5480. | 642. | 109. | 48.4 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91848.** | **1306000.** | **339770.** |
| Stddev | 153. | 5702. | 2161. |
| %RSD | .16675 | .43662 | .63611 |

Sample Name: msds254964 Acquired: 04/04/2019 11:51:43 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.27** | **271000.** | **20100.** | **2090.** | **12.6** | **61600.** | **2.91** | **85.6** | **215.** | **471.** | **590.** |
| Stddev | .72 | 3360. | 87. | 21. | .1 | 1000. | .58 | .4 | . | 3. | 7. |
| %RSD | 31.8 | 1.24 | .432 | 1.01 | .695 | 1.63 | 19.9 | .424 | .205 | .544 | 1.14 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **614.** | **491000.** | **32100.** | **33900.** | **16.9** | **352.** | **1620.** | **-4.95** | **14.8** | **53.9** | **752.** |
| Stddev | 9. | 5380. | 425. | 471. | .6 | 1. | 17. | 3.05 | 6.5 | 1.6 | 14. |
| %RSD | 1.55 | 1.09 | 1.32 | 1.39 | 3.41 | .372 | 1.05 | 61.7 | 43.5 | 2.94 | 1.80 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **774.** | **1950.** |
| Stddev | 2. | 3. |
| %RSD | .257 | .175 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86816.** | **1231200.** | **328190.** |
| Stddev | 170. | 7044. | 1558. |
| %RSD | .19592 | .57210 | .47456 |

Sample Name: 254965 Acquired: 04/04/2019 11:58:13 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.21** | **272000.** | **770.** | **747.** | **5770.** | **11.7** | **277000.** | **10.3** | **14.7** | **162.** | **656.** |
| Stddev | .78 | 3240. | 5. | 17. | 82. | .0 | 883. | .3 | .1 | 1. | 7. |
| %RSD | 8.51 | 1.19 | .647 | 2.29 | 1.42 | .400 | .319 | 2.99 | .798 | .438 | 1.14 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3260.** | **357000.** | **85700.** | **463000.** | **97.0** | **287.** | **3290.** | **14.6** | **57.0** | **222.** | **1300.** |
| Stddev | 20. | 2590. | 568. | 1990. | .9 | 2. | 18. | 3.8 | 4.0 | 2. | 14. |
| %RSD | .606 | .727 | .663 | .430 | .971 | .771 | .536 | 25.7 | 7.10 | .945 | 1.07 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **4280.** |
| Stddev | 17. |
| %RSD | .397 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83156.** | **1191900.** | **324000.** |
| Stddev | 68. | 5982. | 5624. |
| %RSD | .08213 | .50188 | 1.7359 |

Sample Name: pdss254964 Acquired: 04/04/2019 12:04:34 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.11** | **330000.** | **20100.** | **2320.** | **12.9** | **61400.** | **3.37** | **86.4** | **227.** | **541.** | **615.** |
| Stddev | .53 | 5960. | 30. | 31. | .1 | 1560. | 1.15 | .4 | 2. | 5. | 6. |
| %RSD | 17.0 | 1.81 | .151 | 1.32 | .499 | 2.54 | 34.2 | .432 | .813 | .909 | 1.05 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **623.** | **539000.** | **36200.** | **34000.** | **19.8** | **411.** | **394.** | **1570.** | **-1.38** | **15.9** | **55.1** |
| Stddev | 2. | 12700. | 858. | 833. | .8 | 2. | 3. | 17. | 4.68 | 2.1 | 1.4 |
| %RSD | .333 | 2.35 | 2.37 | 2.45 | 3.90 | .597 | .736 | 1.09 | 340. | 13.4 | 2.61 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **843.** | **857.** | **2120.** |
| Stddev | 9. | 5. | 13. |
| %RSD | 1.07 | .547 | .591 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87520.** | **1238500.** | **328620.** |
| Stddev | 308. | 3941. | 2945. |
| %RSD | .35152 | .31821 | .89616 |

Sample Name: dup254965 Acquired: 04/04/2019 12:11:05 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.86** | **397000.** | **796.** | **739.** | **1550.** | **9.45** | **30700.** | **-.335** | **4.43** | **167.** | **665.** |
| Stddev | .88 | 2170. | 16. | 12. | 12. | .10 | 377. | 1.07 | .21 | 1. | 5. |
| %RSD | 47.0 | .546 | 2.02 | 1.60 | .782 | 1.04 | 1.23 | 320. | 4.84 | .385 | .772 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **356.** | **382.** | **718000.** | **39700.** | **7690.** | **21.1** | **448.** | **435.** | **964.** | **568.** | **-18.2** |
| Stddev | 7. | 11. | 9290. | 289. | 64. | .3 | 1. | 1. | 13. | 3. | 4.0 |
| %RSD | 2.09 | 2.83 | 1.29 | .729 | .827 | 1.20 | .170 | .172 | 1.34 | .490 | 22.2 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.40** | **65.2** | **1010.** | **1220.** |
| Stddev | 9.35 | 2.1 | 7. | 1. |
| %RSD | 99.4 | 3.20 | .648 | .100 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87101.** | **1235600.** | **329760.** |
| Stddev | 184. | 1912. | 6256. |
| %RSD | .21077 | .15475 | 1.8970 |

Sample Name: L254965 Acquired: 04/04/2019 12:17:27 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.222** | **104000.** | **184.** | **339.** | **400.** | **1.87** | **8060.** | **-4.58** | **1.29** | **37.0** | **156.** |
| Stddev | .523 | 2340. | 3. | 6. | 10. | .09 | 202. | .46 | .12 | .7 | 6. |
| %RSD | 236. | 2.26 | 1.50 | 1.79 | 2.56 | 4.90 | 2.51 | 10.0 | 9.37 | 2.01 | 3.55 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **107.** | **110.** | **199000.** | **10900.** | **1570.** | **2060.** | **4.69** | **99.3** | **135.** | **.580** | **5.50** |
| Stddev | 5. | 5. | 5910. | 260. | 60. | 48. | .47 | 1.6 | 2. | 3.18 | 4.68 |
| %RSD | 4.76 | 4.18 | 2.97 | 2.38 | 3.80 | 2.33 | 9.91 | 1.63 | 1.39 | 548. | 85.1 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **19.9** | **273.** | **242.** | **252.** |
| Stddev | 2.3 | 12. | 9. | 4. |
| %RSD | 11.4 | 4.41 | 3.81 | 1.62 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91988.** | **1306900.** | **344910.** |
| Stddev | 188. | 3727. | 3854. |
| %RSD | .20481 | .28514 | 1.1174 |

Sample Name: 2dup254965 Acquired: 04/04/2019 12:23:56 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.94** | **383000.** | **787.** | **726.** | **1550.** | **9.32** | **30700.** | **.013** | **4.41** | **164.** | **667.** |
| Stddev | .12 | 3540. | 13. | 11. | 20. | .07 | 209. | .619 | .43 | . | 1. |
| %RSD | 6.40 | .922 | 1.63 | 1.48 | 1.27 | .742 | .680 | 4880. | 9.72 | .280 | .217 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **357.** | **381.** | **703000.** | **38300.** | **7870.** | **21.2** | **444.** | **432.** | **982.** | **587.** | **-16.6** |
| Stddev | 8. | 5. | 3110. | 373. | 61. | .7 | 2. | 2. | 8. | 5. | 1.6 |
| %RSD | 2.18 | 1.28 | .442 | .973 | .772 | 3.49 | .404 | .366 | .843 | .842 | 9.41 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **8.07** | **63.3** | **999.** | **1190.** |
| Stddev | 4.66 | .9 | 14. | 2. |
| %RSD | 57.7 | 1.41 | 1.40 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86996.** | **1229700.** | **330280.** |
| Stddev | 273. | 7305. | 4566. |
| %RSD | .31366 | .59406 | 1.3824 |

Sample Name: mss254965 Acquired: 04/04/2019 12:30:19 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.34** | **360000.** | **19400.** | **1500.** | **9.33** | **30700.** | **.980** | **80.3** | **160.** | **622.** | **347.** |
| Stddev | .86 | 3770. | 64. | 12. | .08 | 429. | .763 | .3 | 1. | 2. | 4. |
| %RSD | 37.0 | 1.05 | .331 | .767 | .854 | 1.40 | 77.8 | .419 | .678 | .375 | 1.10 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **372.** | **688000.** | **36800.** | **27300.** | **19.5** | **427.** | **414.** | **980.** | **569.** | **-17.4** | **13.0** |
| Stddev | 10. | 6260. | 454. | 391. | .6 | 2. | 2. | 34. | 3. | 4.9 | 6.4 |
| %RSD | 2.62 | .909 | 1.23 | 1.43 | 2.83 | .432 | .506 | 3.42 | .581 | 28.3 | 49.3 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **67.3** | **965.** | **1170.** |
| Stddev | 3.6 | 10. | 4. |
| %RSD | 5.34 | 1.03 | .302 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87668.** | **1231700.** | **333620.** |
| Stddev | 469. | 3003. | 2115. |
| %RSD | .53528 | .24380 | .63390 |

Sample Name: msds254965 Acquired: 04/04/2019 12:36:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.77** | **313000.** | **18900.** | **1480.** | **9.02** | **30600.** | **.031** | **78.3** | **151.** | **577.** | **335.** |
| Stddev | .41 | 1750. | 47. | 10. | .10 | 274. | .373 | .5 | 1. | 2. | 7. |
| %RSD | 23.4 | .559 | .246 | .705 | 1.07 | .896 | 1190. | .679 | .648 | .322 | 2.05 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **356.** | **657000.** | **34400.** | **27600.** | **17.6** | **409.** | **393.** | **983.** | **565.** | **-14.9** | **13.1** |
| Stddev | 4. | 2610. | 350. | 217. | .6 | 2. | 1. | 16. | 3. | 2.7 | 10.7 |
| %RSD | 1.23 | .398 | 1.02 | .787 | 3.45 | .425 | .238 | 1.64 | .517 | 18.4 | 81.8 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **63.7** | **912.** | **932.** | **1080.** | **989.** |
| Stddev | 3.7 | 7. | 5. | 4. | 1. |
| %RSD | 5.77 | .787 | .531 | .395 | .102 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87916.** | **1238000.** | **329900.** |
| Stddev | 114. | 5707. | 2273. |
| %RSD | .12949 | .46101 | .68904 |

Sample Name: pdss254965 Acquired: 04/04/2019 12:43:23 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.41** | **382000.** | **19600.** | **1560.** | **9.16** | **31100.** | **.332** | **83.6** | **164.** | **661.** | **359.** |
| Stddev | .93 | 3780. | 65. | 26. | .11 | 246. | .546 | .5 | . | 2. | 17. |
| %RSD | 38.5 | .989 | .329 | 1.67 | 1.25 | .791 | 165. | .614 | .225 | .374 | 4.80 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **387.** | **714000.** | **38700.** | **27700.** | **19.7** | **445.** | **429.** | **936.** | **583.** | **-18.3** | **19.9** |
| Stddev | 7. | 7810. | 549. | 232. | .6 | 3. | 2. | 4. | 2. | 6.8 | 8.5 |
| %RSD | 1.80 | 1.09 | 1.42 | .837 | 2.99 | .600 | .460 | .379 | .384 | 37.4 | 43.0 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **68.9** | **1010.** | **1200.** |
| Stddev | 2.7 | 13. | 4. |
| %RSD | 3.85 | 1.25 | .319 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88244.** | **1239900.** | **328490.** |
| Stddev | 346. | 3894. | 191. |
| %RSD | .39248 | .31403 | .05802 |

Sample Name: 254967 Acquired: 04/04/2019 12:50:01 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.34** | **331000.** | **808.** | **755.** | **2520.** | **11.7** | **29300.** | **-.182** | **4.88** | **193.** | **443.** |
| Stddev | .60 | 1690. | 11. | 8. | 8. | .1 | 327. | .388 | .19 | 1. | 4. |
| %RSD | 17.9 | .511 | 1.41 | 1.04 | .309 | .678 | 1.12 | 213. | 3.81 | .406 | .796 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **351.** | **362.** | **465000.** | **24900.** | **10100.** | **14.2** | **294.** | **718.** | **637.** | **-8.09** | **12.2** |
| Stddev | 5. | 6. | 3660. | 258. | 78. | .5 | 1. | 11. | 4. | 2.35 | 3.2 |
| %RSD | 1.55 | 1.77 | .787 | 1.04 | .776 | 3.33 | .427 | 1.53 | .646 | 29.1 | 26.6 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **44.0** | **851.** | **866.** | **1010.** | **938.** |
| Stddev | 2.4 | 4. | 4. | 3. | 2. |
| %RSD | 5.52 | .517 | .511 | .284 | .218 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90448.** | **1259300.** | **332120.** |
| Stddev | 148. | 3690. | 2890. |
| %RSD | .16407 | .29299 | .87024 |

Sample Name: ccv1 Acquired: 04/04/2019 12:56:26 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **463.** | **4950.** | **4880.** | **4830.** | **478.** | **5060.** | **484.** | **4780.** | **4990.** | **4940.** | **5390.** | **5170.** |
| Stddev | 4. | 77. | 9. | 20. | 4. | 72. | 1. | 34. | 17. | 20. | 226. | 110. |
| %RSD | .886 | 1.54 | .183 | .410 | .829 | 1.43 | .239 | .703 | .331 | .403 | 4.19 | 2.13 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5010.** | **4730.** | **4860.** | **4790.** | **4710.** | **4720.** | **4810.** | **4790.** | **5100.** |
| Stddev | 45. | 11. | 5. | 12. | 17. | 22. | 11. | 52. | 17. |
| %RSD | .896 | .227 | .103 | .257 | .368 | .457 | .237 | 1.09 | .323 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91355.** | **1287200.** | **336880.** |
| Stddev | 204. | 6915. | 2107. |
| %RSD | .22378 | .53723 | .62551 |

Sample Name: ccv2 Acquired: 04/04/2019 13:02:12 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **476.** | **472.** | **480.** | **466.** | **484.** | **50.6** | **50.1** | **458.** | **50.0** | **51.1** | **484.** |
| Stddev | .9 | 2. | 2. | 14. | 2. | 6. | .4 | .7 | 5. | .3 | .2 | . |
| %RSD | 1.93 | .449 | .419 | 3.02 | .360 | 1.28 | .703 | 1.34 | 1.19 | .522 | .367 | .055 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **473.** | **501.** | **496.** | **485.** | **467.** | **488.** | **467.** | **467.** | **488.** | **485.** | **492.** | **462.** |
| Stddev | 4. | 6. | 11. | 5. | 3. | 3. | 1. | 1. | 1. | 1. | 2. | 2. |
| %RSD | .833 | 1.11 | 2.11 | .942 | .699 | .560 | .182 | .217 | .286 | .140 | .409 | .465 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **468.** | **471.** | **477.** | **504.** | **470.** | **469.** | **506.** | **477.** |
| Stddev | 4. | 3. | 3. | 5. | 7. | 3. | 1. | 1. |
| %RSD | .786 | .649 | .550 | 1.07 | 1.45 | .638 | .135 | .219 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 13:02:12 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **92999.** | **1313100.** | **337270.** |
| Stddev | 146. | 4586. | 2995. |
| %RSD | .15646 | .34922 | .88787 |

Sample Name: ccb Acquired: 04/04/2019 13:08:01 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.323** | **-3.65** | **1.75** | **.091** | **.009** | **-28.2** | **.099** | **.125** | **.533** | **.482** | **1.44** | **3.88** |
| Stddev | .955 | .68 | 1.37 | .205 | .027 | 1.3 | .211 | .139 | .293 | .588 | 7.34 | 2.89 |
| %RSD | 295. | 18.7 | 78.0 | 226. | 318. | 4.67 | 213. | 111. | 55.0 | 122. | 510. | 74.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.69** | **.495** | **1.36** | **.741** | **1.17** | **3.29** | **2.51** | **1.67** | **-.286** | **-.313** |
| Stddev | .03 | .092 | .26 | .312 | 3.60 | 1.35 | 3.84 | .66 | .274 | .242 |
| %RSD | 1.28 | 18.7 | 19.1 | 42.2 | 309. | 41.2 | 153. | 39.6 | 95.7 | 77.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **92942.** | **1319700.** | **334610.** |
| Stddev | 112. | 3650. | 2889. |
| %RSD | .12053 | .27656 | .86331 |

Sample Name: 1dup254967 Acquired: 04/04/2019 13:14:19 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.82** | **323000.** | **793.** | **762.** | **2520.** | **11.1** | **27700.** | **.013** | **5.80** | **151.** | **417.** |
| Stddev | .65 | 5260. | 15. | 17. | 44. | .1 | 501. | .761 | .36 | 1. | 2. |
| %RSD | 16.9 | 1.63 | 1.94 | 2.29 | 1.74 | .617 | 1.81 | 6030. | 6.23 | .870 | .534 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **337.** | **350.** | **422000.** | **24400.** | **9620.** | **14.0** | **286.** | **634.** | **599.** | **-7.47** | **18.2** |
| Stddev | 6. | 3. | 7740. | 377. | 154. | .3 | 2. | 14. | 12. | 4.09 | 4.9 |
| %RSD | 1.89 | .956 | 1.84 | 1.55 | 1.60 | 2.42 | .622 | 2.16 | 2.06 | 54.8 | 27.1 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **41.1** | **790.** | **789.** | **1000.** | **941.** |
| Stddev | 2.9 | 20. | 3. | 21. | 14. |
| %RSD | 7.11 | 2.54 | .436 | 2.04 | 1.52 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89677.** | **1257700.** | **327240.** |
| Stddev | 379. | 3232. | 4343. |
| %RSD | .42208 | .25694 | 1.3271 |

Sample Name: 2dup255967 Acquired: 04/04/2019 13:20:44 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.00** | **306000.** | **775.** | **741.** | **2340.** | **11.3** | **30000.** | **-.352** | **4.97** | **143.** | **410.** |
| Stddev | .46 | 2810. | 8. | 6. | 14. | .2 | 527. | .708 | .13 | 1. | 3. |
| %RSD | 15.4 | .917 | .980 | .854 | .609 | 1.67 | 1.75 | 201. | 2.56 | .399 | .680 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **334.** | **345.** | **424000.** | **24400.** | **8630.** | **12.7** | **423.** | **407.** | **657.** | **583.** | **-11.4** |
| Stddev | 6. | 4. | 5560. | 270. | 146. | .3 | 1. | 2. | 26. | 3. | 1.9 |
| %RSD | 1.74 | 1.28 | 1.31 | 1.11 | 1.69 | 2.61 | .339 | .522 | 3.91 | .484 | 16.3 |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **11.7** | **38.9** | **783.** | **804.** | **927.** | **865.** |
| Stddev | 6.6 | 4.5 | 9. | 5. | 3. | 3. |
| %RSD | 56.7 | 11.7 | 1.12 | .578 | .287 | .309 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89515.** | **1253800.** | **330140.** |
| Stddev | 454. | 9260. | 2470. |
| %RSD | .50718 | .73852 | .74823 |

Sample Name: 255855 Acquired: 04/04/2019 13:27:10 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.302** | **123000.** | **114.** | **2690.** | **6.94** | **10100.** | **1.88** | **4.04** | **62.0** | **300.** | **889.** |
| Stddev | 1.02 | 1240. | 5. | 25. | .06 | 123. | .71 | .07 | .4 | 1. | 5. |
| %RSD | 338. | 1.00 | 4.08 | .923 | .828 | 1.22 | 37.8 | 1.70 | .647 | .426 | .507 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **901.** | **254000.** | **12000.** | **73500.** | **21.9** | **232.** | **3430.** | **135.** | **12.5** | **51.3** | **381.** |
| Stddev | 5. | 1650. | 78. | 687. | .4 | 2. | 8. | 2. | 3.5 | 2.7 | 9. |
| %RSD | .544 | .652 | .656 | .936 | 1.92 | .925 | .229 | 1.21 | 28.0 | 5.31 | 2.39 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **378.** | **1420.** |
| Stddev | 2. | 3. |
| %RSD | .450 | .198 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89908.** | **1267200.** | **329460.** |
| Stddev | 226. | 2848. | 4283. |
| %RSD | .25166 | .22475 | 1.3000 |

Sample Name: 255856 Acquired: 04/04/2019 13:33:35 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.80** | **129000.** | **360.** | **2070.** | **6.78** | **154000.** | **3.44** | **6.56** | **74.6** | **345.** | **868.** |
| Stddev | .80 | 1890. | 8. | 37. | .04 | 2610. | .44 | .34 | .5 | 2. | 10. |
| %RSD | 44.2 | 1.47 | 2.17 | 1.80 | .521 | 1.69 | 12.9 | 5.22 | .608 | .457 | 1.20 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **887.** | **228000.** | **51200.** | **101000.** | **24.2** | **264.** | **6600.** | **6.26** | **12.3** | **55.6** | **597.** |
| Stddev | 15. | 3820. | 716. | 1410. | .7 | 1. | 15. | 1.57 | 7.9 | 1.3 | 10. |
| %RSD | 1.70 | 1.67 | 1.40 | 1.39 | 2.82 | .462 | .225 | 25.0 | 64.1 | 2.25 | 1.68 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **596.** | **1540.** |
| Stddev | 2. | 3. |
| %RSD | .259 | .187 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86120.** | **1225800.** | **324340.** |
| Stddev | 356. | 3251. | 3647. |
| %RSD | .41384 | .26518 | 1.1245 |

Sample Name: 255857 Acquired: 04/04/2019 13:39:45 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.55** | **245000.** | **463.** | **421.** | **3540.** | **9.61** | **266000.** | **9.72** | **13.2** | **133.** | **547.** |
| Stddev | .60 | 1480. | 3. | 5. | 15. | .10 | 3850. | .35 | .3 | 1. | 5. |
| %RSD | 23.5 | .605 | .572 | 1.08 | .433 | 1.000 | 1.45 | 3.58 | 2.23 | .559 | .830 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1930.** | **312000.** | **101000.** | **201000.** | **47.2** | **266.** | **2130.** | **4.90** | **26.3** | **101.** | **985.** |
| Stddev | 12. | 3310. | 1100. | 3470. | 1.1 | 1. | 17. | 3.93 | 3.4 | 2. | 12. |
| %RSD | .637 | 1.06 | 1.09 | 1.73 | 2.28 | .464 | .815 | 80.1 | 12.8 | 1.95 | 1.16 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **994.** | **10600.** |
| Stddev | 2. | 25. |
| %RSD | .197 | .237 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84599.** | **1207500.** | **325510.** |
| Stddev | 104. | 2811. | 2536. |
| %RSD | .12337 | .23278 | .77901 |

Sample Name: 255858 Acquired: 04/04/2019 13:45:56 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.152** | **174000.** | **273.** | **1850.** | **7.15** | **141000.** | **2.78** | **5.82** | **81.5** | **408.** | **5780.** |
| Stddev | .831 | 1570. | 9. | 18. | .02 | 2140. | .31 | .22 | .2 | 4. | 41. |
| %RSD | 546. | .901 | 3.27 | .975 | .277 | 1.52 | 11.2 | 3.76 | .262 | .877 | .710 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **267000.** | **51300.** | **70500.** | **22.5** | **244.** | **1120.** | **946.** | **3.84** | **15.0** | **48.0** | **716.** |
| Stddev | 3020. | 495. | 668. | .4 | 1. | 13. | 3. | 1.38 | 7.5 | 2.6 | 12. |
| %RSD | 1.13 | .964 | .947 | 1.97 | .468 | 1.11 | .333 | 36.0 | 49.8 | 5.47 | 1.63 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **726.** | **3640.** |
| Stddev | 2. | 7. |
| %RSD | .286 | .190 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86579.** | **1231000.** | **328550.** |
| Stddev | 178. | 2942. | 2542. |
| %RSD | .20514 | .23898 | .77384 |

Sample Name: 255859 Acquired: 04/04/2019 13:52:08 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.10** | **202000.** | **2520.** | **2490.** | **1800.** | **6.75** | **57800.** | **9.53** | **20.9** | **121.** | **566.** |
| Stddev | .73 | 3670. | 14. | 21. | 39. | .06 | 780. | .56 | .1 | 1. | 4. |
| %RSD | 34.7 | 1.82 | .559 | .838 | 2.17 | .913 | 1.35 | 5.93 | .684 | .567 | .758 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1570.** | **711000.** | **26300.** | **16500.** | **41.7** | **353.** | **2930.** | **-5.75** | **11.4** | **64.4** | **948.** |
| Stddev | 20. | 8860. | 341. | 217. | 1.1 | 1. | 20. | 1.85 | 5.8 | 4.6 | 20. |
| %RSD | 1.25 | 1.25 | 1.30 | 1.31 | 2.52 | .197 | .687 | 32.2 | 51.1 | 7.14 | 2.09 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **976.** | **2590.** |
| Stddev | 4. | 5. |
| %RSD | .394 | .187 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86203.** | **1234300.** | **328560.** |
| Stddev | 205. | 2903. | 4628. |
| %RSD | .23744 | .23523 | 1.4086 |

Sample Name: 255860 Acquired: 04/04/2019 13:58:40 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.357** | **170000.** | **2140.** | **2150.** | **1240.** | **6.42** | **105000.** | **1.12** | **11.9** | **88.8** | **444.** |
| Stddev | .957 | 752. | 6. | 13. | 11. | .07 | 537. | .34 | .3 | .3 | 3. |
| %RSD | 268. | .441 | .264 | .612 | .885 | 1.14 | .510 | 30.8 | 2.49 | .288 | .615 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **926.** | **949.** | **519000.** | **30300.** | **6840.** | **20.6** | **239.** | **1250.** | **747.** | **-9.71** | **8.40** |
| Stddev | 9. | 10. | 876. | 152. | 40. | 1.0 | 2. | 12. | 4. | 3.20 | 4.87 |
| %RSD | 1.00 | 1.05 | .169 | .502 | .584 | 4.88 | .683 | .986 | .528 | 32.9 | 57.9 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.9** | **693.** | **718.** | **1010.** | **947.** |
| Stddev | 2.3 | 5. | 2. | 1. | 2. |
| %RSD | 4.73 | .762 | .291 | .121 | .210 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86132.** | **1231100.** | **327620.** |
| Stddev | 296. | 5372. | 3354. |
| %RSD | .34327 | .43631 | 1.0236 |

Sample Name: 255861 Acquired: 04/04/2019 14:05:00 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.78** | **247000.** | **936.** | **818.** | **3240.** | **8.82** | **144000.** | **18.6** | **23.7** | **141.** | **792.** |
| Stddev | .94 | 2090. | 8. | 15. | 18. | .10 | 2870. | 1.0 | .3 | . | 2. |
| %RSD | 9.63 | .847 | .854 | 1.82 | .567 | 1.12 | 1.99 | 5.11 | 1.15 | .339 | .245 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1510.** | **554000.** | **40400.** | **75200.** | **34.7** | **371.** | **5350.** | **16.5** | **15.8** | **72.9** | **995.** |
| Stddev | 10. | 8590. | 395. | 1110. | .9 | 1. | 18. | 3.0 | 9.6 | 1.1 | 10. |
| %RSD | .635 | 1.55 | .979 | 1.48 | 2.46 | .285 | .341 | 18.3 | 60.7 | 1.54 | .958 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **6020.** |
| Stddev | 4. |
| %RSD | .069 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85052.** | **1218800.** | **328000.** |
| Stddev | 54. | 4499. | 2059. |
| %RSD | .06356 | .36911 | .62785 |

Sample Name: 255880 Acquired: 04/04/2019 14:11:20 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **17.0** | **326000.** | **925.** | **764.** | **3290.** | **10.7** | **124000.** | **24.3** | **29.3** | **160.** | **1200.** |
| Stddev | .6 | 4930. | 5. | 12. | 42. | .1 | 2350. | 1.5 | .4 | 1. | 11. |
| %RSD | 3.69 | 1.51 | .577 | 1.59 | 1.27 | .942 | 1.90 | 6.08 | 1.35 | .862 | .933 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2290.** | **669000.** | **45900.** | **64400.** | **35.0** | **484.** | **466.** | **7320.** | **38.2** | **15.8** | **77.3** |
| Stddev | 18. | 10600. | 735. | 1210. | .6 | 5. | 3. | 70. | 3.1 | 6.0 | 1.5 |
| %RSD | .796 | 1.58 | 1.60 | 1.88 | 1.59 | .951 | .598 | .961 | 8.21 | 38.1 | 1.97 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1100.** | **7640.** |
| Stddev | 23. | 82. |
| %RSD | 2.10 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84805.** | **1214600.** | **328660.** |
| Stddev | 457. | 1892. | 2017. |
| %RSD | .53900 | .15574 | .61355 |

Sample Name: ccv1 Acquired: 04/04/2019 14:17:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **473.** | **4940.** | **4880.** | **4700.** | **476.** | **4970.** | **501.** | **4850.** | **5170.** | **4860.** | **5230.** | **5010.** |
| Stddev | . | 60. | 12. | 30. | 3. | 63. | 1. | 5. | 7. | 25. | 178. | 220. |
| %RSD | .017 | 1.22 | .239 | .645 | .552 | 1.27 | .199 | .106 | .127 | .514 | 3.39 | 4.38 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5050.** | **4780.** | **4880.** | **4850.** | **4910.** | **4850.** | **4820.** | **4770.** | **5110.** |
| Stddev | 40. | 4. | 3. | 12. | 4. | 17. | 13. | 17. | 11. |
| %RSD | .787 | .084 | .064 | .250 | .082 | .347 | .264 | .364 | .205 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88269.** | **1265700.** | **342910.** |
| Stddev | 256. | 2264. | 3091. |
| %RSD | .28971 | .17885 | .90140 |

Sample Name: ccv2 Acquired: 04/04/2019 14:23:13 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.2** | **496.** | **474.** | **483.** | **473.** | **473.** | **50.7** | **50.3** | **471.** | **50.4** | **53.2** | **485.** |
| Stddev | .6 | 1. | 6. | 4. | 2. | 6. | .2 | 1.1 | 4. | .2 | .3 | 1. |
| %RSD | 1.11 | .176 | 1.32 | .906 | .339 | 1.33 | .341 | 2.11 | .887 | .374 | .487 | .290 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **486.** | **502.** | **490.** | **475.** | **496.** | **471.** | **471.** | **492.** | **491.** | **494.** | **471.** |
| Stddev | 3. | 1. | 8. | 7. | 2. | 2. | 1. | 2. | . | 1. | 5. | 5. |
| %RSD | .519 | .185 | 1.57 | 1.52 | .385 | .399 | .243 | .318 | .074 | .234 | 1.08 | 1.07 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **488.** | **486.** | **493.** | **506.** | **470.** | **478.** | **511.** | **477.** |
| Stddev | 6. | 3. | 5. | 4. | 4. | 2. | 1. | 1. |
| %RSD | 1.14 | .690 | .913 | .709 | .822 | .321 | .200 | .130 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 14:23:13 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **90092.** | **1290700.** | **341790.** |
| Stddev | 290. | 6016. | 3064. |
| %RSD | .32220 | .46607 | .89643 |

Sample Name: ccb Acquired: 04/04/2019 14:29:00 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.096** | **-2.98** | **4.56** | **.180** | **.103** | **-27.6** | **.068** | **.174** | **.692** | **.733** | **5.43** | **4.47** |
| Stddev | .455 | .23 | 1.30 | .236 | .026 | 1.6 | .233 | .125 | .438 | .321 | 2.56 | 2.38 |
| %RSD | 474. | 7.78 | 28.5 | 131. | 24.9 | 5.91 | 341. | 71.8 | 63.3 | 43.8 | 47.2 | 53.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.55** | **.709** | **1.36** | **.555** | **3.99** | **2.87** | **.568** | **1.52** | **.326** | **-.073** |
| Stddev | .05 | .114 | .64 | .458 | 1.08 | 2.61 | 2.78 | 1.59 | .307 | .069 |
| %RSD | 1.87 | 16.1 | 47.4 | 82.5 | 27.1 | 90.9 | 489. | 104. | 94.4 | 94.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

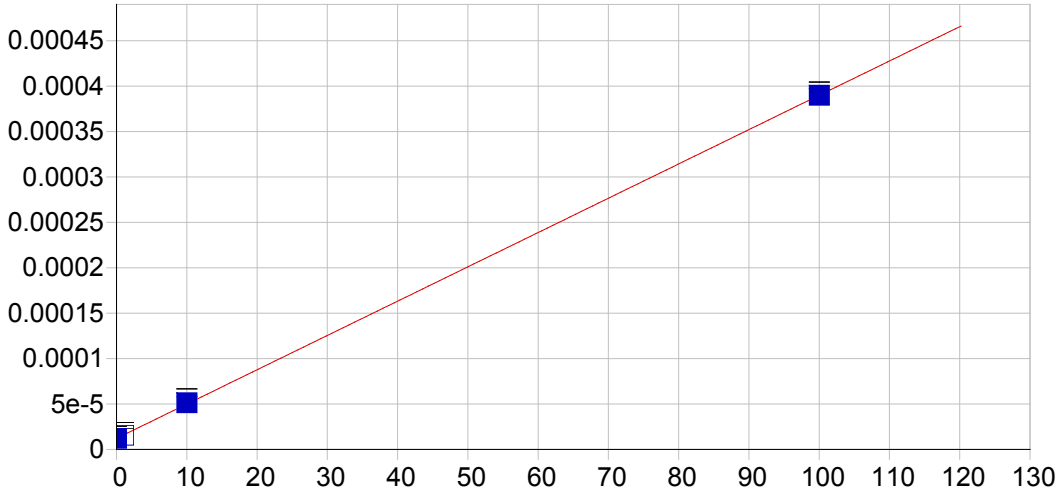
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89569.** | **1292800.** | **343210.** |
| Stddev | 84. | 5040. | 3867. |
| %RSD | .09363 | .38982 | 1.1267 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/16/2019 11:23:49 | 04/05/2019 08:06:21 | Linear | 1/Var | 0.000012 | 0.000004 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 0.811773 | 2.705910 |
| Ag 338.289 {100} | 04/16/2019 11:23:49 | 04/05/2019 08:11:57 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.985238 | 0.000002 | 12.717446 | 42.391488 |
| Al 167.079 {501} | 04/16/2019 11:23:49 | 04/05/2019 08:11:57 | Linear | None | 0.000023 | 0.000003 | 0.000000 | 1.000000 | 0.999965 | 0.000014 | 1.055814 | 3.519380 |
| Al 308.215 {109} | 04/16/2019 11:23:49 | 04/05/2019 08:31:19 | Linear | 1/Var | 0.000072 | 0.000000 | 0.000000 | 1.000000 | 0.999869 | 0.000010 | 27.112725 | 90.375749 |
| Al 396.152 { 85} | 04/16/2019 11:23:49 | 04/05/2019 08:45:29 | Curvili | 1/Conc | -0.000026 | 0.000001 | 0.000000 | 1.000000 | 0.999997 | 0.000007 | 12.315633 | 41.052111 |
| As 193.759 {474} | 04/16/2019 11:23:49 | 04/05/2019 08:11:58 | Linear | 1/Conc | 0.073470 | 0.134605 | 0.000000 | 1.000000 | 0.999883 | 0.009020 | 3.616879 | 12.056262 |
| As 197.262 {471} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 6.689114 | 22.297048 |
| Ba 233.527 {445} | 04/16/2019 11:23:49 | 04/05/2019 08:11:58 | Linear | 1/Var | -0.353818 | 0.974220 | 0.000000 | 1.000000 | 0.999950 | 0.485342 | 0.461326 | 1.537753 |
| Ba 455.403 { 74} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 20.657103 | 19.075068 | 0.000000 | 1.000000 | 0.999917 | 0.932332 | 0.309469 | 1.031564 |
| Ba 493.409 { 68} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 2891.7049 | 23.227594 | 0.000000 | 1.000000 | 0.999966 | 8.997209 | 0.736012 | 2.453373 |
| Be 313.042 {108} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Conc | -0.000354 | 0.000102 | 0.000000 | 1.000000 | 0.999973 | 0.000001 | 0.047275 | 0.157583 |
| Be 234.861 {144} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Var | -0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 1.221748 | 4.072495 |
| Ca 315.887 {107} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Full Fit | 1/Conc | 13.508949 | 0.122957 | -0.000000 | 1.000000 | 0.999999 | 0.326345 | 11.030951 | 36.769838 |
| Ca 317.933 {106} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.003301 | 0.000001 | 0.000000 | 1.000000 | 0.999945 | 0.000014 | 6.389566 | 21.298554 |
| Ca 393.366 { 86} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Var | 1840.7327 | 129.96446 | 0.000000 | 1.000000 | 0.998095 | 1517.8170 | 0.039864 | 0.132878 |
| Ca 396.847 { 85} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 0.000342 | 0.000067 | 0.000000 | 1.000000 | 0.999713 | 0.000075 | 0.194718 | 0.649059 |
| Cd 226.502 {449} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Conc | -0.000002 | 0.000035 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.201373 | 0.671242 |
| Cd 228.802 {447} | 04/16/2019 11:23:49 | 04/05/2019 08:12:00 | Linear | 1/Conc | 0.000035 | 0.000064 | 0.000000 | 1.000000 | 0.999973 | 0.000000 | 0.168711 | 0.562370 |
| Co 228.616 {447} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Conc | 0.000002 | 0.000020 | 0.000000 | 1.000000 | 0.999927 | 0.000001 | 0.395103 | 1.317010 |
| Co 238.892 {141} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Var | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999845 | 0.000017 | 0.774921 | 2.583069 |
| Cr 205.560 {464} | 04/16/2019 11:23:49 | 04/05/2019 08:24:55 | Linear | 1/Var | 0.000116 | 0.000017 | 0.000000 | 1.000000 | 0.996275 | 0.000543 | 0.320402 | 1.068006 |
| Cr 267.716 {126} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Conc | 0.000000 | 0.000004 | 0.000000 | 1.000000 | 0.999984 | 0.000000 | 0.779459 | 2.598198 |
| Cu 224.700 {450} | 04/16/2019 11:23:49 | 04/05/2019 08:24:55 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999803 | 0.000009 | 0.407926 | 1.359752 |
| Cu 324.754 {104} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 148.59013 | 0.943999 | 0.000000 | 1.000000 | 0.999922 | 0.452769 | 2.842345 | 9.474483 |
| Cu 327.396 {103} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 9.891198 | 0.501962 | 0.000000 | 1.000000 | 0.999946 | 0.139808 | 6.972418 | 23.241395 |
| Fe 234.349 {144} | 04/16/2019 11:23:49 | 04/05/2019 08:31:20 | Curvili | 1/Var | 0.000044 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1.930143 | 6.433810 |
| Fe 239.562 {140} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.996888 | 0.000081 | 10.726217 | 35.754058 |
| Fe 259.940 {129} | 04/16/2019 11:23:49 | 04/05/2019 08:38:12 | Full Fit | 1/Conc | 15.029995 | 0.551164 | -0.000000 | 0.980000 | 0.999997 | 1.675157 | 2.808579 | 9.361928 |
| Mg 202.582 {466} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Var | 0.000027 | 0.000002 | 0.000000 | 1.000000 | 0.999007 | 0.000224 | 2.381545 | 7.938482 |
| Mg 279.079 {121} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Full Fit | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.040000 | 0.999980 | 0.000001 | 93.938827 | 313.12942 |
| Mg 280.270 {120} | 04/16/2019 11:23:49 | 04/05/2019 08:18:34 | Linear | 1/Var | 579.31173 | 49.678342 | 0.000000 | 1.000000 | 0.999159 | 234.36294 | 0.030900 | 0.102999 |
| Mn 257.610 {131} | 04/16/2019 11:23:49 | 04/05/2019 08:18:34 | Linear | 1/Conc | -0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999800 | 0.000003 | 0.097980 | 0.326601 |
| Mn 259.373 {130} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 1.910672 | 1.406640 | 0.000000 | 1.000000 | 0.999790 | 13.592011 | 1.043152 | 3.477174 |
| Mo 202.030 {466} | 04/16/2019 11:23:49 | 04/05/2019 08:12:02 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.391709 | 1.305695 |
| Mo 203.844 {465} | 04/16/2019 11:23:49 | 04/05/2019 08:12:02 | Linear | 1/Var | 0.000009 | 0.000008 | 0.000000 | 1.000000 | 0.999983 | 0.000003 | 0.746097 | 2.486991 |
| Mo 204.598 {464} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Var | 0.320630 | 0.824476 | 0.000000 | 1.000000 | 0.999753 | 5.202856 | 0.702655 | 2.342183 |
| Ni 221.647 {452} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.188014 | 1.960989 | 0.000000 | 1.000000 | 0.999792 | 1.883097 | 0.478095 | 1.593652 |
| Ni 231.604 {445} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.000021 | 0.000018 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 0.504511 | 1.681705 |
| Pb 216.999 {455} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Var | 0.000015 | 0.000002 | 0.000000 | 1.000000 | 0.999843 | 0.000040 | 4.065918 | 13.553059 |
| Pb 220.353 {453} | 04/16/2019 11:23:49 | 04/05/2019 08:12:03 | Linear | 1/Conc | 1.115789 | 0.399994 | 0.000000 | 1.000000 | 0.999053 | 0.053098 | 2.370772 | 7.902574 |
| Pb 220.353 {153} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999939 | 0.000000 | 7.123424 | 23.744745 |
| Sb 206.833 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999969 | 0.000000 | 2.779281 | 9.264269 |
| Sb 217.581 {455} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | 0.712715 | 0.198078 | 0.000000 | 1.000000 | 0.999882 | 0.026863 | 2.990604 | 9.968681 |
| Se 196.090 {472} | 04/16/2019 11:23:49 | 04/05/2019 08:12:03 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999025 | 0.000000 | 5.886045 | 19.620148 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Curvili | 1/Conc | -0.000001 | 0.000000 | -0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.036920 | 73.456402 |
| Tl 190.856 {476} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999667 | 0.000001 | 2.023818 | 6.746060 |
| Tl 190.856 {477} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | -0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999569 | 0.000000 | 4.888356 | 16.294520 |
| V 290.882 {116} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 5.385278 | 17.950927 |
| V 292.402 {115} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 4.505315 | 9.634950 | 0.000000 | 1.000000 | 0.999906 | 1.656834 | 0.524983 | 1.749942 |
| Zn 206.200 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Var | 0.000056 | 0.000019 | 0.000000 | 1.000000 | 0.998114 | 0.000252 | 0.409027 | 1.363425 |
| Zn 213.856 {457} | 04/16/2019 11:23:49 | 04/05/2019 08:12:04 | Linear | 1/Var | 6.970675 | 4.401027 | 0.000000 | 1.000000 | 0.999994 | 0.981134 | 0.142347 | 0.474492 |
| Y 224.306 {450}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:36 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 0.004977 | 0.000006 | 0.000000 | 1.000000 | 0.999998 | 0.000002 | 7.936203 | 26.454008 |
| Na 589.592 { 57} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.000023 | 0.000004 | 0.000000 | 1.000000 | 1.000000 | 0.000005 | 7.911739 | 26.372462 |
| Si 251.611 {134} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.666779 | 0.068766 | 0.000000 | 1.000000 | 0.998096 | 2.011598 | 20.011215 | 66.704049 |
| Ti 323.452 {104} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | 0.000277 | 0.000009 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 1.216005 | 4.053351 |
| Ti 334.941 {101} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | -0.000000 | 0.000005 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 1.602554 | 5.341845 |
| Sr 407.771 { 83} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | 0.000044 | 0.000119 | 0.000000 | 1.000000 | 0.999934 | 0.000005 | 0.142843 | 0.476144 |
| Sr 421.552 { 80} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | -0.000003 | 0.000079 | 0.000000 | 1.000000 | 0.999970 | 0.000002 | 0.216521 | 0.721737 |
| Sn 189.989 {477} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | 0.000015 | 0.000004 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 1.559447 | 5.198156 |
| B 249.678 {135} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999968 | 0.000000 | 2.012222 | 6.707406 |
| B 249.773 {135} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Var | 0.000005 | 0.000004 | 0.000000 | 1.000000 | 0.999981 | 0.000004 | 0.702004 | 2.340014 |
| Li 670.784 { 50} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Var | -0.000033 | 0.000041 | 0.000000 | 1.000000 | 0.999976 | 0.000026 | 0.955321 | 3.184404 |
| K 766.490 { 44} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.000028 | 0.000002 | 0.000000 | 1.000000 | 0.999999 | 0.000003 | 26.624067 | 88.746890 |
| P 213.618 {457} | 04/16/2019 11:23:49 | 04/05/2019 08:18:39 | Linear | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.405910 | 14.686365 |
| S 182.034 {485} | 04/16/2019 11:23:49 | 04/05/2019 08:45:31 | Curvili | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 5.874381 | 19.581270 |
| Hg 184.950 {482} | 04/16/2019 11:23:49 | 04/05/2019 08:12:06 | Linear | 1/Conc | 0.000010 | 0.000005 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 0.988337 | 3.294457 |
| Ce 404.076 { 83} | 04/16/2019 11:23:49 | 04/05/2019 08:12:06 | Linear | 1/Conc | 0.000040 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 19.309682 | 64.365606 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

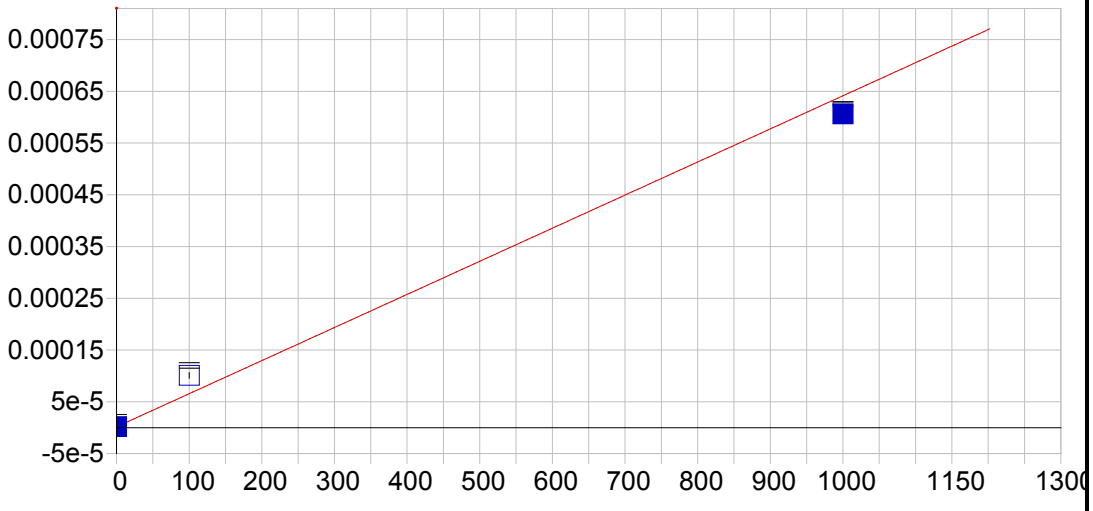



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.811773 | | |
| Predicted MQL: | 2.705910 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01809 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.361 | .361 | 3.61 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.975 | -.025 | -.025 | .00039 | .000 | 1 |
| CalStd3=1 | 1.0000 | .87048 | -.130 | -13.0 | .00002 | .000 | 1 |

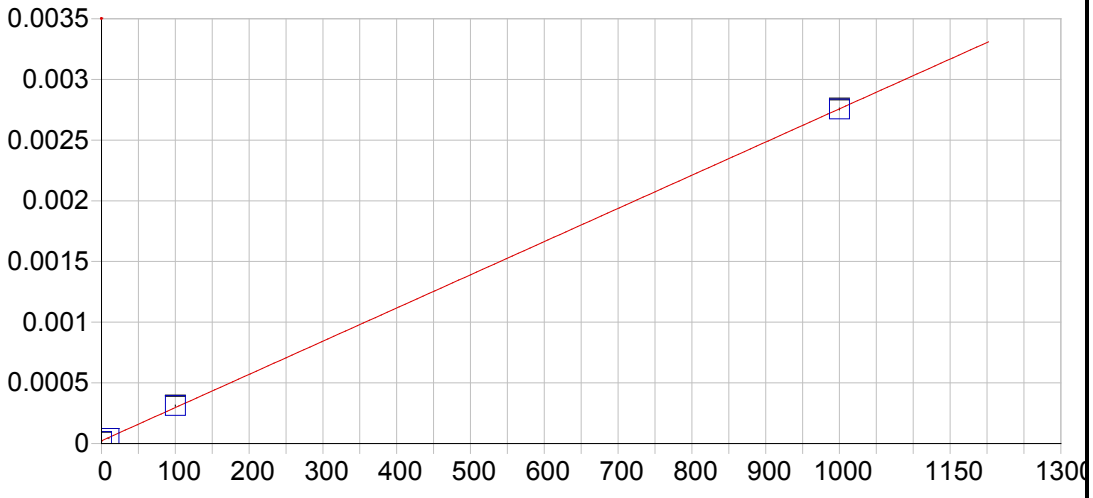



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.985238 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 12.717446 | | |
| Predicted MQL: | 42.391488 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04943 | -.049 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 154.92 | 54.9 | 54.9 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 945.08 | -54.9 | -5.49 | .00061 | .000 | 1 |

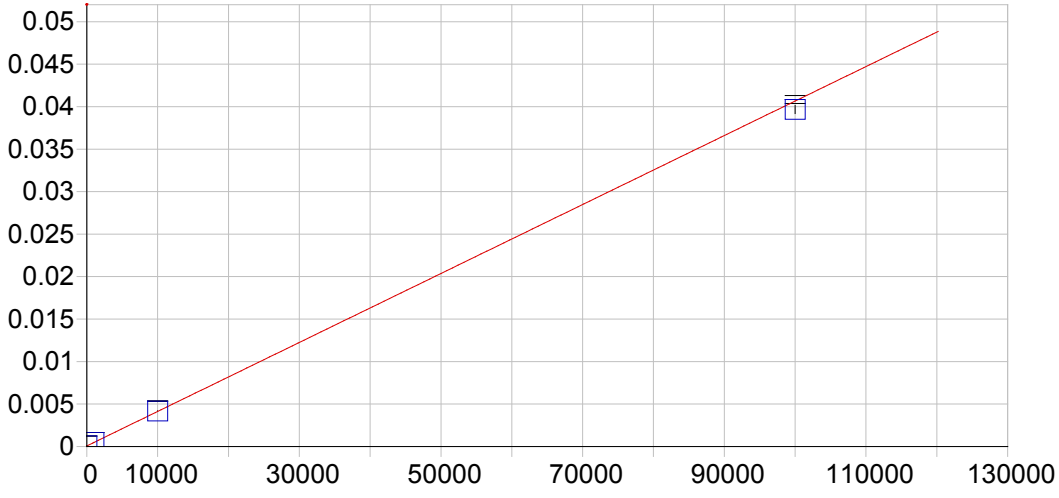



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999965 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 1.055814 | | |
| Predicted MQL: | 3.519380 | | |

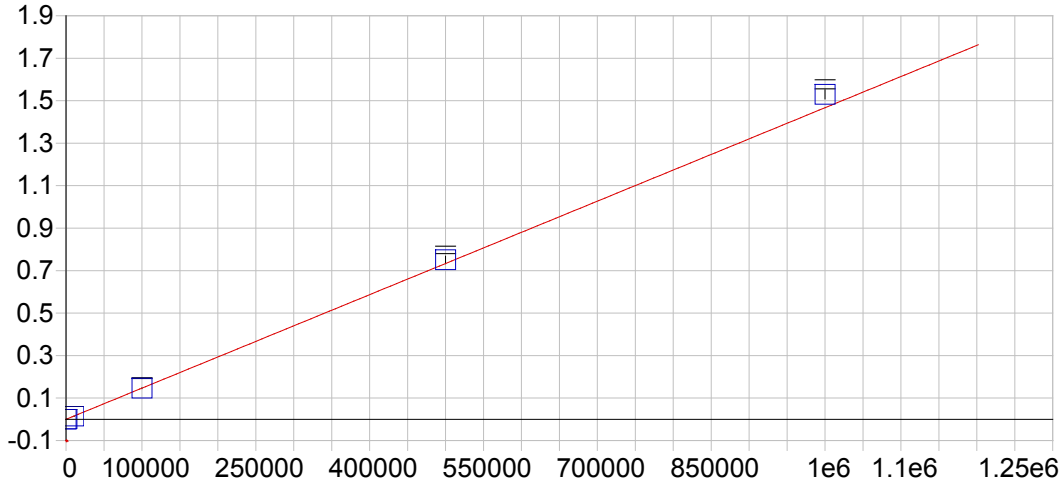
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5643 | -2.56 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.44 | -.559 | -.056 | .00276 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.2572 | -2.74 | -27.4 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.87 | 5.87 | 5.87 | .00031 | .000 | 1 |




**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000072 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999869 | | Status: | OK. | |
| Std Error of Est: | 0.000010 | | | | |
| Predicted MDL: | 27.112725 | | | | |
| Predicted MQL: | 90.375749 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -8.3885 | -8.39 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 10075. | 74.8 | .748 | .00416 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.6 | 7.64 | .764 | .00048 | .000 | 1 |
| CalStd13=10 | 100000. | 97533. | -2470. | -2.47 | .03966 | .000 | 1 |

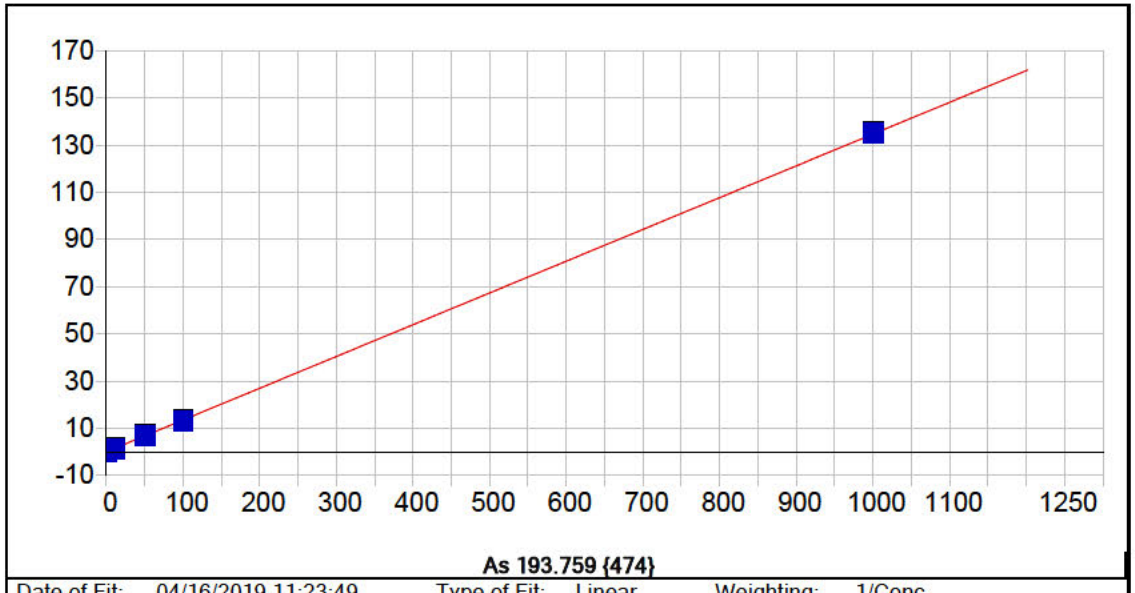



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 12.315633 | | |
| Predicted MQL: | 41.052111 | | |

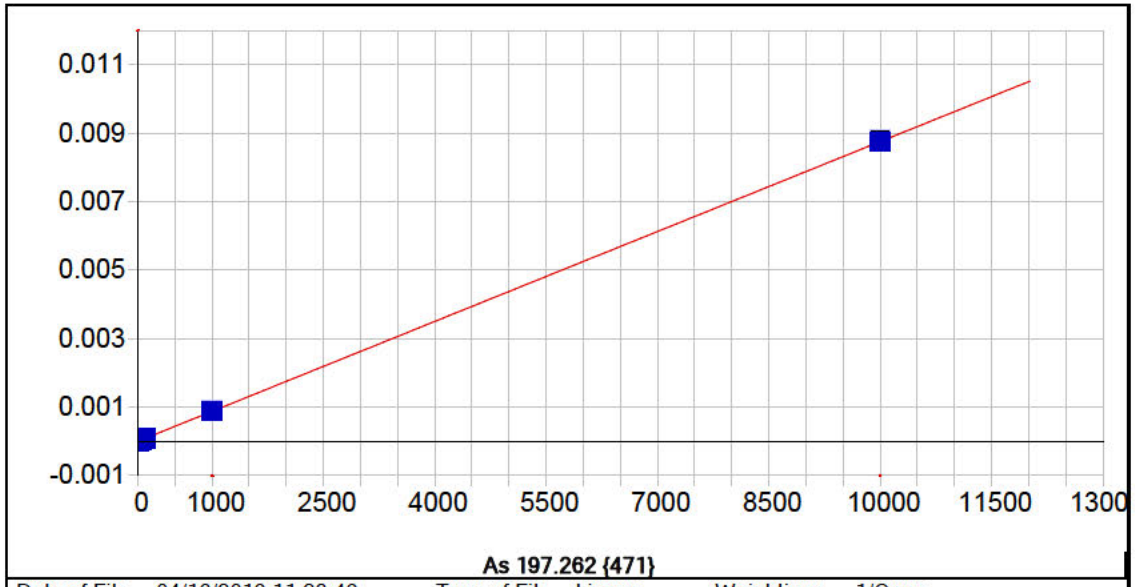
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05514 | -.055 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 511610. | 11600. | 2.32 | .75050 | .018 | 1 |
| CalStd13=10 | 100000. | 99738. | -262. | -.262 | .14629 | .002 | 1 |
| CalStd10=10 | 10000. | 10161. | 161. | 1.61 | .01488 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1045.1 | 45.1 | 4.51 | .00151 | .000 | 1 |
| CalibStd15= | 1000000. | 1042700. | 42700. | 4.27 | 1.5296 | .022 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.073470 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.134605 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999883 | Status: | OK. |
| Std Error of Est: | 0.009020 | | |
| Predicted MDL: | 3.616879 | | |
| Predicted MQL: | 12.056262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00092 | .001 | .000 | .07359 | .387 | 1 |
| CalStd9=100 | 1000.0 | 1002.5 | 2.52 | .252 | 134.87 | .668 | 1 |
| CalStd7=50 | 50.000 | 51.743 | 1.74 | 3.49 | 7.0386 | .153 | 1 |
| CalStd5=10 | 10.000 | 9.0316 | -.968 | -9.68 | 1.2887 | .402 | 1 |
| CalStd8=100 | 100.00 | 96.701 | -3.30 | -3.30 | 13.075 | .529 | 1 |

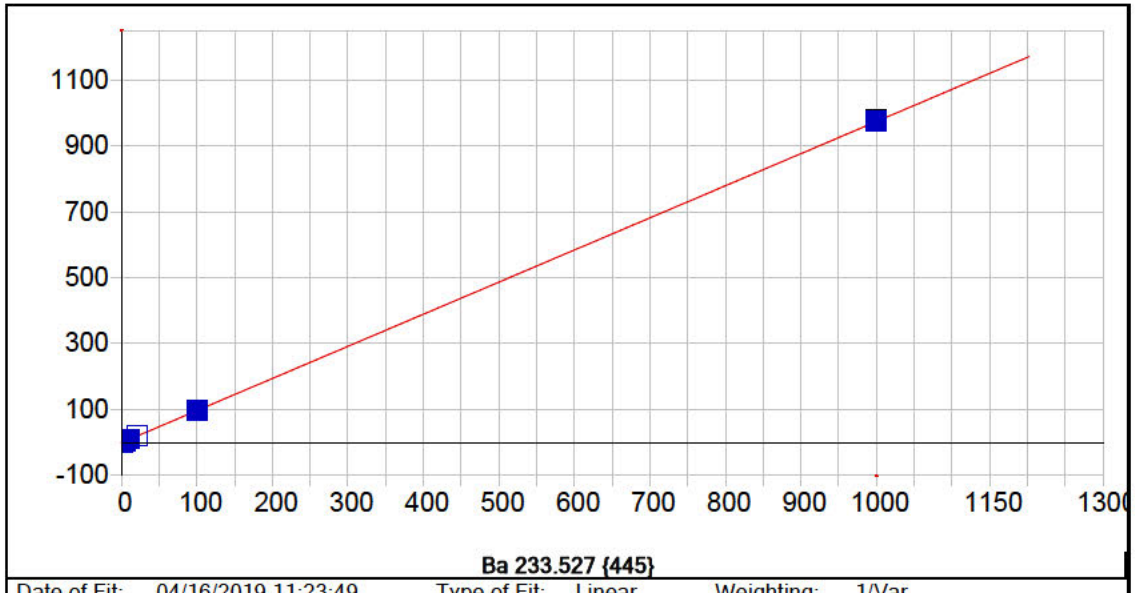



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.689114 | | |
| Predicted MQL: | 22.297048 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.8 | 8.77 | .877 | .00089 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.705 | -1.30 | -2.59 | .00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.067 | 2.07 | 20.7 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.69 | .692 | .692 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.8 | -10.2 | -.102 | .00880 | .000 | 1 |

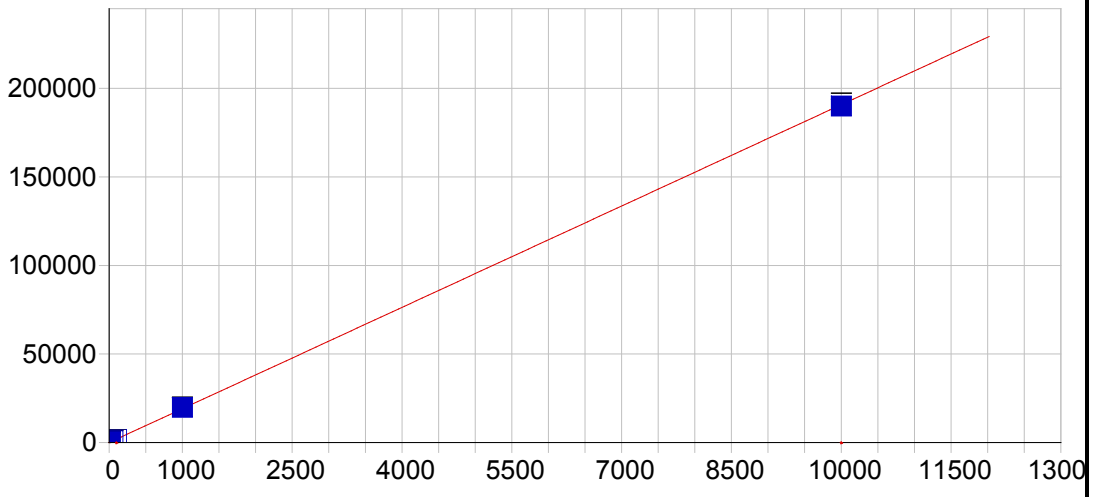



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.353818 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.974220 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999950 | Status: | OK. |
| Std Error of Est: | 0.485342 | | |
| Predicted MDL: | 0.461326 | | |
| Predicted MQL: | 1.537753 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.34750 | -.347 | .000 | -.69236 | .293 | 1 |
| CalStd5=10 | 10.000 | 10.904 | .904 | 9.04 | 10.270 | .354 | 1 |
| CalStd6=20 | 20.000 | 20.053 | .053 | .264 | 19.182 | .293 | 1 |
| CalStd8=100 | 100.00 | 99.607 | -.393 | -.393 | 96.697 | .563 | 1 |
| CalStd4=5 | 5.0000 | 4.7813 | -.219 | -4.37 | 4.3048 | .203 | 1 |
| CalStd9=100 | 1000.0 | 1000.7 | .743 | .074 | 974.67 | 3.43 | 1 |
| CalStd3=1 | 1.0000 | 1.5873 | .587 | 58.7 | 1.1926 | .465 | 1 |

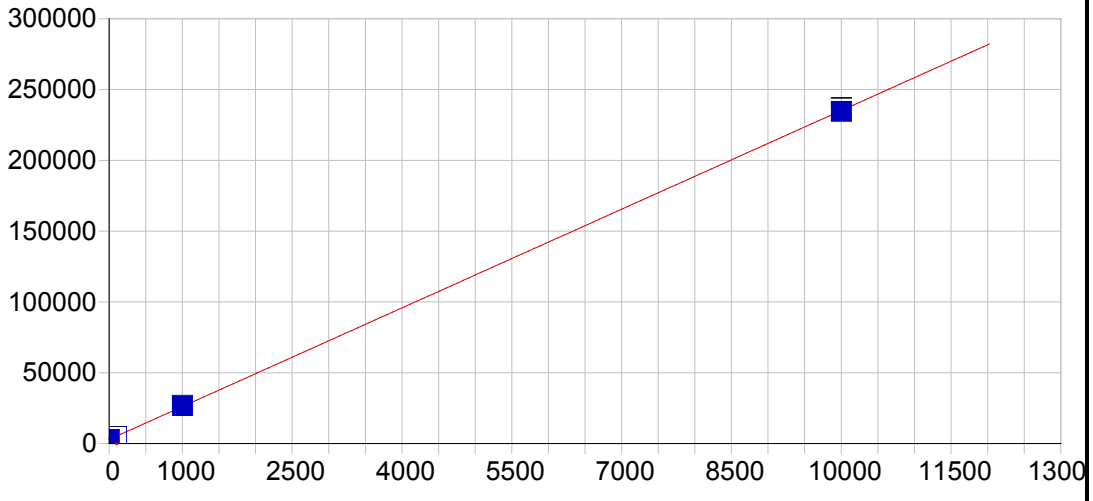



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 20.657103 | Re-Slope: | 1.000000 |
| A1 (Gain): | 19.075068 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999917 | Status: | OK. |
| Std Error of Est: | 0.932332 | | |
| Predicted MDL: | 0.309469 | | |
| Predicted MQL: | 1.031564 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | 20.648 | 3.14 | 1 |
| CalStd7=50 | 50.000 | 52.185 | 2.19 | 4.37 | 1016.1 | 11.9 | 1 |
| CalStd5=10 | 10.000 | 11.025 | 1.02 | 10.2 | 230.96 | 1.81 | 1 |
| CalStd6=20 | 20.000 | 20.753 | .753 | 3.77 | 416.53 | 4.42 | 1 |
| CalStd8=100 | 100.00 | 102.07 | 2.07 | 2.07 | 1967.6 | 21.4 | 1 |
| CalStd4=5 | 5.0000 | 5.2009 | .201 | 4.02 | 119.87 | 5.31 | 1 |
| CalStd9=100 | 1000.0 | 1036.7 | 36.7 | 3.67 | 19796. | 168. | 1 |
| CalStd3=1 | 1.0000 | 1.2184 | .218 | 21.8 | 43.899 | .366 | 1 |
| CalStd10=10 | 10000. | 9956.9 | -43.1 | -.431 | 189950. | 1730. | 1 |

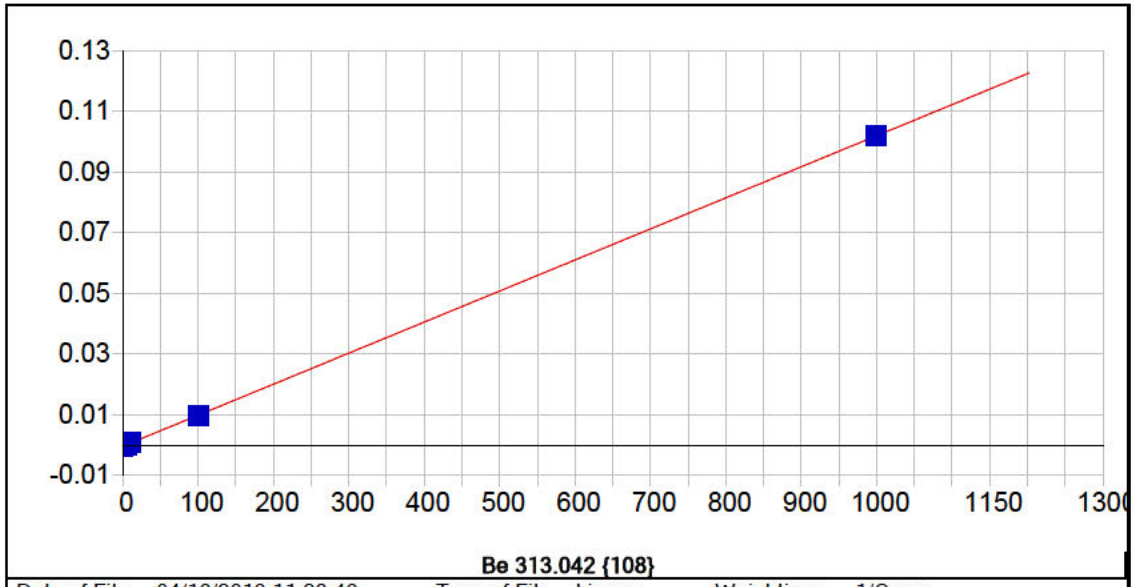



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 2891.704970 | Re-Slope: | 1.000000 |
| A1 (Gain): | 23.227594 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 8.997209 | | |
| Predicted MDL: | 0.736012 | | |
| Predicted MQL: | 2.453373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00362 | -.004 | .000 | 2891.6 | 5.85 | 1 |
| CalStd9=100 | 1000.0 | 1025.7 | 25.7 | 2.57 | 26719. | 230. | 1 |
| CalStd8=100 | 100.00 | 101.32 | 1.32 | 1.32 | 5245.1 | 28.4 | 1 |
| CalStd10=10 | 10000. | 9973.0 | -27.0 | -.270 | 234560. | 2390. | 1 |

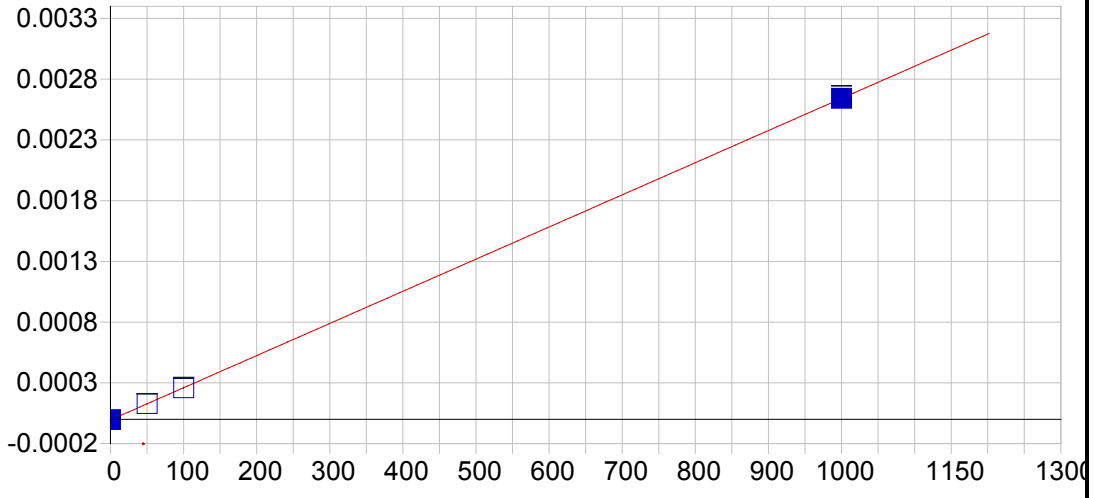



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000354 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000102 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.047275 | | |
| Predicted MQL: | 0.157583 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00001 | -.000 | .000 | -.00035 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.707 | .707 | 7.07 | .00074 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.411 | -.589 | -.589 | .00982 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47610 | -.024 | -4.78 | -.00031 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1591 | .159 | 3.18 | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.77 | -.233 | -.023 | .10197 | .000 | 1 |
| CalStd3=1 | 1.0000 | .97924 | -.021 | -2.08 | -.00025 | .000 | 1 |

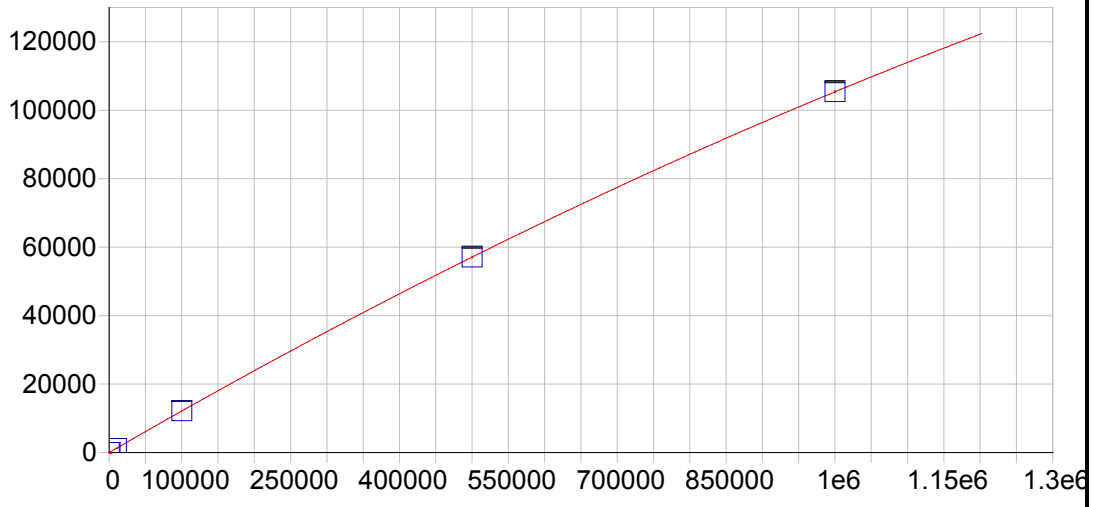



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.221748 | | |
| Predicted MQL: | 4.072495 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23499 | -.235 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.77 | -.228 | -.023 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.288 | .288 | .575 | .00013 | .000 | 1 |

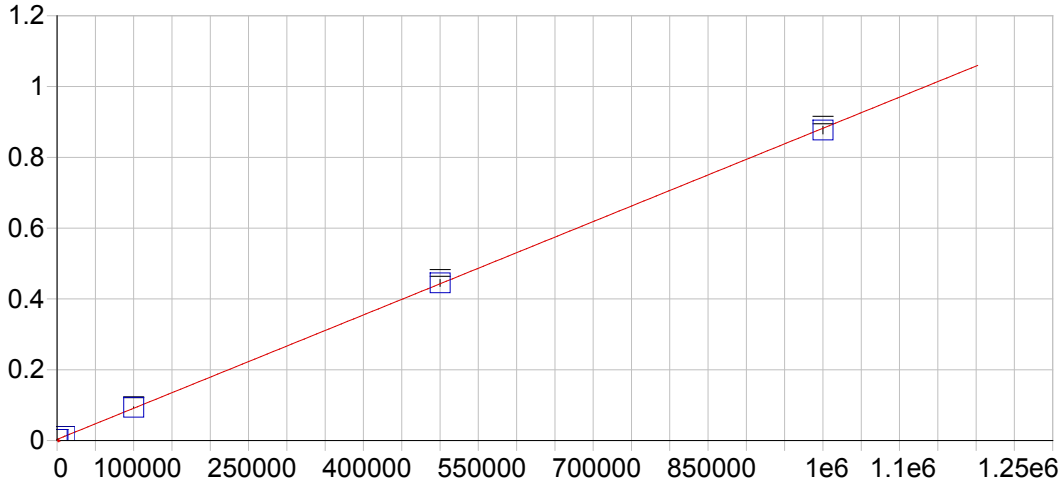



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 13.508949 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.122957 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.326345 | | |
| Predicted MDL: | 11.030951 | | |
| Predicted MQL: | 36.769838 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 13.505 | .897 | 1 |
| CalStd10=10 | 10000. | 10137. | 137. | 1.37 | 1258.1 | 5.56 | 1 |
| CalStd13=10 | 100000. | 99980. | -19.5 | -.020 | 12131. | 72.4 | 1 |
| CalStd14=50 | 500000. | 499680. | -317. | -.063 | 57059. | 269. | 1 |
| CalStd9=100 | 1000.0 | 1018.0 | 18.0 | 1.80 | 138.66 | 2.63 | 1 |
| CalibStd15= | 1000000. | 1000200. | 191. | .019 | 105390. | 304. | 1 |

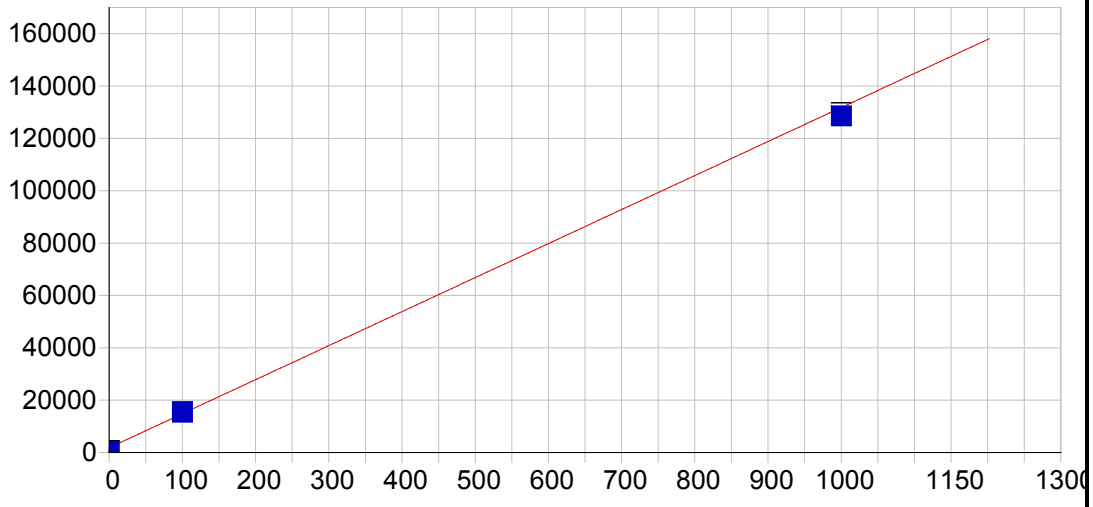



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003301 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999945 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 6.389566 | | |
| Predicted MQL: | 21.298554 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .10872 | .109 | .000 | .00330 | .000 | 1 |
| CalStd10=10 | 10000. | 10311. | 311. | 3.11 | .01236 | .000 | 1 |
| CalStd13=10 | 100000. | 102960. | 2960. | 2.96 | .09380 | .001 | 1 |
| CalStd14=50 | 500000. | 502860. | 2860. | .571 | .44526 | .010 | 1 |
| CalStd9=100 | 1000.0 | 830.78 | -169. | -16.9 | .00403 | .000 | 1 |
| CalibStd15= | 1000000. | 994040. | -5960. | -.596 | .87696 | .011 | 1 |

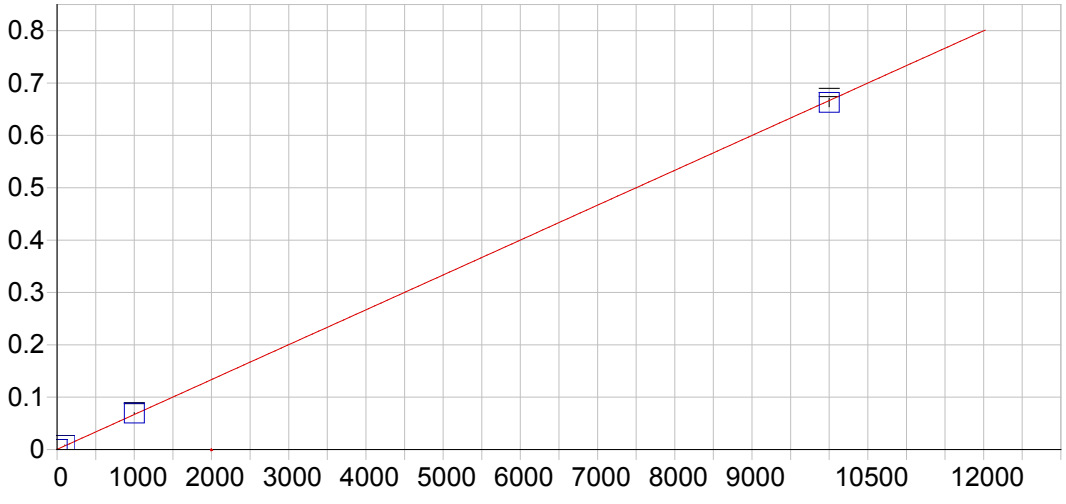



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1840.732744 | Re-Slope: | 1.000000 |
| A1 (Gain): | 129.964465 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998095 | Status: | OK. |
| Std Error of Est: | 1517.817017 | | |
| Predicted MDL: | 0.039864 | | |
| Predicted MQL: | 0.132878 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.040 | -10.0 | .000 | 535.87 | 259. | 1 |
| CalStd9=100 | 1000.0 | 975.13 | -24.9 | -2.49 | 128570. | 1220. | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | 15360. | 155. | 1 |

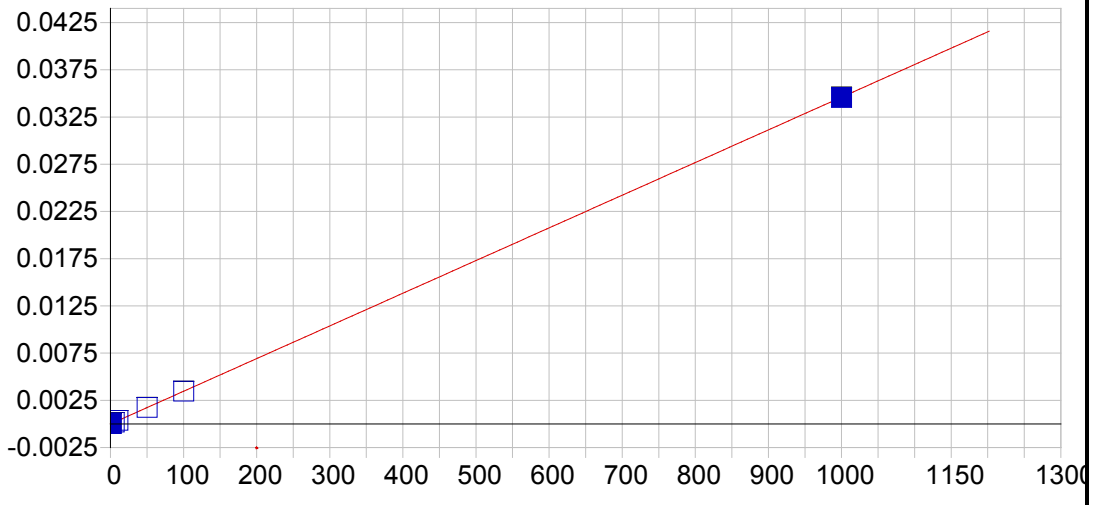



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000342 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000067 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.000075 | | |
| Predicted MDL: | 0.194718 | | |
| Predicted MQL: | 0.649059 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02476 | -.025 | .000 | .00034 | .000 | 1 |
| CalStd10=10 | 10000. | 9941.9 | -58.1 | -.581 | .66273 | .008 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | .00845 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.4 | 36.4 | 3.64 | .06939 | .001 | 1 |

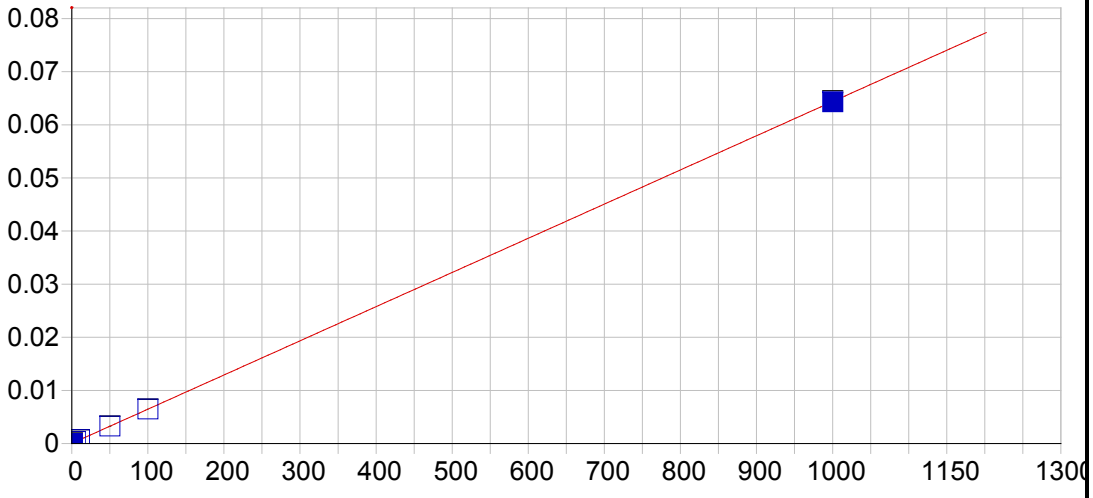



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000035 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.201373 | | |
| Predicted MQL: | 0.671242 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00020 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.364 | .364 | .728 | .00174 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0391 | .039 | 3.91 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61943 | .119 | 23.9 | .00002 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3050 | .305 | 6.10 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.920 | -.080 | -.080 | .00346 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.615 | .615 | 6.15 | .00037 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.64 | -1.36 | -.136 | .03456 | .000 | 1 |

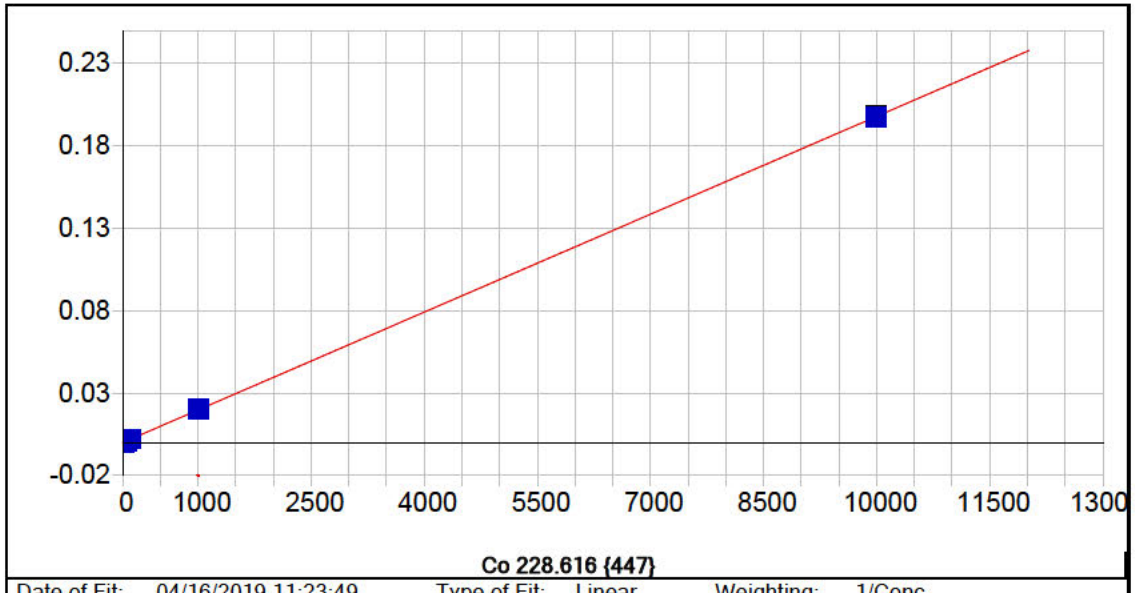



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000064 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.168711 | | |
| Predicted MQL: | 0.562370 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00008 | .000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.325 | .325 | .650 | .00327 | .000 | 1 |
| CalStd3=1 | 1.0000 | .89504 | -.105 | -10.5 | .00009 | .000 | 1 |
| CalStd2=0.5 | .50000 | .42376 | -.076 | -15.2 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1512 | .151 | 3.02 | .00037 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.961 | -.039 | -.039 | .00647 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.576 | .576 | 5.76 | .00071 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.17 | -.832 | -.083 | .06432 | .000 | 1 |

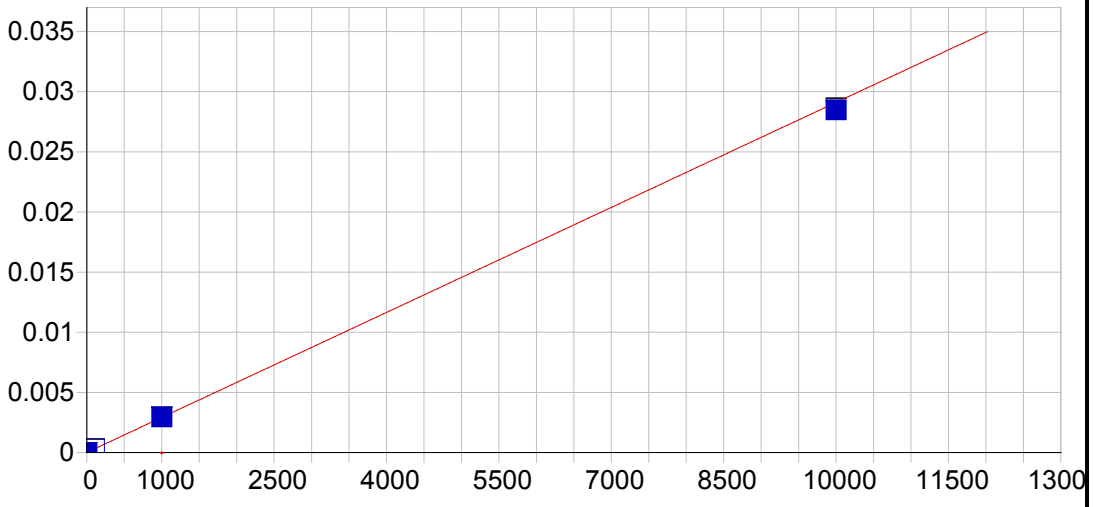



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000020 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999927 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.395103 | | |
| Predicted MQL: | 1.317010 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00040 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.960 | 1.96 | 3.92 | .00103 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.663 | .663 | 6.63 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0739 | .074 | 1.48 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.58 | 2.58 | 2.58 | .00204 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.5 | 31.5 | 3.15 | .02046 | .000 | 1 |
| CalStd3=1 | 1.0000 | .42491 | -.575 | -57.5 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.9 | -36.1 | -.361 | .19782 | .000 | 1 |

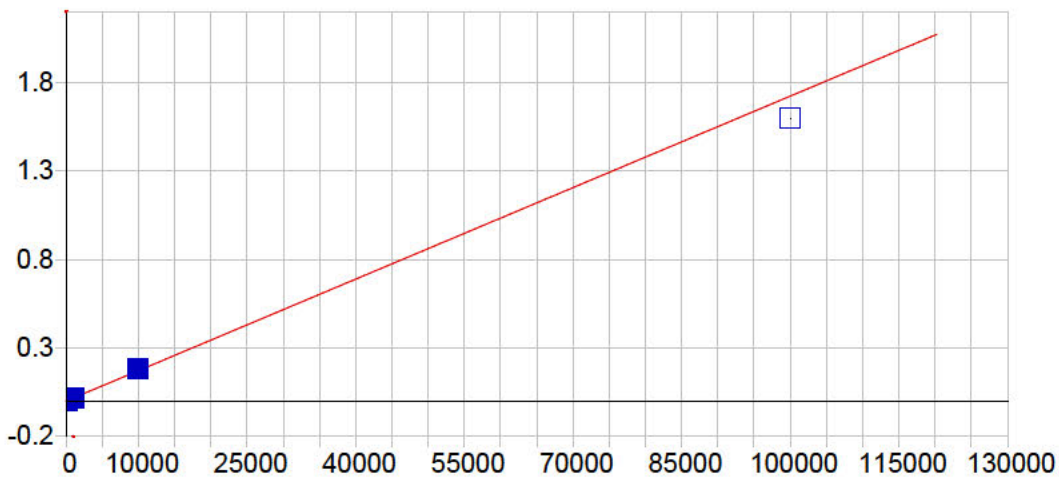



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999845 | Status: | OK. |
| Std Error of Est: | 0.000017 | | |
| Predicted MDL: | 0.774921 | | |
| Predicted MQL: | 2.583069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.2136 | -1.21 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.2 | 13.2 | 1.32 | .00296 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.6 | -214. | -2.14 | .02849 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.21 | .210 | .210 | .00030 | .000 | 1 |

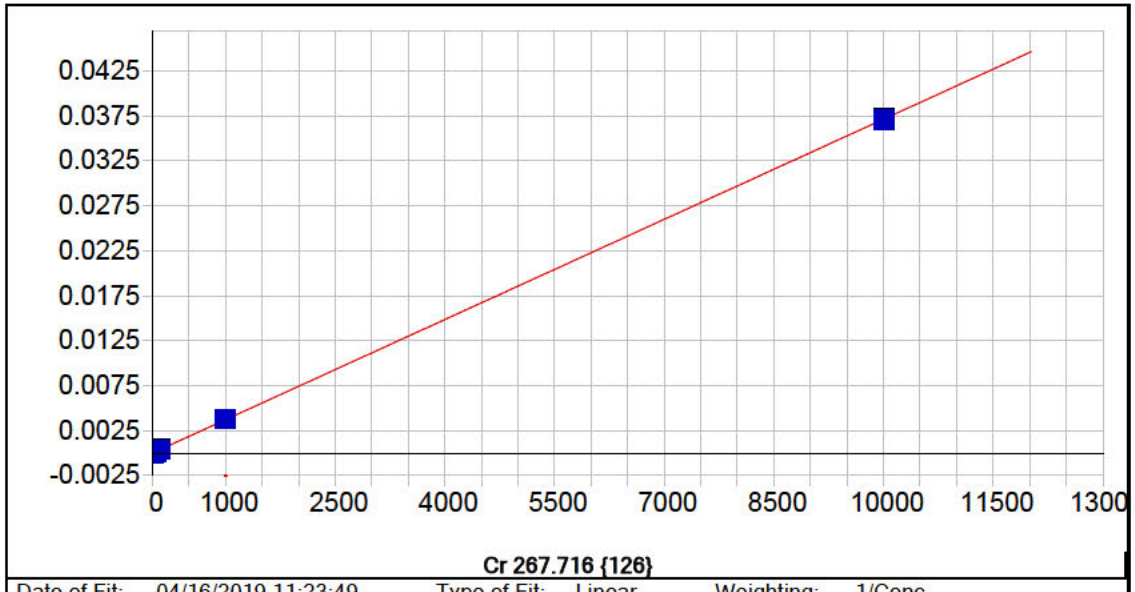



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000116 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996275 | Status: | OK. |
| Std Error of Est: | 0.000543 | | |
| Predicted MDL: | 0.320402 | | |
| Predicted MQL: | 1.068006 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.2302 | -7.23 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.7033 | -5.30 | -53.0 | .00020 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00096 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1100.1 | 100. | 10.0 | .01908 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.62 | 2.62 | 2.62 | .00188 | .000 | 1 |
| CalStd4=5 | 5.0000 | -.99547 | -6.00 | -120. | .00010 | .000 | 1 |
| CalStd3=1 | 1.0000 | -5.5102 | -6.51 | -651. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10687. | 687. | 6.87 | .18429 | .000 | 1 |
| CalStd12=10 | 100000. | 92673. | -7330. | -7.33 | 1.5972 | .001 | 1 |

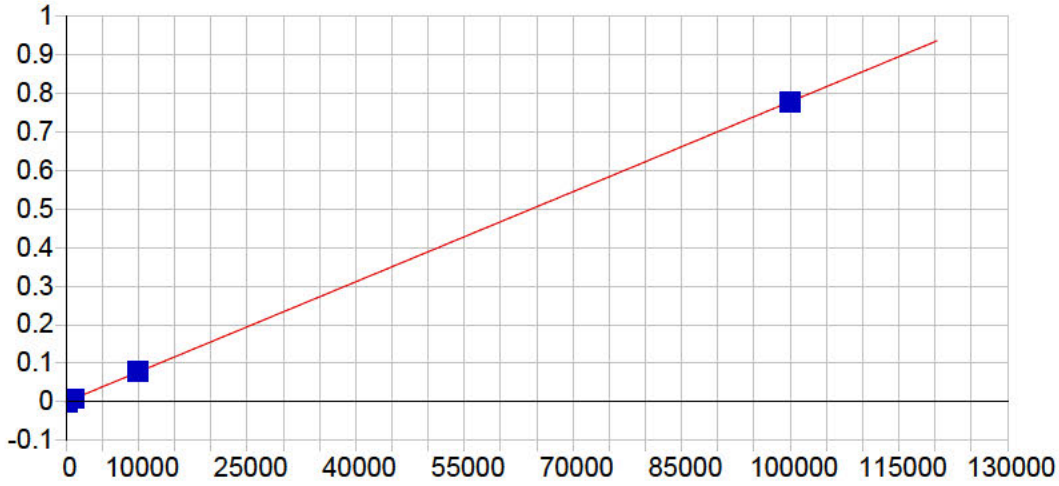



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.779459 | | |
| Predicted MQL: | 2.598198 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00090 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.358 | .358 | 3.58 | .00004 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.431 | .431 | .862 | .00019 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.0 | 15.0 | 1.50 | .00377 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.09 | 1.09 | 1.09 | .00038 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5581 | .558 | 11.2 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.5 | -17.5 | -.175 | .03708 | .000 | 1 |

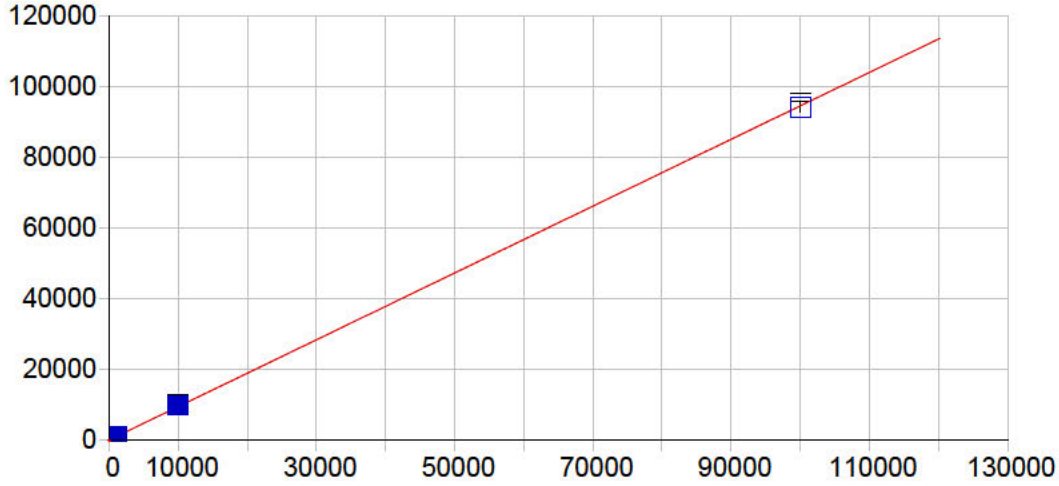



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999803 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.407926 | | |
| Predicted MQL: | 1.359752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03226 | .032 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.2 | 35.2 | 3.52 | .00805 | .000 | 1 |
| CalStd7=50 | 50.000 | 24.274 | -25.7 | -51.5 | .00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.181 | -33.8 | -33.8 | .00051 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.7108 | -16.3 | -81.4 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99833. | -167. | -.167 | .77629 | .000 | 1 |
| CalStd10=10 | 10000. | 10208. | 208. | 2.08 | .07938 | .000 | 1 |

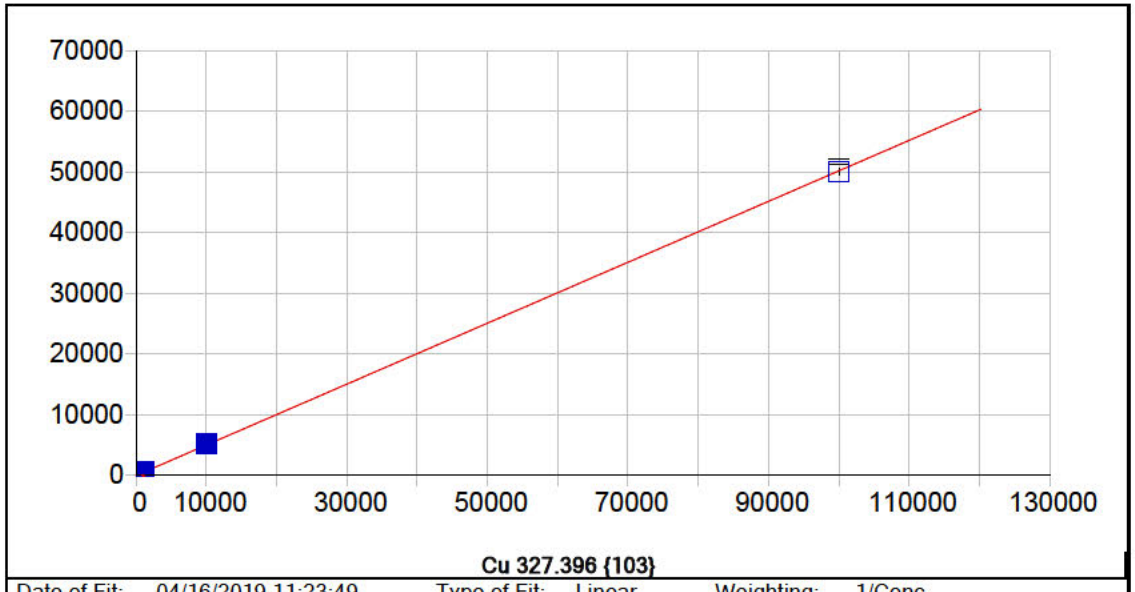



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 148.590134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.943999 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999922 | Status: | OK. |
| Std Error of Est: | 0.452769 | | |
| Predicted MDL: | 2.842345 | | |
| Predicted MQL: | 9.474483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00435 | -.004 | .000 | 148.59 | 1.60 | 1 |
| CalStd9=100 | 1000.0 | 1055.4 | 55.4 | 5.54 | 1144.9 | 11.8 | 1 |
| CalStd8=100 | 100.00 | 104.61 | 4.61 | 4.61 | 247.34 | 3.94 | 1 |
| CalStd10=10 | 10000. | 10337. | 337. | 3.37 | 9905.7 | 131. | 1 |
| CalStd12=10 | 100000. | 99595. | -405. | -.405 | 94166. | 1180. | 1 |
| CalStd5=10 | 10.000 | 10.388 | .388 | 3.88 | 158.40 | 3.42 | 1 |
| CalStd6=20 | 20.000 | 23.696 | 3.70 | 18.5 | 170.96 | 1.70 | 1 |
| CalStd7=50 | 50.000 | 54.024 | 4.02 | 8.05 | 199.59 | 4.31 | 1 |

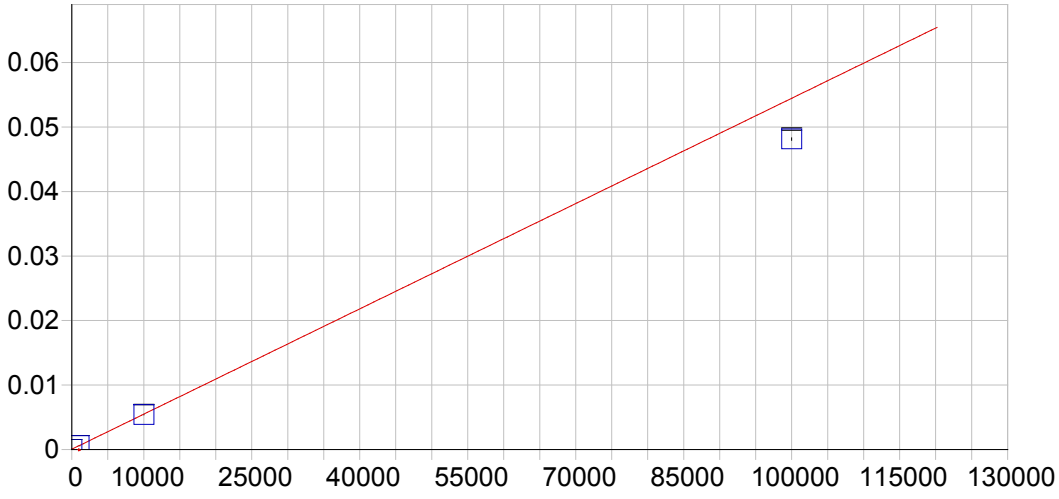



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.891198 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.501962 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999946 | Status: | OK. |
| Std Error of Est: | 0.139808 | | |
| Predicted MDL: | 6.972418 | | |
| Predicted MQL: | 23.241395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00299 | .003 | .000 | 9.8927 | 3.07 | 1 |
| CalStd6=20 | 20.000 | 18.675 | -1.32 | -6.62 | 19.260 | 2.56 | 1 |
| CalStd7=50 | 50.000 | 51.080 | 1.08 | 2.16 | 35.516 | 1.83 | 1 |
| CalStd8=100 | 100.00 | 99.925 | -.075 | -.075 | 60.020 | 2.43 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | 537.14 | 8.80 | 1 |
| CalStd10=10 | 10000. | 10261. | 261. | 2.61 | 5160.6 | 79.8 | 1 |
| CalStd12=10 | 100000. | 99693. | -307. | -.307 | 50052. | 501. | 1 |
| CalStd4=5 | 5.0000 | 3.6138 | -1.39 | -27.7 | 11.704 | 2.50 | 1 |
| CalStd5=10 | 10.000 | 6.5030 | -3.50 | -35.0 | 13.153 | 3.32 | 1 |

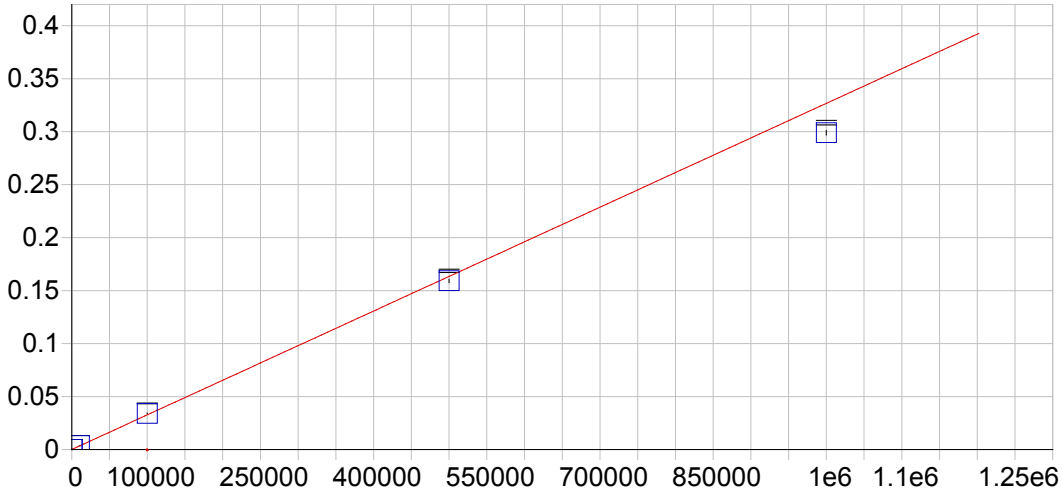



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.930143 | | |
| Predicted MQL: | 6.433810 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11978 | -.120 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9880.1 | -120. | -1.20 | .00542 | .000 | 1 |
| CalStd13=10 | 100000. | 88389. | -11600. | -11.6 | .04814 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.05 | -.951 | -.095 | .00059 | .000 | 1 |

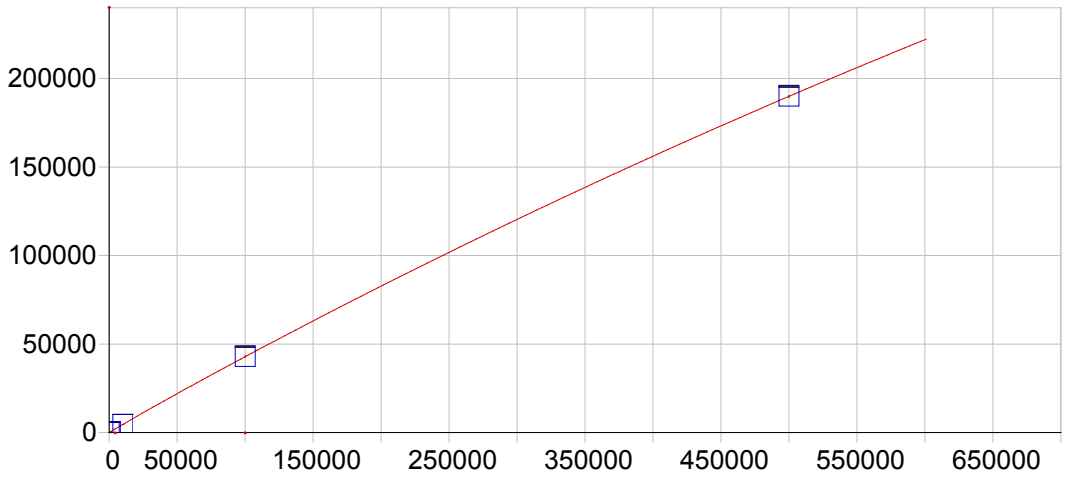



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996888 | Status: | OK. |
| Std Error of Est: | 0.000081 | | |
| Predicted MDL: | 10.726217 | | |
| Predicted MQL: | 35.754058 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -71.523 | -71.5 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10965. | 965. | 9.65 | .00362 | .000 | 1 |
| CalStd13=10 | 100000. | 104030. | 4030. | 4.03 | .03402 | .000 | 1 |
| CalStd14=50 | 500000. | 487250. | -12800. | -2.55 | .15921 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1024.6 | 24.6 | 2.46 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 915180. | -84800. | -8.48 | .29901 | .002 | 1 |

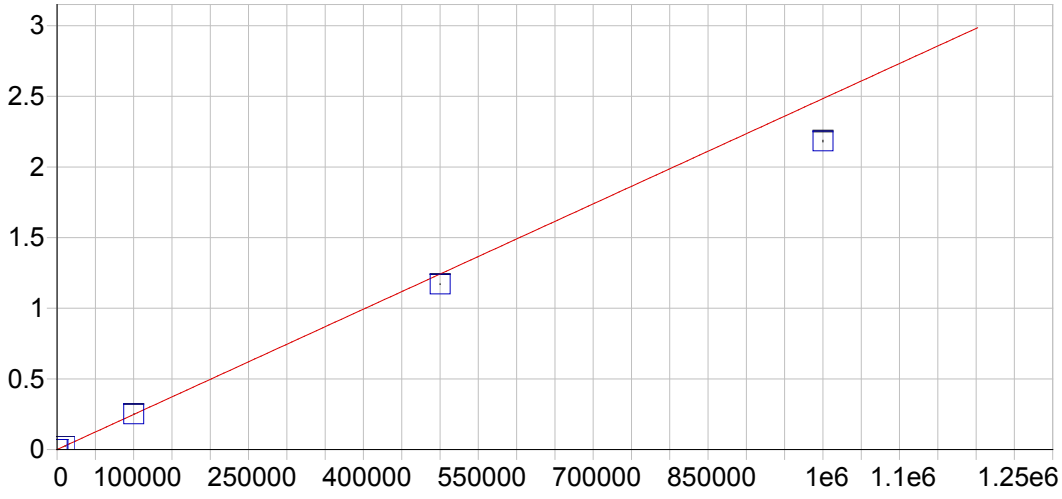



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 15.029995 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.551164 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 0.980000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 1.675157 | | |
| Predicted MDL: | 2.808579 | | |
| Predicted MQL: | 9.361928 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03957 | .040 | .000 | 15.053 | 4.18 | 1 |
| CalStd10=10 | 10000. | 9996.5 | -3.53 | -.035 | 4587.5 | 40.5 | 1 |
| CalStd13=10 | 100000. | 100080. | 83.7 | .084 | 42890. | 397. | 1 |
| CalStd14=50 | 500000. | 499980. | -22.0 | -.004 | 189930. | 522. | 1 |
| CalStd9=100 | 1000.0 | 950.19 | -49.8 | -4.98 | 471.53 | 4.31 | 1 |

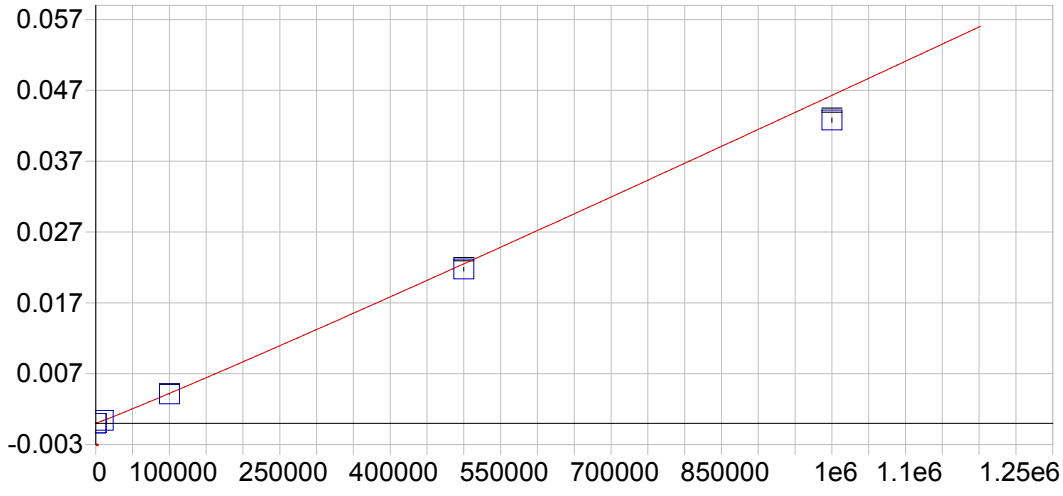



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999007 | Status: | OK. |
| Std Error of Est: | 0.000224 | | |
| Predicted MDL: | 2.381545 | | |
| Predicted MQL: | 7.938482 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.6205 | -7.62 | .000 | .00001 | .000 | 1 |
| CalStd13=10 | 100000. | 101200. | 1200. | 1.20 | .25140 | .000 | 1 |
| CalStd10=10 | 10000. | 10195. | 195. | 1.95 | .02535 | .000 | 1 |
| CalStd14=50 | 500000. | 471240. | -28800. | -5.75 | 1.1706 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1100.6 | 101. | 10.1 | .00276 | .000 | 1 |
| CalibStd15= | 1000000. | 878990. | -121000. | -12.1 | 2.1834 | .006 | 1 |

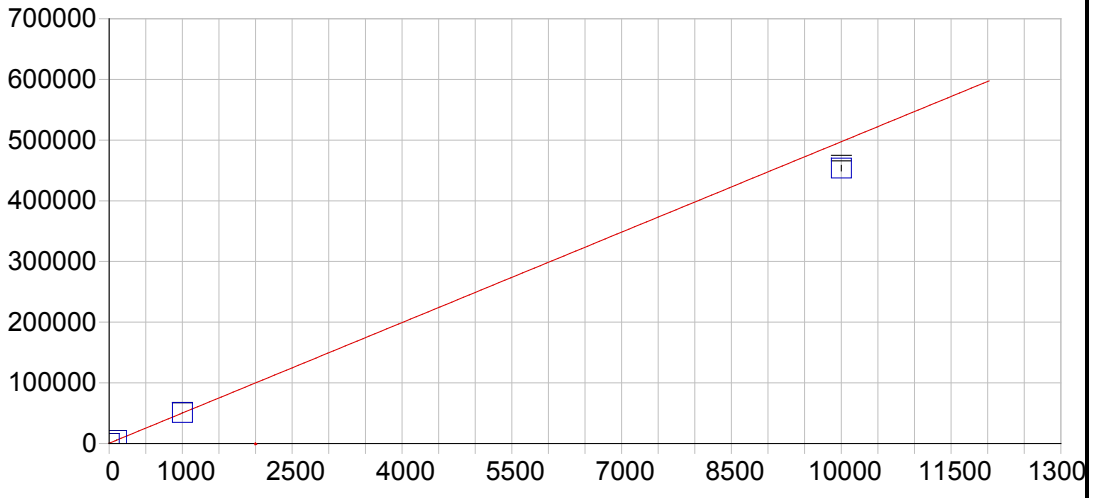



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.040000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 93.938827 | | |
| Predicted MQL: | 313.129423 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97830. | -2170. | -2.17 | .00413 | .000 | 1 |
| CalStd10=10 | 10000. | 10495. | 495. | 4.95 | .00040 | .000 | 1 |
| CalStd14=50 | 500000. | 483930. | -16100. | -3.21 | .02176 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.7 | 132. | 13.2 | .00004 | .000 | 1 |
| CalibStd15= | 1000000. | 927180. | -72800. | -7.28 | .04279 | .000 | 1 |

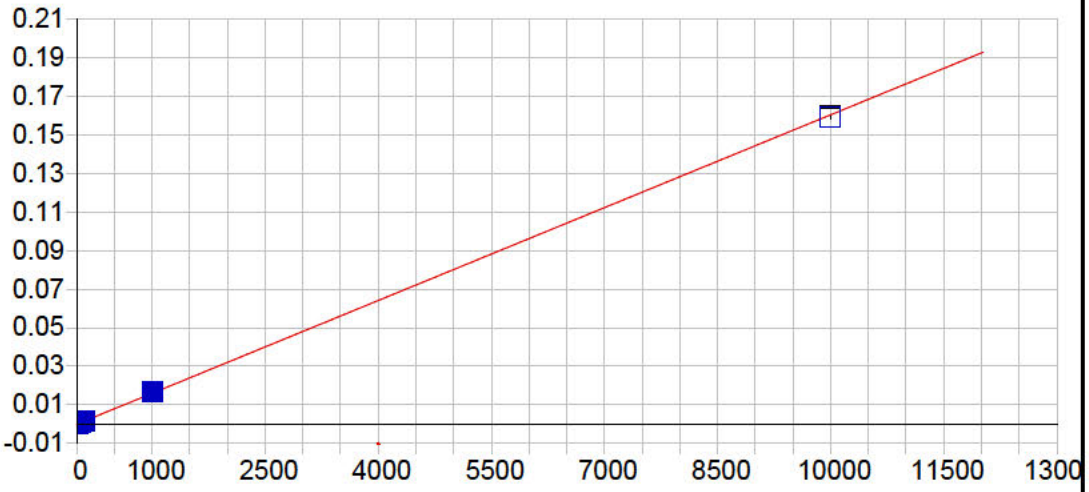



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 579.311732 | Re-Slope: | 1.000000 |
| A1 (Gain): | 49.678342 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999159 | Status: | OK. |
| Std Error of Est: | 234.362940 | | |
| Predicted MDL: | 0.030900 | | |
| Predicted MQL: | 0.102999 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.0030 | -1.00 | .000 | 529.48 | 19.2 | 1 |
| CalStd9=100 | 1000.0 | 1011.5 | 11.5 | 1.15 | 50827. | 263. | 1 |
| CalStd10=10 | 10000. | 9122.9 | -877. | -8.77 | 453790. | 4540. | 1 |
| CalStd8=100 | 100.00 | 101.79 | 1.79 | 1.79 | 5636.0 | 26.2 | 1 |

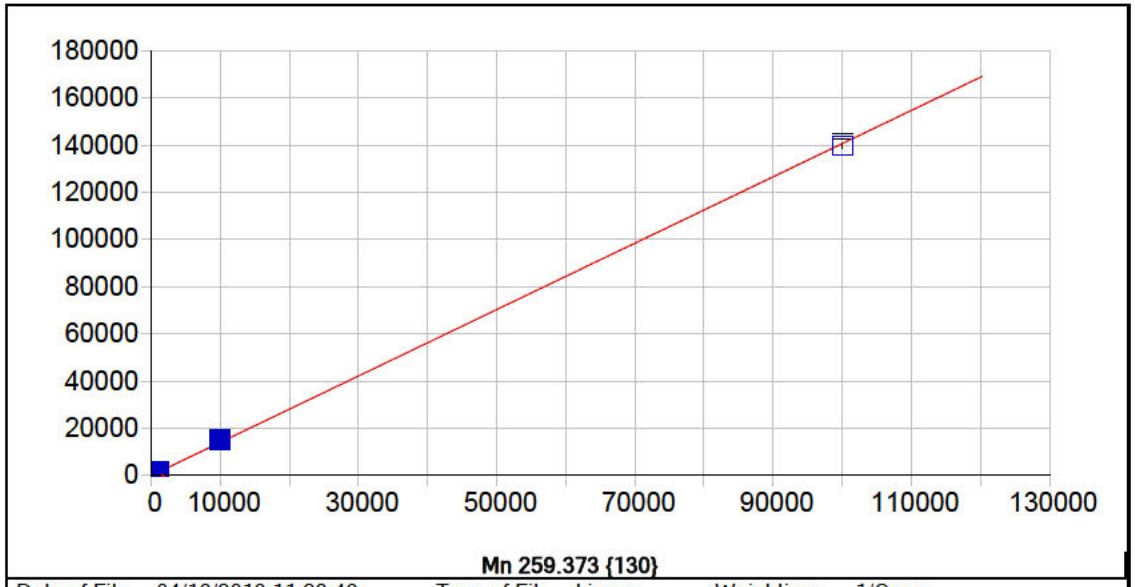



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999800 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.097980 | | |
| Predicted MQL: | 0.326601 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00328 | -.003 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.716 | 1.72 | 17.2 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.252 | 4.25 | 8.50 | .00087 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.794 | 1.79 | 8.97 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00171 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9911 | .991 | 19.8 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1050.6 | 50.6 | 5.06 | .01684 | .000 | 1 |
| CalStd10=10 | 10000. | 9933.9 | -66.1 | -.661 | .15920 | .001 | 1 |

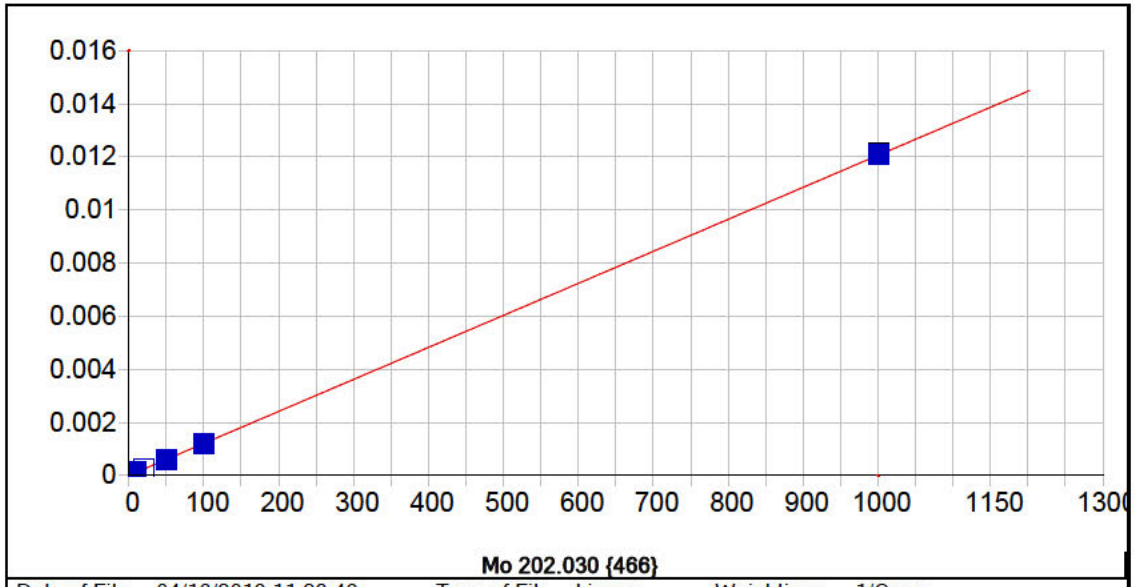



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.910672 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.406640 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999790 | Status: | OK. |
| Std Error of Est: | 13.592011 | | |
| Predicted MDL: | 1.043152 | | |
| Predicted MQL: | 3.477174 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.13393 | -.134 | .000 | 1.7223 | .965 | 1 |
| CalStd10=10 | 10000. | 10596. | 596. | 5.96 | 14925. | 123. | 1 |
| CalStd9=100 | 1000.0 | 1081.1 | 81.1 | 8.11 | 1524.4 | 14.3 | 1 |
| CalStd12=10 | 100000. | 99322. | -678. | -.678 | 139710. | 1150. | 1 |

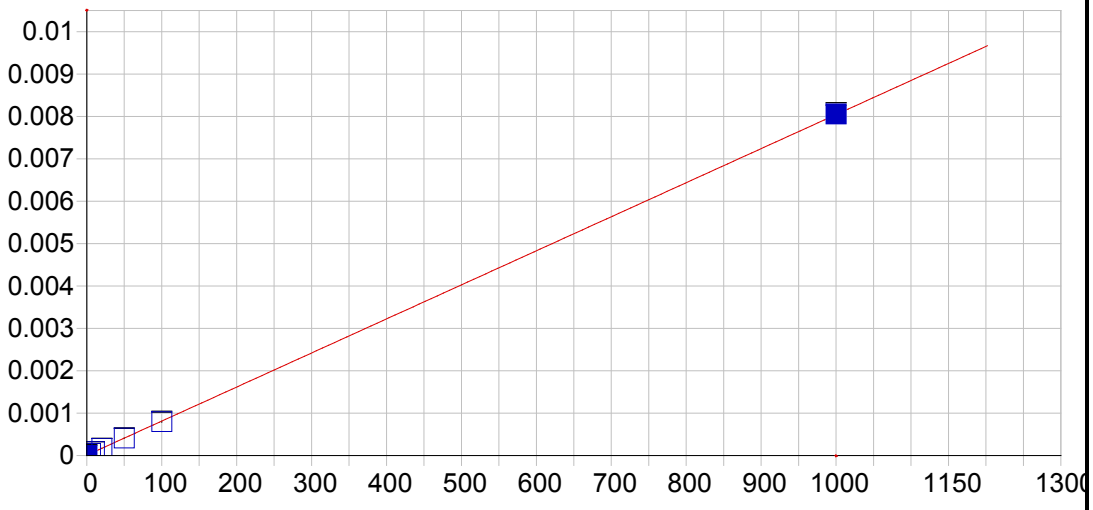



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.391709 | | |
| Predicted MQL: | 1.305695 | | |

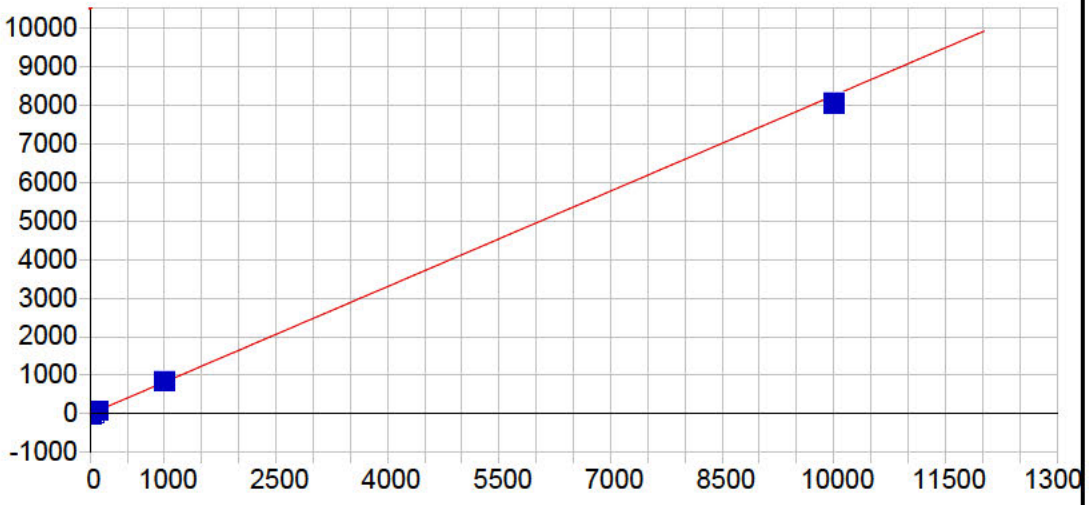
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.868 | -.132 | -.265 | .00061 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.739 | -.261 | -1.30 | .00024 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.424 | .424 | 4.24 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.152 | -.848 | -.848 | .00120 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9573 | -.043 | -.854 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .859 | .086 | .01211 | .000 | 1 |




**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000009 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000008 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999983 | | Status: | OK. | |
| Std Error of Est: | 0.000003 | | | | |
| Predicted MDL: | 0.746097 | | | | |
| Predicted MQL: | 2.486991 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .40029 | .400 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.698 | -.302 | -.604 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.844 | -.156 | -.781 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.219 | .219 | 2.19 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.268 | -1.73 | -1.73 | .00080 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8282 | -.172 | -3.44 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.4 | 1.42 | .142 | .00806 | .000 | 1 |

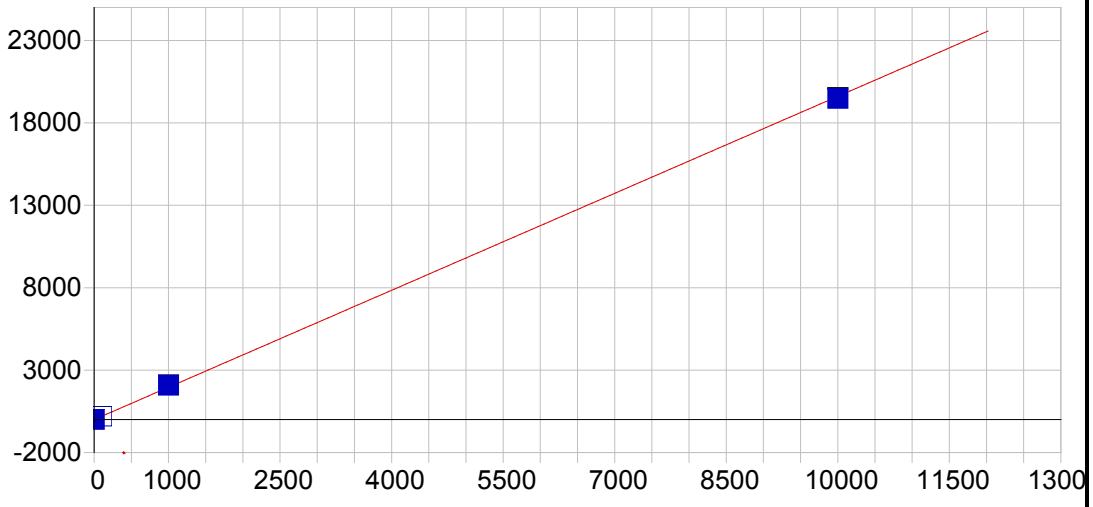



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.320630 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.824476 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999753 | Status: | OK. |
| Std Error of Est: | 5.202856 | | |
| Predicted MDL: | 0.702655 | | |
| Predicted MQL: | 2.342183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.30787 | -.308 | .000 | .06680 | .586 | 1 |
| CalStd7=50 | 50.000 | 50.082 | .082 | .165 | 41.612 | .762 | 1 |
| CalStd6=20 | 20.000 | 18.981 | -1.02 | -5.10 | 15.970 | .251 | 1 |
| CalStd5=10 | 10.000 | 10.248 | .248 | 2.48 | 8.7700 | .278 | 1 |
| CalStd8=100 | 100.00 | 99.211 | -.789 | -.789 | 82.248 | .863 | 1 |
| CalStd4=5 | 5.0000 | 4.0190 | -.981 | -19.6 | 3.6342 | .220 | 1 |
| CalStd9=100 | 1000.0 | 1019.8 | 19.8 | 1.98 | 842.43 | .714 | 1 |
| CalStd10=10 | 10000. | 9762.8 | -237. | -2.37 | 8062.9 | 7.87 | 1 |

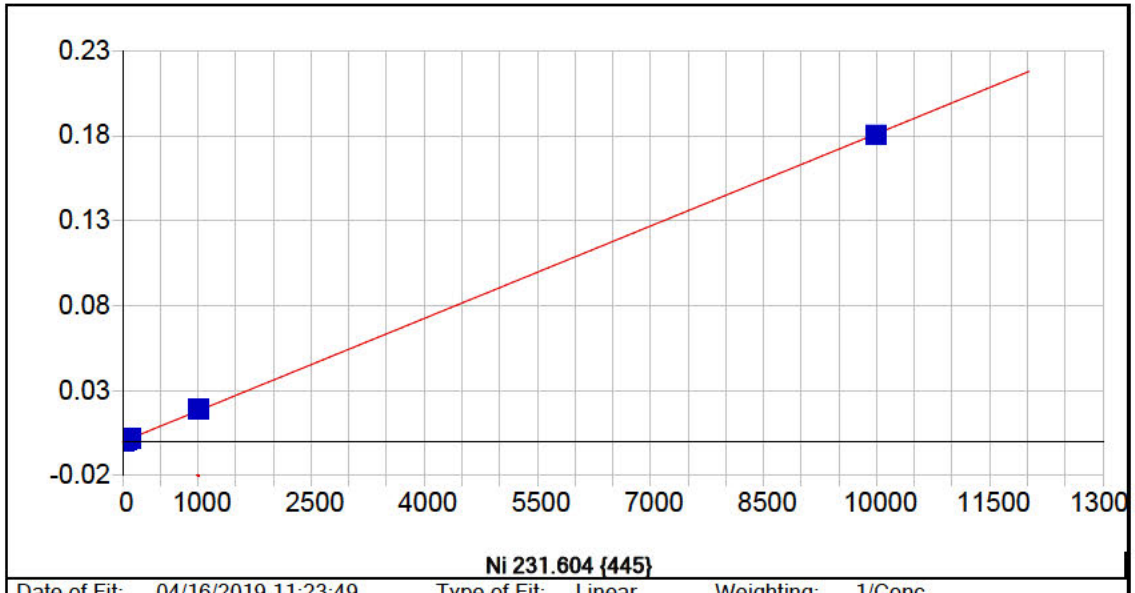



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.188014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.960989 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999792 | Status: | OK. |
| Std Error of Est: | 1.883097 | | |
| Predicted MDL: | 0.478095 | | |
| Predicted MQL: | 1.593652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01109 | -.011 | .000 | -.20977 | .211 | 1 |
| CalStd10=10 | 10000. | 9932.4 | -67.6 | -.676 | 19478. | 43.1 | 1 |
| CalStd8=100 | 100.00 | 105.57 | 5.57 | 5.57 | 206.83 | .722 | 1 |
| CalStd9=100 | 1000.0 | 1062.0 | 62.0 | 6.20 | 2082.5 | 8.82 | 1 |

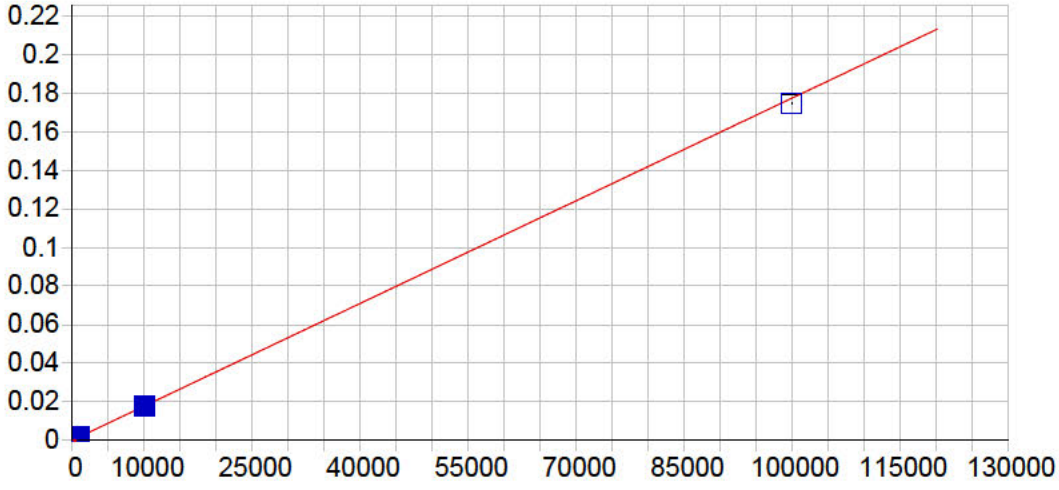



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.504511 | | |
| Predicted MQL: | 1.681705 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00074 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.572 | 2.57 | 5.14 | .00093 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.443 | 1.44 | 14.4 | .00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.22 | 4.22 | 4.22 | .00187 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1918 | .192 | 3.84 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1040.5 | 40.5 | 4.05 | .01886 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4315 | .432 | 43.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.7 | -49.3 | -.493 | .18085 | .000 | 1 |

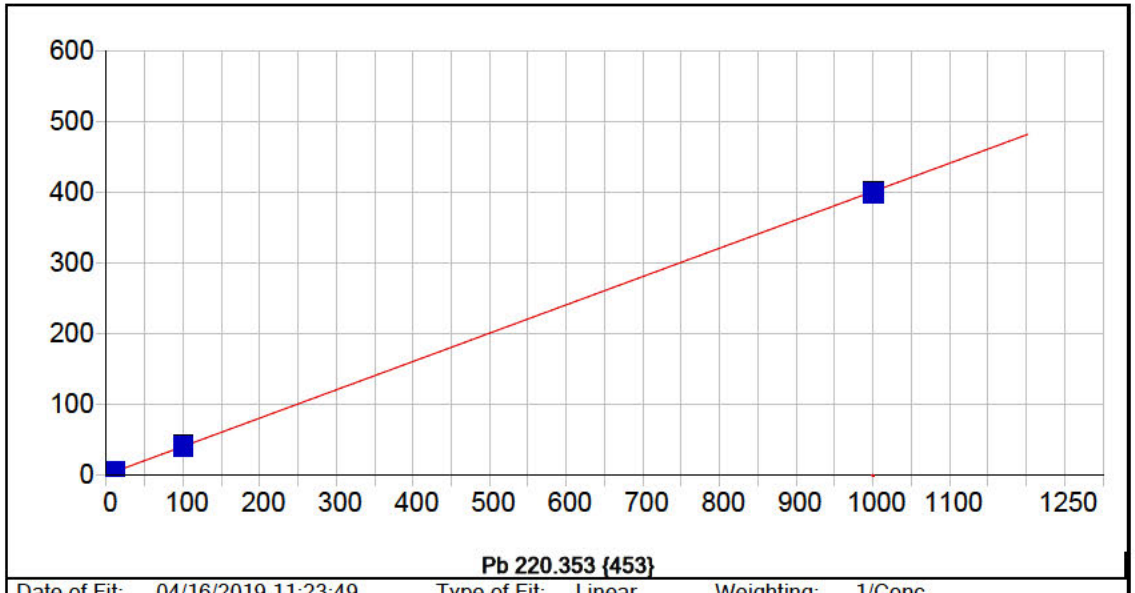



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999843 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 4.065918 | | |
| Predicted MQL: | 13.553059 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -5.8657 | -5.87 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1055.6 | 55.6 | 5.56 | .00189 | .000 | 1 |
| CalStd10=10 | 10000. | 10121. | 121. | 1.21 | .01794 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.46 | 4.46 | 4.46 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.6190 | -3.38 | -33.8 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 98402. | -1600. | -1.60 | .17433 | .000 | 1 |

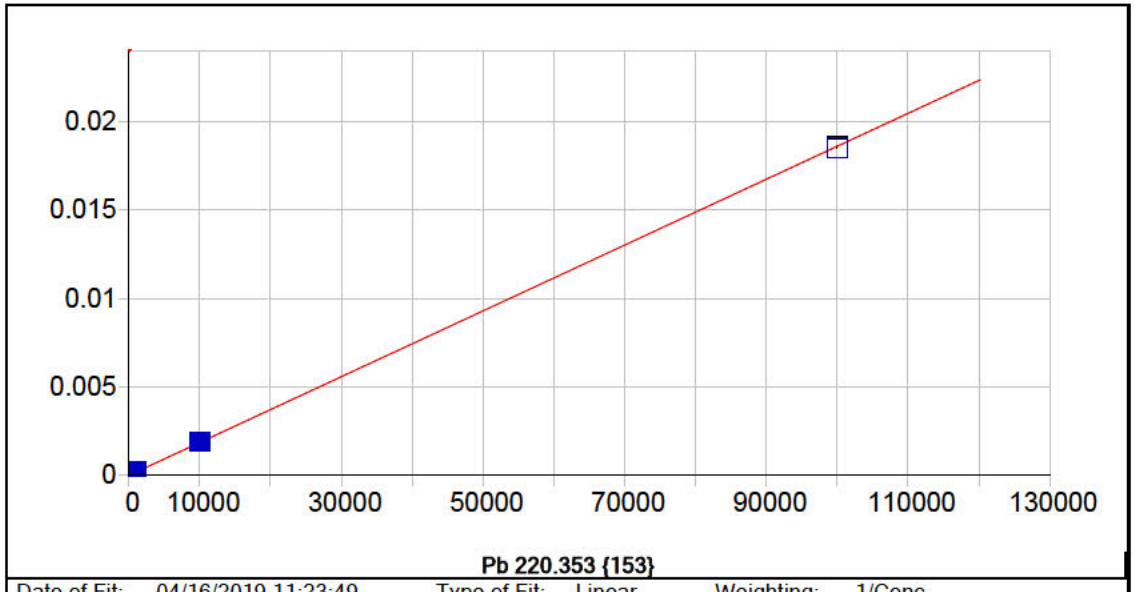



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.115789 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.399994 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999053 | Status: | OK. |
| Std Error of Est: | 0.053098 | | |
| Predicted MDL: | 2.370772 | | |
| Predicted MQL: | 7.902574 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | 1.1143 | .782 | 1 |
| CalStd5=10 | 10.000 | 11.494 | 1.49 | 14.9 | 5.7135 | .514 | 1 |
| CalStd8=100 | 100.00 | 100.30 | .297 | .297 | 41.254 | 1.02 | 1 |
| CalStd4=5 | 5.0000 | 8.0556 | 3.06 | 61.1 | 4.3380 | .519 | 1 |
| CalStd9=100 | 1000.0 | 995.16 | -4.84 | -.484 | 399.38 | .875 | 1 |

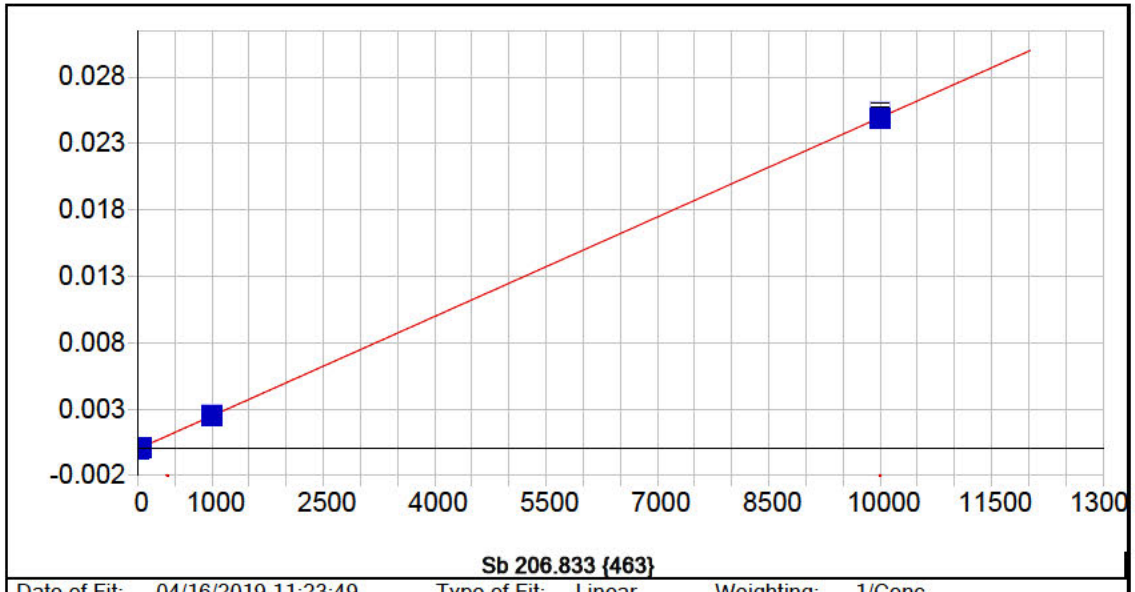



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.123424 | | |
| Predicted MQL: | 23.744745 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01547 | -.015 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1087.1 | 87.1 | 8.71 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 10217. | 217. | 2.17 | .00190 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.90 | 4.90 | 4.90 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99691. | -309. | -.309 | .01854 | .000 | 1 |

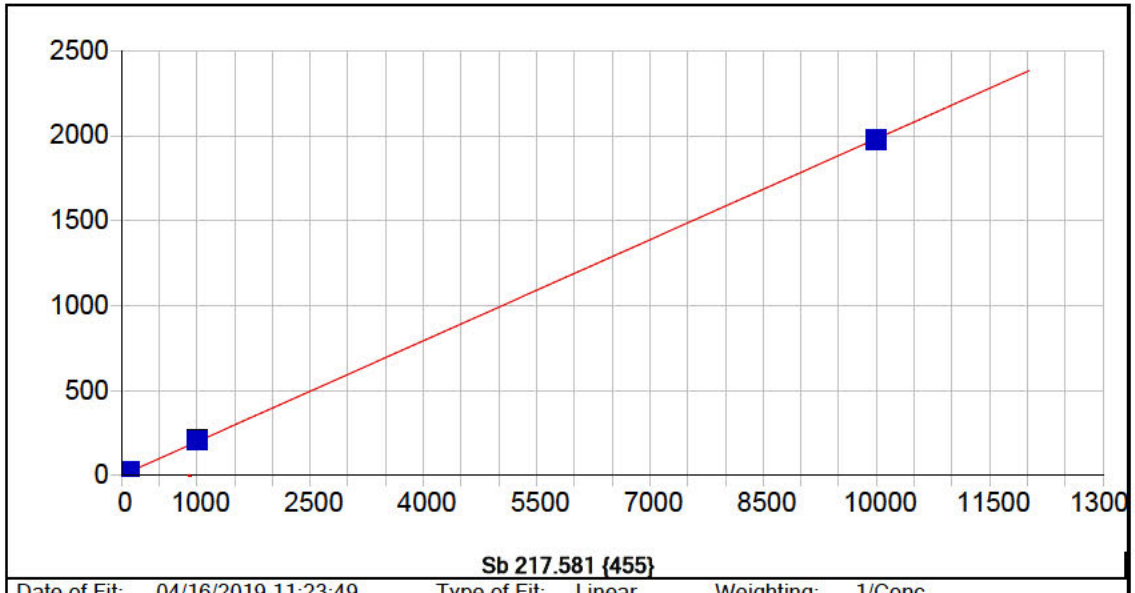



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.779281 | | |
| Predicted MQL: | 9.264269 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00209 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.4 | 18.4 | 1.84 | .00258 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.788 | 1.79 | 17.9 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.683 | .683 | 1.37 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.1 | -20.9 | -.209 | .02536 | .000 | 1 |

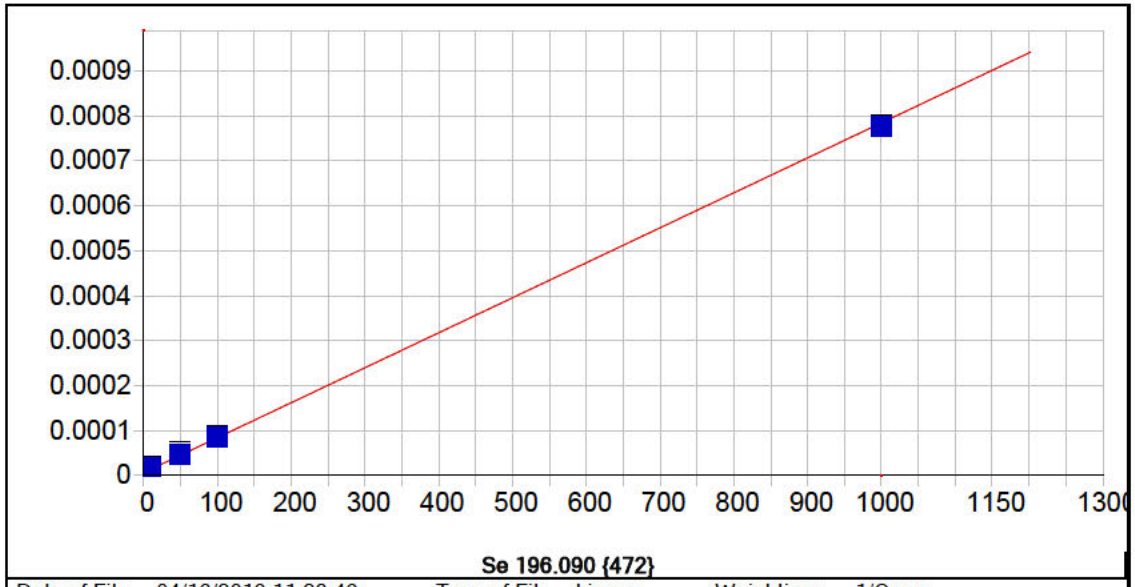



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.712715 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.198078 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.026863 | | |
| Predicted MDL: | 2.990604 | | |
| Predicted MQL: | 9.968681 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00264 | .003 | .000 | .71324 | .128 | 1 |
| CalStd9=100 | 1000.0 | 1036.3 | 36.3 | 3.63 | 205.99 | .935 | 1 |
| CalStd6=20 | 20.000 | 20.589 | .589 | 2.95 | 4.7910 | .718 | 1 |
| CalStd5=10 | 10.000 | 7.7144 | -2.29 | -22.9 | 2.2408 | .497 | 1 |
| CalStd8=100 | 100.00 | 100.24 | .243 | .243 | 20.571 | .167 | 1 |
| CalStd4=5 | 5.0000 | 3.1790 | -1.82 | -36.4 | 1.3424 | .587 | 1 |
| CalStd10=10 | 10000. | 9967.0 | -33.0 | -.330 | 1975.1 | 2.66 | 1 |

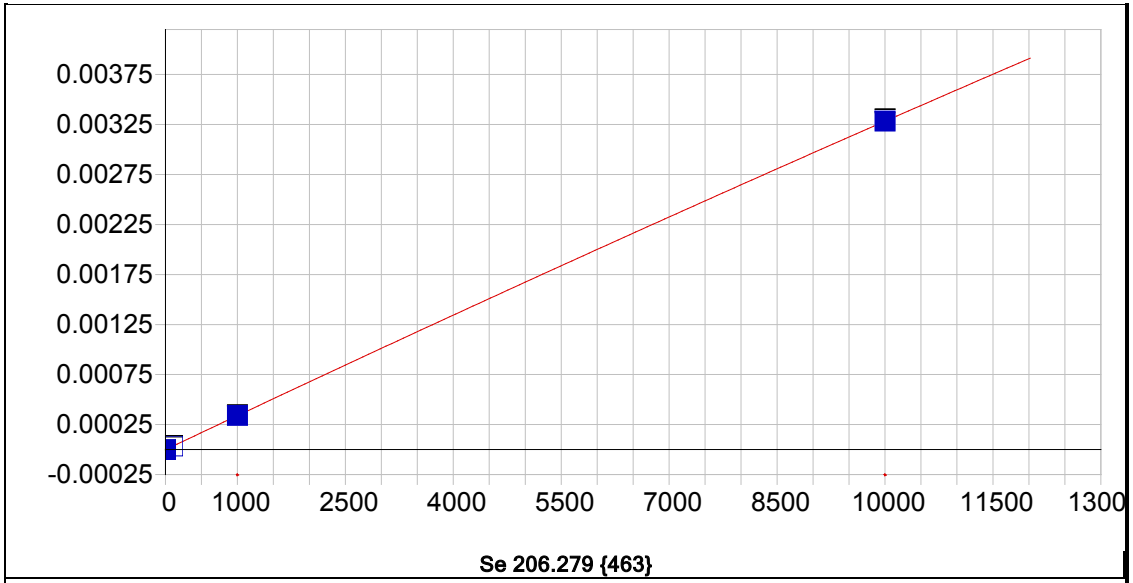



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999025 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.886045 | | |
| Predicted MQL: | 19.620148 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00498 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.048 | 1.05 | 2.10 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.14 | -8.86 | -.886 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.534 | 4.53 | 45.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.28 | 3.28 | 3.28 | .00009 | .000 | 1 |

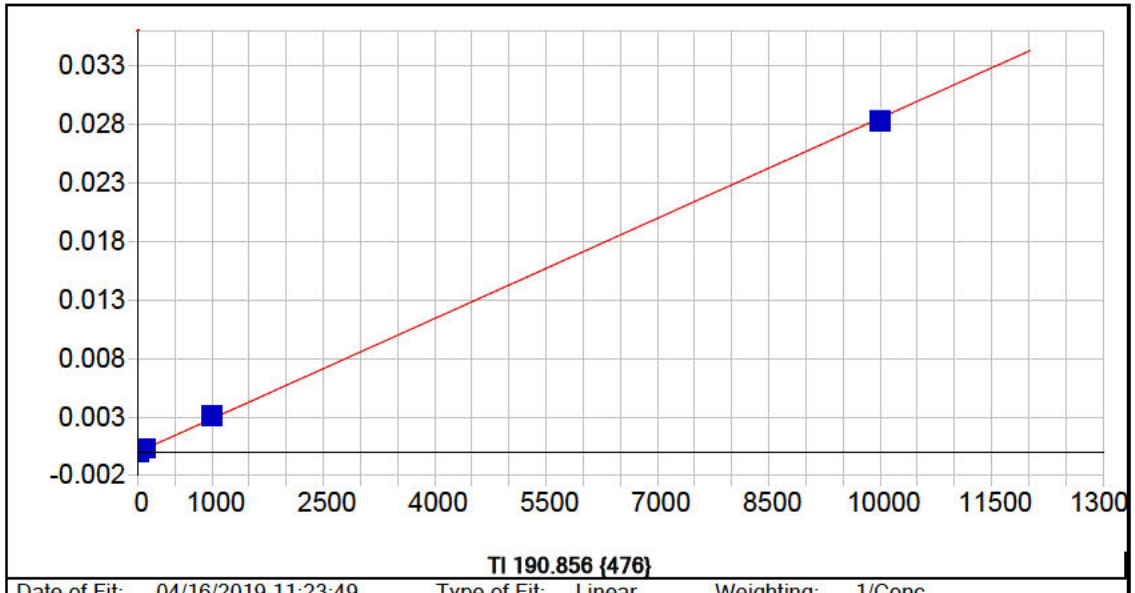



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.036920 | | |
| Predicted MQL: | 73.456402 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00005 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .057 | .006 | .00034 | .000 | 1 |
| CalStd10=10 | 10000. | 10000.0 | -.006 | -.000 | .00329 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.948 | -.052 | -.052 | .00003 | .000 | 1 |

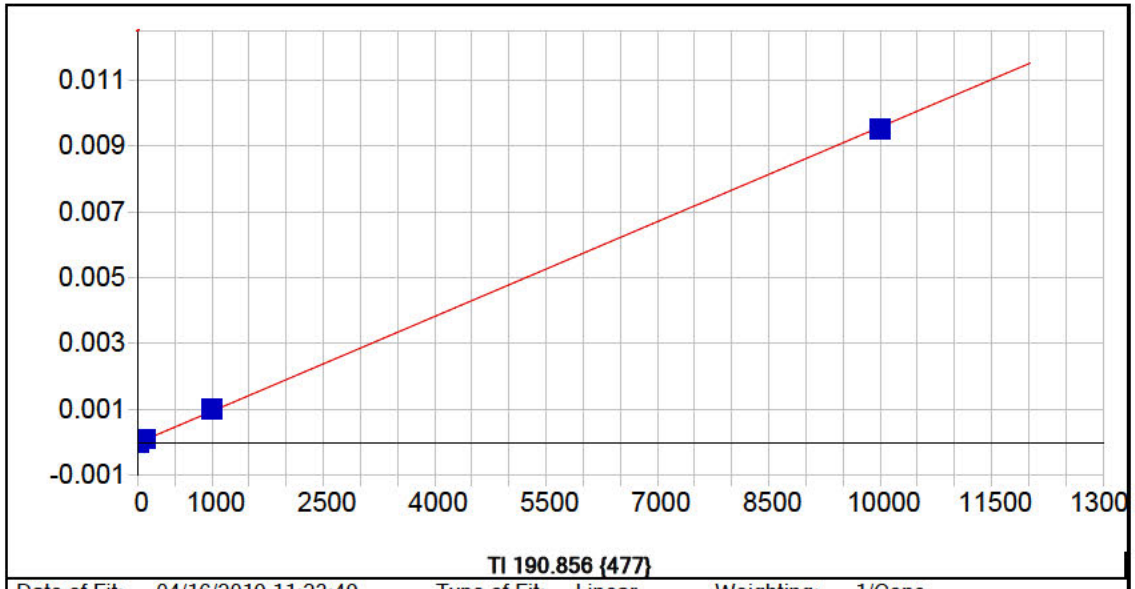



**Tl 190.856 {476}**

Date of Fit: 04/16/2019 11:23:49 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999667 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.023818 | | |
| Predicted MQL: | 6.746060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00410 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1072.8 | 72.8 | 7.28 | .00307 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.76 | 8.76 | 8.76 | .00031 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.583 | 2.58 | 25.8 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9915.9 | -84.1 | -.841 | .02837 | .000 | 1 |

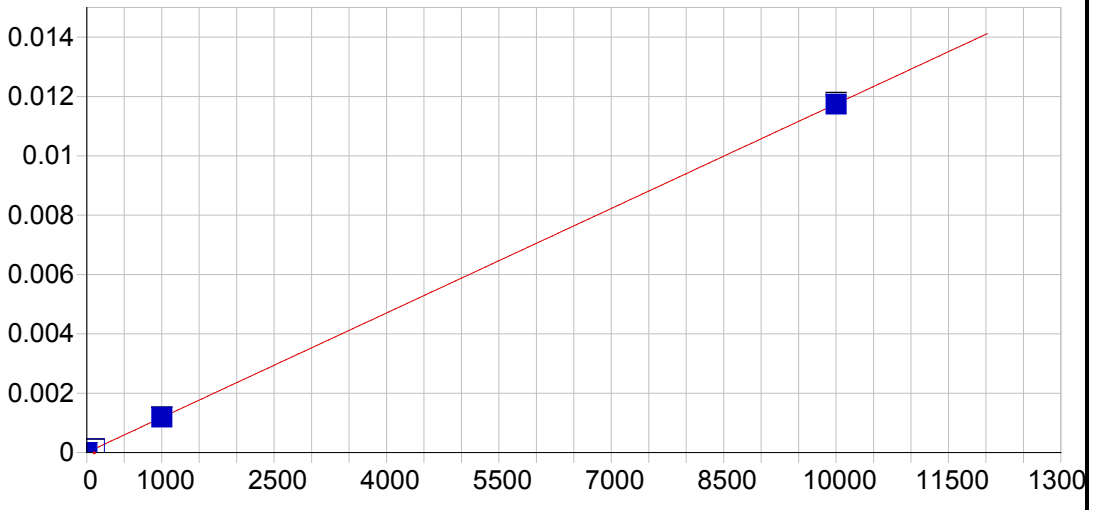



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999569 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.888356 | | |
| Predicted MQL: | 16.294520 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00700 | -.007 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.5 | 67.5 | 6.75 | .00102 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.90 | 12.9 | 12.9 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.125 | 5.12 | 51.2 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9914.4 | -85.6 | -.856 | .00950 | .000 | 1 |

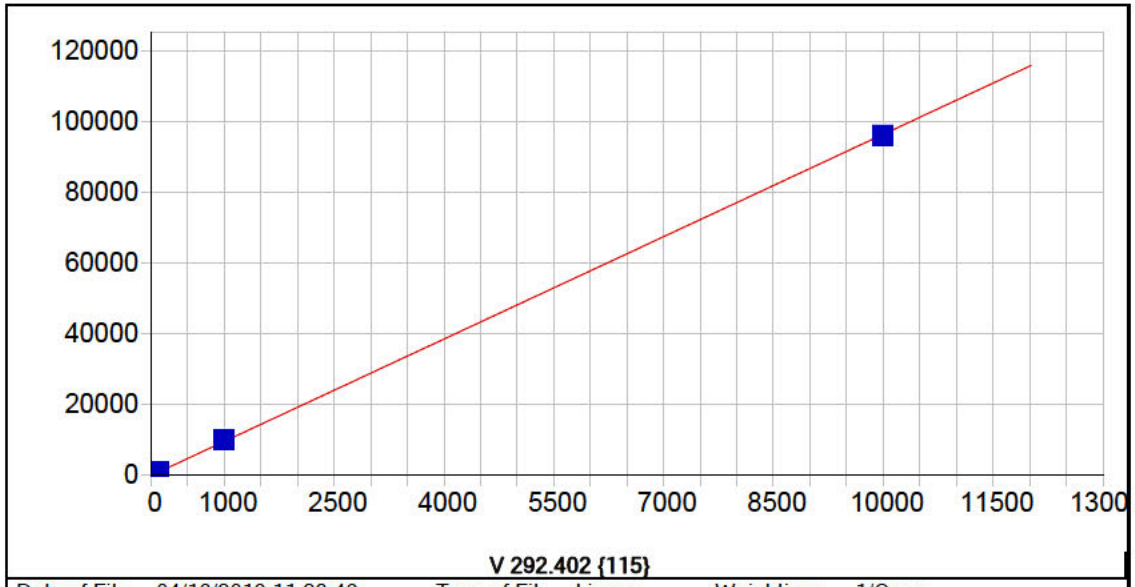



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.385278 | | |
| Predicted MQL: | 17.950927 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00160 | .002 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.5 | 8.49 | .849 | .00119 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.9 | -6.10 | -.061 | .01174 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.613 | -2.39 | -2.39 | .00012 | .000 | 1 |

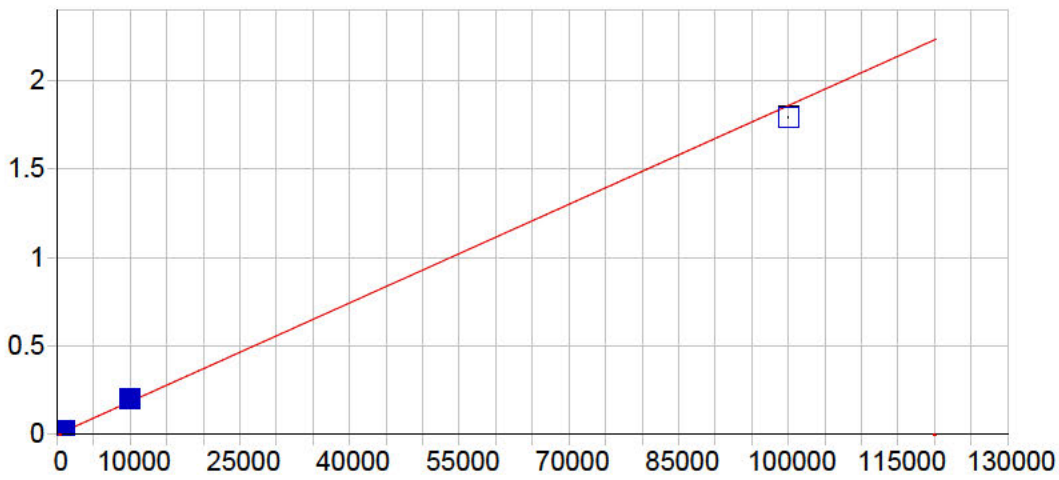



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 4.505315 | Re-Slope: | 1.000000 |
| A1 (Gain): | 9.634950 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 1.656834 | | |
| Predicted MDL: | 0.524983 | | |
| Predicted MQL: | 1.749942 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00185 | -.002 | .000 | 4.4875 | 1.86 | 1 |
| CalStd7=50 | 50.000 | 51.616 | 1.62 | 3.23 | 501.70 | 5.36 | 1 |
| CalStd9=100 | 1000.0 | 1041.8 | 41.8 | 4.18 | 10040. | 35.4 | 1 |
| CalStd6=20 | 20.000 | 20.906 | .906 | 4.53 | 205.21 | 5.26 | 1 |
| CalStd5=10 | 10.000 | 10.522 | .522 | 5.22 | 105.86 | 5.44 | 1 |
| CalStd8=100 | 100.00 | 101.79 | 1.79 | 1.79 | 984.97 | 6.21 | 1 |
| CalStd10=10 | 10000. | 9953.5 | -46.5 | -.465 | 96244. | 220. | 1 |

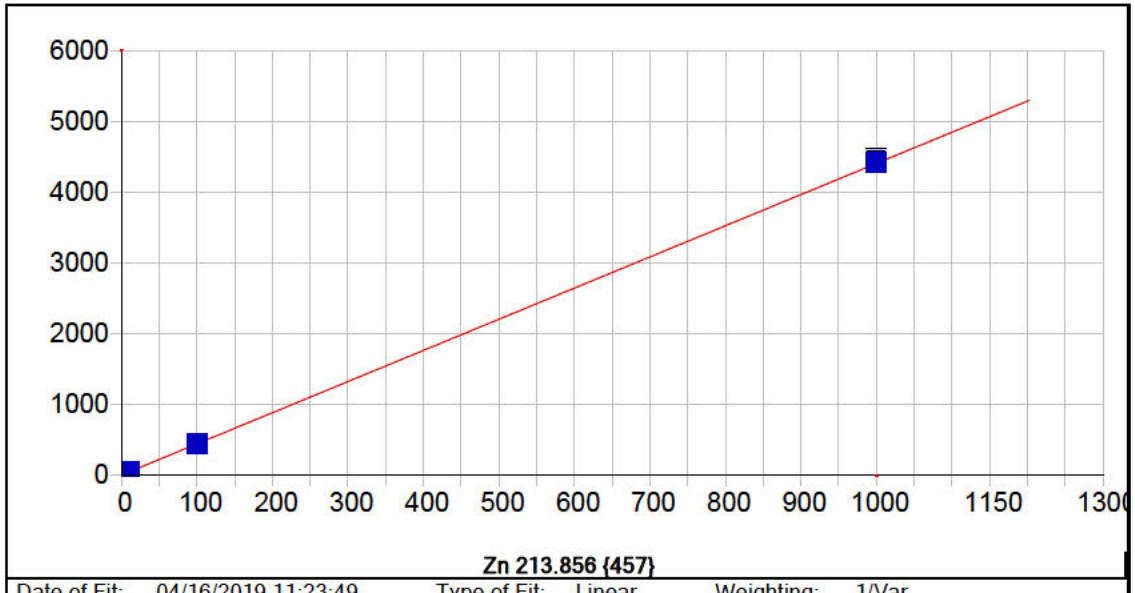



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000056 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998114 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.409027 | | |
| Predicted MQL: | 1.363425 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10934. | 934. | 9.34 | .20323 | .001 | 1 |
| Blank | .00000 | -1.8640 | -1.86 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1147.0 | 147. | 14.7 | .02137 | .000 | 1 |
| CalStd12=10 | 100000. | 96569. | -3430. | -3.43 | 1.7945 | .003 | 1 |
| CalStd5=10 | 10.000 | 9.8021 | -.198 | -1.98 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.46 | 12.5 | 12.5 | .00215 | .000 | 1 |

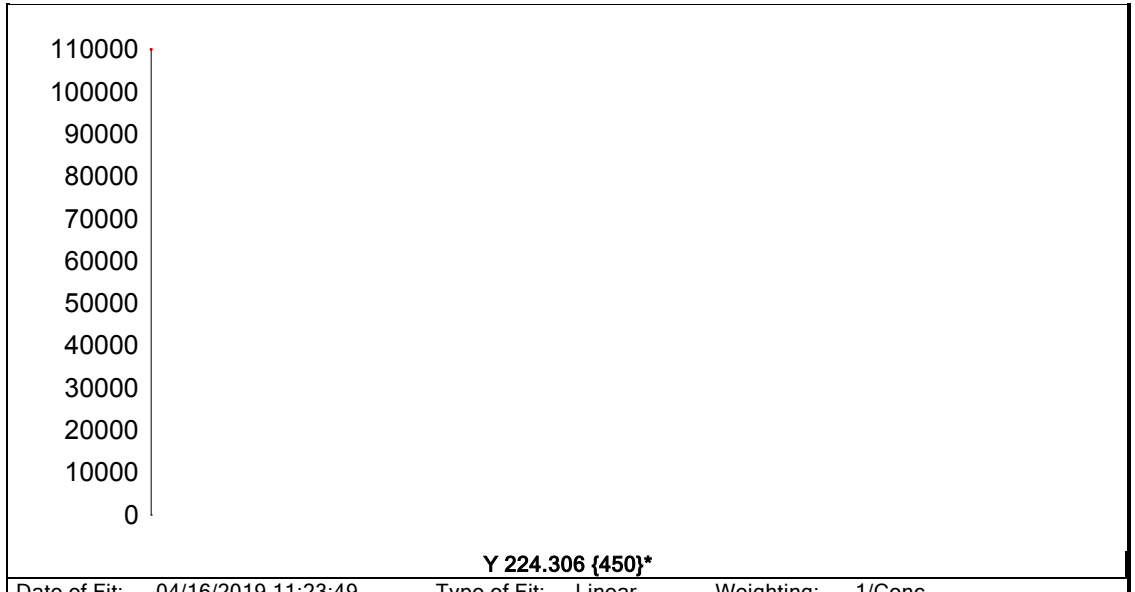



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

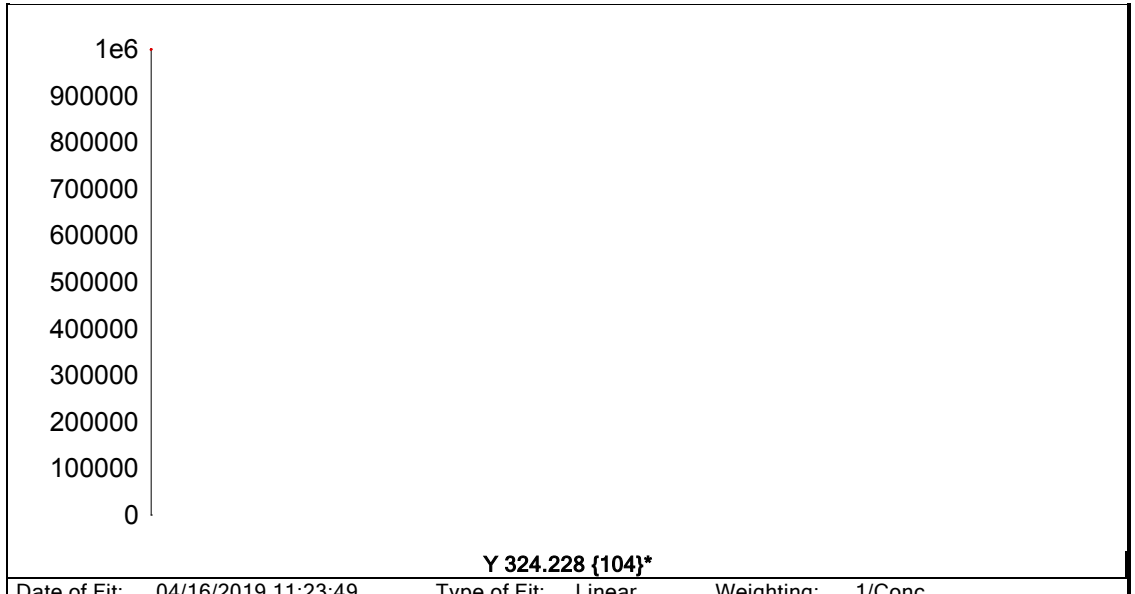
| | | | |
|---|---|---|---|
| A0 (Offset): | 6.970675 | Re-Slope: | 1.000000 |
| A1 (Gain): | 4.401027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.981134 | | |
| Predicted MDL: | 0.142347 | | |
| Predicted MQL: | 0.474492 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.16024 | -.160 | .000 | 6.2655 | .622 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.80 | .280 | 4461.6 | 12.2 | 1 |
| CalStd5=10 | 10.000 | 10.120 | .120 | 1.20 | 51.538 | .430 | 1 |
| CalStd8=100 | 100.00 | 99.839 | -.161 | -.161 | 450.43 | .796 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

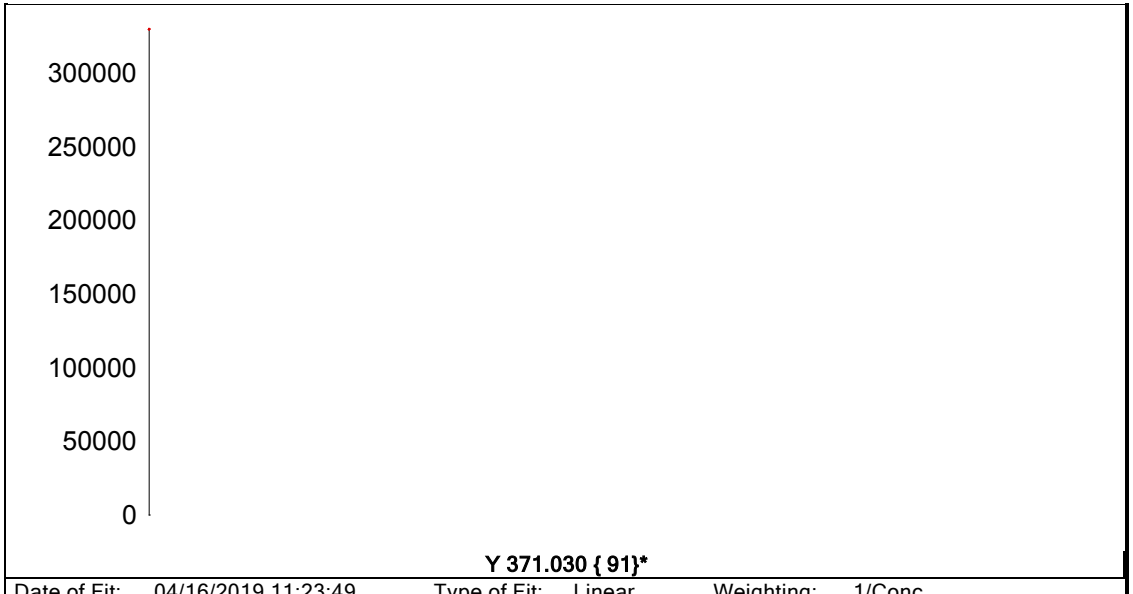
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 103200. | 284. | 1 |




**Y 324.228 {104}***

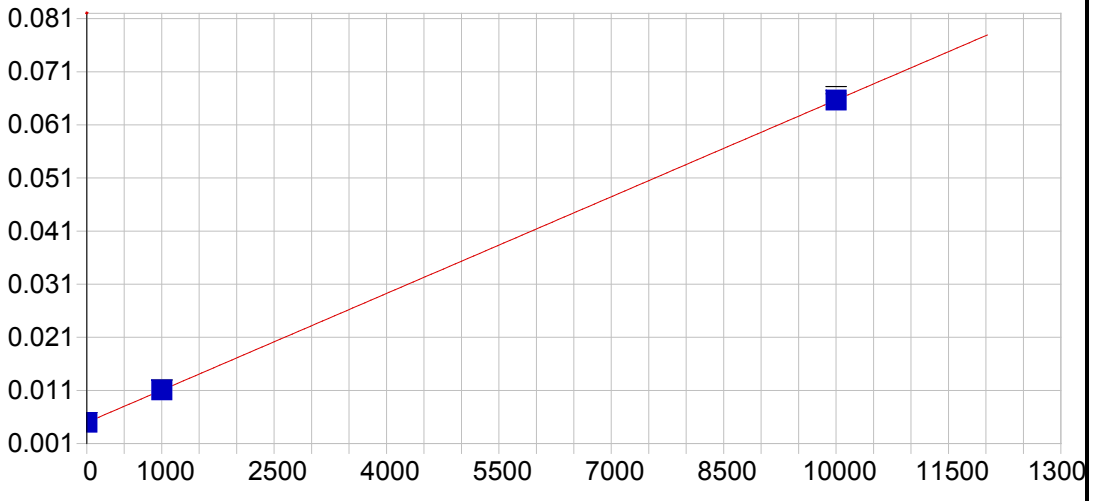
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 937860. | 1520. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 308380. | 2850. | 1 |

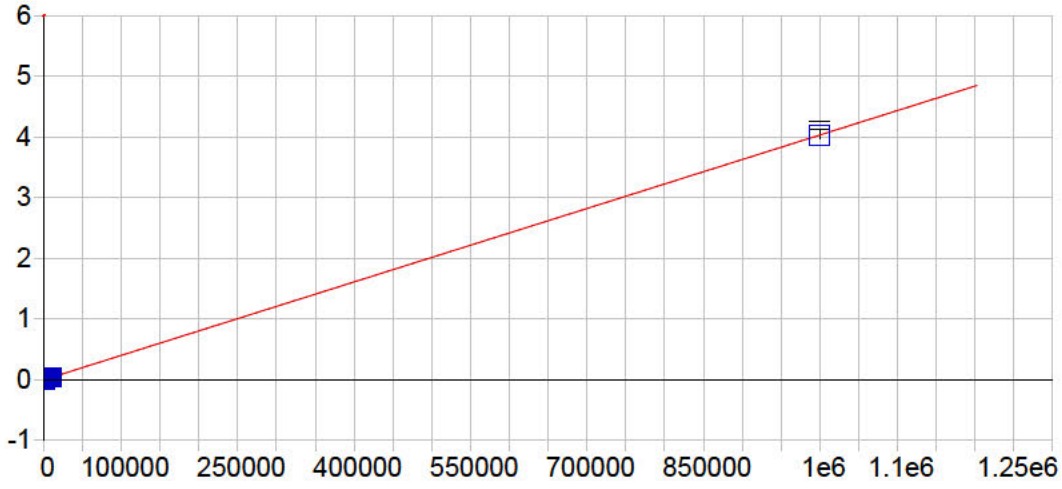



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004977 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 7.936203 | | |
| Predicted MQL: | 26.454008 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00521 | -.005 | .000 | .00498 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.78 | .578 | .01108 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.2 | -5.78 | -.058 | .06564 | .001 | 1 |

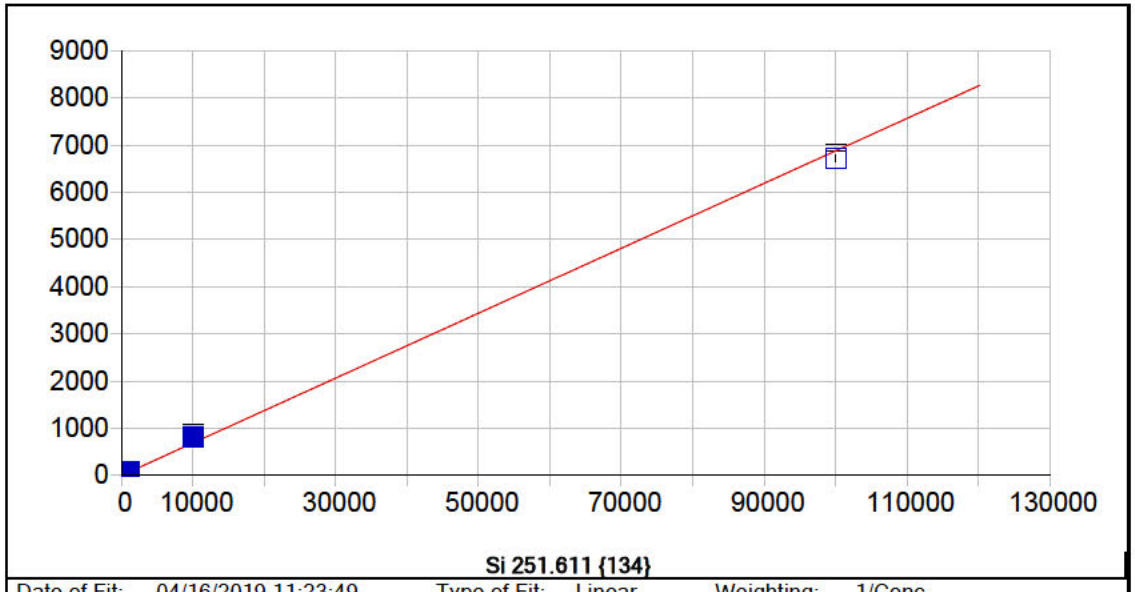



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 7.911739 | | |
| Predicted MQL: | 26.372462 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02552 | -.026 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.2 | 26.2 | 2.62 | .00416 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.3 | -6.67 | -.067 | .04034 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -19.5 | -.002 | 4.0343 | .062 | 1 |

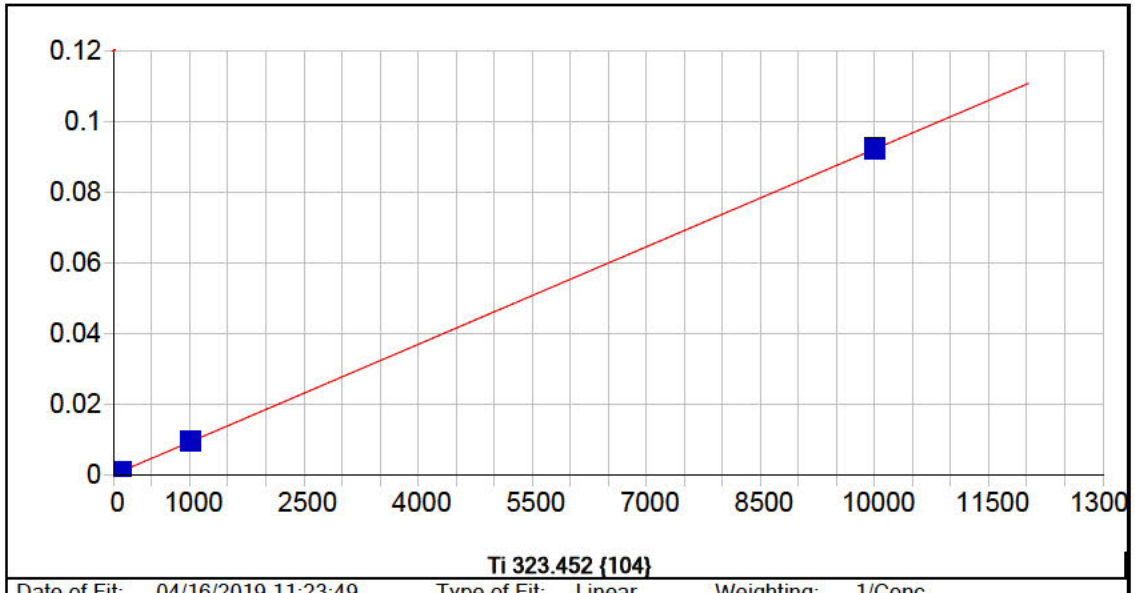



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.666779 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.068766 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998096 | Status: | OK. |
| Std Error of Est: | 2.011598 | | |
| Predicted MDL: | 20.011215 | | |
| Predicted MQL: | 66.704049 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.29899 | -.299 | .000 | .64622 | .270 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | 83.748 | 2.22 | 1 |
| CalStd10=10 | 10000. | 11912. | 1910. | 19.1 | 854.23 | 9.97 | 1 |
| CalibStd15= | 100000. | 97853. | -2150. | -2.15 | 6729.6 | 74.0 | 1 |

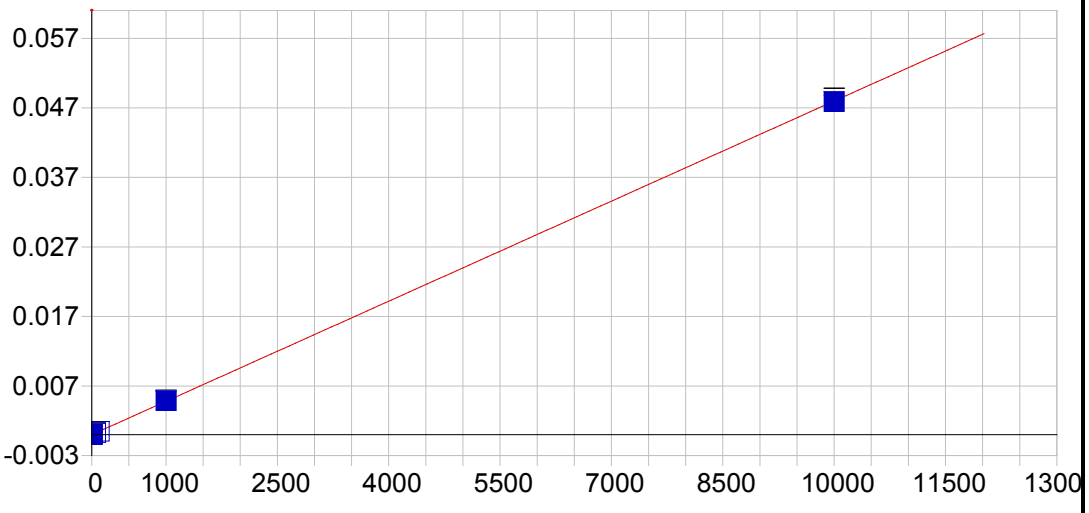



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000277 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.216005 | | |
| Predicted MQL: | 4.053351 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00187 | .002 | .000 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.9901 | -1.01 | -10.1 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.796 | -1.20 | -1.20 | .00119 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.9 | 13.9 | 1.39 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9991.8 | -8.17 | -.082 | .09221 | .001 | 1 |
| CalStd7=50 | 50.000 | 47.613 | -2.39 | -4.77 | .00072 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8662 | -1.13 | -22.7 | .00031 | .000 | 1 |

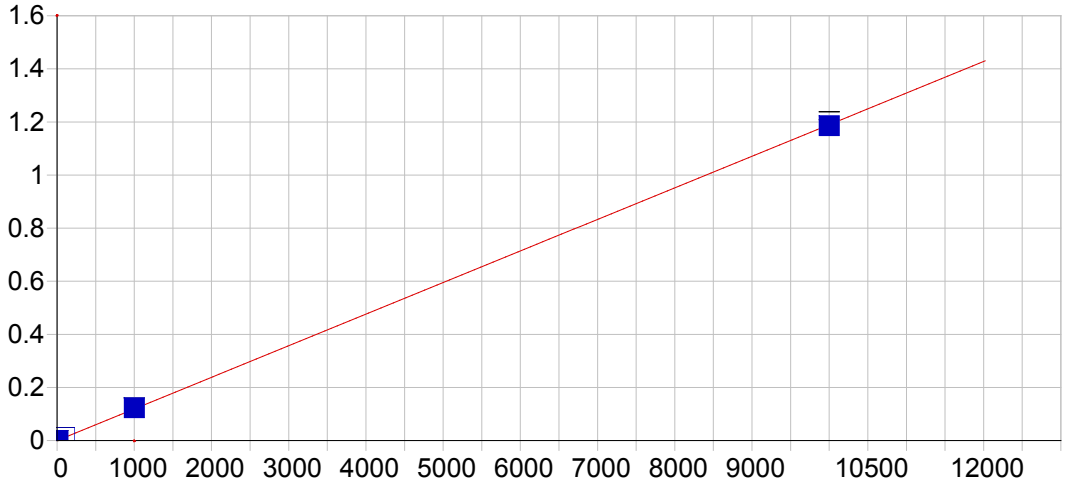



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.602554 | | |
| Predicted MQL: | 5.341845 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00163 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.946 | .946 | 9.46 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.884 | -.116 | -.116 | .00048 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.6 | 16.6 | 1.66 | .00488 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.0 | -20.0 | -.200 | .04790 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.717 | 1.72 | 3.43 | .00025 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9199 | .920 | 18.4 | .00003 | .000 | 1 |

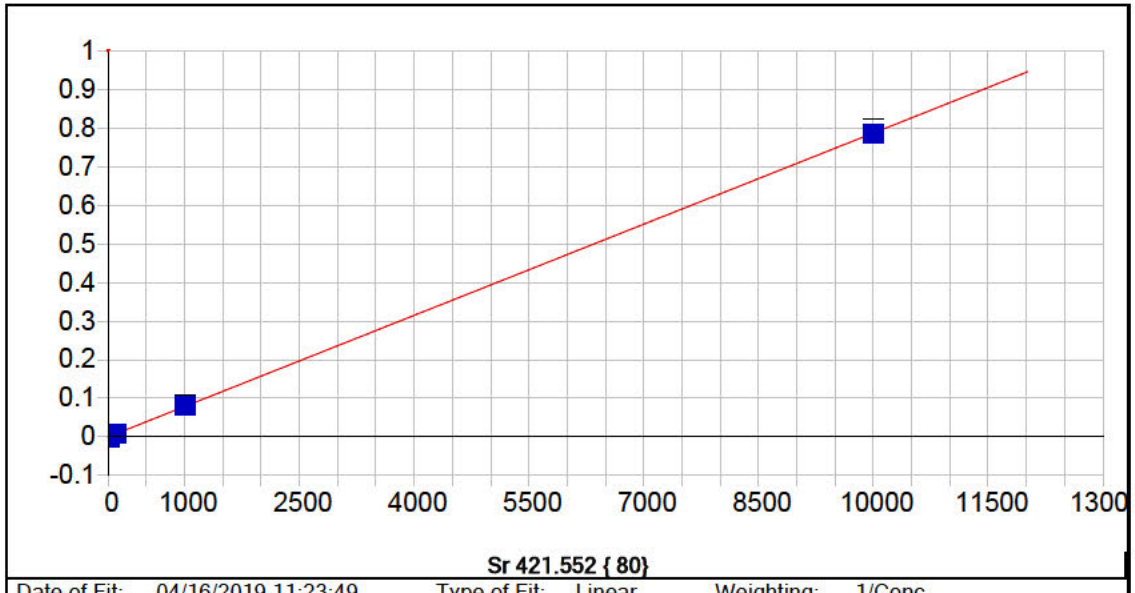



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000119 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.142843 | | |
| Predicted MQL: | 0.476144 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00032 | -.000 | .000 | .00004 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1221 | .122 | 12.2 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1875 | .187 | 3.75 | .00066 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.028 | 1.03 | 10.3 | .00136 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.37 | 2.37 | 2.37 | .01222 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.7 | 33.7 | 3.37 | .12308 | .001 | 1 |
| CalStd10=10 | 10000. | 9962.6 | -37.4 | -.374 | 1.1858 | .015 | 1 |

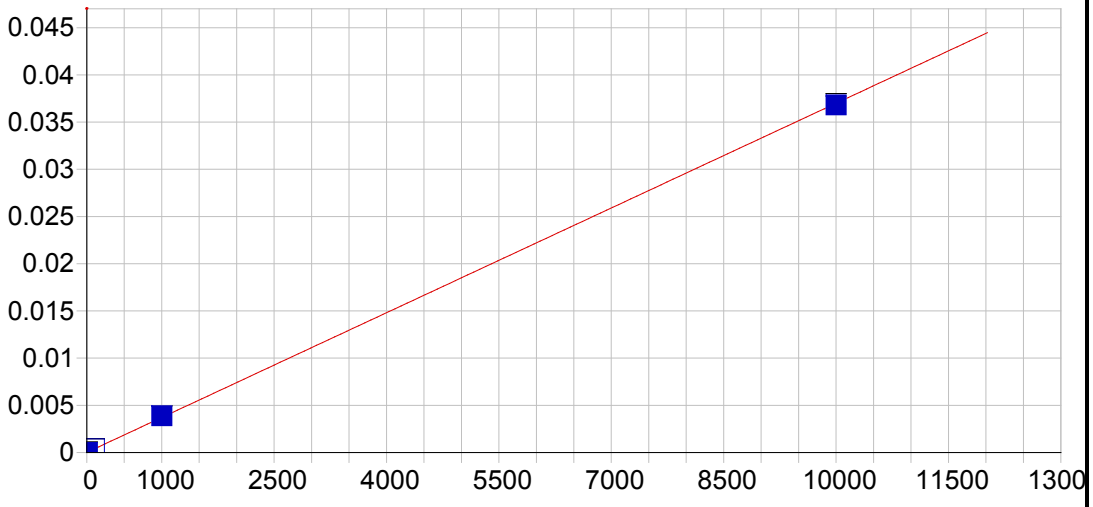



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000079 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999970 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.216521 | | |
| Predicted MQL: | 0.721737 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00032 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0641 | .064 | 6.41 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5673 | .567 | 11.3 | .00043 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.086 | 1.09 | 10.9 | .00087 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.16 | 2.16 | 2.16 | .00804 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.5 | 19.5 | 1.95 | .08022 | .001 | 1 |
| CalStd10=10 | 10000. | 9976.6 | -23.4 | -.234 | .78503 | .014 | 1 |

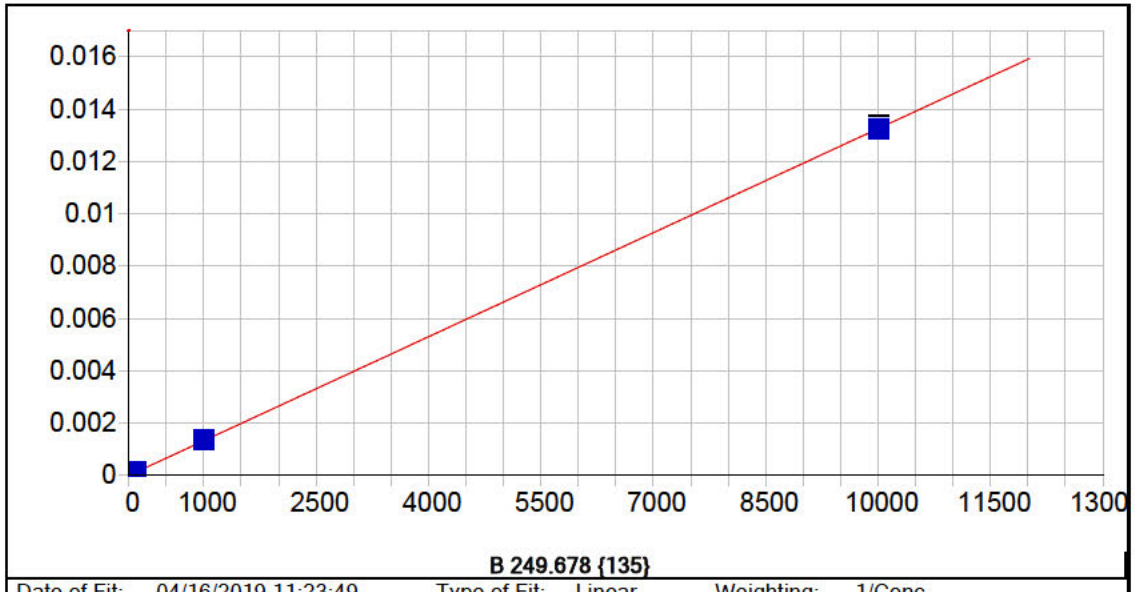



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.559447 | | |
| Predicted MQL: | 5.198156 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00175 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.6 | -49.4 | -.494 | .03681 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.6 | 46.6 | 4.66 | .00389 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.66 | 1.66 | 1.66 | .00039 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.167 | 1.17 | 11.7 | .00006 | .000 | 1 |

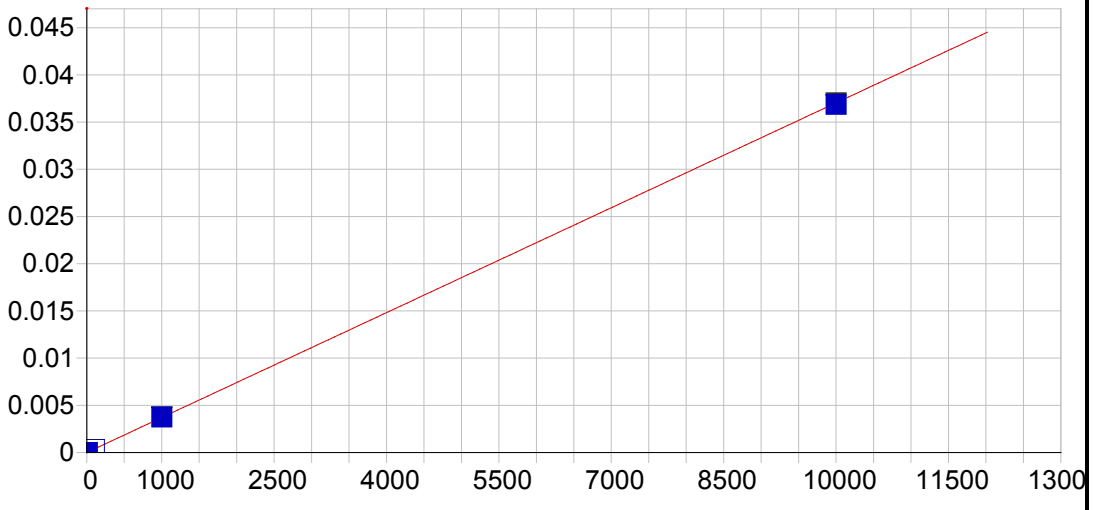



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999968 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.012222 | | |
| Predicted MQL: | 6.707406 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00247 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.795 | -.205 | -.205 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.388 | 2.39 | 23.9 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.5 | 11.5 | 1.15 | .00135 | .000 | 1 |
| CalStd10=10 | 10000. | 9986.3 | -13.7 | -.137 | .01328 | .000 | 1 |

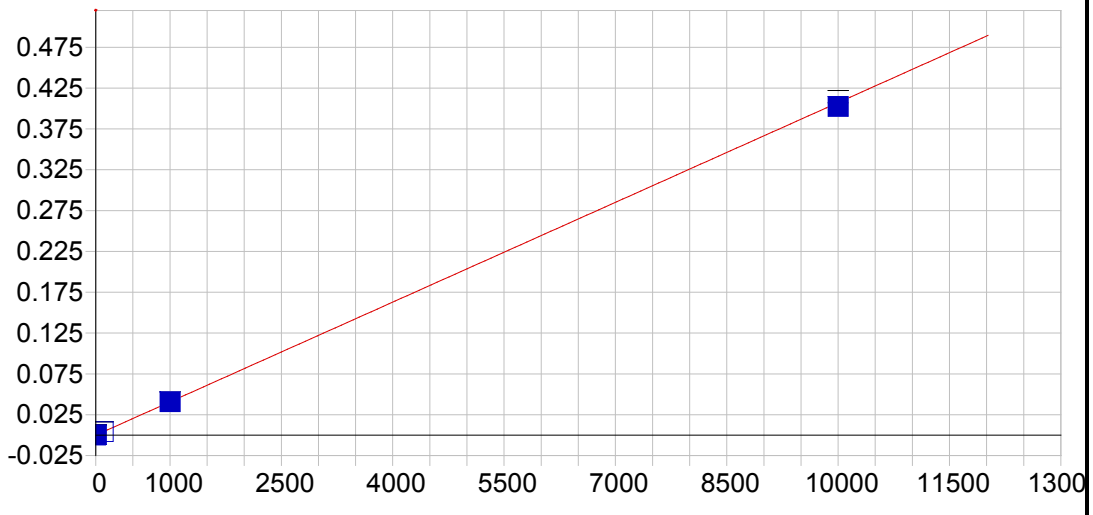



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.702004 | | |
| Predicted MQL: | 2.340014 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.19623 | -.196 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.25 | .249 | .249 | .00038 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7822 | -.218 | -2.18 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.4 | 8.45 | .845 | .00374 | .000 | 1 |
| CalStd10=10 | 10000. | 9952.1 | -47.9 | -.479 | .03688 | .000 | 1 |

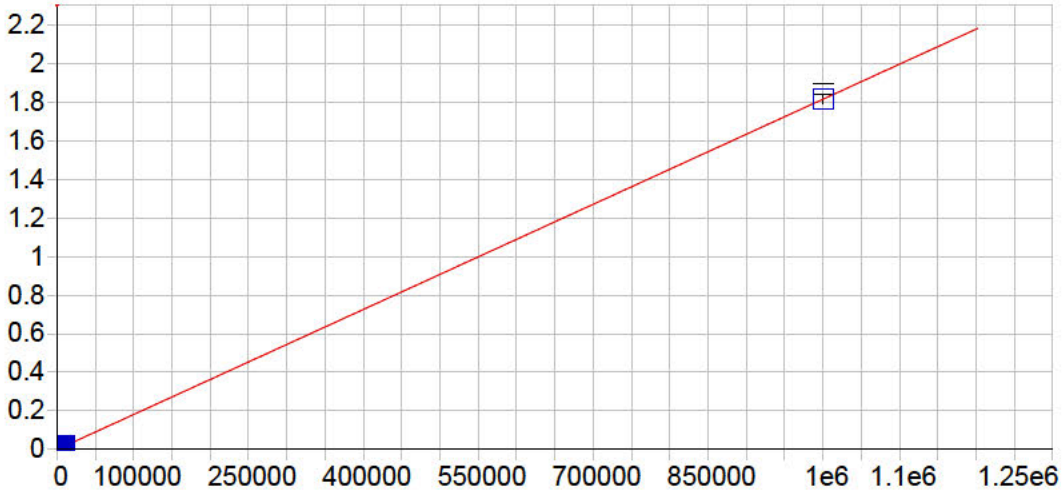



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000041 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 0.955321 | | |
| Predicted MQL: | 3.184404 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24079 | -.241 | .000 | -.00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.723 | .723 | 7.23 | .00040 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.20 | .196 | .196 | .00405 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .839 | .084 | .04073 | .000 | 1 |
| CalStd10=10 | 10000. | 9877.4 | -123. | -1.23 | .40227 | .008 | 1 |

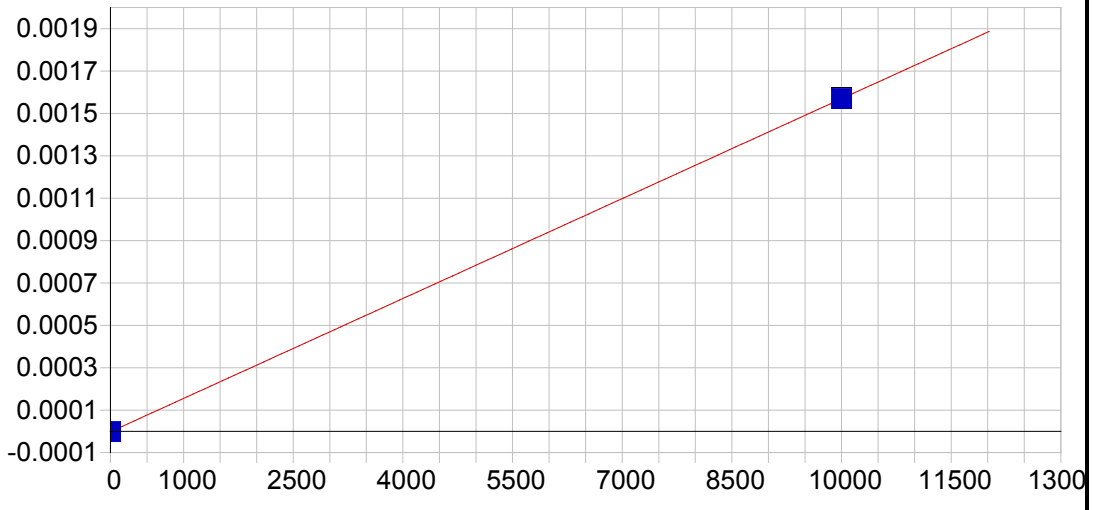



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 26.624067 | | |
| Predicted MQL: | 88.746890 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02327 | .023 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.04 | -13.0 | -1.30 | .00182 | .000 | 1 |
| CalStd10=10 | 10000. | 9895.7 | -104. | -1.04 | .01797 | .000 | 1 |
| CalibStd15= | 1000000. | 1000100. | 117. | .012 | 1.8147 | .026 | 1 |

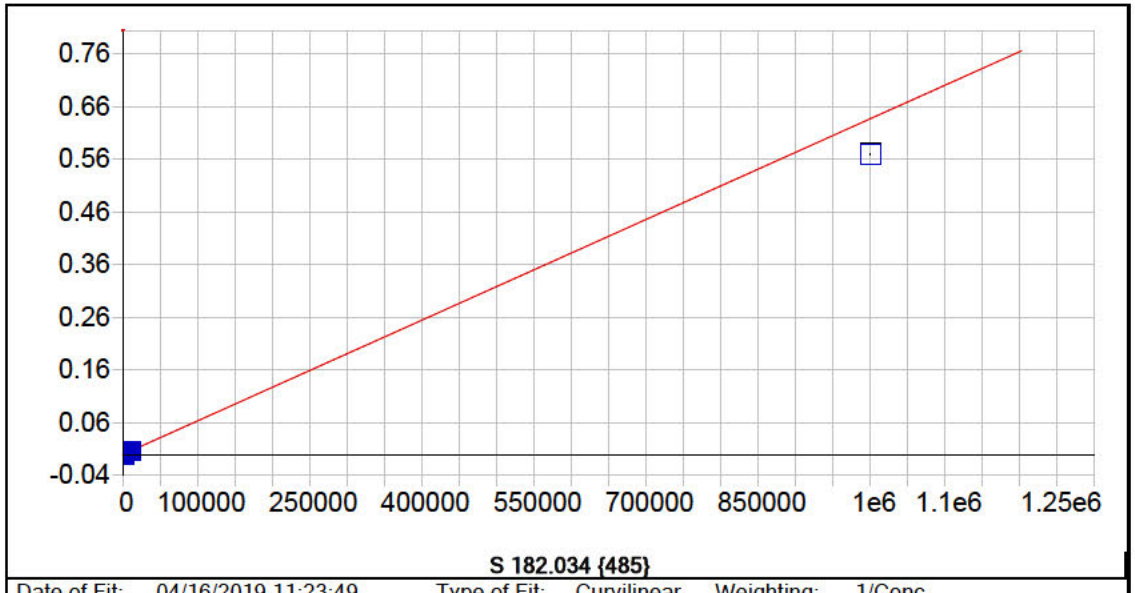



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.405910 | | |
| Predicted MQL: | 14.686365 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00157 | .000 | 1 |

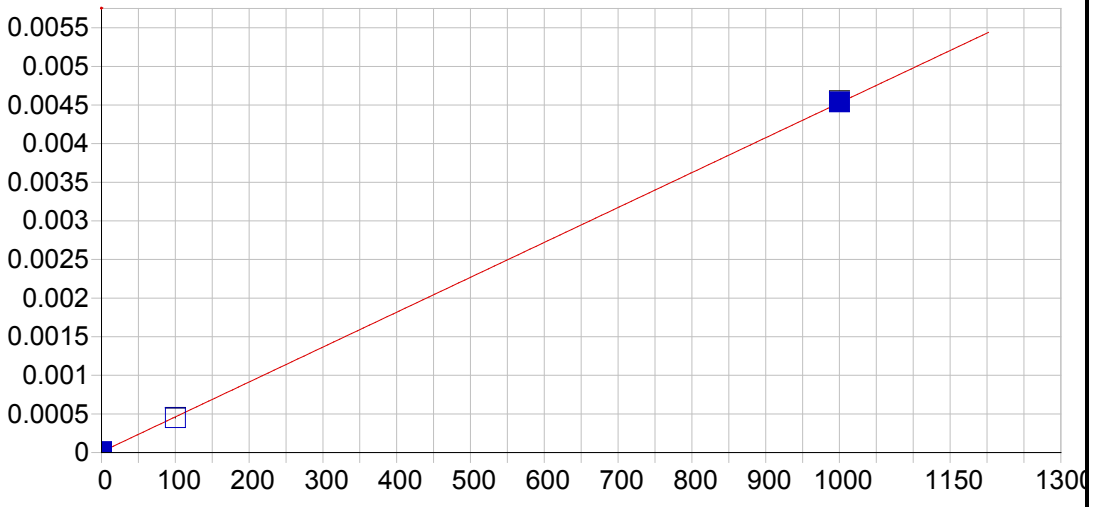



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.874381 | | |
| Predicted MQL: | 19.581270 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00442 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.8 | 4.82 | .482 | .00064 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.5 | -15.5 | -.155 | .00638 | .000 | 1 |
| CalibStd15= | 1000000. | 894590. | -105000. | -10.5 | .57030 | .001 | 1 |

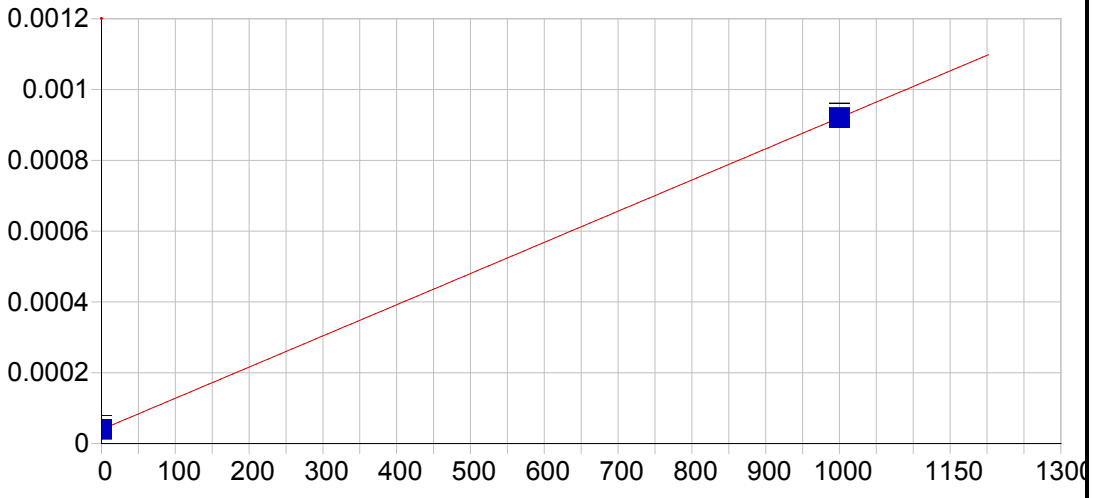



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.988337 | | |
| Predicted MQL: | 3.294457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00226 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.494 | -2.51 | -2.51 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.5 | 2.51 | .251 | .00454 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000040 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 19.309682 | | |
| Predicted MQL: | 64.365606 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00092 | .000 | 1 |

Sample Name: Blank Acquired: 04/05/2019 07:16:20 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.074** | **-.000** | **-.692** | **20.6** | **-.000** | **13.5** | **536.** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .387 | .000 | .293 | 3.1 | .000 | .9 | 259. | .000 | .000 |
| %RSD | 15.4 | 22.2 | 67.4 | 526. | 389. | 42.3 | 15.2 | 1.77 | 6.64 | 48.3 | 416. | 13.6 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **149.** | **9.89** | **.000** | **.000** | **15.1** | **-.000** | **529.** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | 2. | 3.07 | .000 | .000 | 4.2 | .000 | 19. | .000 |
| %RSD | 301. | 79.4 | 68.5 | 536. | 1.08 | 31.0 | 5.15 | 32.0 | 27.7 | 5700. | 3.62 | 72.4 |

| Elem | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.72** | **.067** | **-.210** | **-.000** | **.000** | **1.11** | **-.000** | **.713** | **.000** | **-.000** | **-.000** | **4.49** |
| Stddev | .96 | .586 | .211 | .000 | .000 | .78 | .000 | .128 | .000 | .000 | .000 | 1.86 |
| %RSD | 56.0 | 877. | 101. | 55.8 | 83.0 | 70.2 | 76.1 | 17.9 | 72.6 | 482. | 179. | 41.5 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **6.27** |
| Stddev | .000 | .62 |
| %RSD | 34.4 | 9.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103200.** | **937860.** | **308380.** |
| Stddev | 284. | 1522. | 2853. |
| %RSD | .27556 | .16233 | .92503 |

Sample Name: CalStd2=0.5 Acquired: 04/05/2019 07:22:42 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.72 | 7.54 | 14.5 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **104240.** | **953120.** |
| Stddev | 35. | 9528. |
| %RSD | .03386 | .99971 |

Sample Name: CalStd3=1 Acquired: 04/05/2019 07:28:55 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **1.19** | **43.9** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .47 | .4 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 20.9 | 39.0 | .833 | 2.37 | 11.6 | 17.2 | 33.9 | 28.6 | 107. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104960.** | **968740.** | **315020.** |
| Stddev | 121. | 7828. | 3478. |
| %RSD | .11502 | .80801 | 1.1040 |

Sample Name: CalStd4=5 Acquired: 04/05/2019 07:35:30 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.30** | **120.** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **11.7** | **.000** | **3.63** | **.000** |
| Stddev | .20 | 5. | .000 | .000 | .000 | .000 | .000 | .000 | 2.5 | .000 | .22 | .000 |
| %RSD | 4.72 | 4.43 | 1.81 | 3.13 | 1.08 | 3.48 | 3.33 | 3.97 | 21.4 | .680 | 6.06 | 7.40 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **4.34** | **1.34** |
| Stddev | .52 | .59 |
| %RSD | 12.0 | 43.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105180.** | **975070.** | **320520.** |
| Stddev | 171. | 5139. | 3305. |
| %RSD | .16242 | .52705 | 1.0313 |

Sample Name: CalStd5=10 Acquired: 04/05/2019 07:41:46 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.29** | **.000** | **10.3** | **231.** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .40 | .000 | .4 | 2. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 8.37 | 3.30 | 31.2 | 49.2 | 3.45 | .784 | 1.19 | 1.00 | 1.57 | 1.75 | 3.62 | 7.69 |

| Elem | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158.** | **13.2** | **.000** | **8.77** | **.000** | **.000** | **5.71** | **.000** | **2.24** | **.000** | **.000** | **106.** |
| Stddev | 3. | 3.3 | .000 | .28 | .000 | .000 | .51 | .000 | .50 | .000 | .000 | 5. |
| %RSD | 2.16 | 25.3 | 1.13 | 3.17 | 1.04 | 10.2 | 8.99 | 18.5 | 22.2 | 14.1 | 9.44 | 5.14 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **51.5** |
| Stddev | .000 | .4 |
| %RSD | 2.70 | .835 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105510.** | **984030.** | **322290.** |
| Stddev | 212. | 3604. | 3058. |
| %RSD | .20096 | .36623 | .94898 |

Sample Name: CalStd6=20 Acquired: 04/05/2019 07:48:03 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **19.2** | **417.** | **171.** | **19.3** | **.000** | **16.0** | **4.79** | **205.** |
| Stddev | .3 | 4. | 2. | 2.6 | .000 | .3 | .72 | 5. |
| %RSD | 1.53 | 1.06 | .995 | 13.3 | .644 | 1.57 | 15.0 | 2.56 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105800.** | **984500.** |
| Stddev | 273. | 4802. |
| %RSD | .25795 | .48776 |

Sample Name: CalStd7=50 Acquired: 04/05/2019 07:54:13 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Ba4554 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2045 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.04** | **.000** | **1020.** | **.002** | **.003** | **.001** | **.001** | **.000** | **200.** | **35.5** | **.001** | **41.6** |
| Stddev | .15 | .000 | 12. | .000 | .000 | .000 | .000 | .000 | 4. | 1.8 | .000 | .8 |
| %RSD | 2.17 | 10.1 | 1.17 | .348 | .247 | .393 | .614 | .279 | 2.16 | 5.14 | .156 | 1.83 |

| Elem | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.000** | **502.** |
| Stddev | .000 | .000 | .000 | 5. |
| %RSD | .971 | 4.45 | 13.0 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106000.** | **988570.** | **322530.** |
| Stddev | 277. | 2989. | 2206. |
| %RSD | .26097 | .30234 | .68401 |

Sample Name: CalStd8=100 Acquired: 04/05/2019 08:00:22 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **13.1** | **.000** | **96.7** | **1970.** | **.010** | **15400.** | **.003** | **.006** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .6 | 21. | .000 | 155. | .000 | .000 | .000 |
| %RSD | .948 | 1.44 | 4.04 | 3.64 | .583 | 1.09 | .606 | 1.01 | .231 | .387 | .188 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **247.** | **60.0** | **5640.** | **.002** | **82.2** | **207.** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 4. | 2.4 | 26. | .000 | .9 | 1. | .000 | .000 |
| %RSD | .952 | .263 | 1.31 | 1.59 | 4.05 | .465 | .888 | 1.05 | .349 | .268 | 2.52 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **41.3** | **20.6** | **.000** | **.000** | **.000** | **985.** | **.002** | **450.** |
| Stddev | 1.0 | .2 | .000 | .000 | .000 | 6. | .000 | 1. |
| %RSD | 2.46 | .812 | 3.52 | 22.9 | 2.01 | .630 | .987 | .177 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106590.** | **991390.** | **322150.** |
| Stddev | 86. | 4912. | 2445. |
| %RSD | .08039 | .49550 | .75900 |

Sample Name: CalStd9=1000 Acquired: 04/05/2019 08:06:31 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.002** | **135.** | **.001** | **975.** | **19800.** | **.102** | **139.** | **129000.** | **.035** |
| Stddev | .000 | .000 | 1. | .000 | 3. | 168. | .000 | 3. | 1220. | .000 |
| %RSD | .266 | .955 | .495 | 1.48 | .352 | .848 | .209 | 1.89 | .950 | .122 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.064** | **.020** | **.003** | **.019** | **.004** | **1140.** | **537.** | **.001** | **.000** | **472.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 12. | 9. | .000 | .000 | 4. |
| %RSD | .275 | .406 | .383 | .053 | .080 | 1.03 | 1.64 | .481 | 1.24 | .915 |

| Elem | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **50800.** | **.017** | **1520.** | **842.** | **2080.** | **.019** | **.002** | **399.** | **.003** |
| Stddev | .000 | 263. | .000 | 14. | 1. | 9. | .000 | .000 | 1. | .000 |
| %RSD | 5.43 | .518 | .212 | .938 | .085 | .424 | .186 | .580 | .219 | .682 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **206.** | **.001** | **.000** | **.003** | **10000.** | **.021** | **4460.** |
| Stddev | 1. | .000 | .000 | .000 | 35. | .000 | 12. |
| %RSD | .454 | .273 | 1.72 | .076 | .352 | .569 | .273 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **1000500.** | **324740.** |
| Stddev | 335. | 4893. | 1702. |
| %RSD | .31296 | .48909 | .52398 |

Sample Name: CalStd10=10000 Acquired: 04/05/2019 08:12:10 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4554 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.015** | **.009** | **190000.** | **1260.** | **.198** | **.028** | **.184** | **.037** | **9910.** | **5160.** |
| Stddev | .000 | .000 | 1730. | 6. | .000 | .000 | .000 | .000 | 131. | 80. |
| %RSD | .880 | .297 | .910 | .442 | .164 | .501 | .137 | .395 | 1.32 | 1.55 |

| Elem | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.004** | **4590.** | **.000** | **454000.** | **.159** | **14900.** | **8060.** | **19500.** | **.181** |
| Stddev | .000 | .000 | 41. | .000 | 4540. | .001 | 123. | 8. | 43. | .000 |
| %RSD | .665 | .665 | .883 | 1.08 | 1.00 | .545 | .822 | .098 | .221 | .034 |

| Elem | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.018** | **.025** | **1980.** | **.003** | **.028** | **96200.** | **.203** |
| Stddev | .000 | .000 | 3. | .000 | .000 | 220. | .001 |
| %RSD | .158 | .285 | .135 | .524 | .117 | .228 | .298 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104810.** | **976730.** | **325360.** |
| Stddev | 168. | 3799. | 1969. |
| %RSD | .15989 | .38894 | .60521 |

Sample Name: CalStd12=100K  Acquired: 04/05/2019 08:18:42  Type: Cal

Method: DOD Calibration Updated 060614(v3295)  Mode: IR  Corr. Factor: 1.000000

User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1

Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.60** | **94200.** | **50100.** | **140000.** | **.174** | **1.79** |
| Stddev | .00 | 1180. | 501. | 1150. | .000 | .00 |
| %RSD | .051 | 1.26 | 1.00 | .825 | .163 | .167 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105470.** | **986270.** |
| Stddev | 86. | 3826. |
| %RSD | .08111 | .38792 |

Sample Name: CalStd13=100000 Acquired: 04/05/2019 08:25:00 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.146** | **12100.** | **.048** | **.034** | **42900.** | **.004** |
| Stddev | .002 | 72. | .000 | .000 | 397. | .000 |
| %RSD | 1.36 | .597 | .383 | 1.00 | .926 | .924 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103450.** | **986050.** | **323600.** |
| Stddev | 134. | 4009. | 1860. |
| %RSD | .12942 | .40654 | .57480 |

Sample Name: CalStd14=500000 Acquired: 04/05/2019 08:31:24 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.751** | **57100.** | **.159** | **190000.** | **.022** |
| Stddev | .018 | 269. | .002 | 522. | .000 |
| %RSD | 2.36 | .471 | .981 | .275 | 1.06 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **95857.** | **308780.** |
| Stddev | 187. | 2213. |
| %RSD | .19559 | .71663 |

Sample Name: CalibStd15=1000k Acquired: 04/05/2019 08:38:16 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.53** | **105000.** | **.299** | **.043** |
| Stddev | .02 | 304. | .002 | .000 |
| %RSD | 1.41 | .288 | .713 | .685 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **86218.** | **287800.** |
| Stddev | 176. | 1560. |
| %RSD | .20456 | .54215 |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.2** | **11800.** | **1950.** | **1920.** | **2020.** | **46.5** | **9870.** | **47.2** | **504.** | **192.** | **251.** | **256.** |
| Stddev | .9 | 133. | 10. | 10. | 6. | .2 | 71. | .1 | 1. | 2. | 2. | 4. |
| %RSD | 2.09 | 1.13 | .534 | .506 | .288 | .504 | .720 | .199 | .199 | 1.12 | .940 | 1.68 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4860.** | **10300.** | **500.** | **511.** | **508.** | **494.** | **470.** | **478.** | **496.** | **500.** | **1930.** | **2000.** |
| Stddev | 19. | 132. | 4. | 2. | 1. | 1. | 5. | 2. | 2. | 2. | 13. | 7. |
| %RSD | .390 | 1.28 | .717 | .332 | .287 | .208 | 1.10 | .491 | .466 | .346 | .695 | .361 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **495.** | **527.** | **482.** |
| Stddev | 1. | 3. | 1. |
| %RSD | .133 | .543 | .107 |
| Check ? | None | None | None |
| Value | | | |
| Range | | | |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107870.** | **1017900.** | **330150.** |
| Stddev | 155. | 5761. | 2766. |
| %RSD | .14372 | .56599 | .83786 |

Sample Name: ICVLL Acquired: 04/05/2019 09:04:20 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.4** | **1170.** | **1180.** | **62.4** | **29.1** | **10.9** | **1400.** | **14.4** | **14.7** | **29.0** | **29.1** | **28.0** |
| Stddev | 1.0 | 5. | 11. | 3.0 | .4 | .0 | 6. | .3 | .1 | .4 | .9 | 4.4 |
| %RSD | 3.30 | .450 | .913 | 4.76 | 1.21 | .388 | .465 | 1.74 | .834 | 1.45 | 3.13 | 15.7 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **27.9** | **880.** | **1440.** | **32.3** | **29.0** | **29.5** | **31.9** | **62.8** | **65.7** | **59.6** | **29.2** | **28.8** |
| Stddev | 3.1 | 3. | 5. | .3 | .3 | .4 | 1.3 | 3.2 | 4.7 | 1.6 | .5 | .2 |
| %RSD | 11.0 | .322 | .347 | .943 | 1.09 | 1.41 | 4.20 | 5.09 | 7.16 | 2.72 | 1.72 | .524 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107650.** | **1025000.** | **332350.** |
| Stddev | 64. | 4162. | 4275. |
| %RSD | .05979 | .40602 | 1.2863 |

Sample Name: icb Acquired: 04/05/2019 09:10:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.683** | **-1.64** | **-.338** | **.229** | **-.074** | **-9.72** | **.077** | **-.062** | **-.284** | **-.761** | **-3.27** | **-12.2** |
| Stddev | .756 | 1.07 | 2.47 | .448 | .038 | .73 | .092 | .174 | .152 | .371 | 6.43 | 2.3 |
| %RSD | 111. | 65.0 | 730. | 196. | 51.7 | 7.54 | 119. | 281. | 53.6 | 48.8 | 197. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.32** | **.151** | **-.858** | **.305** | **.273** | **-3.89** | **2.65** | **1.53** | **-.291** | **-.741** |
| Stddev | .04 | .090 | .552 | .430 | 6.90 | 1.68 | 5.63 | 2.28 | .164 | .047 |
| %RSD | .515 | 59.5 | 64.4 | 141. | 2530. | 43.2 | 213. | 149. | 56.5 | 6.40 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108740.** | **1038400.** | **330070.** |
| Stddev | 216. | 7591. | 1142. |
| %RSD | .19875 | .73105 | .34597 |

Sample Name: ICSA Acquired: 04/05/2019 09:29:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.535** | **529000.** | **-.502** | **.000** | **-.473** | **514000.** | **.010** | **-.699** | **-.372** | **-2.79** | **-1.73** |
| Stddev | .822 | 8170. | 9.70 | .506 | .058 | 3140. | 1.26 | .271 | .155 | .85 | 6.83 |
| %RSD | 154. | 1.54 | 1930. | 239000. | 12.3 | .611 | 12500. | 38.8 | 41.7 | 30.3 | 395. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481000.** | **494000.** | **-2.73** | **-1.91** | **-.450** | **1.02** | **.001** | **.002** | **-.087** | **8970.** | **6.35** |
| Stddev | 5460. | 5380. | .27 | .59 | .782 | 2.41 | 6.42 | 10.9 | .964 | 17. | .83 |
| %RSD | 1.14 | 1.09 | 9.71 | 30.9 | 174. | 237. | 697000. | 465000. | 1100. | .188 | 13.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96186.** | **927730.** | **313820.** |
| Stddev | 132. | 2680. | 2397. |
| %RSD | .13760 | .28885 | .76366 |

Sample Name: ICSAB Acquired: 04/05/2019 09:35:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **444.** | **544000.** | **568.** | **476.** | **450.** | **480.** | **502000.** | **493.** | **461.** | **485.** | **444.** |
| Stddev | 3. | 7240. | 14. | 2. | 2. | 3. | 2570. | 1. | 1. | 3. | 6. |
| %RSD | .643 | 1.33 | 2.37 | .449 | .528 | .601 | .512 | .160 | .153 | .701 | 1.38 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **526.** | **506000.** | **508000.** | **512.** | **477.** | **493.** | **445.** | **451.** | **879.** | **412.** | **459.** |
| Stddev | 8. | 3160. | 2730. | 2. | . | 1. | 3. | 2. | 18. | 4. | 11. |
| %RSD | 1.56 | .625 | .537 | .465 | .034 | .294 | .657 | .426 | 2.08 | .850 | 2.45 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **488.** | **468.** | **476.** | **507.** | **564.** | **510.** | **499.** |
| Stddev | 12. | 5. | 3. | 3. | 5. | 1. | 1. |
| %RSD | 2.35 | 1.09 | .672 | .620 | .889 | .123 | .141 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: MRL/LLOQ Acquired: 04/05/2019 09:22:55 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.0** | **397.** | **17.5** | **9.52** | **3.49** | **445.** | **4.73** | **4.81** | **9.30** | **9.42** | **8.80** | **286.** |
| Stddev | .7 | 1. | 3.1 | .16 | .05 | 4. | .16 | .19 | .36 | .59 | 3.61 | 1. |
| %RSD | 6.87 | .277 | 17.9 | 1.68 | 1.46 | .988 | 3.28 | 3.84 | 3.83 | 6.28 | 41.1 | .369 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **9.15** | **9.36** | **9.97** | **12.6** | **18.8** | **21.9** | **20.8** | **8.88** | **9.86** |
| Stddev | 2. | .05 | .31 | .39 | 1.7 | 2.3 | 3.4 | 1.9 | .17 | .06 |
| %RSD | .442 | .509 | 3.30 | 3.91 | 13.3 | 12.2 | 15.7 | 9.04 | 1.90 | .574 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108050.** | **1039400.** | **331930.** |
| Stddev | 301. | 5126. | 2002. |
| %RSD | .27862 | .49316 | .60315 |

Sample Name: ccv1 Acquired: 04/05/2019 16:18:09 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **451.** | F **4240.** | **4760.** | F **4310.** | F **445.** | F **4340.** | F **434.** | **4510.** | **4540.** | **4610.** | F **4370.** | **4640.** |
| Stddev | 1. | 39. | 10. | 11. | 2. | 34. | 1. | 18. | 6. | 7. | 55. | 54. |
| %RSD | .258 | .918 | .218 | .254 | .511 | .791 | .236 | .406 | .134 | .151 | 1.26 | 1.16 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4680.** | F **4230.** | F **4300.** | F **4400.** | F **4280.** | F **4390.** | **4500.** | F **4400.** | **5160.** |
| Stddev | 32. | 5. | 8. | 6. | 21. | 8. | 7. | 11. | 22. |
| %RSD | .688 | .123 | .179 | .144 | .478 | .185 | .165 | .248 | .420 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103770.** | **939240.** | **326610.** |
| Stddev | 124. | 4473. | 1359. |
| %RSD | .11914 | .47622 | .41604 |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.1** | F **415.** | **451.** | F **420.** | F **441.** | **47.4** | F **411.** | **45.0** | **46.5** | F **427.** | F **429.** | **482.** |
| Stddev | .6 | 2. | 5. | 1. | 4. | .5 | 3. | .2 | .2 | 1. | 5. | 5. |
| %RSD | 1.25 | .387 | 1.01 | .146 | .818 | 1.11 | .668 | .533 | .423 | .295 | 1.25 | 1.08 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **439.** | F **435.** | F **427.** | **463.** | F **435.** | **453.** | F **443.** | **449.** | F **422.** | F **422.** | **450.** | F **431.** |
| Stddev | 9. | 7. | 2. | 4. | 1. | 1. | 1. | 2. | 3. | 3. | 1. | 2. |
| %RSD | 1.98 | 1.58 | .509 | .950 | .309 | .280 | .244 | .555 | .650 | .680 | .286 | .502 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | 500. | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | -10.4% | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **475.** | **454.** | **519.** | F **434.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .487 | .285 | .274 | .292 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106990.** | **971930.** | **329900.** |
| Stddev | 184. | 5915. | 2052. |
| %RSD | .17156 | .60859 | .62192 |

Sample Name: ccb Acquired: 04/05/2019 16:29:21 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.075** | **-4.59** | **1.94** | **.754** | **.251** | **-11.3** | **.065** | **.022** | **.442** | **-.079** | **-.921** | **-6.78** |
| Stddev | .507 | .84 | 3.21 | .588 | .031 | .6 | .020 | .100 | .175 | .918 | 7.17 | 2.50 |
| %RSD | 679. | 18.2 | 165. | 77.9 | 12.3 | 5.08 | 30.5 | 450. | 39.7 | 1160. | 779. | 36.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.68** | **.751** | **.192** | **.715** | **2.42** | **-1.31** | **4.54** | **2.11** | **.126** | **-.465** |
| Stddev | .04 | .076 | .233 | .510 | 1.74 | 1.14 | 5.33 | 1.66 | .476 | .059 |
| %RSD | .511 | 10.1 | 121. | 71.3 | 72.1 | 86.9 | 118. | 78.8 | 379. | 12.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106770.** | **978400.** | **330270.** |
| Stddev | 178. | 4473. | 914. |
| %RSD | .16707 | .45717 | .27662 |

Sample Name: 255857 Acquired: 04/05/2019 17:34:38 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.745** | **10900.** | **27.9** | **141.** | **188.** | **.804** | **13300.** | **-.599** | **.420** | **5.19** | **25.3** | **96.5** |
| Stddev | .343 | 382. | 1.5 | 1. | 8. | .019 | 500. | .066 | .167 | .37 | .4 | 5.0 |
| %RSD | 46.0 | 3.50 | 5.43 | 1.00 | 4.18 | 2.33 | 3.77 | 10.9 | 39.6 | 7.09 | 1.39 | 5.18 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **77.0** | **18600.** | **4880.** | **9550.** | **1.40** | **20.6** | **467.** | **450.** | **-1.22** | **-2.08** | **5.48** | **47.8** |
| Stddev | 7.3 | 724. | 144. | 365. | .51 | .5 | 6. | 4. | 2.66 | 5.10 | 2.03 | 1.4 |
| %RSD | 9.50 | 3.90 | 2.96 | 3.82 | 36.4 | 2.31 | 1.29 | .920 | 218. | 245. | 37.1 | 2.90 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **112.** |
| Stddev | 1. |
| %RSD | 1.17 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106840.** | **970780.** | **336130.** |
| Stddev | 123. | 6658. | 3203. |
| %RSD | .11554 | .68583 | .95295 |

Sample Name: ccv1 Acquired: 04/05/2019 17:41:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4220.** | **4720.** | F **4310.** | F **442.** | F **4320.** | F **434.** | F **4480.** | **4530.** | **4610.** | F **4340.** | **4570.** |
| Stddev | 2. | 20. | 32. | 38. | 2. | 24. | 1. | 17. | 11. | 24. | 22. | 98. |
| %RSD | .410 | .478 | .678 | .881 | .390 | .562 | .196 | .375 | .250 | .509 | .500 | 2.14 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | 5000. | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | F **4210.** | F **4280.** | F **4410.** | F **4290.** | F **4410.** | **4480.** | F **4390.** | **5120.** |
| Stddev | 22. | 8. | 10. | 23. | 15. | 35. | 7. | 7. | 19. |
| %RSD | .482 | .195 | .228 | .517 | .346 | .791 | .166 | .150 | .377 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103460.** | **944250.** | **326940.** |
| Stddev | 307. | 4172. | 3016. |
| %RSD | .29717 | .44187 | .92240 |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.7** | F **415.** | **452.** | F **416.** | F **443.** | **47.0** | F **412.** | F **44.8** | **46.6** | F **428.** | F **425.** | **480.** |
| Stddev | .5 | 2. | 6. | 1. | 4. | .2 | 4. | .1 | .1 | 1. | 3. | 7. |
| %RSD | 1.08 | .528 | 1.34 | .335 | 1.01 | .423 | 1.00 | .249 | .176 | .202 | .616 | 1.38 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | 50.0 | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **430.** | F **423.** | **459.** | F **433.** | **451.** | F **442.** | **454.** | F **420.** | F **419.** | **449.** | F **430.** |
| Stddev | 5. | 4. | 1. | 2. | 2. | 1. | 1. | 3. | 6. | 4. | 3. | 5. |
| %RSD | 1.17 | .915 | .346 | .410 | .455 | .306 | .283 | .623 | 1.48 | .862 | .638 | 1.06 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **479.** | **451.** | **517.** | F **432.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .474 | .245 | .123 | .336 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106480.** | **975080.** | **330590.** |
| Stddev | 231. | 2674. | 1330. |
| %RSD | .21722 | .27427 | .40242 |

Sample Name: ccb Acquired: 04/05/2019 17:52:19 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.231** | **-4.42** | **.050** | **.634** | **.230** | **-11.1** | **.118** | **-.015** | **.588** | **.278** | **10.9** | **-1.60** |
| Stddev | .385 | .79 | 4.45 | .114 | .033 | .6 | .113 | .128 | .231 | .393 | 3.6 | 2.25 |
| %RSD | 167. | 17.8 | 8970. | 17.9 | 14.2 | 5.43 | 96.0 | 860. | 39.3 | 141. | 32.9 | 140. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-4.76** | **-8.58** | **.900** | **.377** | **.625** | **1.78** | **-.347** | **6.21** | **2.81** | **.297** | **-.404** |
| Stddev | 2.00 | .01 | .100 | .648 | .080 | 1.52 | 2.20 | 2.20 | 1.17 | .640 | .092 |
| %RSD | 42.0 | .076 | 11.1 | 172. | 12.8 | 85.7 | 634. | 35.4 | 41.8 | 216. | 22.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106430.** | **969110.** | **331350.** |
| Stddev | 189. | 3923. | 2094. |
| %RSD | .17758 | .40476 | .63183 |

Sample Name: 255858 Acquired: 04/05/2019 17:58:37 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.735** | **12300.** | **20.3** | **137.** | **193.** | **.760** | **14300.** | **-.401** | **.597** | **5.18** | **23.0** | **125.** |
| Stddev | .449 | 705. | 4.8 | 2. | 10. | .020 | 823. | .208 | .201 | .24 | 1.2 | 8. |
| %RSD | 61.1 | 5.73 | 23.7 | 1.45 | 5.08 | 2.58 | 5.77 | 51.8 | 33.7 | 4.62 | 5.05 | 6.71 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **105.** | **15700.** | **6080.** | **12200.** | **1.27** | **12.7** | **86.2** | **-1.73** | **3.09** | **8.17** | **47.2** | **540.** |
| Stddev | 9. | 961. | 350. | 744. | .29 | .2 | 3.4 | 1.76 | 4.09 | .68 | 2.1 | 8. |
| %RSD | 8.37 | 6.11 | 5.76 | 6.08 | 22.8 | 1.68 | 3.94 | 102. | 132. | 8.30 | 4.36 | 1.51 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **464.** |
| Stddev | 6. |
| %RSD | 1.31 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107600.** | **981260.** | **333700.** |
| Stddev | 187. | 7746. | 1403. |
| %RSD | .17335 | .78942 | .42043 |

Sample Name: 255882 Acquired: 04/05/2019 18:05:06 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.31** | **282000.** | **845.** | **1450.** | **10.7** | **32900.** | **.670** | **6.81** | **111.** | **559.** | **596.** |
| Stddev | .69 | 1350. | 11. | 15. | .1 | 509. | 1.21 | .13 | . | 1. | 5. |
| %RSD | 29.8 | .480 | 1.26 | 1.04 | .524 | 1.55 | 181. | 1.87 | .414 | .121 | .823 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **579.** | **373000.** | **27900.** | **6370.** | **18.5** | **292.** | **576.** | **946.** | **-5.14** | **24.7** | **51.1** |
| Stddev | 4. | 3560. | 151. | 68. | .4 | . | 12. | 6. | 2.90 | 4.1 | 1.0 |
| %RSD | .666 | .953 | .543 | 1.07 | 2.43 | .037 | 2.02 | .609 | 56.5 | 16.7 | 1.92 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **819.** | **1570.** |
| Stddev | 4. | 7. |
| %RSD | .468 | .426 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102350.** | **922750.** | **318990.** |
| Stddev | 642. | 7154. | 2280. |
| %RSD | .62685 | .77529 | .71467 |

Sample Name: 255883 Acquired: 04/05/2019 18:11:30 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.27** | **182000.** | **455.** | **891.** | **961.** | **9.91** | **9710.** | **-2.31** | **3.26** | **73.7** | **360.** |
| Stddev | .54 | 2220. | 13. | 3. | 15. | .09 | 135. | .63 | .07 | .6 | 2. |
| %RSD | 42.1 | 1.22 | 2.80 | .336 | 1.60 | .881 | 1.39 | 27.2 | 2.24 | .764 | .443 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **372.** | **357.** | **285000.** | **18100.** | **2310.** | **2680.** | **9.14** | **271.** | **489.** | **-10.4** | **14.2** |
| Stddev | 5. | 6. | 1810. | 161. | 5. | 34. | 1.12 | 1. | 3. | 3.0 | 8.0 |
| %RSD | 1.26 | 1.62 | .635 | .886 | .203 | 1.26 | 12.2 | .321 | .568 | 28.7 | 56.4 |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **41.0** | **616.** | **879.** | **709.** |
| Stddev | 1.6 | 1. | 3. | 2. |
| %RSD | 3.86 | .152 | .380 | .307 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104210.** | **936960.** | **322240.** |
| Stddev | 286. | 4893. | 3463. |
| %RSD | .27411 | .52225 | 1.0747 |

Sample Name: 255884 Acquired: 04/05/2019 18:17:57 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.63** | **149000.** | **461.** | **8390.** | **12.5** | **243000.** | **15.6** | **17.3** | **148.** | **475.** | **11500.** |
| Stddev | .37 | 1760. | 7. | 153. | .1 | 3230. | .4 | .2 | 1. | . | 115. |
| %RSD | 3.81 | 1.18 | 1.58 | 1.83 | .960 | 1.33 | 2.32 | 1.26 | .517 | .082 | 1.00 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **293000.** | **130000.** | **472000.** | **120.** | **271.** | **6600.** | **16.2** | **-19.2** | **186.** | **693.** | **8390.** |
| Stddev | 1360. | 1030. | 8170. | 1. | 2. | 15. | 1.9 | 3.7 | 4. | 3. | 16. |
| %RSD | .466 | .795 | 1.73 | 1.00 | .572 | .221 | 11.7 | 19.1 | 2.22 | .366 | .196 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **96547.** | **884990.** | **311990.** |
| Stddev | 205. | 2973. | 3983. |
| %RSD | .21232 | .33591 | 1.2767 |

Sample Name: 255885 Acquired: 04/05/2019 18:24:39 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.249** | **92000.** | **195.** | **1380.** | **8.34** | **35900.** | **.386** | **3.58** | **45.6** | **175.** | **1450.** |
| Stddev | .540 | 785. | 11. | 15. | .05 | 781. | .384 | .21 | .3 | 1. | 17. |
| %RSD | 217. | .853 | 5.76 | 1.10 | .595 | 2.17 | 99.7 | 5.84 | .572 | .551 | 1.15 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **134000.** | **21200.** | **14400.** | **5.97** | **87.6** | **762.** | **831.** | **4.51** | **7.27** | **22.5** | **234.** |
| Stddev | 1590. | 342. | 208. | 1.14 | .8 | 5. | 2. | 2.00 | 4.31 | 1.5 | 1. |
| %RSD | 1.18 | 1.62 | 1.44 | 19.1 | .954 | .680 | .236 | 44.5 | 59.3 | 6.44 | .262 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1660.** |
| Stddev | 3. |
| %RSD | .173 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104210.** | **943340.** | **321580.** |
| Stddev | 63. | 2510. | 910. |
| %RSD | .06065 | .26611 | .28309 |

Sample Name: 255886 Acquired: 04/05/2019 18:31:10 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **35.4** | **140000.** | **284.** | **15.3** | **60600.** | **7.01** | **8.30** | **341.** | **397.** | **7120.** | **203000.** |
| Stddev | .9 | 1400. | 6. | .1 | 740. | .92 | .48 | 1. | 1. | 20. | 1660. |
| %RSD | 2.54 | .999 | 1.95 | .496 | 1.22 | 13.1 | 5.79 | .253 | .351 | .284 | .817 |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **17300.** | **955000.** | **300.** | **255.** | **19200.** | **2.62** | **33.0** | **428.** | **1320.** | **4840.** |
| Stddev | 199. | 8170. | 1. | 2. | 79. | 3.04 | 8.2 | 4. | 3. | 12. |
| %RSD | 1.15 | .856 | .244 | .594 | .411 | 116. | 25.0 | .893 | .209 | .252 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **98595.** | **907930.** | **310980.** |
| Stddev | 304. | 2247. | 3440. |
| %RSD | .30821 | .24747 | 1.1061 |

Sample Name: 255887 Acquired: 04/05/2019 18:38:02 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.510** | **108000.** | **137.** | **4040.** | **7.98** | **15800.** | **6.71** | **9.84** | **75.8** | **342.** | **7530.** |
| Stddev | .304 | 287. | 5. | 14. | .05 | 250. | .23 | .22 | .6 | 4. | 28. |
| %RSD | 59.7 | .265 | 3.62 | .346 | .577 | 1.59 | 3.39 | 2.24 | .783 | 1.03 | .373 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **229000.** | **12500.** | **125000.** | **36.6** | **120.** | **2480.** | **-2.60** | **-8.62** | **65.4** | **487.** | **6120.** |
| Stddev | 1640. | 135. | 1450. | 1.1 | 1. | 12. | 1.78 | 15.1 | 2.5 | 1. | 36. |
| %RSD | .715 | 1.08 | 1.16 | 2.95 | .520 | .466 | 68.6 | 175. | 3.76 | .162 | .592 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103540.** | **941620.** | **321010.** |
| Stddev | 363. | 7863. | 1271. |
| %RSD | .35029 | .83500 | .39589 |

Sample Name: 255888 Acquired: 04/05/2019 18:44:27 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.912** | **189000.** | **332.** | **1550.** | **15.6** | **61600.** | **-1.29** | **2.68** | **164.** | **1960.** | **614.** |
| Stddev | .632 | 1550. | 3. | 15. | .0 | 1030. | .23 | .38 | . | 5. | 2. |
| %RSD | 69.3 | .824 | .926 | .981 | .312 | 1.67 | 17.6 | 14.0 | .305 | .232 | .396 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **593.** | **344000.** | **39600.** | **34000.** | **14.0** | **531.** | **517.** | **568.** | **-10.5** | **.567** | **51.9** |
| Stddev | 10. | 1970. | 363. | 412. | .5 | 1. | 1. | 5. | 5.5 | 4.19 | 1.2 |
| %RSD | 1.66 | .572 | .916 | 1.21 | 3.85 | .279 | .168 | .948 | 52.3 | 738. | 2.27 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **674.** | **1320.** |
| Stddev | 3. | 6. |
| %RSD | .456 | .424 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102800.** | **928630.** | **320760.** |
| Stddev | 131. | 9065. | 1863. |
| %RSD | .12705 | .97618 | .58068 |

Sample Name: 255889 Acquired: 04/05/2019 18:50:58 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.233** | **126000.** | **218.** | **1130.** | **14.3** | **13600.** | **-3.07** | **.959** | **133.** | **335.** | **180.** |
| Stddev | .387 | 1950. | 5. | 10. | .1 | 258. | .69 | .232 | 1. | 2. | 2. |
| %RSD | 166. | 1.55 | 2.14 | .864 | .610 | 1.89 | 22.5 | 24.1 | .563 | .687 | 1.02 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **181.** | **270000.** | **16500.** | **9360.** | **8.01** | **177.** | **177.** | **-7.83** | **12.2** | **37.9** | **481.** |
| Stddev | 6. | 2710. | 138. | 86. | .65 | . | 2. | 2.77 | 7.5 | 1.3 | 2. |
| %RSD | 3.16 | 1.00 | .837 | .919 | 8.14 | .127 | 1.09 | 35.3 | 61.8 | 3.50 | .371 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **546.** | **443.** |
| Stddev | 2. | 2. |
| %RSD | .350 | .371 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104770.** | **955670.** | **325780.** |
| Stddev | 382. | 2653. | 4305. |
| %RSD | .36449 | .27758 | 1.3215 |

Sample Name: ccv1 Acquired: 04/05/2019 19:03:50 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | F **4320.** | **4800.** | F **4440.** | **456.** | **4530.** | F **444.** | **4600.** | **4650.** | **4720.** | F **4390.** | **4790.** |
| Stddev | 1. | 27. | 51. | 36. | 1. | 47. | . | 15. | 4. | 50. | 25. | 62. |
| %RSD | .198 | .615 | 1.06 | .816 | .314 | 1.03 | .110 | .325 | .088 | 1.06 | .572 | 1.30 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | | | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4850.** | F **4370.** | F **4460.** | **4490.** | F **4390.** | **4490.** | **4580.** | **4560.** | **5260.** |
| Stddev | 15. | 10. | 11. | 22. | 13. | 46. | 10. | 9. | 14. |
| %RSD | .302 | .222 | .239 | .486 | .288 | 1.02 | .215 | .199 | .259 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | 5000. | | 5000. | | | | |
| Range | | -10.4% | -10.4% | | -10.4% | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **105000.** | **953300.** | **329940.** |
| Stddev | 257. | 2351. | 2299. |
| %RSD | .24519 | .24666 | .69683 |

Sample Name: ccv2 Acquired: 04/05/2019 19:09:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.0** | F **417.** | **452.** | F **424.** | F **441.** | **47.0** | F **409.** | **45.0** | **46.9** | F **432.** | F **432.** | **476.** |
| Stddev | .8 | 3. | 4. | 1. | 3. | .3 | 3. | .4 | .2 | 1. | 1. | 4. |
| %RSD | 1.81 | .611 | .779 | .317 | .634 | .540 | .685 | .843 | .413 | .202 | .324 | .796 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **448.** | F **427.** | F **429.** | **459.** | F **439.** | **457.** | F **443.** | **454.** | F **425.** | F **426.** | **453.** | F **435.** |
| Stddev | 7. | 4. | 1. | 2. | 2. | 2. | 1. | 5. | 2. | 2. | 6. | 4. |
| %RSD | 1.54 | .878 | .222 | .469 | .469 | .337 | .276 | 1.19 | .422 | .469 | 1.25 | .908 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | 500. | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | -10.4% | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **475.** | **455.** | **510.** | F **437.** |
| Stddev | 4. | 2. | 2. | 1. |
| %RSD | .898 | .469 | .418 | .279 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 19:09:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107550.** | **989010.** | **331380.** |
| Stddev | 301. | 3489. | 1927. |
| %RSD | .27941 | .35276 | .58148 |

Sample Name: ccb Acquired: 04/05/2019 19:15:10 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.028** | **-4.35** | **1.18** | **.648** | **.233** | **-9.81** | **.095** | **-.087** | **-.011** | **.353** | **-4.09** | **-8.91** |
| Stddev | .118 | .70 | 1.84 | .437 | .040 | .67 | .143 | .168 | .332 | .391 | 1.26 | 1.23 |
| %RSD | 429. | 16.1 | 156. | 67.5 | 17.2 | 6.80 | 151. | 193. | 3050. | 111. | 30.9 | 13.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.26** | **1.44** | **.242** | **.702** | **3.04** | **-2.50** | **5.03** | **2.61** | **.183** | **-.345** |
| Stddev | .07 | .05 | .813 | .346 | 1.79 | 3.04 | 4.82 | .94 | .108 | .092 |
| %RSD | .796 | 3.49 | 336. | 49.4 | 59.0 | 122. | 95.8 | 35.8 | 59.1 | 26.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

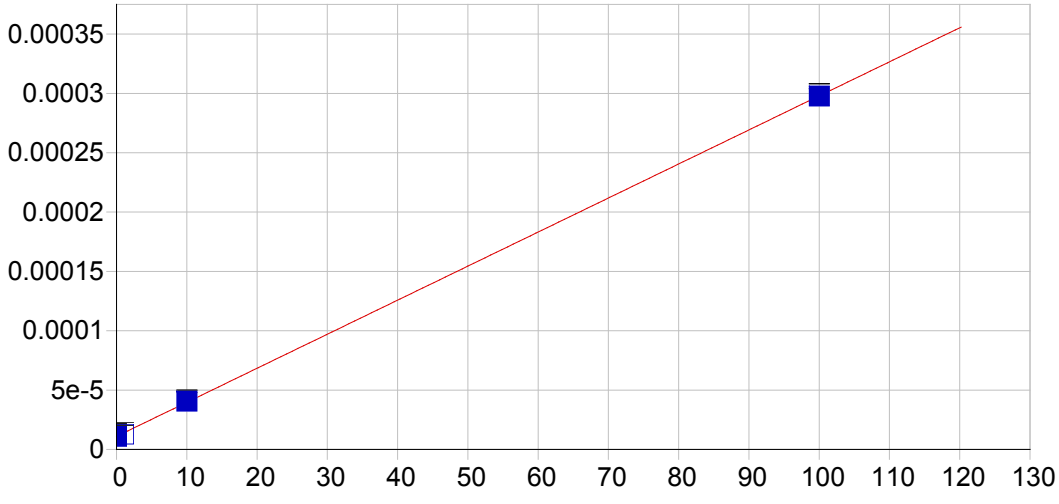
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107390.** | **982330.** | **332440.** |
| Stddev | 375. | 5119. | 2396. |
| %RSD | .34956 | .52113 | .72062 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 07:35:12 | 04/25/2019 14:53:40 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.999954 | 0.000001 | 0.822832 | 2.742774 |
| Ag 338.289 {100} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.980894 | 0.000002 | 15.767845 | 52.559482 |
| Al 167.079 {501} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | None | 0.000048 | 0.000003 | 0.000000 | 1.000000 | 0.999973 | 0.000015 | 0.694996 | 2.316654 |
| Al 308.215 {109} | 04/30/2019 07:35:12 | 04/25/2019 15:18:47 | Linear | 1/Var | 0.000064 | 0.000000 | 0.000000 | 1.000000 | 0.999486 | 0.000053 | 33.040346 | 110.13448 |
| Al 396.152 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Curvili | 1/Conc | -0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000013 | 14.129430 | 47.098102 |
| As 193.759 {474} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Var | 0.375405 | 0.071062 | 0.000000 | 1.000000 | 0.999963 | 0.192102 | 8.588519 | 28.628395 |
| As 197.262 {471} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000000 | 6.803803 | 22.679343 |
| Ba 233.527 {445} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | 0.000005 | 0.000010 | 0.000000 | 1.000000 | 0.999261 | 0.000000 | 0.428082 | 1.426940 |
| Ba 455.403 { 74} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.000084 | 0.000048 | 0.000000 | 1.000000 | 0.999717 | 0.000004 | 0.389849 | 1.299496 |
| Ba 493.409 { 68} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.010565 | 0.000056 | 0.000000 | 1.000000 | 0.999858 | 0.000044 | 0.862235 | 2.874118 |
| Be 313.042 {108} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | -0.000194 | 0.000053 | 0.000000 | 1.000000 | 0.999552 | 0.000001 | 0.054875 | 0.182918 |
| Be 234.861 {144} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999772 | 0.000001 | 1.381937 | 4.606456 |
| Ca 315.887 {107} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.999863 | 0.000027 | 13.419758 | 44.732526 |
| Ca 317.933 {106} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Conc | 0.002896 | 0.000001 | 0.000000 | 1.000000 | 0.999979 | 0.000007 | 7.121370 | 23.737901 |
| Ca 393.366 { 86} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Var | 0.008316 | 0.000189 | 0.000000 | 1.000000 | 0.993161 | 0.004503 | 0.069970 | 0.233235 |
| Ca 396.847 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.002113 | 0.000118 | 0.000000 | 1.000000 | 0.998973 | 0.000252 | 0.106441 | 0.354802 |
| Cd 226.502 {449} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | -0.000005 | 0.000024 | 0.000000 | 1.000000 | 0.999379 | 0.000001 | 0.255705 | 0.852348 |
| Cd 228.802 {447} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000027 | 0.000045 | 0.000000 | 1.000000 | 0.999287 | 0.000002 | 0.169120 | 0.563732 |
| Co 228.616 {447} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000018 | 0.000019 | 0.000000 | 1.000000 | 0.999731 | 0.000002 | 0.442257 | 1.474190 |
| Co 238.892 {141} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999866 | 0.000002 | 0.864546 | 2.881820 |
| Cr 205.560 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000035 | 0.000014 | 0.000000 | 1.000000 | 0.999421 | 0.000042 | 0.335552 | 1.118506 |
| Cr 267.716 {126} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999861 | 0.000000 | 0.912557 | 3.041856 |
| Cu 224.700 {450} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000001 | 0.000007 | 0.000000 | 1.000000 | 0.999500 | 0.000012 | 0.405039 | 1.350129 |
| Cu 324.754 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 33.017871 | 0.489284 | 0.000000 | 1.000000 | 0.999678 | 0.477535 | 5.094250 | 16.980834 |
| Cu 327.396 {103} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 7.173693 | 0.369486 | 0.000000 | 1.000000 | 0.999651 | 0.260832 | 8.764951 | 29.216503 |
| Fe 234.349 {144} | 04/30/2019 07:35:12 | 04/25/2019 15:18:48 | Curvili | 1/Var | 0.000023 | 0.000000 | 0.000000 | 1.000000 | 0.999897 | 0.000009 | 1.861044 | 6.203479 |
| Fe 239.562 {140} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000008 | 0.000000 | 0.000000 | 1.000000 | 0.999563 | 0.000037 | 15.403775 | 51.345917 |
| Fe 259.940 {129} | 04/30/2019 07:35:12 | 04/25/2019 15:25:25 | Curvili | 1/Var | 0.000022 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000059 | 4.566900 | 15.223000 |
| Mg 202.582 {466} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000047 | 0.000002 | 0.000000 | 1.000000 | 0.999043 | 0.000420 | 2.477678 | 8.258926 |
| Mg 279.079 {121} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Full Fit | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.060000 | 0.999990 | 0.000000 | 147.69344 | 492.31149 |
| Mg 280.270 {120} | 04/30/2019 07:35:12 | 04/25/2019 15:06:00 | Linear | 1/Var | 0.000654 | 0.000026 | 0.000000 | 1.000000 | 0.998379 | 0.000995 | 0.047667 | 0.158891 |
| Mn 257.610 {131} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000012 | 0.000000 | 1.000000 | 0.997882 | 0.000027 | 0.096882 | 0.322939 |
| Mn 259.373 {130} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999885 | 0.000023 | 1.375255 | 4.584185 |
| Mo 202.030 {466} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Conc | 0.000011 | 0.000008 | 0.000000 | 1.000000 | 0.999547 | 0.000001 | 0.524568 | 1.748560 |
| Mo 203.844 {465} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Var | 0.000024 | 0.000006 | 0.000000 | 1.000000 | 0.999595 | 0.000024 | 0.838770 | 2.795900 |
| Mo 204.598 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000005 | 0.000000 | 1.000000 | 0.999729 | 0.000027 | 1.023425 | 3.411418 |
| Ni 221.647 {452} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000014 | 0.000010 | 0.000000 | 1.000000 | 0.999767 | 0.000010 | 0.757594 | 2.525313 |
| Ni 231.604 {445} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000019 | 0.000011 | 0.000000 | 1.000000 | 0.999677 | 0.000001 | 0.722935 | 2.409785 |
| Pb 216.999 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999384 | 0.000030 | 5.694743 | 18.982477 |
| Pb 220.353 {453} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000024 | 0.000003 | 0.000000 | 1.000000 | 0.999296 | 0.000000 | 2.803616 | 9.345385 |
| Pb 220.353 {153} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999643 | 0.000001 | 6.828097 | 22.760324 |
| Sb 206.833 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999857 | 0.000000 | 2.461614 | 8.205380 |
| Sb 217.581 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999808 | 0.000000 | 2.712923 | 9.043077 |
| Se 196.090 {472} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999420 | 0.000000 | 4.728254 | 15.760848 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Curvili | 1/Conc | 0.000004 | 0.000000 | 0.000000 | 1.000000 | 0.999959 | 0.000000 | 30.145855 | 100.48618 |
| Tl 190.856 {476} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999490 | 0.000001 | 2.684770 | 8.949234 |
| Tl 190.856 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999617 | 0.000000 | 5.300411 | 17.668036 |
| V 290.882 {116} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999967 | 0.000000 | 7.314456 | 24.381519 |
| V 292.402 {115} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999871 | 0.000001 | 0.605824 | 2.019414 |
| Zn 206.200 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000054 | 0.000016 | 0.000000 | 1.000000 | 0.999282 | 0.000096 | 0.398552 | 1.328506 |
| Zn 213.856 {457} | 04/30/2019 07:35:12 | 04/25/2019 14:59:26 | Linear | 1/Conc | 0.000028 | 0.000027 | 0.000000 | 1.000000 | 0.999114 | 0.000005 | 0.216001 | 0.720004 |
| Y 224.306 {450}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.004511 | 0.000005 | 0.000000 | 1.000000 | 0.999901 | 0.000012 | 10.149500 | 33.831667 |
| Na 589.592 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 0.000063 | 0.000004 | 0.000000 | 1.000000 | 0.999928 | 0.000070 | 7.898158 | 26.327192 |
| Si 251.611 {134} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 1.892880 | 0.047065 | 0.000000 | 1.000000 | 0.998966 | 1.013831 | 26.768890 | 89.229632 |
| Ti 323.452 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000227 | 0.000007 | 0.000000 | 1.000000 | 0.999909 | 0.000001 | 1.541505 | 5.138349 |
| Ti 334.941 {101} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000001 | 0.000004 | 0.000000 | 1.000000 | 0.999918 | 0.000000 | 2.063215 | 6.877382 |
| Sr 407.771 { 83} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000065 | 0.000094 | 0.000000 | 1.000000 | 0.999881 | 0.000006 | 0.175276 | 0.584252 |
| Sr 421.552 { 80} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000009 | 0.000134 | 0.000000 | 1.000000 | 0.999886 | 0.000008 | 0.123225 | 0.410752 |
| Sn 189.989 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999812 | 0.000001 | 1.724449 | 5.748164 |
| B 249.678 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999966 | 0.000000 | 1.368619 | 4.562062 |
| B 249.773 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999668 | 0.000010 | 0.779432 | 2.598107 |
| Li 670.784 { 50} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Var | -0.000045 | 0.000025 | 0.000000 | 1.000000 | 0.999733 | 0.000101 | 1.571556 | 5.238519 |
| K 766.490 { 44} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | -0.000035 | 0.000001 | 0.000000 | 1.000000 | 0.999837 | 0.000023 | 56.288107 | 187.62702 |
| P 213.618 {457} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 230.31583 | 767.71945 |
| S 182.034 {485} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Curvili | 1/Conc | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.218644 | 20.728815 |
| Hg 184.950 {482} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000010 | 0.000000 | 0.000000 | 1.000000 | 0.362902 | 0.000019 | 9.166603 | 30.555344 |
| Ce 404.076 { 83} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000034 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 23.369364 | 77.897881 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

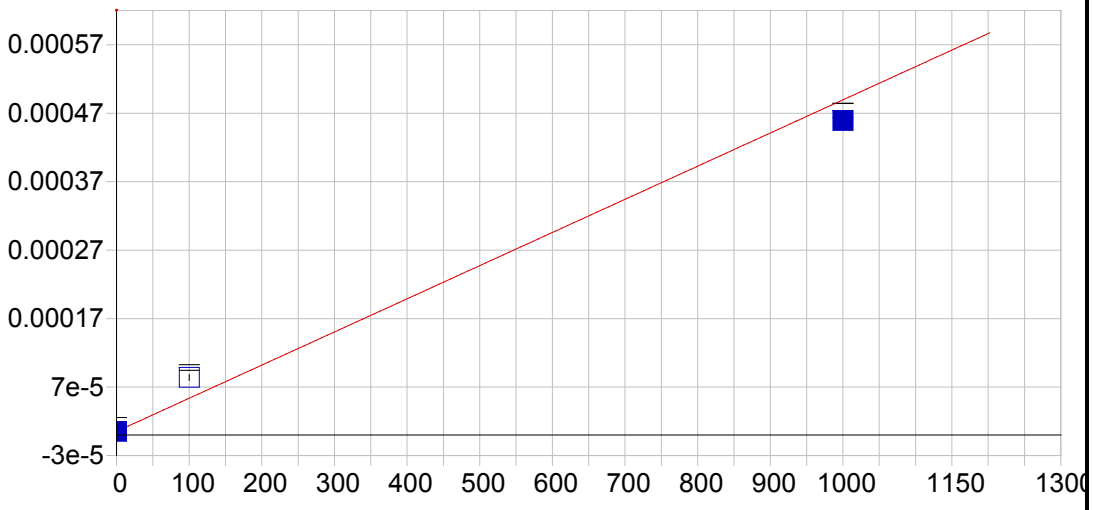



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999954 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.822832 | | |
| Predicted MQL: | 2.742774 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02532 | -.025 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.284 | .284 | 2.84 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.893 | -.107 | -.107 | .00030 | .000 | 1 |
| CalStd3=1 | 1.0000 | .61988 | -.380 | -38.0 | .00001 | .000 | 1 |

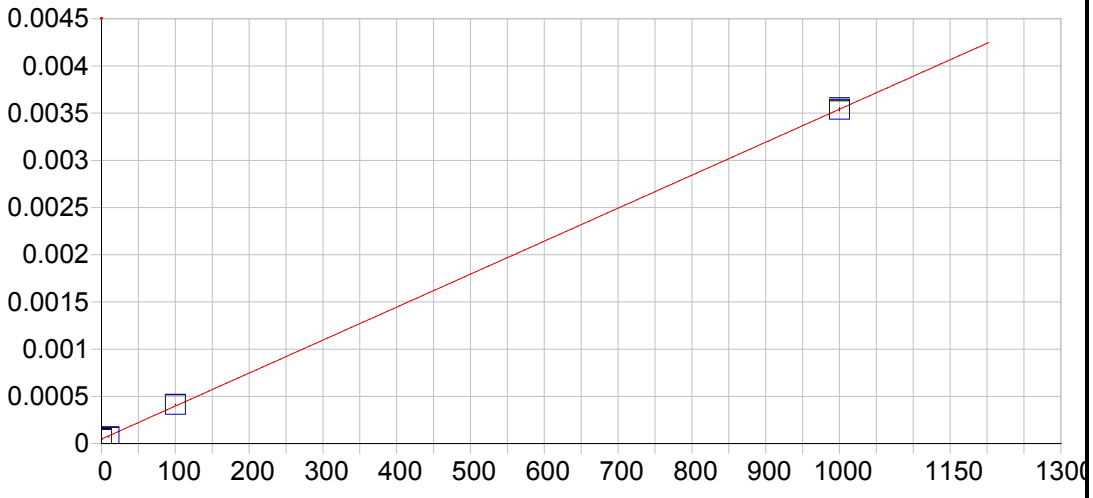



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.980894 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 15.767845 | | |
| Predicted MQL: | 52.559482 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05642 | -.056 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 162.69 | 62.7 | 62.7 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 937.32 | -62.7 | -6.27 | .00046 | .000 | 1 |

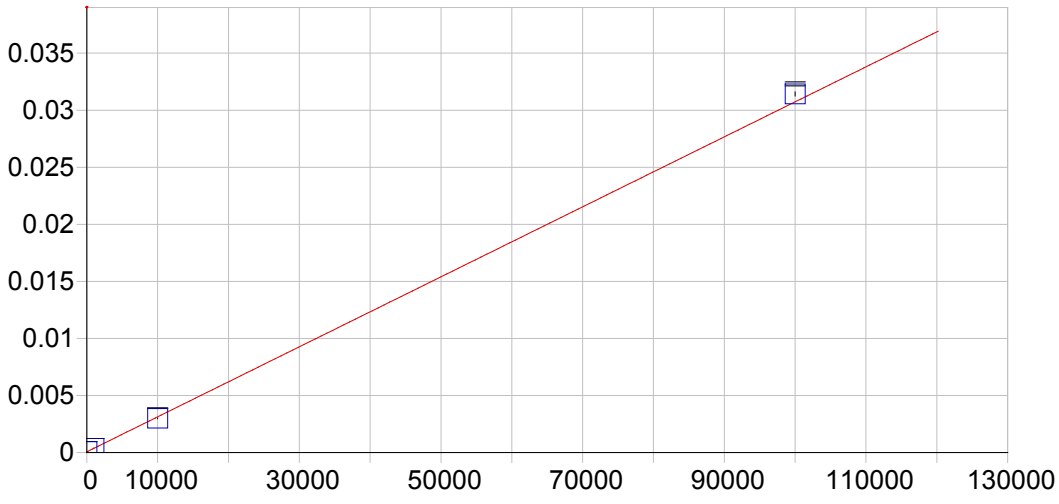



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000048 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.694996 | | |
| Predicted MQL: | 2.316654 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11178 | .112 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.59 | -.405 | -.041 | .00354 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.8255 | -4.17 | -41.7 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.47 | 4.47 | 4.47 | .00041 | .000 | 1 |

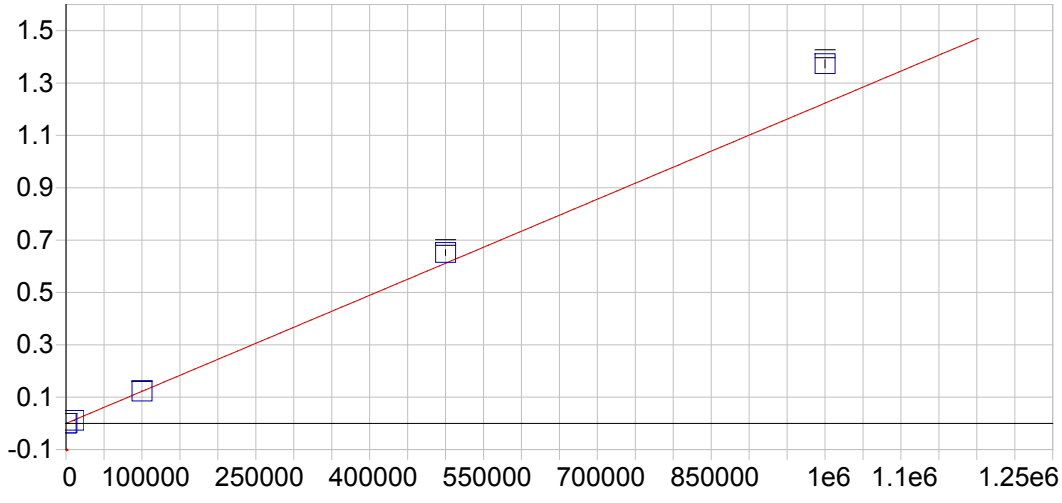



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999486 | Status: | OK. |
| Std Error of Est: | 0.000053 | | |
| Predicted MDL: | 33.040346 | | |
| Predicted MQL: | 110.134487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 18.536 | 18.5 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9574.4 | -426. | -4.26 | .00300 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1032.2 | 32.2 | 3.22 | .00038 | .000 | 1 |
| CalStd13=10 | 100000. | 102250. | 2250. | 2.25 | .03142 | .000 | 1 |

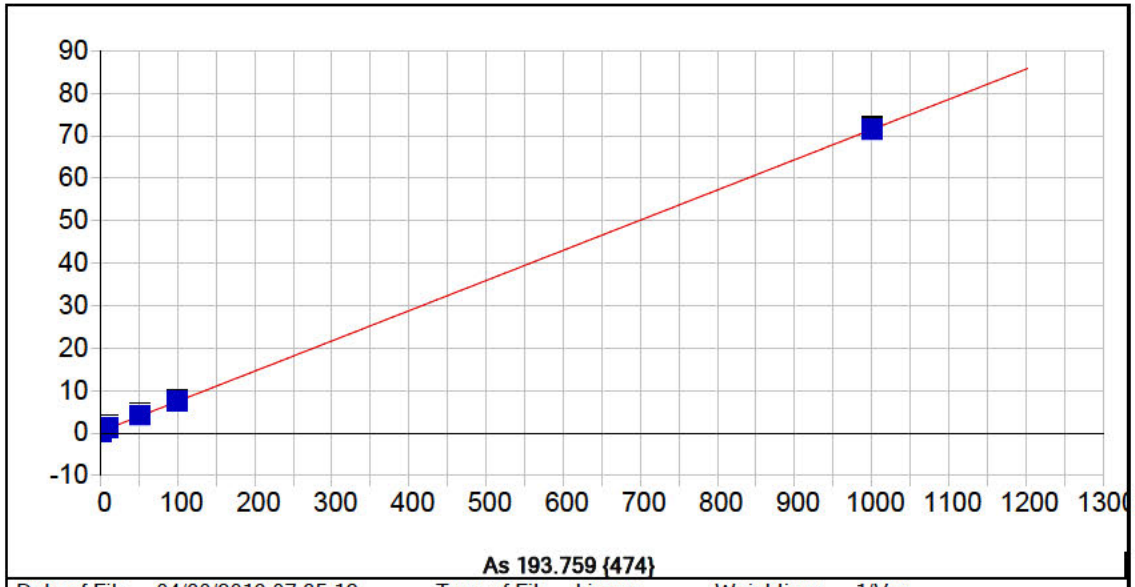



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 14.129430 | | |
| Predicted MQL: | 47.098102 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .08096 | .081 | .000 | -.00001 | .000 | 1 |
| CalStd14=50 | 500000. | 533420. | 33400. | 6.68 | .65252 | .011 | 1 |
| CalStd13=10 | 100000. | 100580. | 576. | .576 | .12302 | .001 | 1 |
| CalStd10=10 | 10000. | 9407.4 | -593. | -5.93 | .01149 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.59 | -17.4 | -1.74 | .00119 | .000 | 1 |
| CalibStd15= | 1000000. | 1122800. | 123000. | 12.3 | 1.3735 | .015 | 1 |

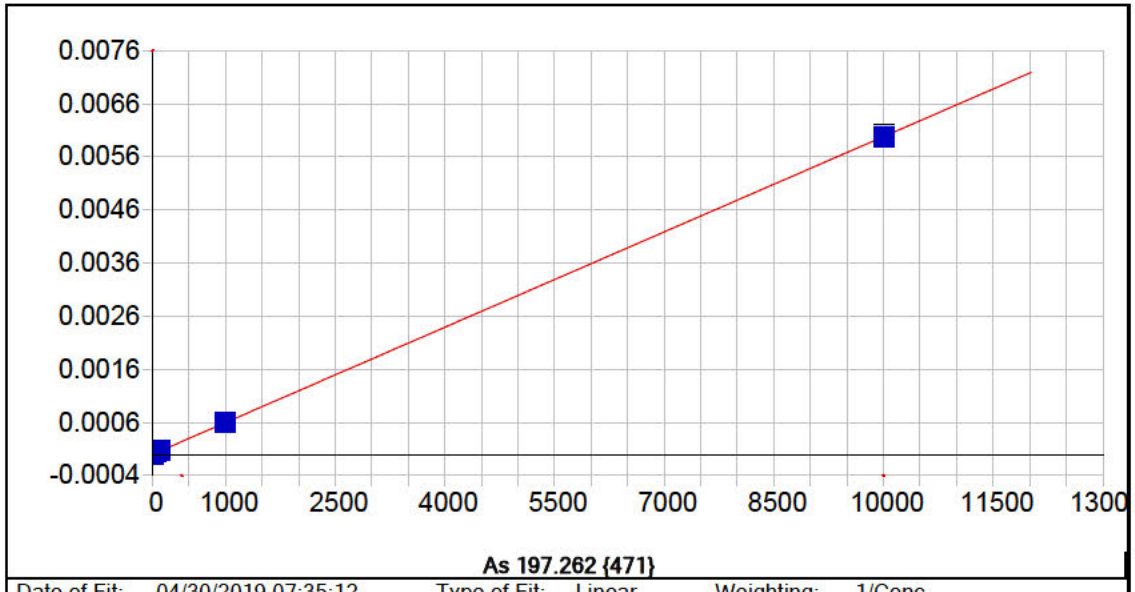



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.375405 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.071062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.192102 | | |
| Predicted MDL: | 8.588519 | | |
| Predicted MQL: | 28.628395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0421 | -2.04 | .000 | .23029 | .314 | 1 |
| CalStd9=100 | 1000.0 | 999.88 | -.124 | -.012 | 71.157 | .663 | 1 |
| CalStd7=50 | 50.000 | 53.852 | 3.85 | 7.70 | 4.1942 | .472 | 1 |
| CalStd5=10 | 10.000 | 13.221 | 3.22 | 32.2 | 1.3127 | .552 | 1 |
| CalStd8=100 | 100.00 | 99.480 | -.520 | -.520 | 7.4175 | .275 | 1 |

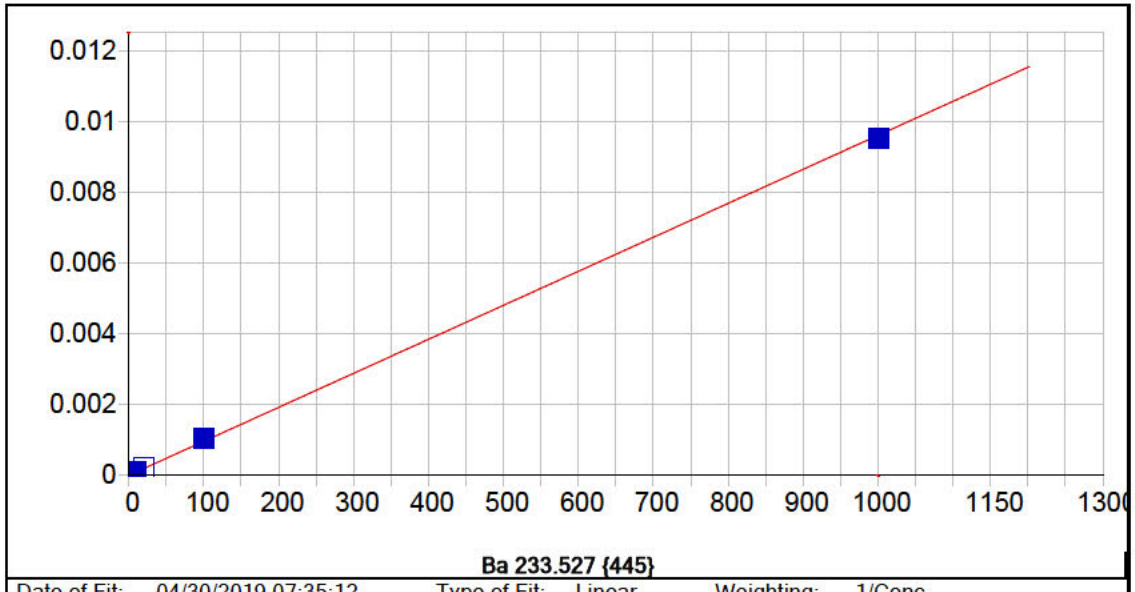



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.803803 | | |
| Predicted MQL: | 22.679343 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00245 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.79 | .279 | .00060 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.054 | 3.05 | 6.11 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.995 | .995 | 9.95 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.35 | 8.35 | 8.35 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.8 | -15.2 | -.152 | .00601 | .000 | 1 |

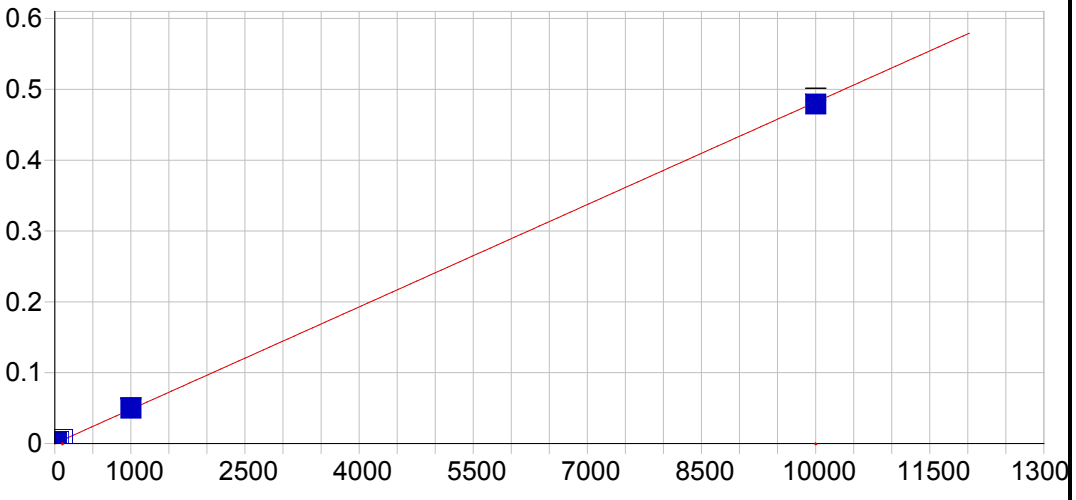



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999261 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.428082 | | |
| Predicted MQL: | 1.426940 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.539 | 1.54 | 7.69 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.89 | 8.89 | 8.89 | .00105 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7114 | -.289 | -5.77 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.33 | -10.7 | -1.07 | .00951 | .000 | 1 |
| CalStd3=1 | 1.0000 | .29840 | -.702 | -70.2 | .00001 | .000 | 1 |

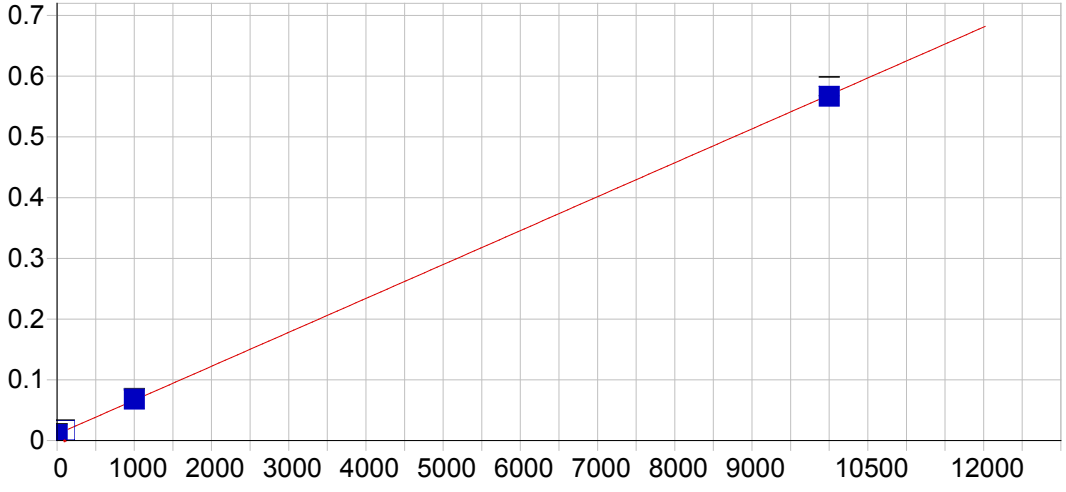



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000084 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999717 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.389849 | | |
| Predicted MQL: | 1.299496 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00085 | -.001 | .000 | .00008 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.867 | 7.87 | 15.7 | .00287 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.353 | 2.35 | 23.5 | .00068 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.728 | 3.73 | 18.6 | .00123 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.49 | 15.5 | 15.5 | .00565 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0913 | 1.09 | 21.8 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.8 | 28.8 | 2.88 | .04966 | .001 | 1 |
| CalStd3=1 | 1.0000 | .87587 | -.124 | -12.4 | .00013 | .000 | 1 |
| CalStd10=10 | 10000. | 9940.7 | -59.3 | -.593 | .47910 | .008 | 1 |

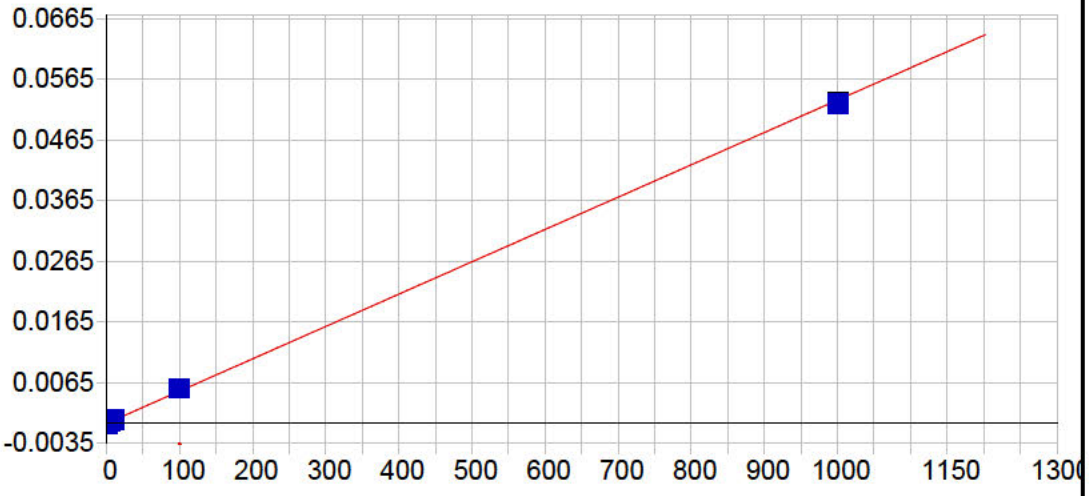



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010565 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999858 | Status: | OK. |
| Std Error of Est: | 0.000044 | | |
| Predicted MDL: | 0.862235 | | |
| Predicted MQL: | 2.874118 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01710 | -.017 | .000 | .01056 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.6 | 28.6 | 2.86 | .06802 | .001 | 1 |
| CalStd8=100 | 100.00 | 114.68 | 14.7 | 14.7 | .01697 | .000 | 1 |
| CalStd10=10 | 10000. | 9956.7 | -43.3 | -.433 | .56676 | .015 | 1 |

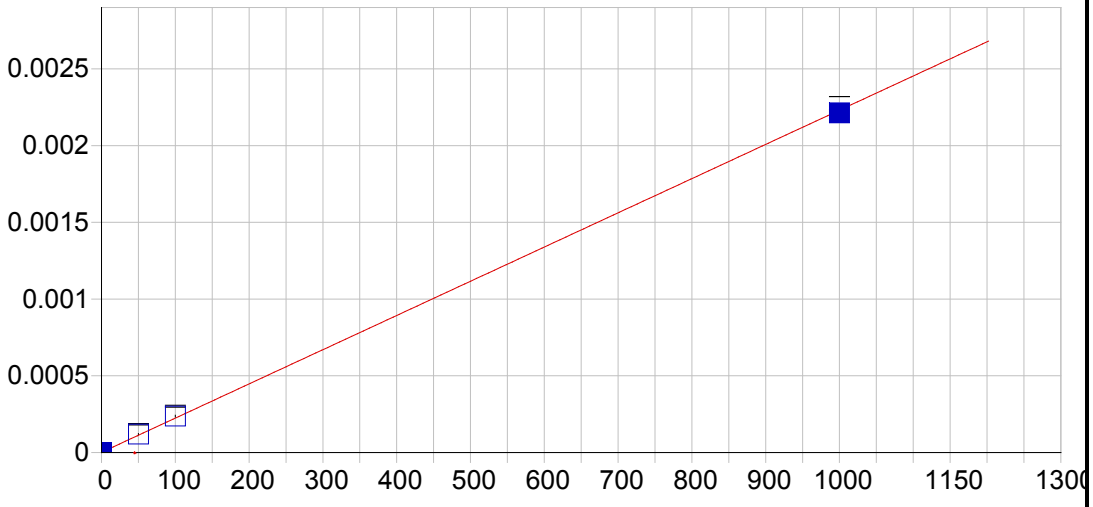



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000194 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000053 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999552 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.054875 | | |
| Predicted MQL: | 0.182918 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.427 | 1.43 | 14.3 | .00041 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.89 | 7.89 | 7.89 | .00555 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51828 | .018 | 3.66 | -.00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5599 | .560 | 11.2 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.00 | -10.0 | -1.00 | .05254 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1087 | .109 | 10.9 | -.00013 | .000 | 1 |

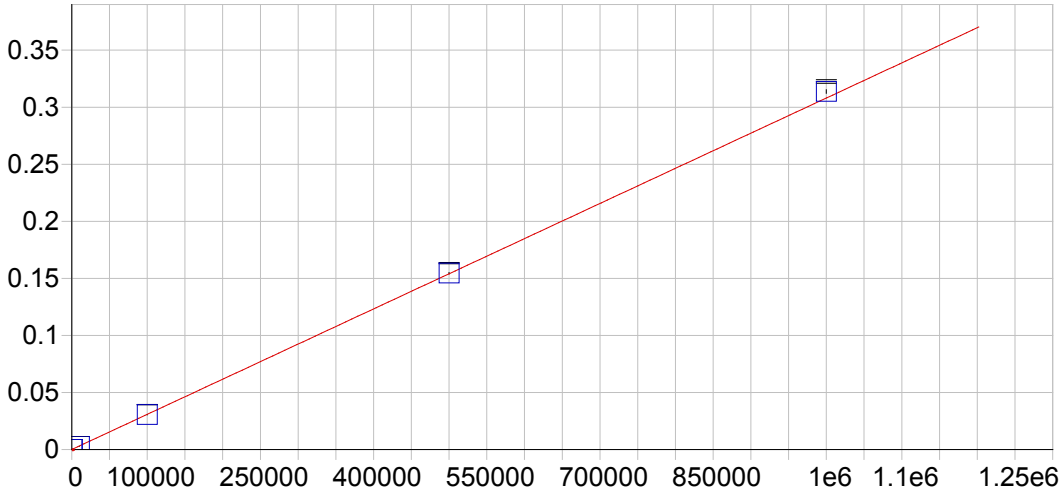



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999772 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.381937 | | |
| Predicted MQL: | 4.606456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00510 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.74 | -8.26 | -.826 | .00221 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.49 | 5.49 | 5.49 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.772 | 2.77 | 5.54 | .00012 | .000 | 1 |

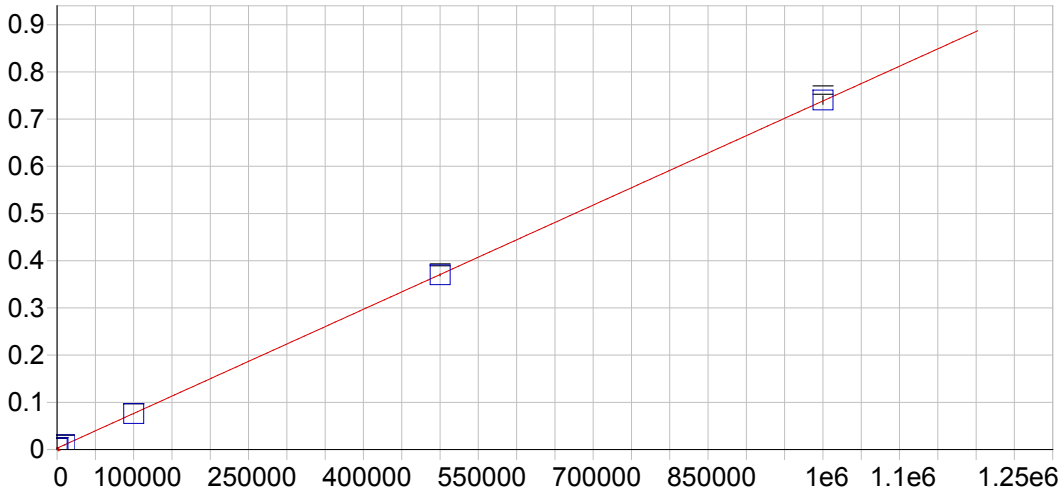



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999863 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 13.419758 | | |
| Predicted MQL: | 44.732526 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 6.6682 | 6.67 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9190.6 | -809. | -8.09 | .00287 | .000 | 1 |
| CalStd13=10 | 100000. | 99102. | -898. | -.898 | .03056 | .000 | 1 |
| CalStd14=50 | 500000. | 501690. | 1690. | .338 | .15456 | .001 | 1 |
| CalStd9=100 | 1000.0 | 977.60 | -22.4 | -2.24 | .00034 | .000 | 1 |
| CalibStd15= | 1000000. | 1018700. | 18700. | 1.87 | .31380 | .002 | 1 |

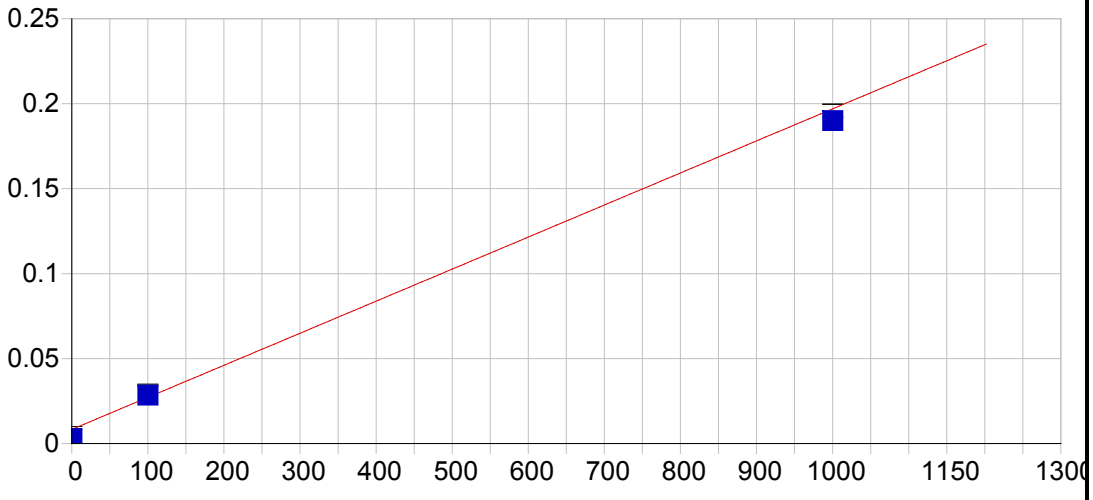



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002896 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 7.121370 | | |
| Predicted MQL: | 23.737901 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02795 | .028 | .000 | .00290 | .000 | 1 |
| CalStd10=10 | 10000. | 9280.9 | -719. | -7.19 | .00972 | .000 | 1 |
| CalStd13=10 | 100000. | 99250. | -750. | -.750 | .07590 | .000 | 1 |
| CalStd14=50 | 500000. | 499010. | -994. | -.199 | .36994 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | .00367 | .000 | 1 |
| CalibStd15= | 1000000. | 1002400. | 2410. | .241 | .74021 | .009 | 1 |

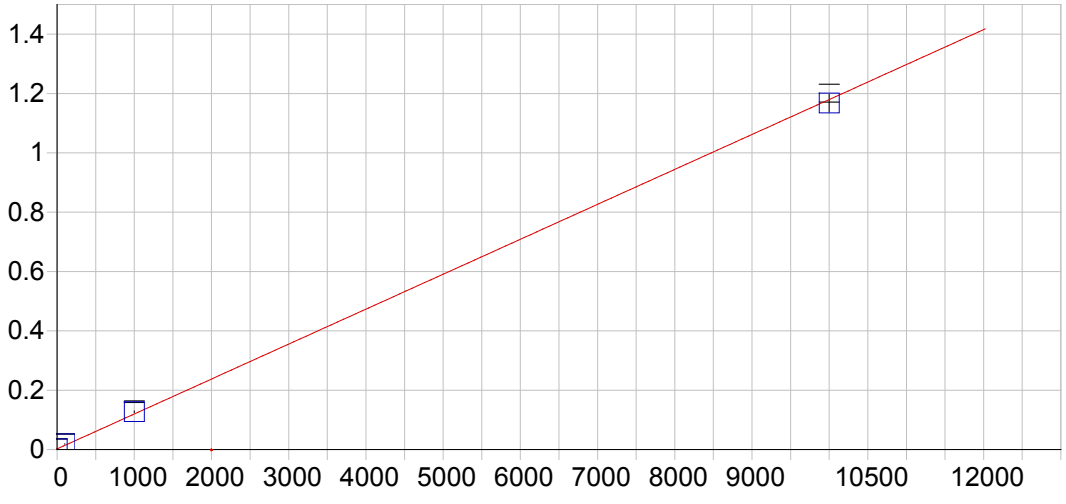



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008316 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000189 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.993161 | Status: | OK. |
| Std Error of Est: | 0.004503 | | |
| Predicted MDL: | 0.069970 | | |
| Predicted MQL: | 0.233235 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -27.096 | -27.1 | .000 | .00320 | .001 | 1 |
| CalStd9=100 | 1000.0 | 963.08 | -36.9 | -3.69 | .19001 | .004 | 1 |
| CalStd8=100 | 100.00 | 106.78 | 6.78 | 6.78 | .02846 | .001 | 1 |

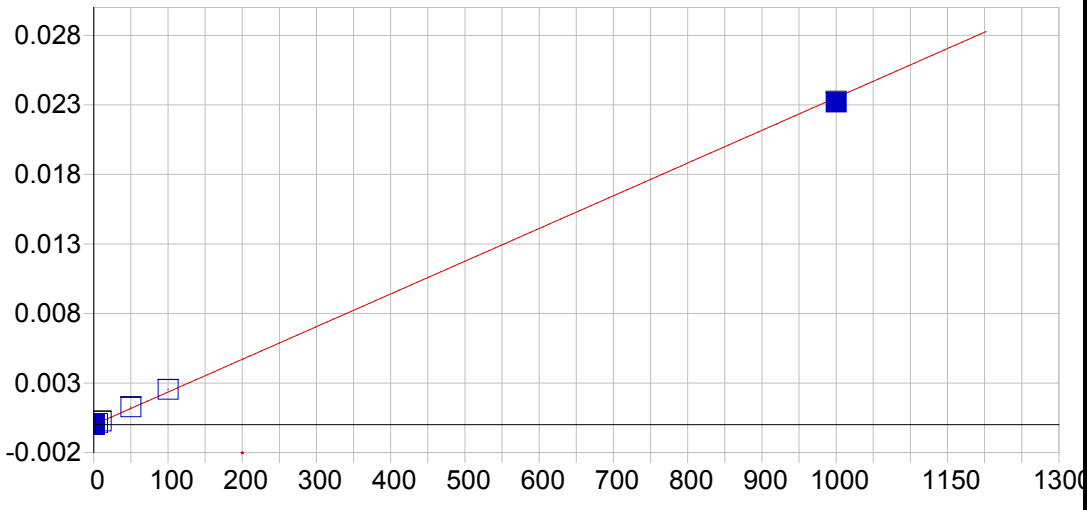



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000118 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998973 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.106441 | | |
| Predicted MQL: | 0.354802 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04744 | -.047 | .000 | .00211 | .001 | 1 |
| CalStd10=10 | 10000. | 9895.5 | -104. | -1.04 | 1.1675 | .030 | 1 |
| CalStd8=100 | 100.00 | 142.26 | 42.3 | 42.3 | .01887 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1062.2 | 62.2 | 6.22 | .12721 | .003 | 1 |

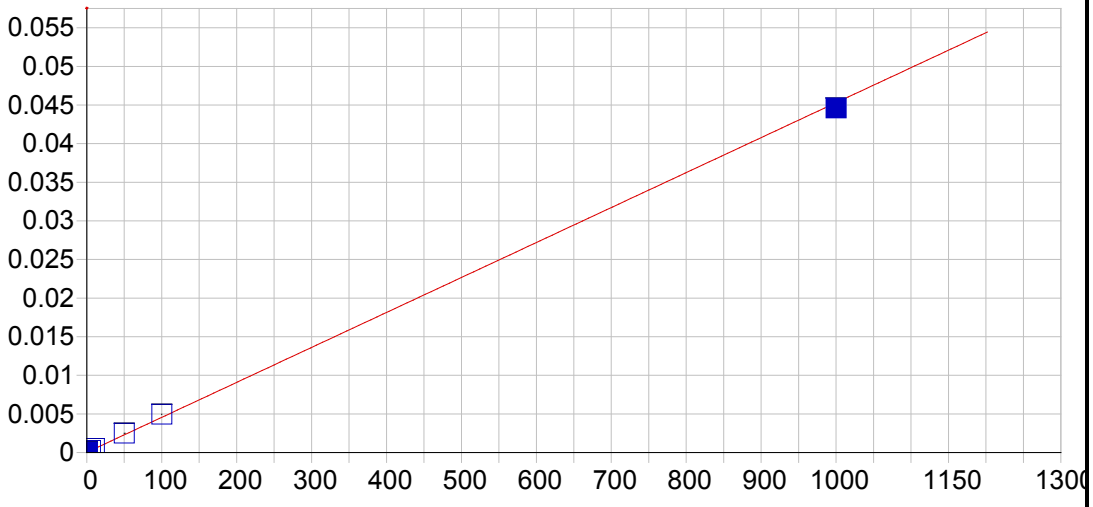



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999379 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.255705 | | |
| Predicted MQL: | 0.852348 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.346 | 4.35 | 8.69 | .00127 | .000 | 1 |
| CalStd3=1 | 1.0000 | .77315 | -.227 | -22.7 | .00001 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47928 | -.021 | -4.14 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3884 | .388 | 7.77 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.91 | 7.91 | 7.91 | .00253 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.325 | 1.32 | 13.2 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.28 | -13.7 | -1.37 | .02320 | .000 | 1 |

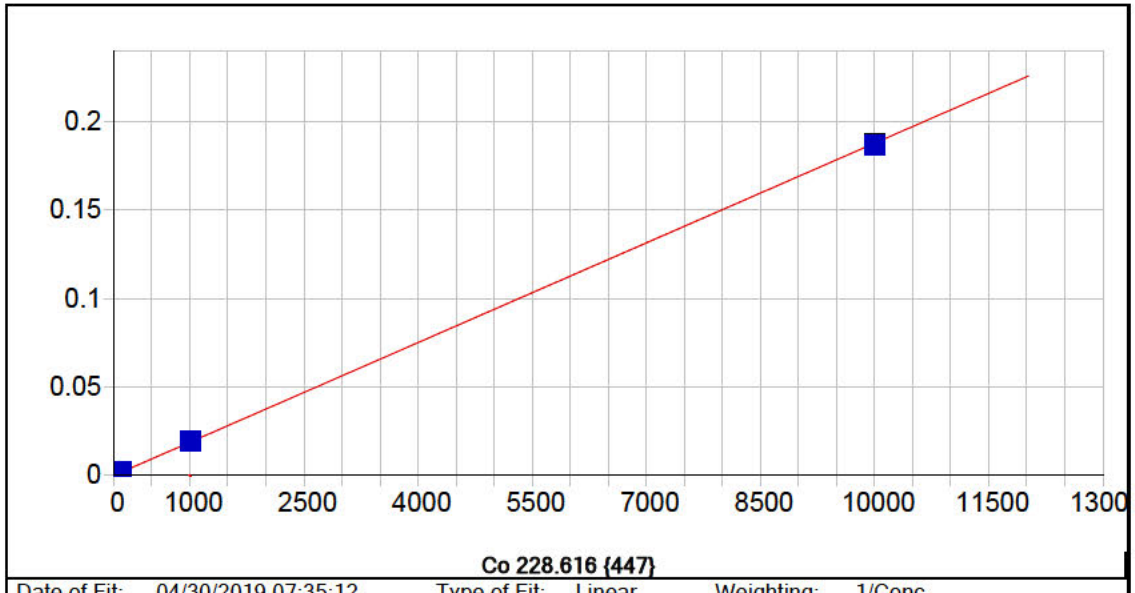



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000045 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999287 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.169120 | | |
| Predicted MQL: | 0.563732 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00029 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.464 | 4.46 | 8.93 | .00249 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1513 | .151 | 15.1 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51061 | .011 | 2.12 | .00005 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4890 | .489 | 9.78 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.75 | 8.75 | 8.75 | .00495 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.401 | 1.40 | 14.0 | .00054 | .000 | 1 |
| CalStd9=100 | 1000.0 | 984.73 | -15.3 | -1.53 | .04461 | .000 | 1 |

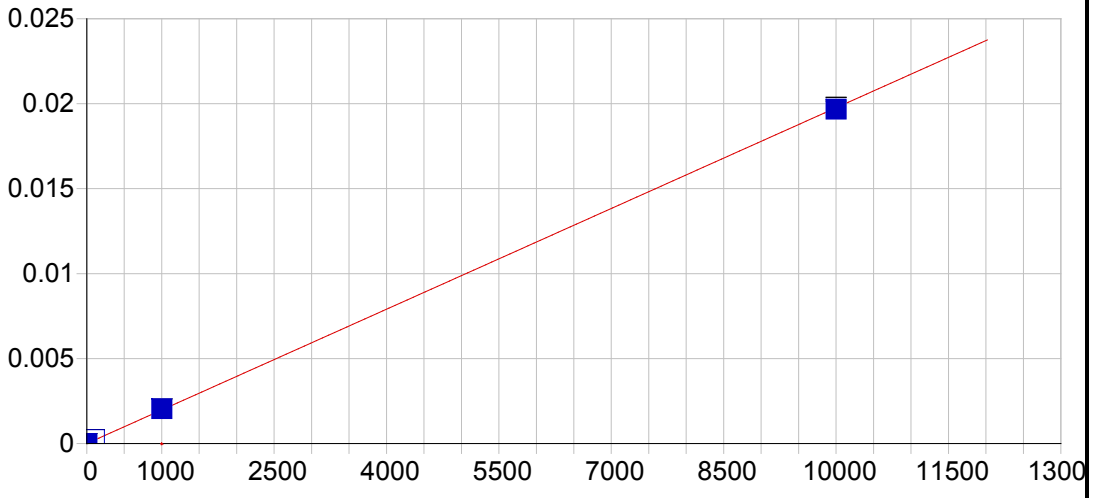



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999731 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.442257 | | |
| Predicted MQL: | 1.474190 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00037 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.716 | 7.72 | 15.4 | .00110 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.787 | 1.79 | 17.9 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1251 | .125 | 2.50 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.67 | 13.7 | 13.7 | .00215 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.2 | 46.2 | 4.62 | .01968 | .000 | 1 |
| CalStd3=1 | 1.0000 | .83709 | -.163 | -16.3 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9930.7 | -69.3 | -.693 | .18683 | .000 | 1 |

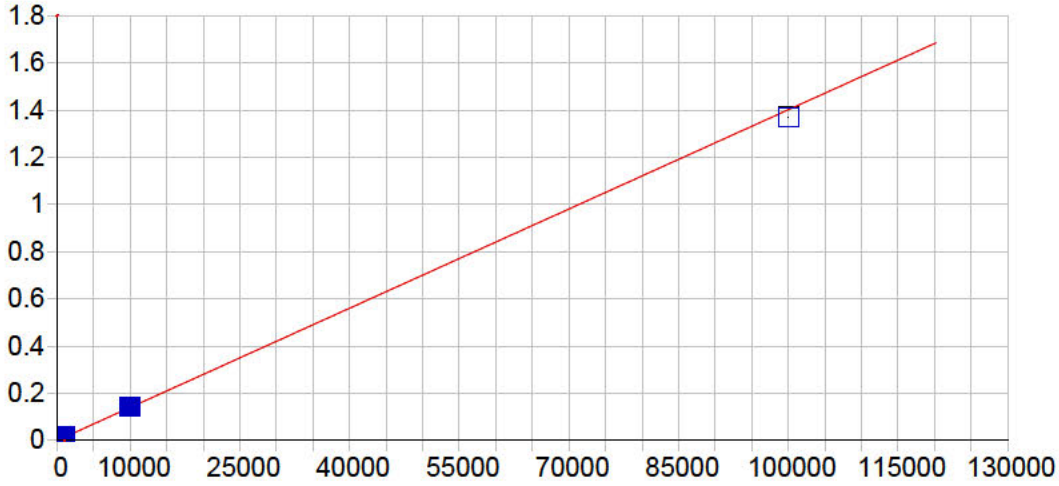



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.864546 | | |
| Predicted MQL: | 2.881820 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01598 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.8 | 31.8 | 3.18 | .00204 | .000 | 1 |
| CalStd10=10 | 10000. | 9954.9 | -45.1 | -.451 | .01968 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.25 | 13.2 | 13.2 | .00023 | .000 | 1 |

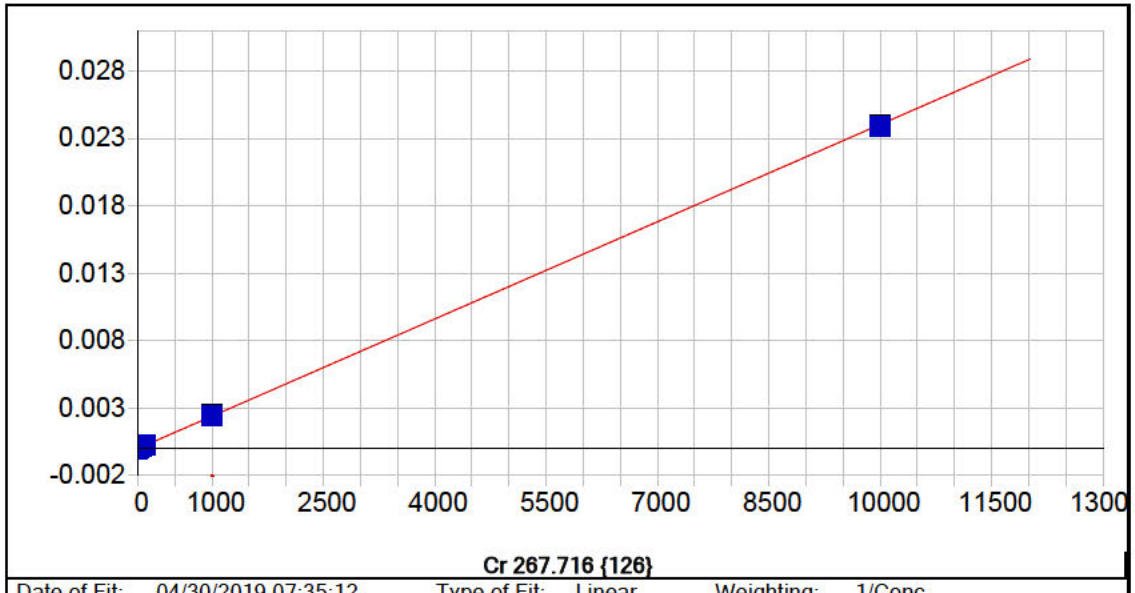



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999421 | Status: | OK. |
| Std Error of Est: | 0.000042 | | |
| Predicted MDL: | 0.335552 | | |
| Predicted MQL: | 1.118506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0602 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6903 | -.310 | -3.10 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.126 | 5.13 | 10.3 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .01472 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.14 | 12.1 | 12.1 | .00161 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.4882 | -1.51 | -30.2 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.4295 | -2.43 | -243. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10145. | 145. | 1.45 | .14224 | .000 | 1 |
| CalStd12=10 | 100000. | 97703. | -2300. | -2.30 | 1.3695 | .001 | 1 |

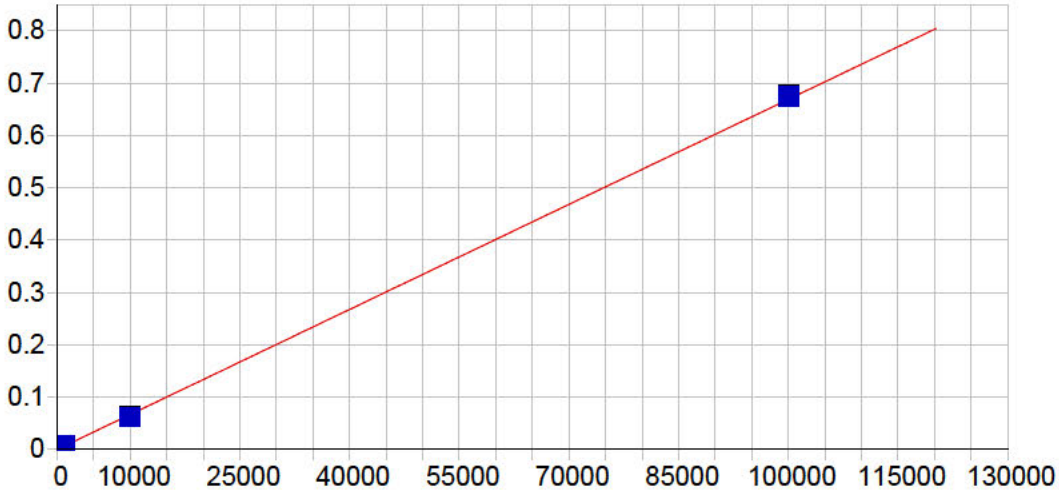



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999861 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.912557 | | |
| Predicted MQL: | 3.041856 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00250 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.625 | 1.62 | 16.2 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.661 | 5.66 | 11.3 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.8 | 27.8 | 2.78 | .00247 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.79 | 10.8 | 10.8 | .00026 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4635 | .464 | 9.27 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9953.6 | -46.4 | -.464 | .02392 | .000 | 1 |

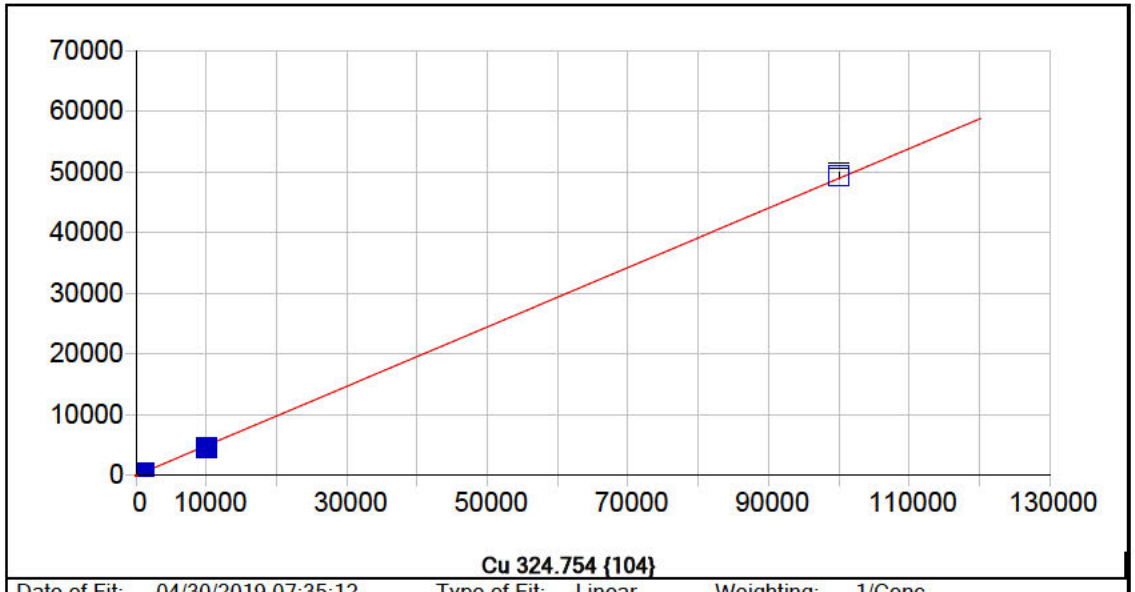



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999500 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.405039 | | |
| Predicted MQL: | 1.350129 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03939 | .039 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 918.89 | -81.1 | -8.11 | .00615 | .000 | 1 |
| CalStd7=50 | 50.000 | 19.069 | -30.9 | -61.9 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 61.174 | -38.8 | -38.8 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.5977 | -16.4 | -82.0 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 870. | .870 | .67468 | .002 | 1 |
| CalStd10=10 | 10000. | 9297.1 | -703. | -7.03 | .06219 | .000 | 1 |

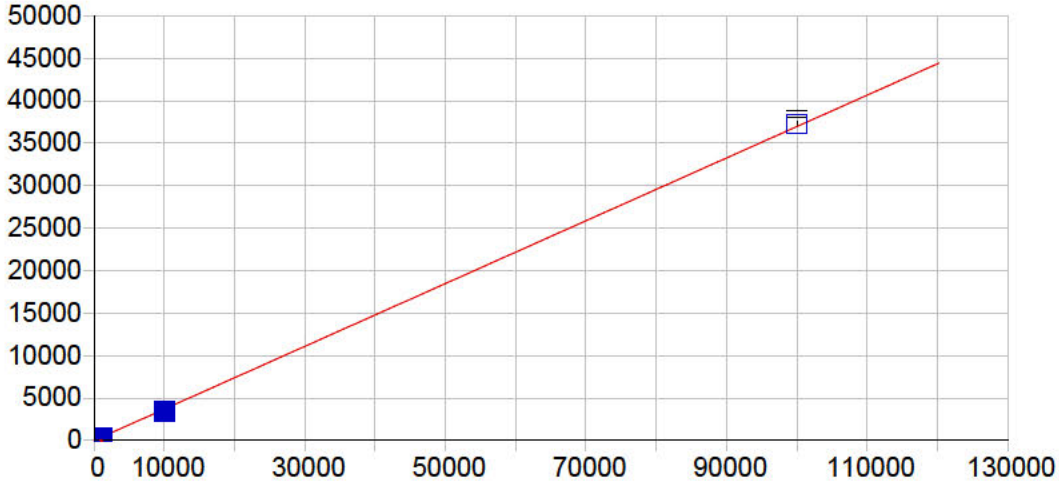



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 33.017871 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.489284 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999678 | Status: | OK. |
| Std Error of Est: | 0.477535 | | |
| Predicted MDL: | 5.094250 | | |
| Predicted MQL: | 16.980834 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00010 | .000 | .000 | 33.018 | 1.43 | 1 |
| CalStd9=100 | 1000.0 | 954.48 | -45.5 | -4.55 | 499.99 | 4.60 | 1 |
| CalStd8=100 | 100.00 | 104.55 | 4.55 | 4.55 | 84.172 | 3.15 | 1 |
| CalStd10=10 | 10000. | 9210.6 | -789. | -7.89 | 4539.2 | 11.3 | 1 |
| CalStd12=10 | 100000. | 100830. | 828. | .828 | 49367. | 482. | 1 |
| CalStd5=10 | 10.000 | 10.385 | .385 | 3.85 | 38.099 | 3.67 | 1 |
| CalStd6=20 | 20.000 | 19.595 | -.405 | -2.02 | 42.605 | 2.32 | 1 |
| CalStd7=50 | 50.000 | 52.112 | 2.11 | 4.22 | 58.516 | 2.71 | 1 |

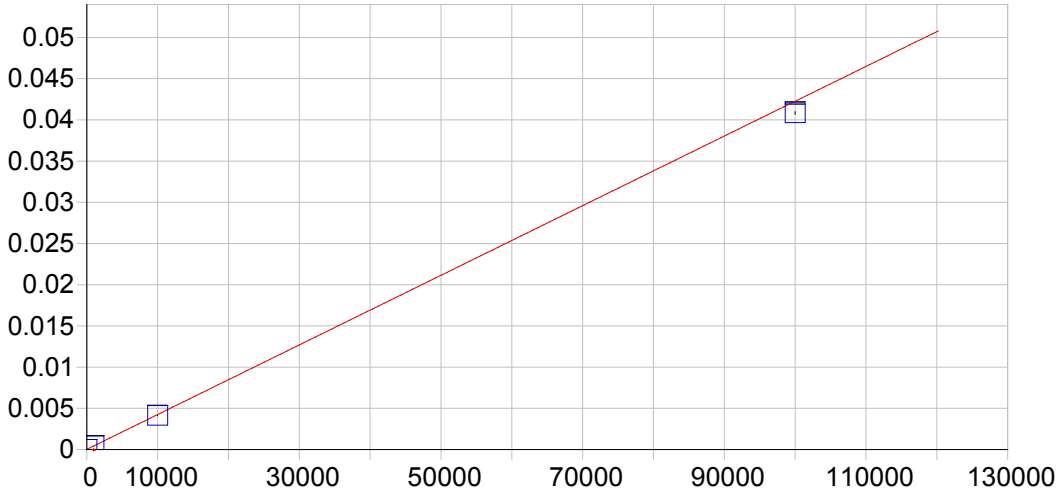



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.173693 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.369486 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.260832 | | |
| Predicted MDL: | 8.764951 | | |
| Predicted MQL: | 29.216503 | | |

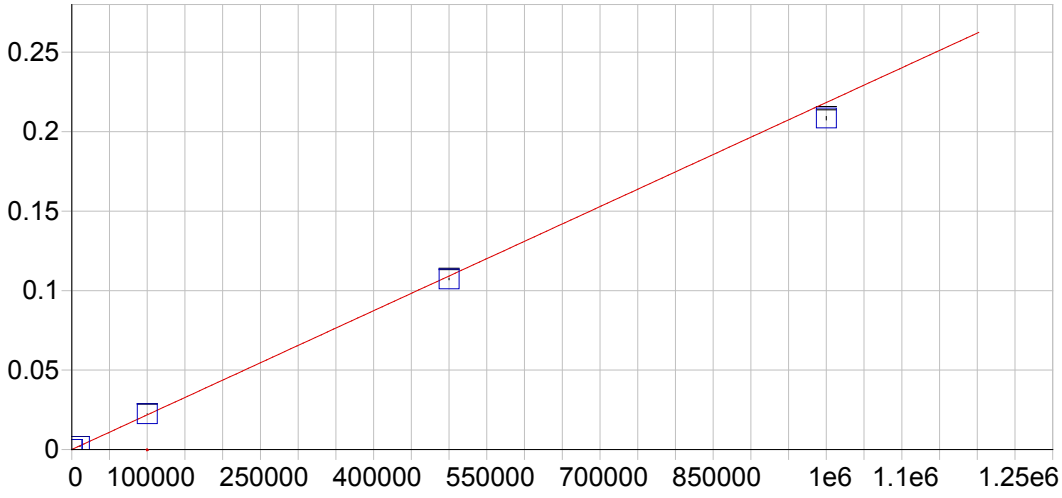
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00834 | -.008 | .000 | 7.1706 | 3.37 | 1 |
| CalStd6=20 | 20.000 | 25.978 | 5.98 | 29.9 | 16.768 | 2.04 | 1 |
| CalStd7=50 | 50.000 | 57.126 | 7.13 | 14.3 | 28.270 | 2.66 | 1 |
| CalStd8=100 | 100.00 | 105.13 | 5.13 | 5.13 | 45.997 | 2.22 | 1 |
| CalStd9=100 | 1000.0 | 944.70 | -55.3 | -5.53 | 356.01 | 6.32 | 1 |
| CalStd10=10 | 10000. | 9232.8 | -767. | -7.67 | 3418.5 | 12.0 | 1 |
| CalStd12=10 | 100000. | 100790. | 795. | .795 | 37249. | 345. | 1 |
| CalStd4=5 | 5.0000 | 8.2407 | 3.24 | 64.8 | 10.217 | 3.74 | 1 |
| CalStd5=10 | 10.000 | 16.519 | 6.52 | 65.2 | 13.275 | 1.78 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000023 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999897 | | Status: | OK. | |
| Std Error of Est: | 0.000009 | | | | |
| Predicted MDL: | 1.861044 | | | | |
| Predicted MQL: | 6.203479 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.4961 | -2.50 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9752.5 | -247. | -2.47 | .00414 | .000 | 1 |
| CalStd13=10 | 100000. | 96647. | -3350. | -3.35 | .04085 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.9 | 18.9 | 1.89 | .00045 | .000 | 1 |

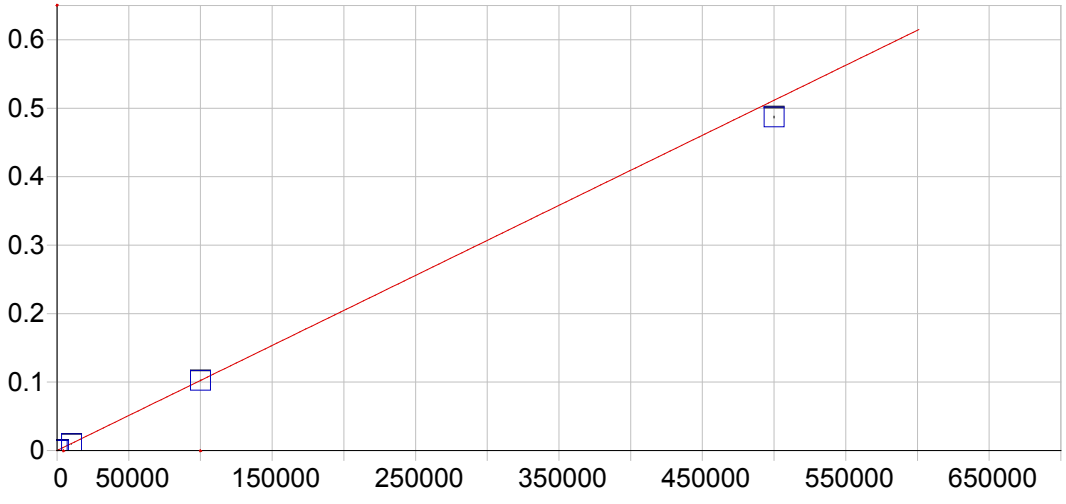



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999563 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 15.403775 | | |
| Predicted MQL: | 51.345917 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.5196 | 1.52 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9675.2 | -325. | -3.25 | .00212 | .000 | 1 |
| CalStd13=10 | 100000. | 102700. | 2700. | 2.70 | .02243 | .000 | 1 |
| CalStd14=50 | 500000. | 491290. | -8710. | -1.74 | .10728 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.68 | -5.32 | -.532 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 954920. | -45100. | -4.51 | .20851 | .001 | 1 |

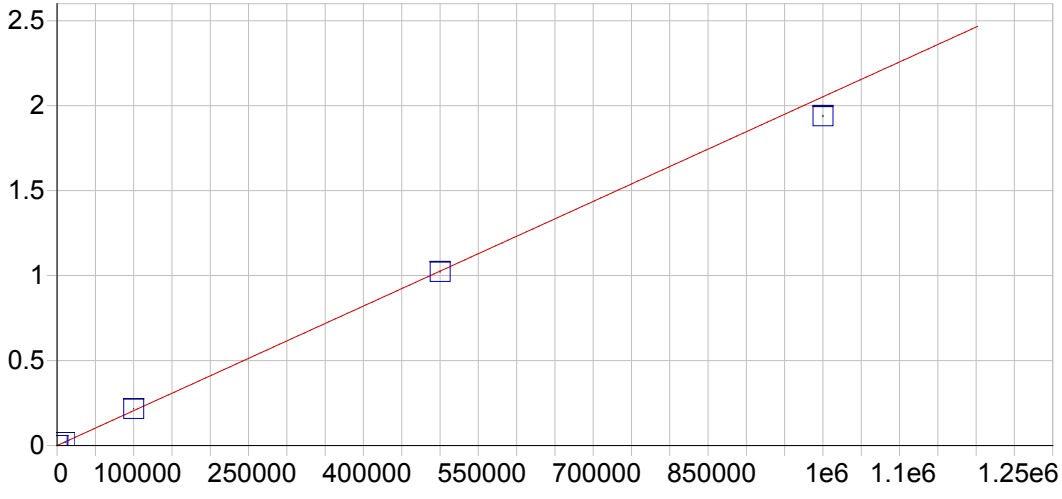



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000059 | | |
| Predicted MDL: | 4.566900 | | |
| Predicted MQL: | 15.223000 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.5760 | 7.58 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9527.6 | -472. | -4.72 | .00977 | .000 | 1 |
| CalStd13=10 | 100000. | 99992. | -8.04 | -.008 | .10232 | .000 | 1 |
| CalStd14=50 | 500000. | 476030. | -24000. | -4.79 | .48705 | .001 | 1 |
| CalStd9=100 | 1000.0 | 993.99 | -6.01 | -.601 | .00104 | .000 | 1 |

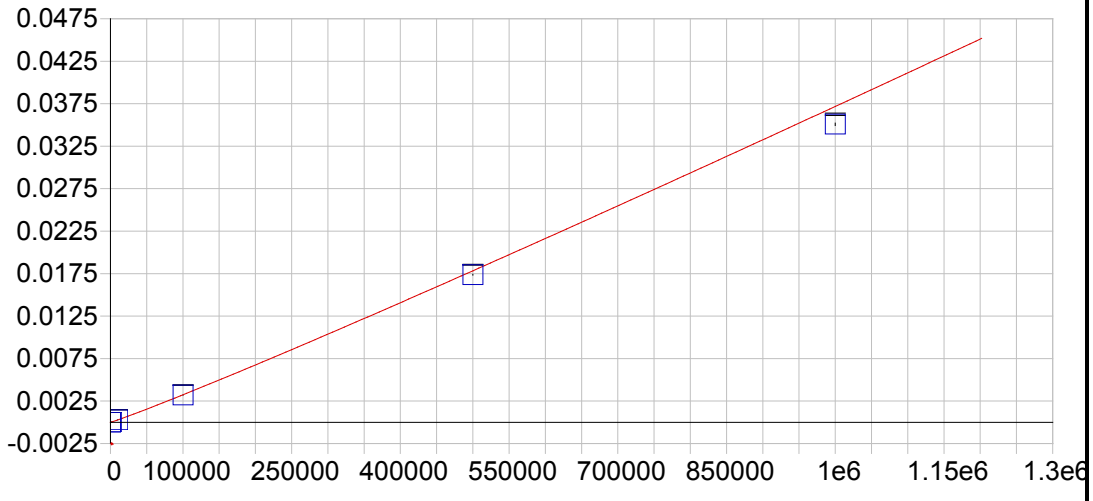



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999043 | Status: | OK. |
| Std Error of Est: | 0.000420 | | |
| Predicted MDL: | 2.477678 | | |
| Predicted MQL: | 8.258926 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0145 | -6.01 | .000 | .00003 | .000 | 1 |
| CalStd13=10 | 100000. | 105360. | 5360. | 5.36 | .21626 | .000 | 1 |
| CalStd10=10 | 10000. | 9732.7 | -267. | -2.67 | .02002 | .000 | 1 |
| CalStd14=50 | 500000. | 498460. | -1540. | -.308 | 1.0229 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1068.9 | 68.9 | 6.89 | .00224 | .000 | 1 |
| CalibStd15= | 1000000. | 944880. | -55100. | -5.51 | 1.9390 | .004 | 1 |

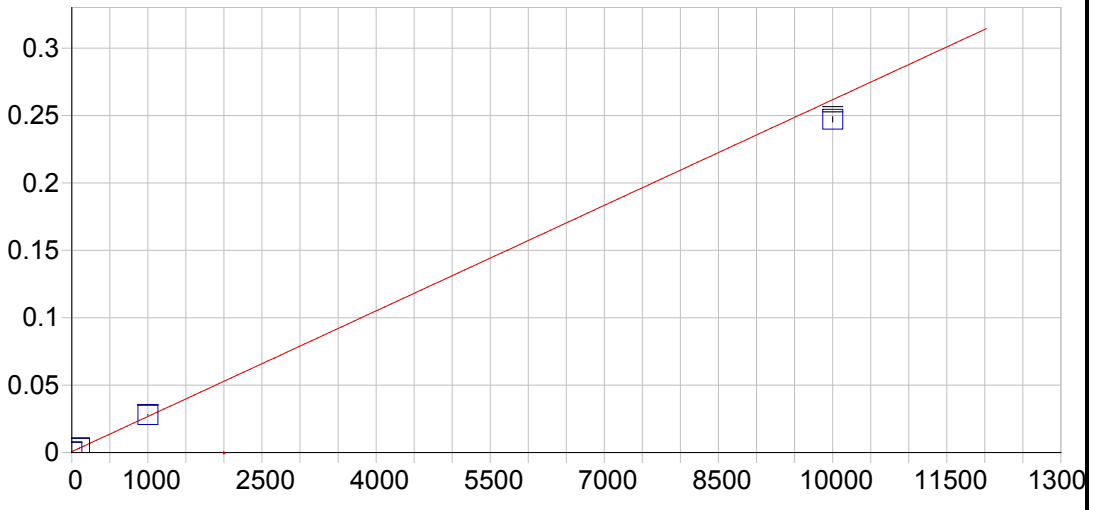



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.060000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 147.693448 | | |
| Predicted MQL: | 492.311494 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 98928. | -1070. | -1.07 | .00320 | .000 | 1 |
| CalStd10=10 | 10000. | 10132. | 132. | 1.32 | .00028 | .000 | 1 |
| CalStd14=50 | 500000. | 487770. | -12200. | -2.45 | .01737 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1213.7 | 214. | 21.4 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 946580. | -53400. | -5.34 | .03508 | .000 | 1 |

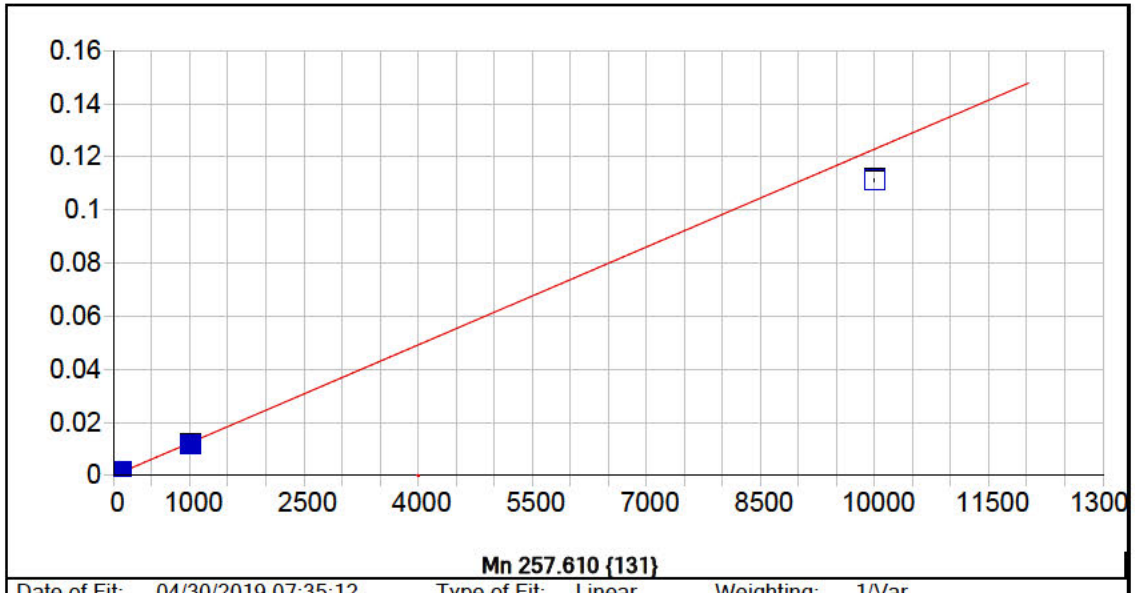



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000654 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998379 | Status: | OK. |
| Std Error of Est: | 0.000995 | | |
| Predicted MDL: | 0.047667 | | |
| Predicted MQL: | 0.158891 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -12.179 | -12.2 | .000 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | .02796 | .000 | 1 |
| CalStd10=10 | 10000. | 9444.6 | -555. | -5.55 | .24717 | .002 | 1 |
| CalStd8=100 | 100.00 | 101.19 | 1.19 | 1.19 | .00330 | .000 | 1 |

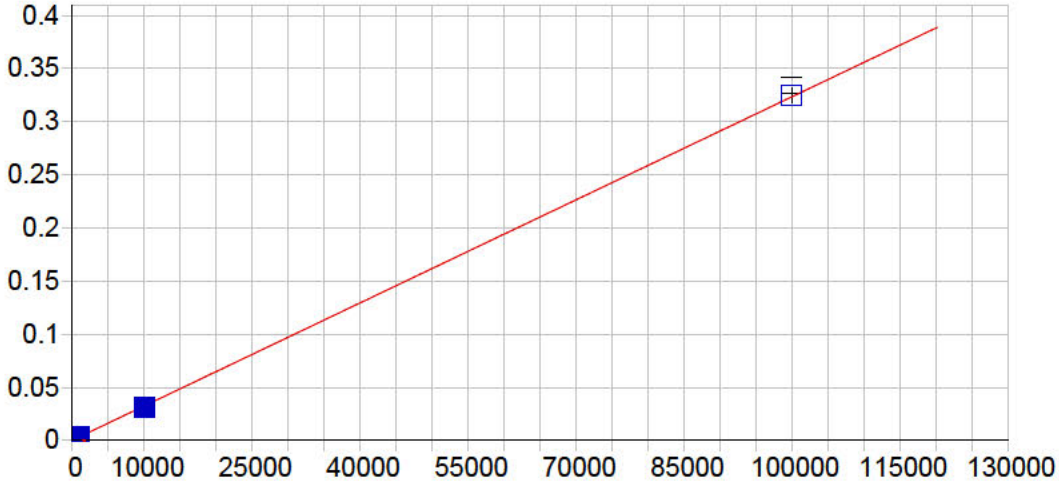



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997882 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.096882 | | |
| Predicted MQL: | 0.322939 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.92411 | -.924 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.263 | .263 | 2.63 | .00014 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.961 | 1.96 | 3.92 | .00065 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.442 | .442 | 2.21 | .00027 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.50 | 4.50 | 4.50 | .00130 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3851 | -.615 | -12.3 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 949.24 | -50.8 | -5.08 | .01168 | .000 | 1 |
| CalStd10=10 | 10000. | 9052.8 | -947. | -9.47 | .11130 | .001 | 1 |

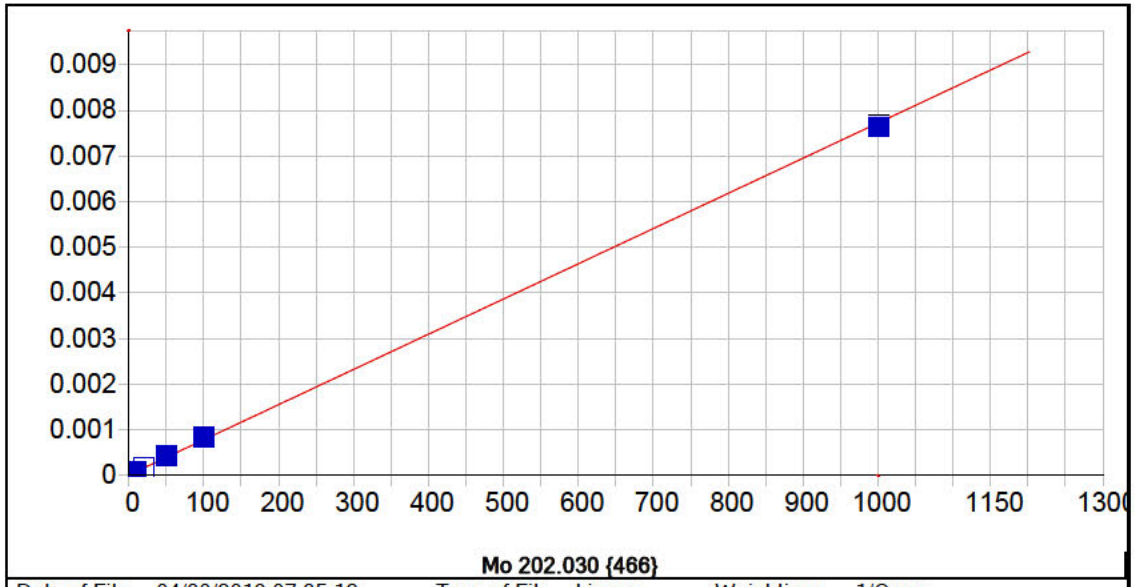



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999885 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 1.375255 | | |
| Predicted MQL: | 4.584185 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06489 | .065 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9525.8 | -474. | -4.74 | .03086 | .000 | 1 |
| CalStd9=100 | 1000.0 | 977.56 | -22.4 | -2.24 | .00317 | .000 | 1 |
| CalStd12=10 | 100000. | 100500. | 497. | .497 | .32506 | .007 | 1 |

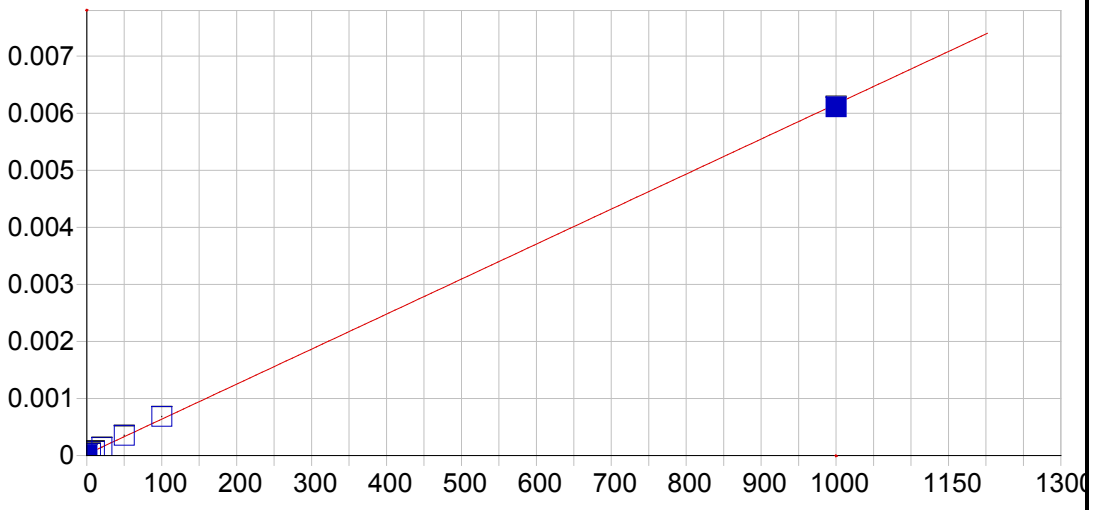



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999547 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.524568 | | |
| Predicted MQL: | 1.748560 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00040 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.505 | 3.51 | 7.01 | .00042 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.174 | 1.17 | 5.87 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.280 | .280 | 2.80 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.28 | 7.28 | 7.28 | .00084 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3136 | -.686 | -13.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.45 | -11.5 | -1.15 | .00766 | .000 | 1 |

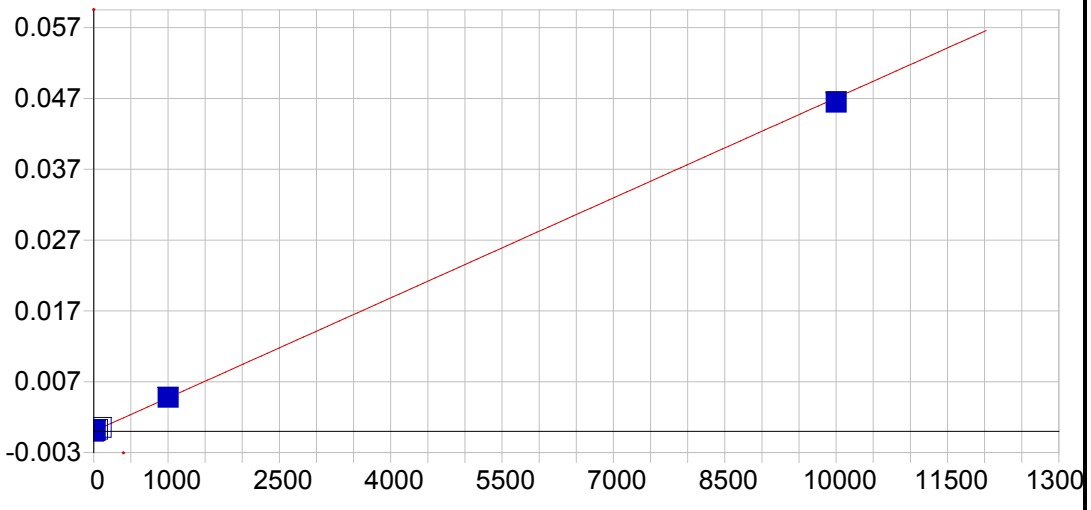



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999595 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.838770 | | |
| Predicted MQL: | 2.795900 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.4204 | -1.42 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.296 | 3.30 | 6.59 | .00035 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.552 | -.448 | -2.24 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8284 | -1.17 | -11.7 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.66 | 7.66 | 7.66 | .00068 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.3642 | -2.64 | -52.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.72 | -8.28 | -.828 | .00611 | .000 | 1 |

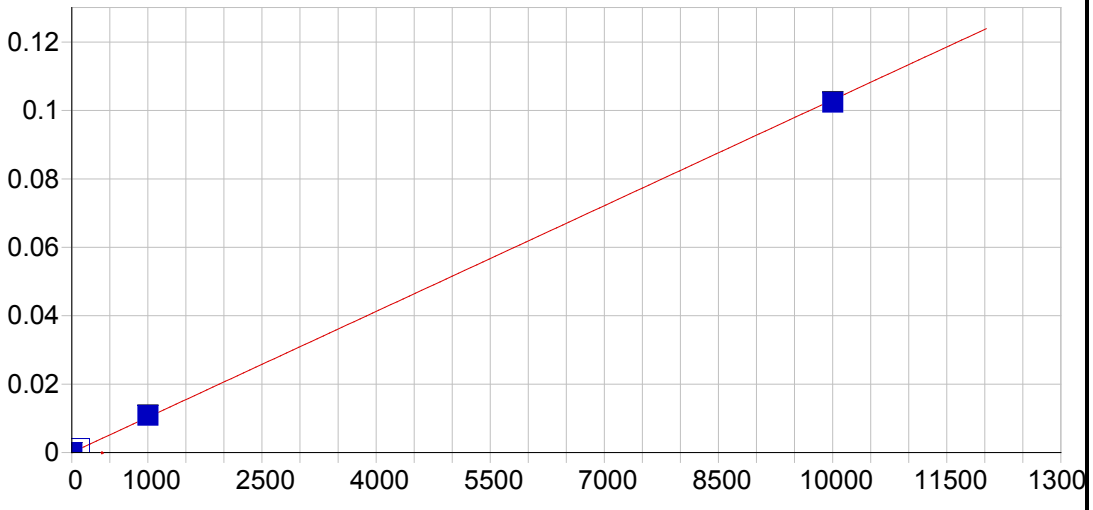



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999729 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 1.023425 | | |
| Predicted MQL: | 3.411418 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.3778 | -3.38 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.136 | 2.14 | 4.27 | .00026 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.942 | -1.06 | -5.29 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.2045 | -1.80 | -18.0 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00052 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.2638 | -2.74 | -54.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.7 | 12.7 | 1.27 | .00478 | .000 | 1 |
| CalStd10=10 | 10000. | 9869.0 | -131. | -1.31 | .04646 | .000 | 1 |

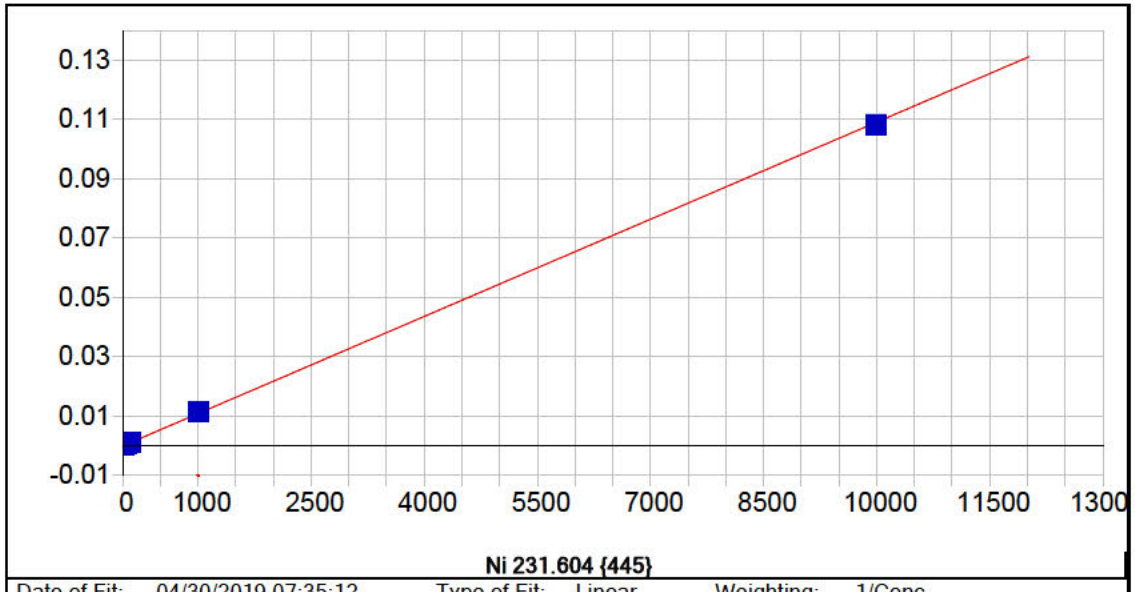



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999767 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.757594 | | |
| Predicted MQL: | 2.525313 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01826 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9932.7 | -67.3 | -.673 | .10240 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.57 | 13.6 | 13.6 | .00118 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1053.7 | 53.7 | 5.37 | .01088 | .000 | 1 |

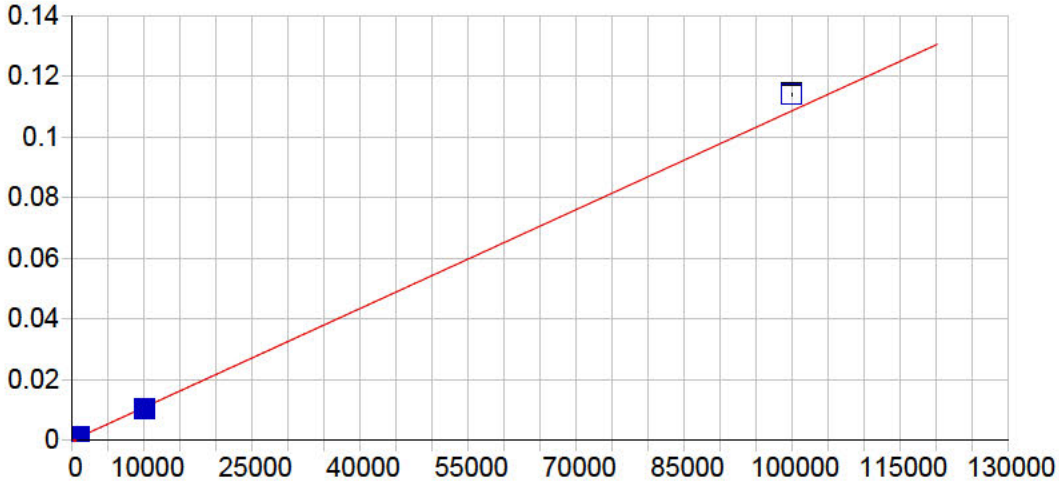



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999677 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.722935 | | |
| Predicted MQL: | 2.409785 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00112 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.719 | 7.72 | 15.4 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.803 | 1.80 | 18.0 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.32 | 14.3 | 14.3 | .00123 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8237 | .824 | 16.5 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.5 | 52.5 | 5.25 | .01147 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4324 | .432 | 43.2 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9922.5 | -77.5 | -.775 | .10848 | .000 | 1 |

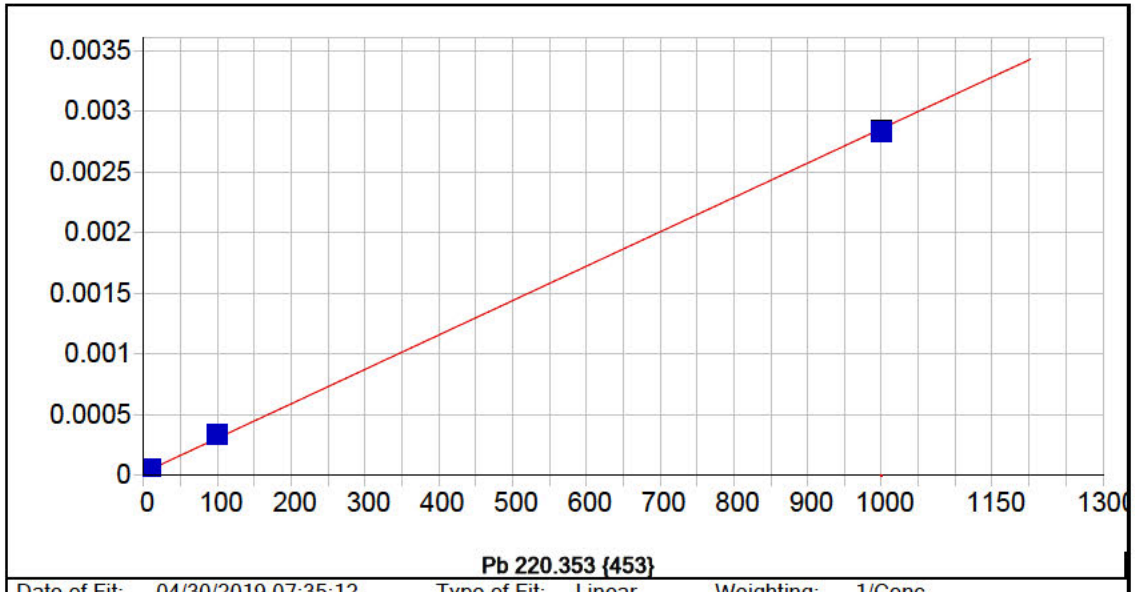



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999384 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 5.694743 | | |
| Predicted MQL: | 18.982477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.0158 | -7.02 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.85 | .585 | .00111 | .000 | 1 |
| CalStd10=10 | 10000. | 9530.5 | -470. | -4.70 | .01036 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.812 | -.188 | -.188 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.8172 | -5.18 | -51.8 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 105070. | 5070. | 5.07 | .11412 | .001 | 1 |

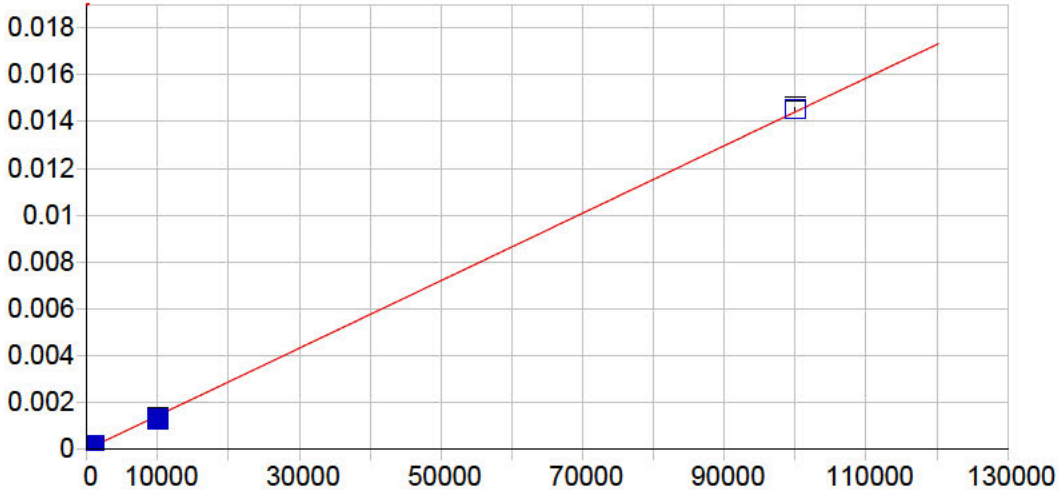



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999296 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.803616 | | |
| Predicted MQL: | 9.345385 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00071 | .001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.222 | .222 | 2.22 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.64 | 10.6 | 10.6 | .00034 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.6965 | -1.30 | -26.1 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.44 | -9.56 | -.956 | .00283 | .000 | 1 |

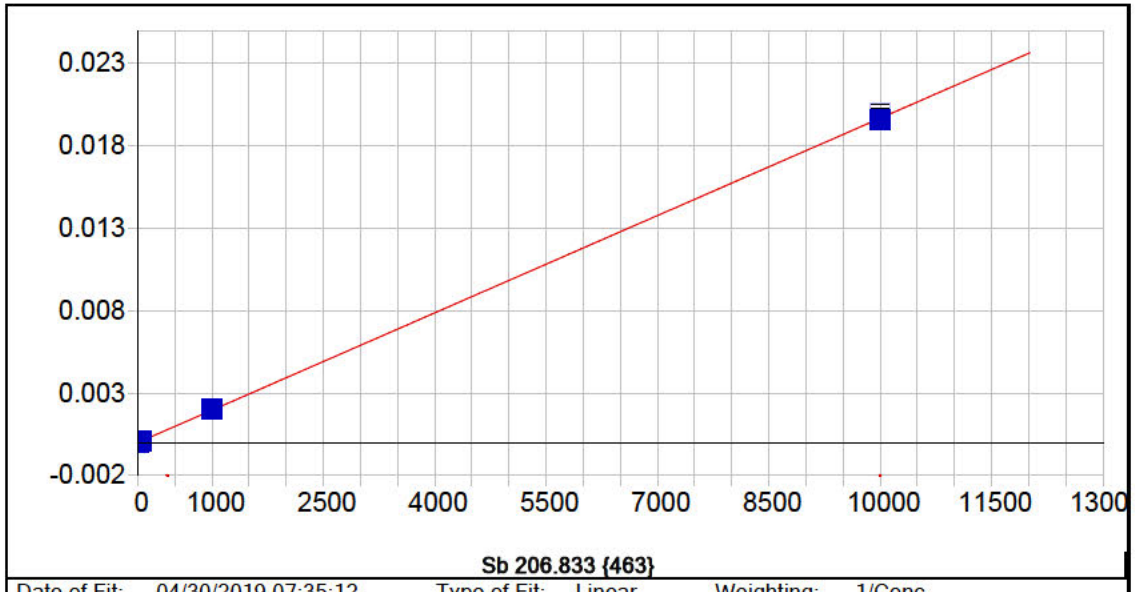



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999643 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 6.828097 | | |
| Predicted MQL: | 22.760324 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00570 | .006 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 968.50 | -31.5 | -3.15 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9159.4 | -841. | -8.41 | .00132 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.99 | 4.99 | 4.99 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 867. | .867 | .01454 | .000 | 1 |

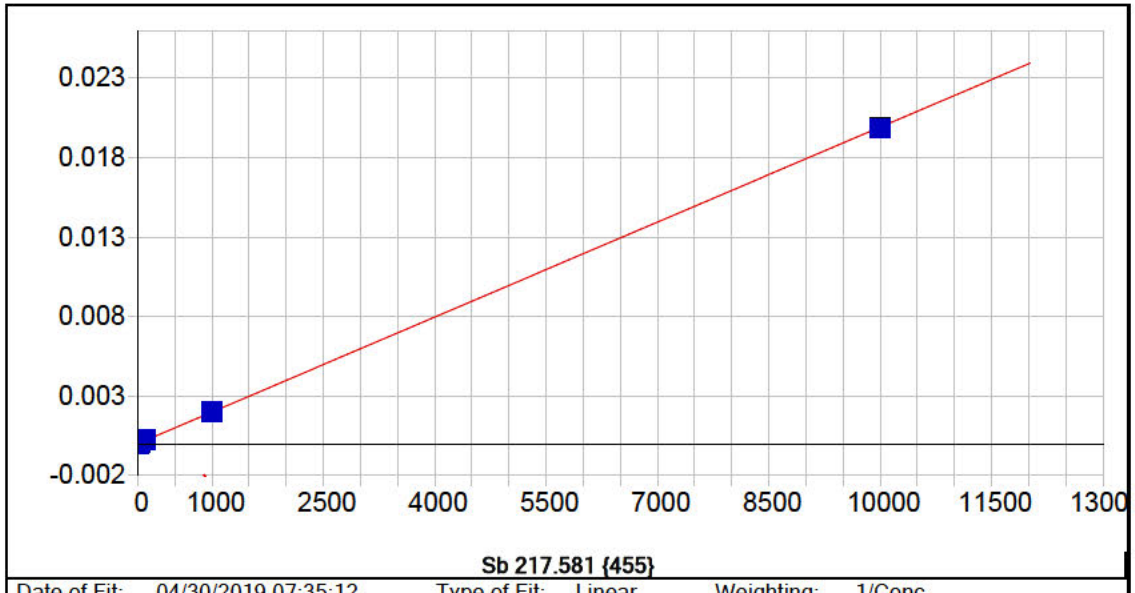



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999857 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.461614 | | |
| Predicted MQL: | 8.205380 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00540 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.0 | 23.0 | 2.30 | .00205 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.542 | 3.54 | 35.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.292 | 8.29 | 16.6 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9965.2 | -34.8 | -.348 | .01997 | .000 | 1 |

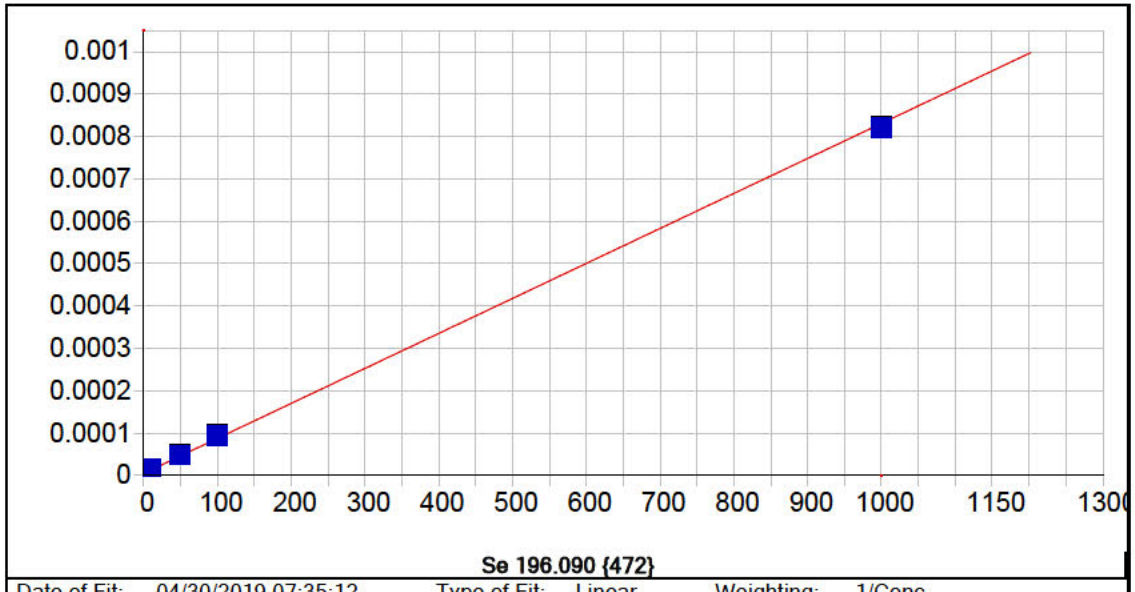



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999808 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.712923 | | |
| Predicted MQL: | 9.043077 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00477 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.3 | 21.3 | 2.13 | .00204 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.710 | 3.71 | 18.5 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.651 | 2.65 | 26.5 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.64 | 12.6 | 12.6 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7953 | 1.80 | 35.9 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.9 | -42.1 | -.421 | .01984 | .000 | 1 |

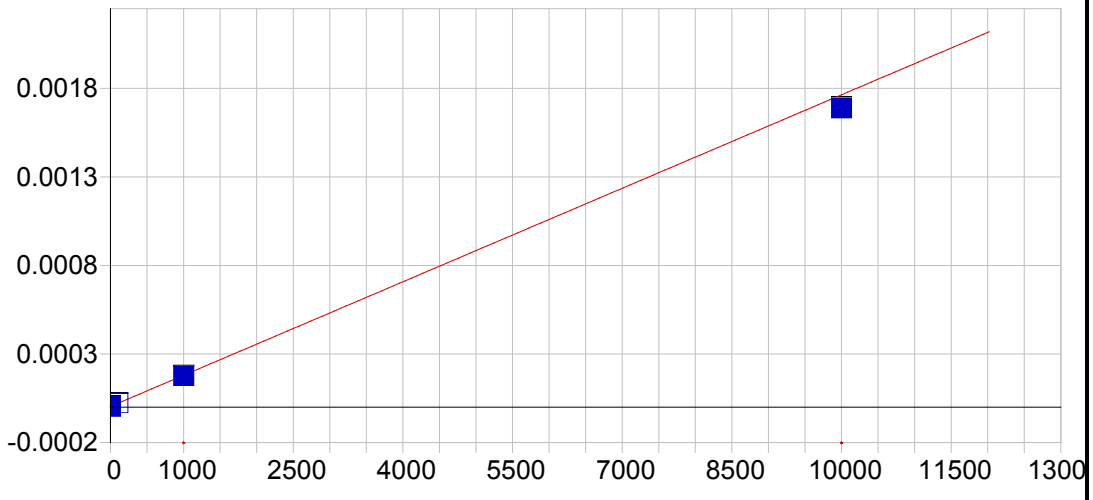



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999420 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.728254 | | |
| Predicted MQL: | 15.760848 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00343 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.462 | 2.46 | 4.92 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.89 | -12.1 | -1.21 | .00082 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.327 | 2.33 | 23.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.32 | 7.32 | 7.32 | .00009 | .000 | 1 |

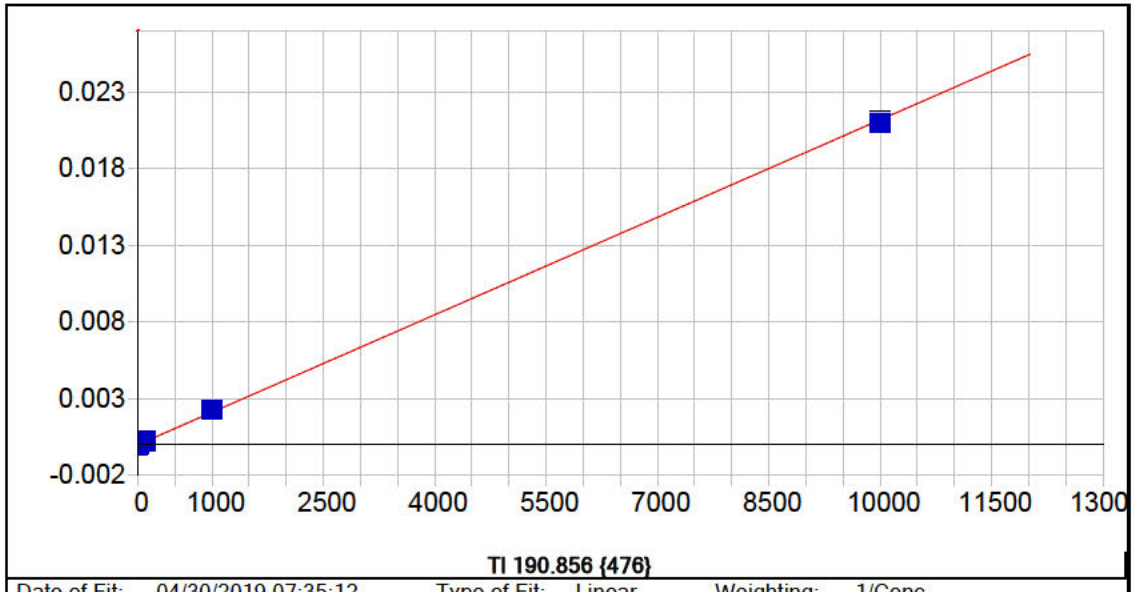



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 30.145855 | | |
| Predicted MQL: | 100.486183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00775 | -.008 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.17 | -13.8 | -1.38 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 9572.5 | -428. | -4.28 | .00169 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.65 | 8.65 | 8.65 | .00002 | .000 | 1 |

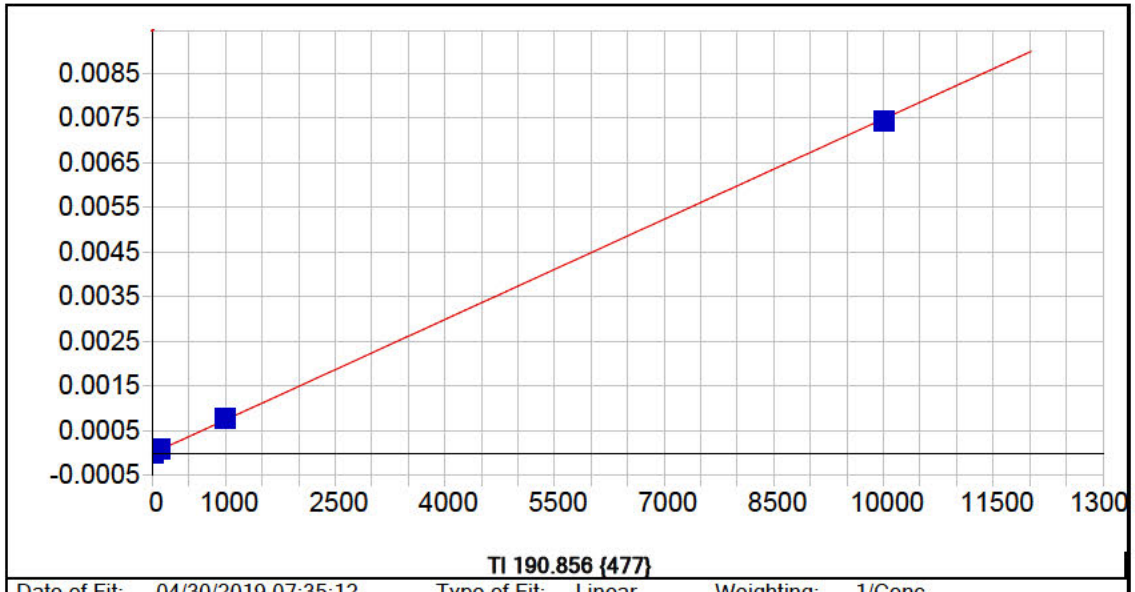



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999490 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.684770 | | |
| Predicted MQL: | 8.949234 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00515 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1077.8 | 77.8 | 7.78 | .00230 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.33 | 19.3 | 19.3 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.537 | 2.54 | 25.4 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9900.3 | -99.7 | -.997 | .02105 | .000 | 1 |

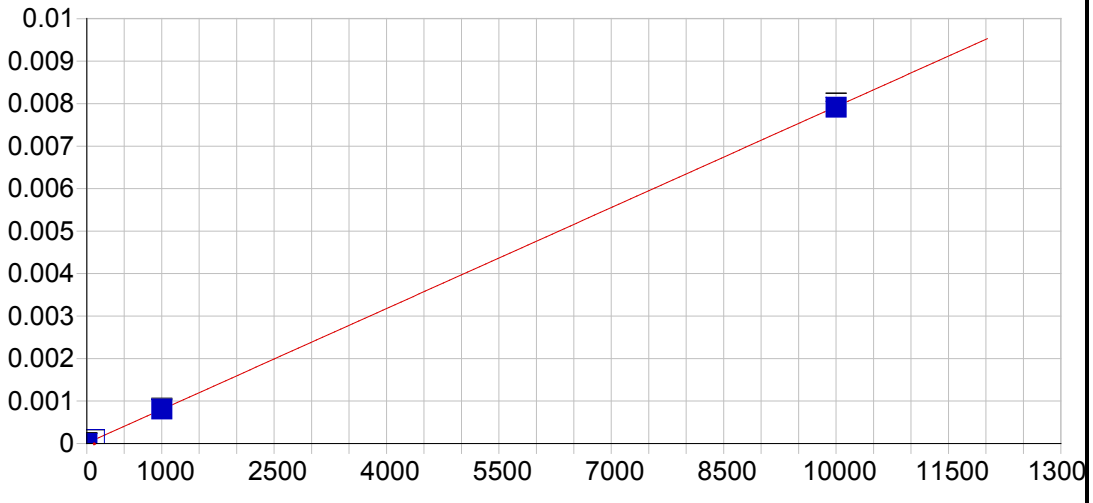



**Tl 190.856 {477}**

Date of Fit: 04/30/2019 07:35:12 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999617 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.300411 | | |
| Predicted MQL: | 17.668036 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00608 | -.006 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .00078 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.22 | 21.2 | 21.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.557 | 3.56 | 35.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9927.9 | -72.1 | -.721 | .00742 | .000 | 1 |

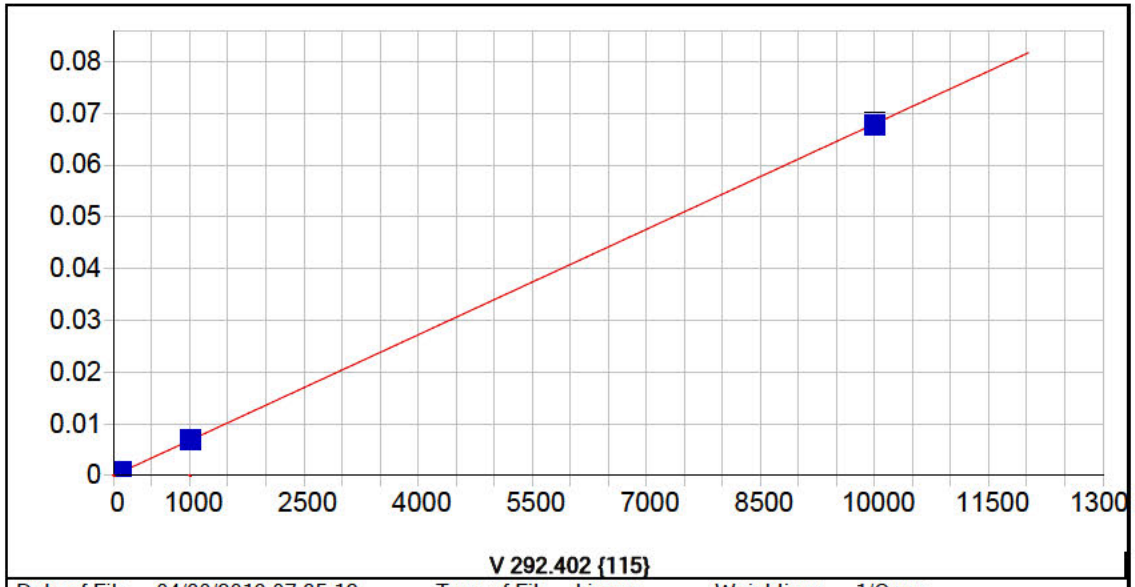



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.314456 | | |
| Predicted MQL: | 24.381519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00843 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.5 | 12.5 | 1.25 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.2 | -19.8 | -.198 | .00792 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.38 | 7.38 | 7.38 | .00009 | .000 | 1 |

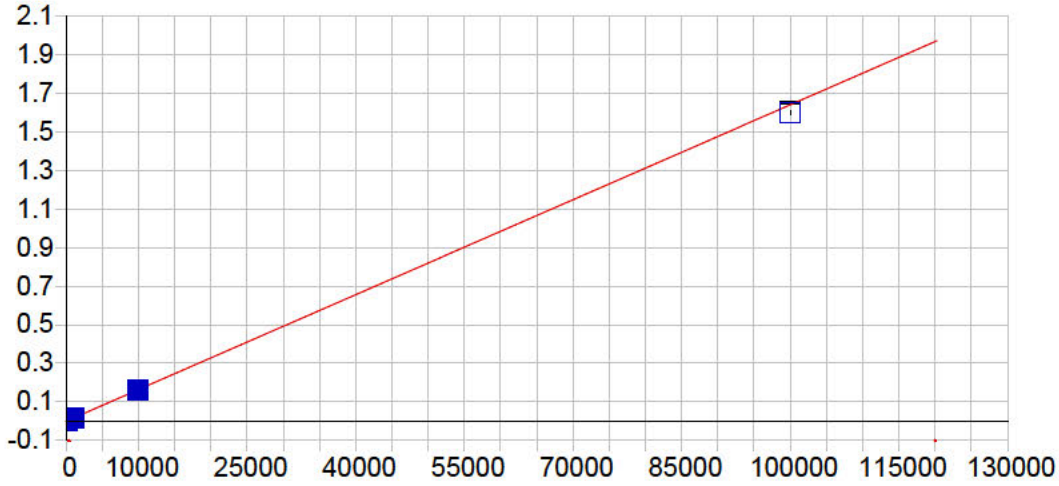



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.605824 | | |
| Predicted MQL: | 2.019414 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00569 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.727 | 5.73 | 11.5 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.2 | 15.2 | 1.52 | .00690 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.702 | 2.70 | 13.5 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.026 | 2.03 | 20.3 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.50 | 10.5 | 10.5 | .00075 | .000 | 1 |
| CalStd10=10 | 10000. | 9964.0 | -36.0 | -.360 | .06796 | .000 | 1 |

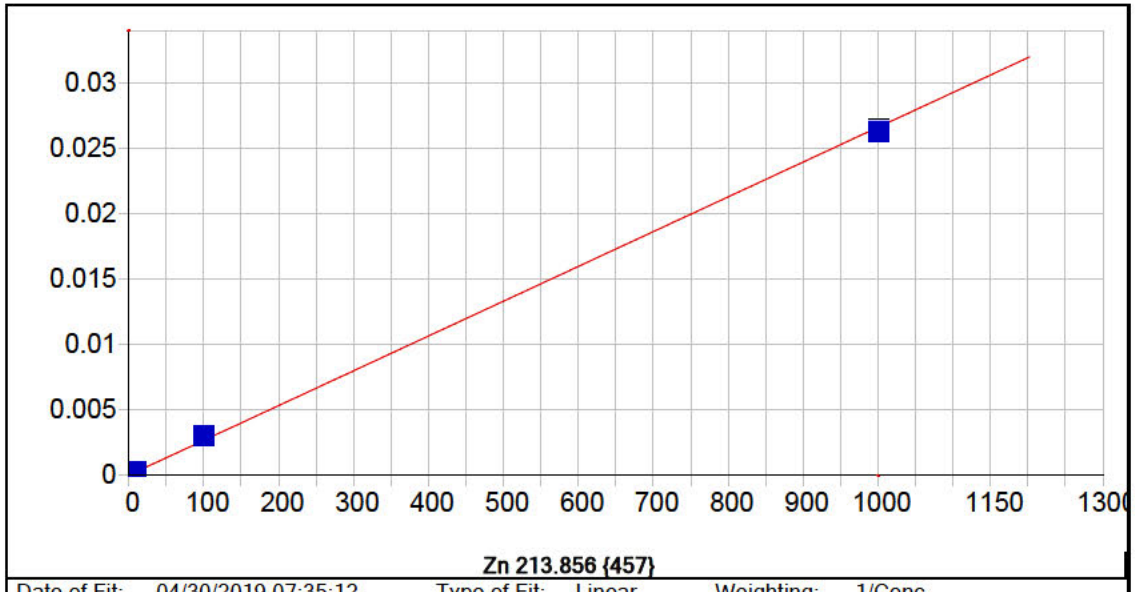



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999282 | Status: | OK. |
| Std Error of Est: | 0.000096 | | |
| Predicted MDL: | 0.398552 | | |
| Predicted MQL: | 1.328506 | | |

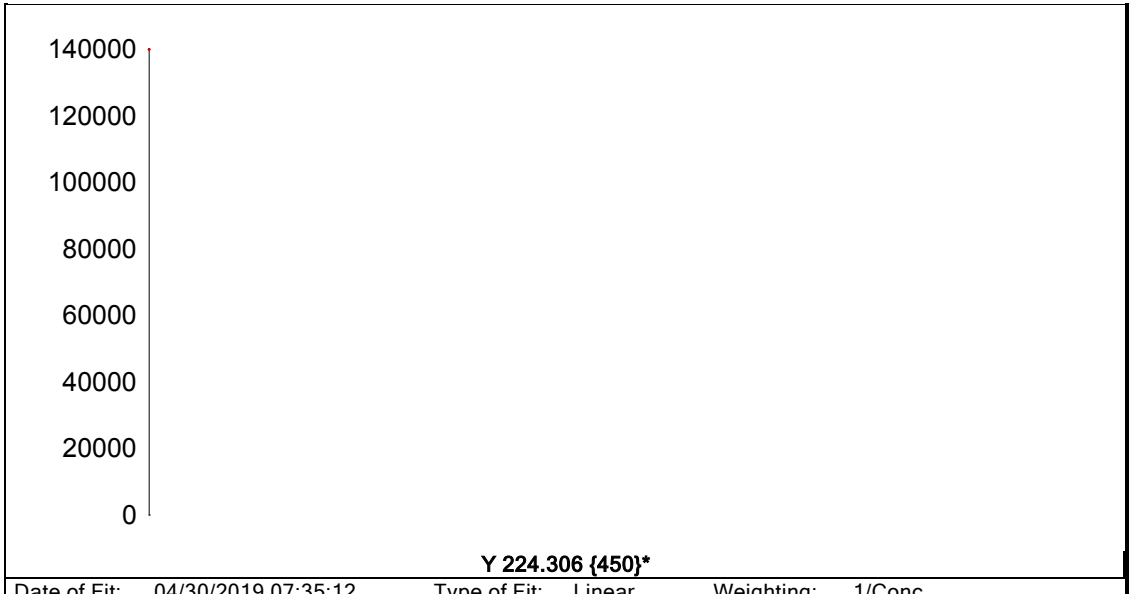
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9868.0 | -132. | -1.32 | .16176 | .000 | 1 |
| Blank | .00000 | -3.1327 | -3.13 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1043.8 | 43.8 | 4.38 | .01716 | .000 | 1 |
| CalStd12=10 | 100000. | 97507. | -2490. | -2.49 | 1.5980 | .008 | 1 |
| CalStd5=10 | 10.000 | 9.1726 | -.827 | -8.27 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.72 | 13.7 | 13.7 | .00192 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

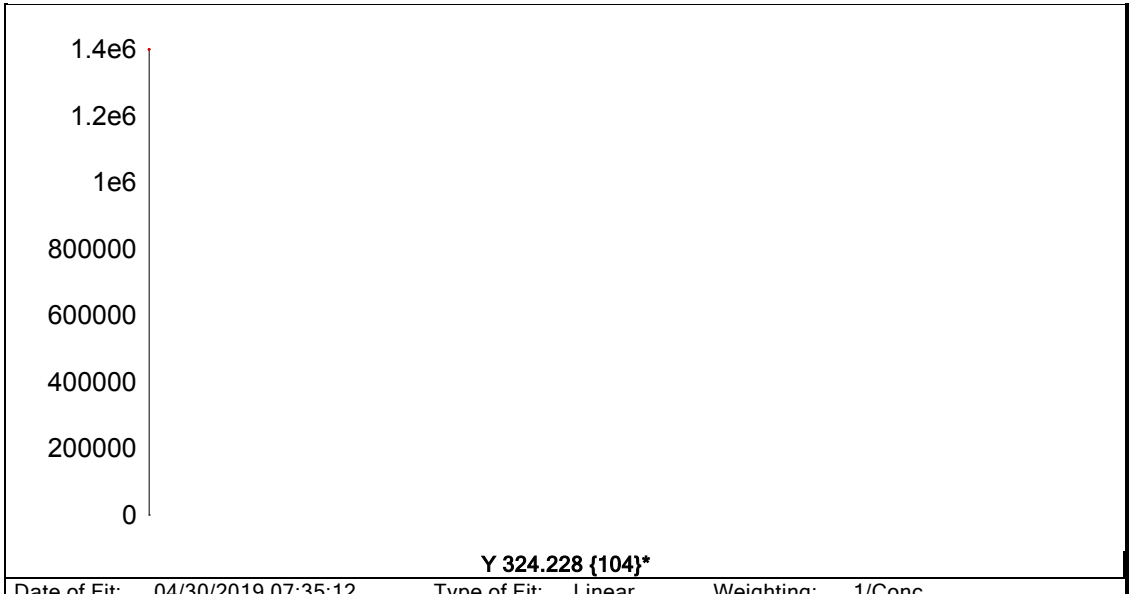
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999114 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.216001 | | |
| Predicted MQL: | 0.720004 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00274 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.00 | -14.0 | -1.40 | .02642 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.646 | 1.65 | 16.5 | .00034 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.36 | 12.4 | 12.4 | .00303 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

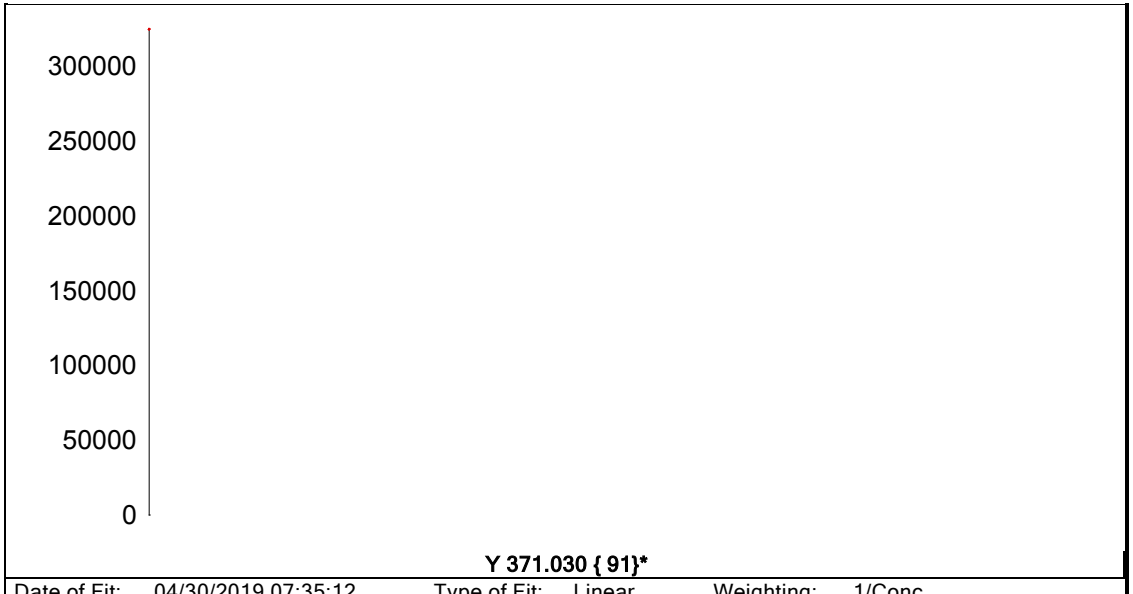
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 123870. | 355. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

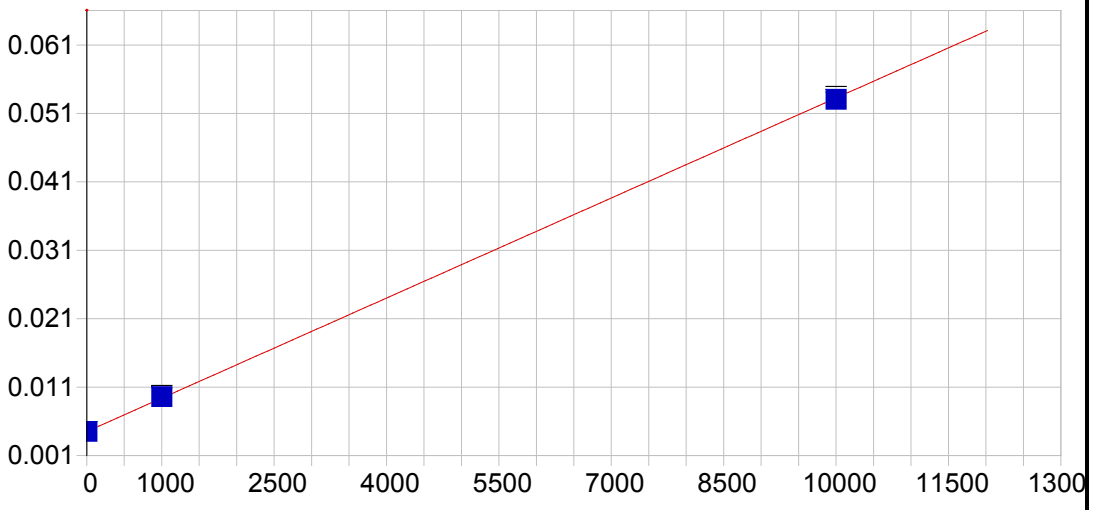
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1276800. | 7160. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 305680. | 3730. | 1 |

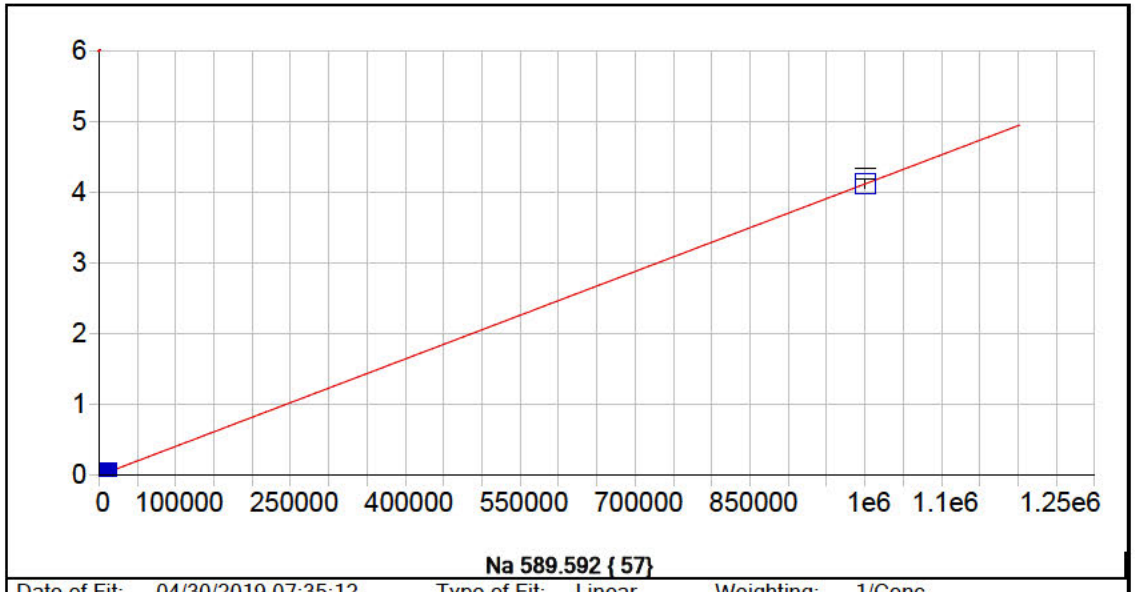



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004511 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999901 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 10.149500 | | |
| Predicted MQL: | 33.831667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04011 | -.040 | .000 | .00451 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.4 | -44.6 | -.446 | .05306 | .000 | 1 |

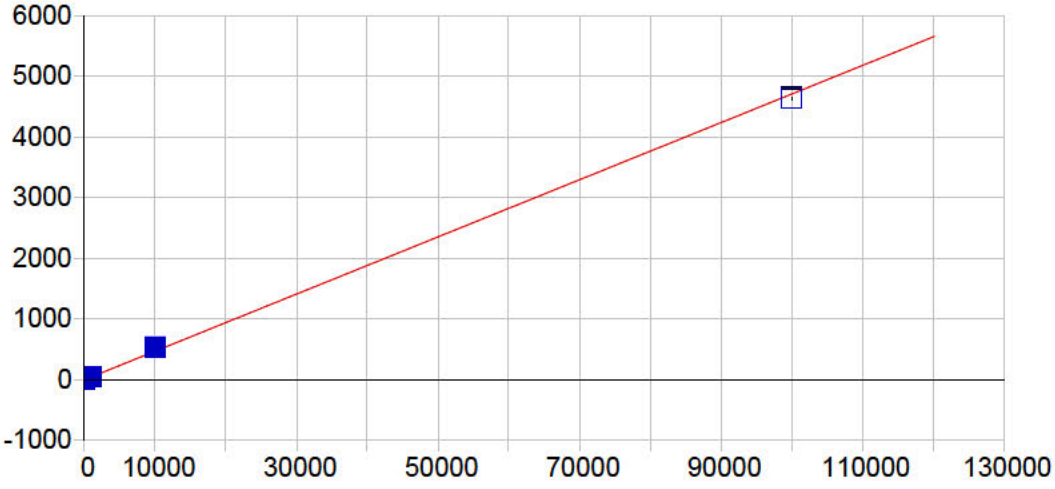



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000063 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000070 | | |
| Predicted MDL: | 7.898158 | | |
| Predicted MQL: | 26.327192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .20773 | .208 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 907.37 | -92.6 | -9.26 | .00380 | .000 | 1 |
| CalStd10=10 | 10000. | 8836.4 | -1160. | -11.6 | .03645 | .000 | 1 |
| CalibStd15= | 1000000. | 1001300. | 1260. | .126 | 4.1233 | .072 | 1 |

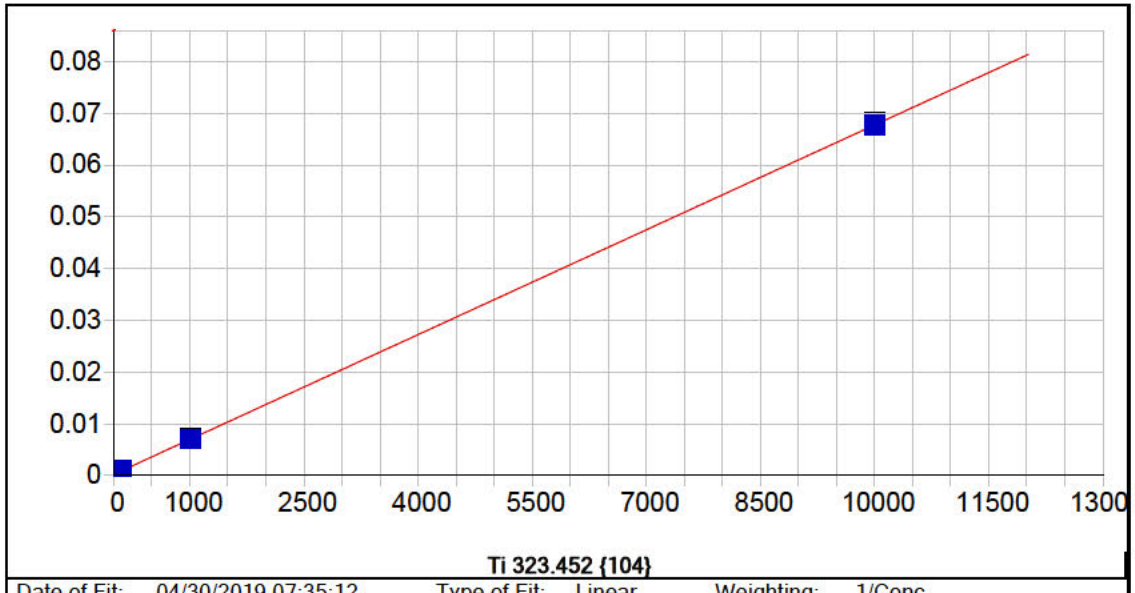



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.892880 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.047065 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998966 | Status: | OK. |
| Std Error of Est: | 1.013831 | | |
| Predicted MDL: | 26.768890 | | |
| Predicted MQL: | 89.229632 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14015 | -.140 | .000 | 1.8863 | 1.89 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | 53.186 | 2.01 | 1 |
| CalStd10=10 | 10000. | 11445. | 1440. | 14.4 | 564.11 | 2.99 | 1 |
| CalibStd15= | 100000. | 98471. | -1530. | -1.53 | 4636.4 | 23.5 | 1 |

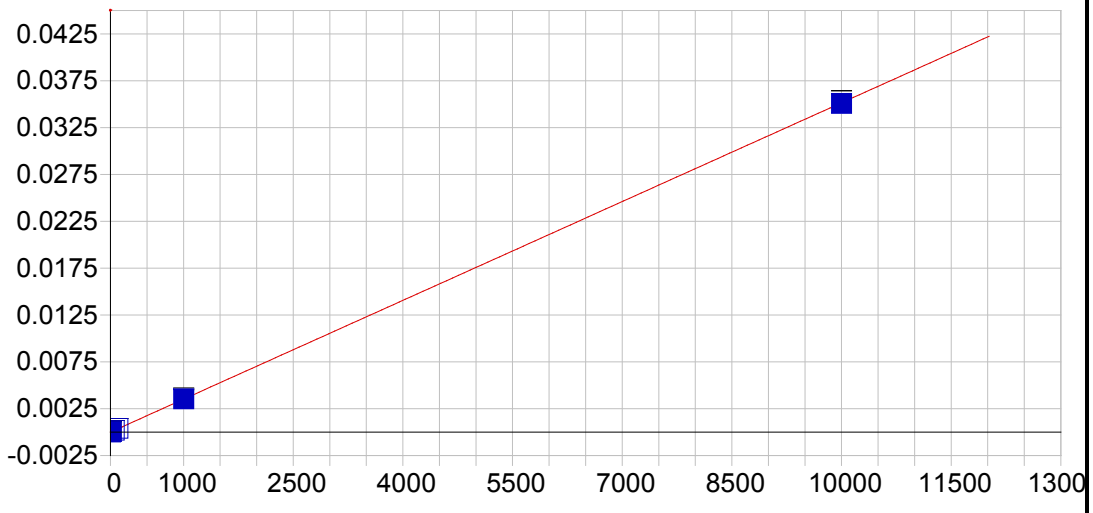



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000227 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999909 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.541505 | | |
| Predicted MQL: | 5.138349 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00014 | .000 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.045 | .045 | .452 | .00029 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.43 | 10.4 | 10.4 | .00097 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.6 | 5.59 | .559 | .00702 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.9 | -20.1 | -.201 | .06767 | .001 | 1 |
| CalStd7=50 | 50.000 | 55.300 | 5.30 | 10.6 | .00060 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.7697 | -1.23 | -24.6 | .00025 | .000 | 1 |

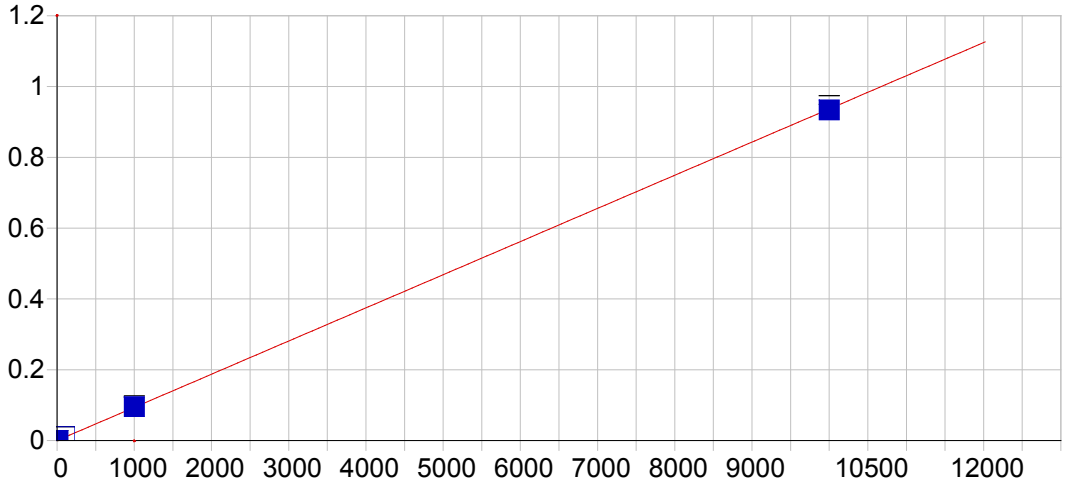



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.063215 | | |
| Predicted MQL: | 6.877382 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00260 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.391 | 1.39 | 13.9 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.61 | 9.61 | 9.61 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.7 | 7.67 | .767 | .00354 | .000 | 1 |
| CalStd10=10 | 10000. | 9975.9 | -24.1 | -.241 | .03508 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.539 | 4.54 | 9.08 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9434 | .943 | 18.9 | .00002 | .000 | 1 |

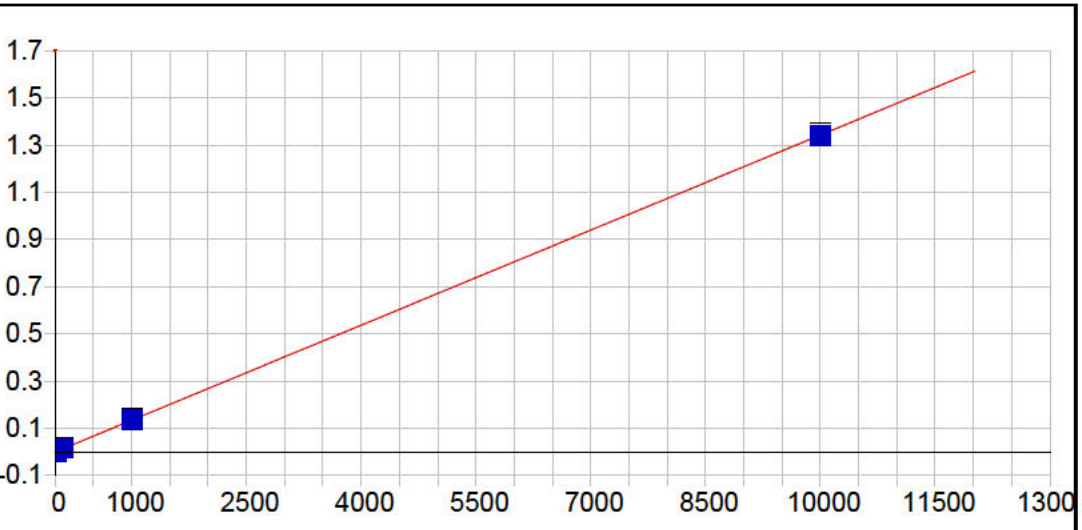



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000065 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000094 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999881 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.175276 | | |
| Predicted MQL: | 0.584252 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00059 | -.001 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0883 | .088 | 8.83 | .00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8487 | .849 | 17.0 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.913 | 1.91 | 19.1 | .00118 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.83 | 12.8 | 12.8 | .01063 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .09553 | .002 | 1 |
| CalStd10=10 | 10000. | 9965.5 | -34.5 | -.345 | .93387 | .012 | 1 |

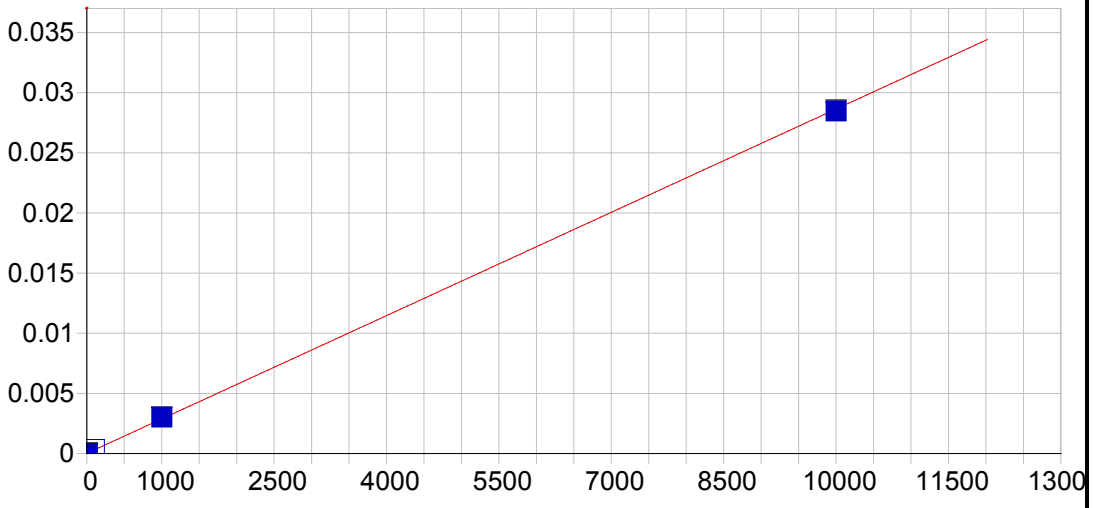



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999886 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.123225 | | |
| Predicted MQL: | 0.410752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00053 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0501 | .050 | 5.01 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7605 | .760 | 15.2 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00160 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.25 | 12.2 | 12.2 | .01508 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1020.8 | 20.8 | 2.08 | .13707 | .003 | 1 |
| CalStd10=10 | 10000. | 9964.3 | -35.7 | -.357 | 1.3379 | .014 | 1 |

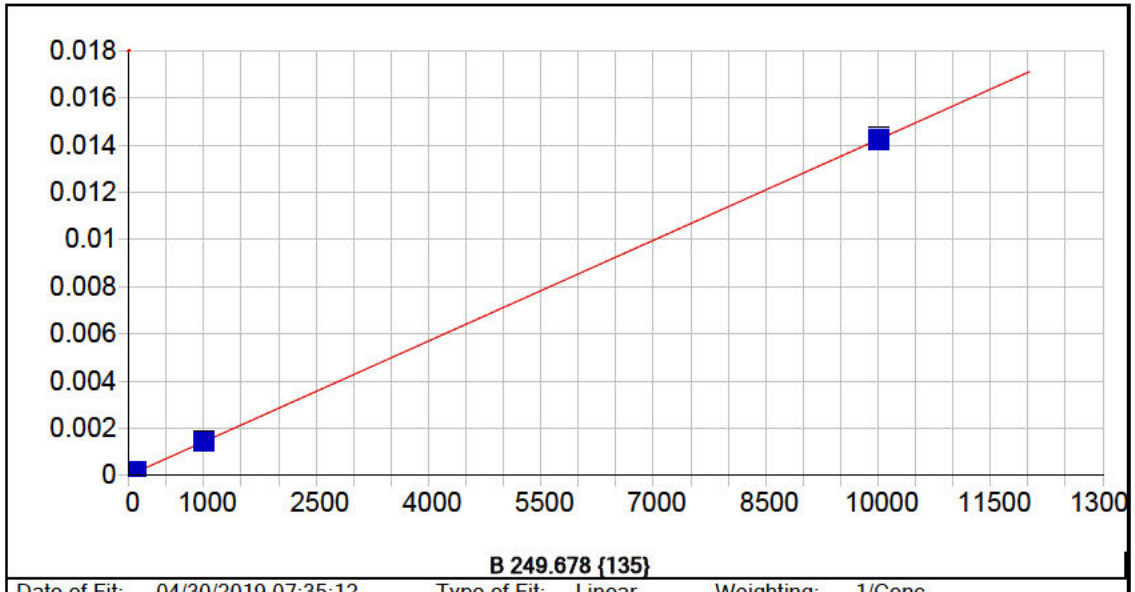



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999812 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.724449 | | |
| Predicted MQL: | 5.748164 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00202 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .02847 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1048.7 | 48.7 | 4.87 | .00302 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.88 | 11.9 | 11.9 | .00034 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.409 | .409 | 4.09 | .00005 | .000 | 1 |

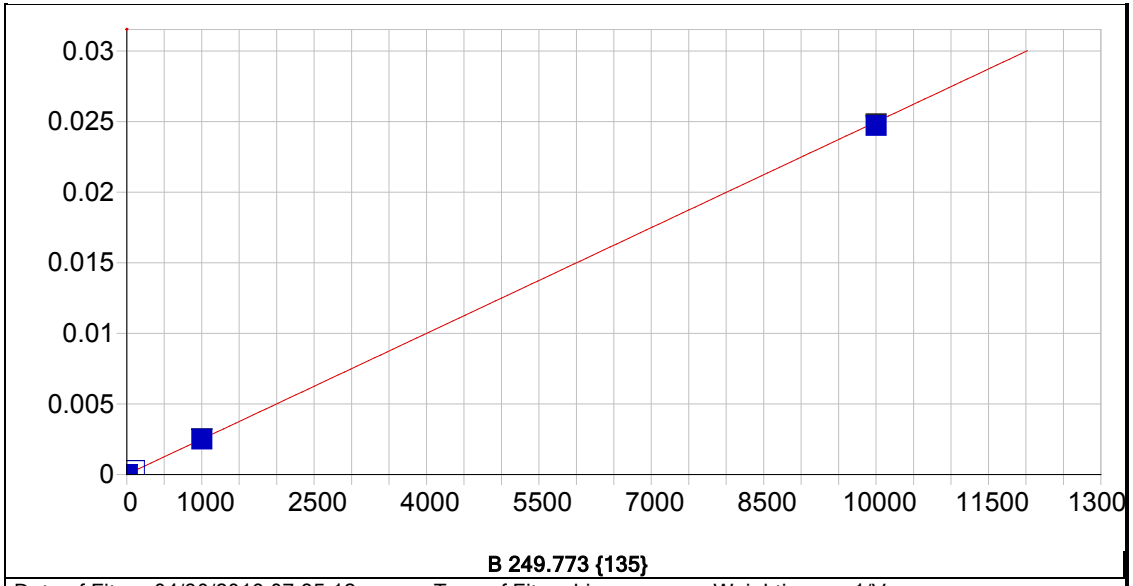



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.368619 | | |
| Predicted MQL: | 4.562062 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00180 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.85 | 4.85 | 4.85 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7549 | -2.25 | -22.5 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.58 | -4.42 | -.442 | .00143 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.81 | .018 | .01429 | .000 | 1 |

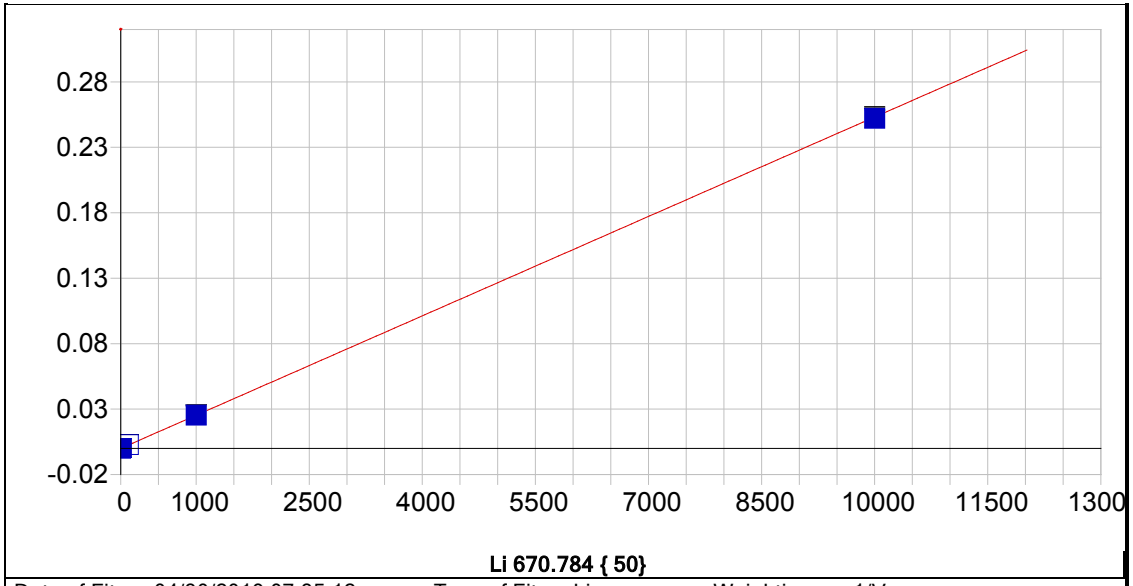



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999668 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.779432 | | |
| Predicted MQL: | 2.598107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.21304 | -.213 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.72 | 6.72 | 6.72 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3288 | -1.67 | -16.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .830 | .083 | .00251 | .000 | 1 |
| CalStd10=10 | 10000. | 9896.9 | -103. | -1.03 | .02473 | .000 | 1 |

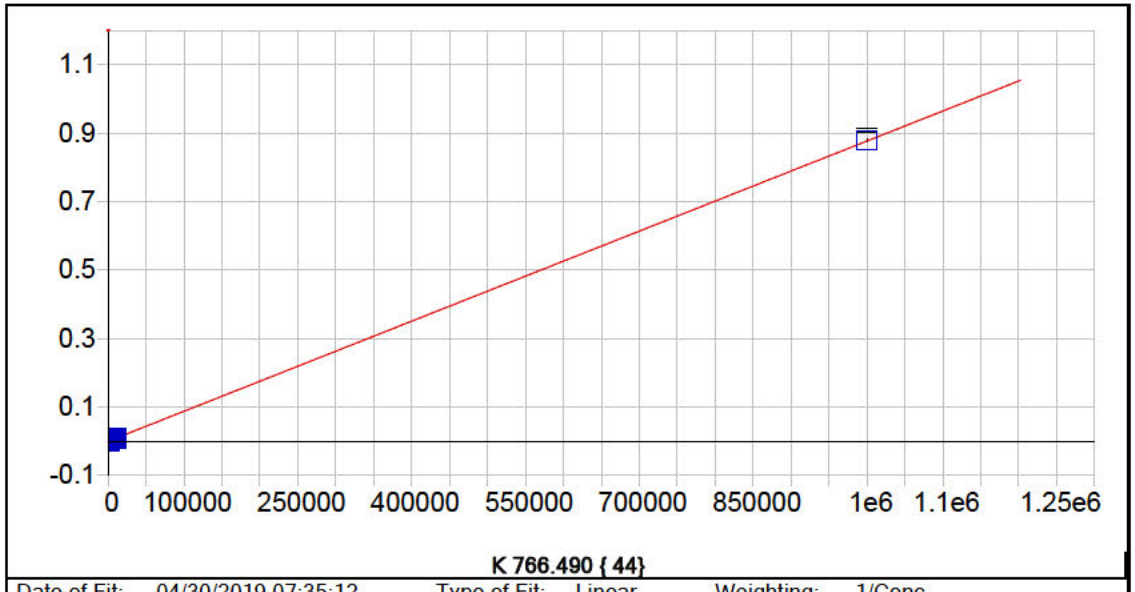



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000045 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000025 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999733 | Status: | OK. |
| Std Error of Est: | 0.000101 | | |
| Predicted MDL: | 1.571556 | | |
| Predicted MQL: | 5.238519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.3398 | -1.34 | .000 | -.00008 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.513 | .513 | 5.13 | .00022 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.42 | 11.4 | 11.4 | .00278 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.88 | .188 | .02532 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.6 | -44.4 | -.444 | .25201 | .001 | 1 |

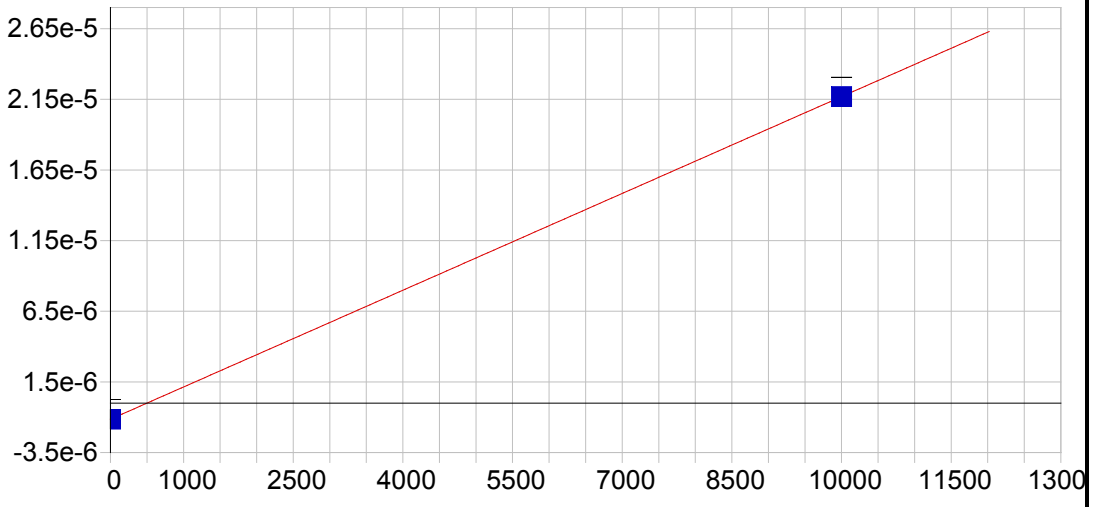



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999837 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 56.288107 | | |
| Predicted MQL: | 187.627024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33122 | .331 | .000 | -.00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 840.32 | -160. | -16.0 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 8265.7 | -1730. | -17.3 | .00721 | .000 | 1 |
| CalibStd15= | 1000000. | 1001900. | 1890. | .189 | .87886 | .004 | 1 |

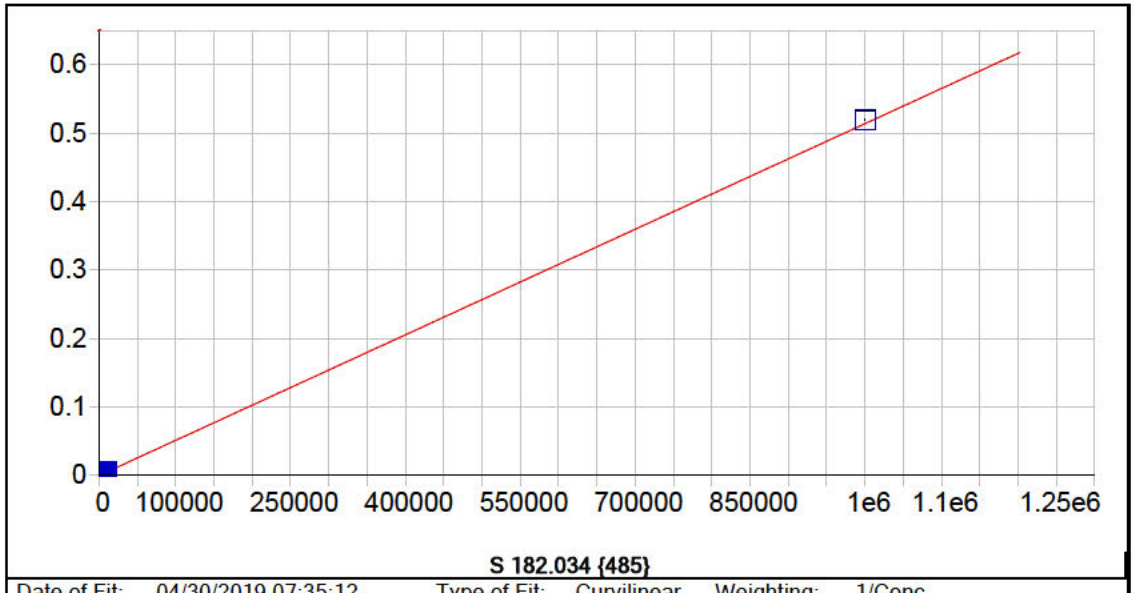



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 230.315837 | | |
| Predicted MQL: | 767.719457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00002 | .000 | 1 |

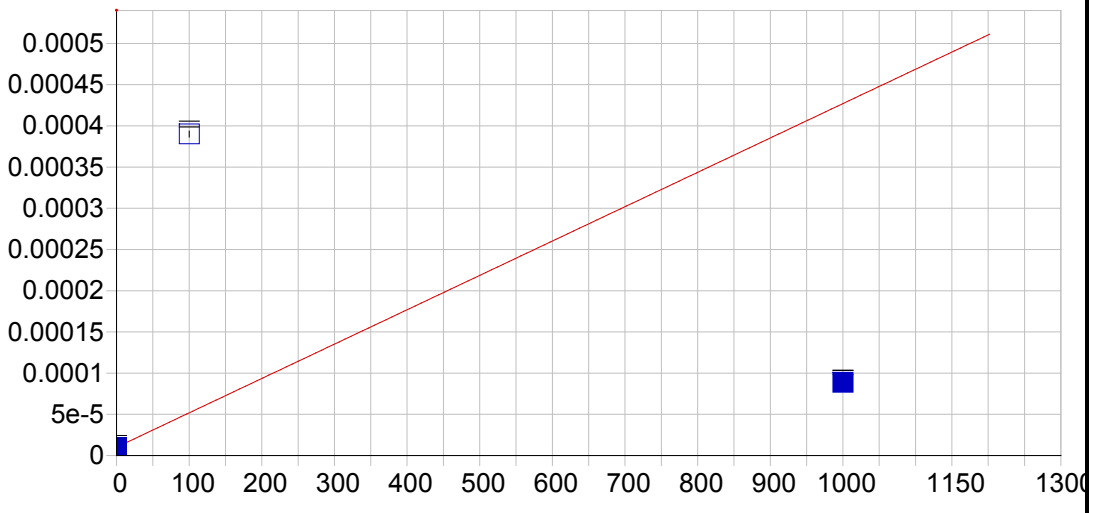



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.218644 | | |
| Predicted MQL: | 20.728815 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00108 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.81 | -1.19 | -.119 | .00053 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.22 | .022 | .00516 | .000 | 1 |
| CalibStd15= | 1000000. | 1010100. | 10100. | 1.01 | .51911 | .001 | 1 |

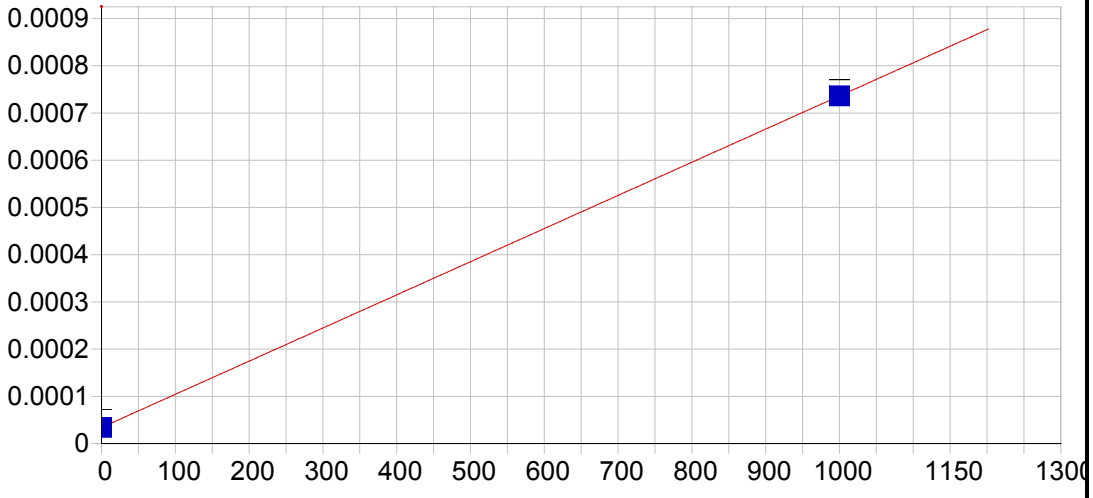



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.362902 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 9.166603 | | |
| Predicted MQL: | 30.555344 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.73038 | -.730 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 911.54 | 812. | 812. | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 188.46 | -812. | -81.2 | .00009 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000034 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.369364 | | |
| Predicted MQL: | 77.897881 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00074 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 14:03:58 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.230** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.002** | **-.000** |
| Stddev | .000 | .000 | .000 | .314 | .000 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 18.9 | 7.68 | 57.8 | 136. | 458. | 58.4 | 1.07 | .588 | 77.7 | 7.57 | 34.9 | 33.5 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **33.0** | **7.17** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.4 | 3.37 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 21.5 | 55.0 | 47.5 | 47.5 | 68.0 | 4.33 | 47.0 | 3.95 | 32.2 | 38.1 | 49.3 | 27.3 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 34.3 | 92.3 | 49.7 | 2550. | 24.5 | 41.6 | 63.8 | 41.4 | 136. | 158. | 86.4 | 102. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 109. | 56.3 | 87.0 | 298. | 18.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123870.** | **1276800.** | **305680.** |
| Stddev | 355. | 7164. | 3726. |
| %RSD | .28650 | .56110 | 1.2191 |

Sample Name: CalStd2=0.5 Acquired: 04/25/2019 14:10:16 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .668 | 62.9 | 9.43 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **123710.** | **1279800.** |
| Stddev | 209. | 2167. |
| %RSD | .16868 | .16933 |

Sample Name: CalStd3=1 Acquired: 04/25/2019 14:16:34 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 9.67 | 17.7 | 2.76 | 41.4 | 6.57 | 27.1 | 36.5 | 103. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123470.** | **1273400.** | **300220.** |
| Stddev | 53. | 3309. | 5495. |
| %RSD | .04317 | .25987 | 1.8302 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 14:22:49 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.2** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 | .000 | .000 | .000 | .000 |
| %RSD | 8.32 | 3.06 | .904 | 1.73 | 6.46 | 6.47 | 29.5 | 36.6 | 2.05 | 2.28 | 10.4 | 4.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 19.5 | 12.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123210.** | **1267300.** | **298290.** |
| Stddev | 373. | 1439. | 4038. |
| %RSD | .30293 | .11357 | 1.3536 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 14:29:06 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.31** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **38.1** |
| Stddev | .000 | .000 | .55 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 |
| %RSD | 2.48 | 3.01 | 42.1 | 79.9 | 2.14 | .865 | 3.01 | .408 | .925 | .511 | 3.45 | 9.62 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **13.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 1.8 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.4 | 1.24 | 4.97 | 4.78 | 7.94 | 39.2 | 11.2 | 19.0 | 14.1 | 5.87 | 7.98 | 1.98 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.49 | 1.23 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123880.** | **1263800.** | **303790.** |
| Stddev | 85. | 8427. | 637. |
| %RSD | .06830 | .66683 | .20965 |

Sample Name: CalStd6=20 Acquired: 04/25/2019 14:35:23 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **42.6** | **16.8** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 2.3 | 2.0 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.06 | 5.44 | 12.2 | .624 | 2.07 | 3.94 | 8.91 | 3.19 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123600.** | **1273700.** | **301630.** |
| Stddev | 282. | 5201. | 1616. |
| %RSD | .22814 | .40833 | .53569 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 14:41:33 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.19** | **.000** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **58.5** | **28.3** | **.001** | **.000** |
| Stddev | .47 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.7 | 2.7 | .000 | .000 |
| %RSD | 11.3 | 19.7 | 3.79 | .473 | .238 | .876 | .380 | 1.89 | 4.63 | 9.42 | .554 | .504 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.52 | .778 | 4.90 | 6.09 | .905 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123380.** | **1273500.** | **300440.** |
| Stddev | 162. | 7440. | 2083. |
| %RSD | .13145 | .58421 | .69323 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 14:47:43 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **7.42** | **.000** | **.001** | **.017** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .28 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .687 | .463 | 3.71 | 5.29 | .765 | 1.32 | .339 | 2.66 | 1.81 | .153 | .355 | .395 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **84.2** | **46.0** | **.003** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 3.1 | 2.2 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .406 | .536 | 1.38 | 3.74 | 4.83 | 3.33 | .267 | .613 | .586 | .331 | .217 | 1.95 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .757 | 1.45 | 4.80 | 14.5 | .894 | 8.43 | .752 | .514 | .525 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123670.** | **1275100.** | **300840.** |
| Stddev | 429. | 5306. | 2101. |
| %RSD | .34723 | .41608 | .69839 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 14:53:51 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **71.2** | **.001** | **.010** | **.068** | **.053** | **.002** | **.000** | **.127** | **.023** | **.045** |
| Stddev | .000 | .000 | .7 | .000 | .000 | .001 | .000 | .000 | .000 | .003 | .000 | .000 |
| %RSD | .462 | 3.29 | .931 | 1.02 | .320 | 1.86 | .491 | 1.88 | 3.18 | 2.06 | .235 | .114 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.020** | **.002** | **.015** | **.002** | **500.** | **356.** | **.000** | **.000** | **.001** | **.000** | **.028** | **.012** |
| Stddev | .000 | .000 | .000 | .000 | 5. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .360 | .687 | .219 | .940 | .919 | 1.77 | .511 | 1.63 | 1.28 | 7.93 | .626 | .471 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.011** | **.011** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.23 | .424 | .210 | .194 | .308 | .206 | .449 | .169 | .313 | .527 | .990 | .727 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.017** | **.026** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.99 | .522 | .341 | .238 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123980.** | **1278100.** | **301510.** |
| Stddev | 184. | 5989. | 3283. |
| %RSD | .14806 | .46862 | 1.0887 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 14:59:32 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.567** | **.003** | **1.17** | **.187** | **.020** | **.142** | **.024** | **4540.** | **3420.** | **.004** |
| Stddev | .000 | .000 | .015 | .000 | .03 | .000 | .000 | .000 | .000 | 11. | 12. | .000 |
| %RSD | .917 | .310 | 2.73 | 1.51 | 2.57 | .261 | .553 | .128 | .482 | .248 | .352 | .561 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.010** | **.000** | **.247** | **.111** | **.031** | **.046** | **.102** | **.108** | **.010** | **.020** | **.020** |
| Stddev | .000 | .000 | .000 | .002 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | 1.28 | .383 | .775 | .501 | 1.08 | .171 | .229 | .229 | .383 | .240 | .282 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.021** | **.008** | **.068** | **.162** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | .355 | .403 | 1.21 | .475 | .151 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122070.** | **1244700.** | **302730.** |
| Stddev | 320. | 4835. | 2234. |
| %RSD | .26239 | .38847 | .73796 |

Sample Name: CalStd12=100K  Acquired: 04/25/2019 15:06:08  Type: Cal
Method: DOD Calibration Updated 060614(v3320)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **49400.** | **37200.** | **.325** | **.114** | **1.60** |
| Stddev | .00 | 482. | 345. | .007 | .001 | .01 |
| %RSD | .098 | .977 | .927 | 2.23 | .459 | .504 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122080.** | **1262900.** | **301480.** |
| Stddev | 124. | 4342. | 3702. |
| %RSD | .10195 | .34385 | 1.2280 |

Sample Name: CalStd13=100000 Acquired: 04/25/2019 15:12:26 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.123** | **.031** | **.041** | **.022** | **.102** | **.003** |
| Stddev | .001 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .556 | .380 | .356 | .284 | .472 | .626 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **120050.** | **1235100.** | **299990.** |
| Stddev | 297. | 1194. | 2475. |
| %RSD | .24707 | .09667 | .82495 |

Sample Name: CalStd14=500000 Acquired: 04/25/2019 15:18:52 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.653** | **.155** | **.107** | **.487** | **.017** |
| Stddev | .011 | .001 | .000 | .001 | .000 |
| %RSD | 1.63 | .344 | .422 | .250 | .295 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **111000.** | **283910.** |
| Stddev | 247. | 1484. |
| %RSD | .22280 | .52282 |

Sample Name: CalibStd15=1000k Acquired: 04/25/2019 15:25:30 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **.314** | **.209** | **.035** |
| Stddev | .01 | .002 | .001 | .000 |
| %RSD | 1.09 | .483 | .505 | .395 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **99304.** | **261110.** |
| Stddev | 236. | 668. |
| %RSD | .23784 | .25588 |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **44.4** | **10800.** | **2040.** | **2040.** | **2040.** | **48.4** | **49.3** | **8870.** | **47.6** | **54.4** | **514.** | **201.** |
| Stddev | .4 | 22. | 18. | 7. | 9. | .4 | .4 | 98. | .3 | .2 | 2. | 3. |
| %RSD | .974 | .200 | .900 | .335 | .444 | .752 | .837 | 1.10 | .591 | .351 | .352 | 1.26 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **235.** | **236.** | **4730.** | **10100.** | **475.** | **489.** | **500.** | **511.** | **511.** | **481.** | **480.** | **517.** |
| Stddev | 6. | 11. | 17. | 114. | 2. | 3. | 3. | 4. | 3. | 10. | 7. | 2. |
| %RSD | 2.66 | 4.47 | .348 | 1.13 | .484 | .670 | .646 | .794 | .514 | 2.17 | 1.52 | .384 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **509.** | **1990.** | **2070.** | **510.** | **506.** | **503.** | **488.** |
| Stddev | 3. | 14. | 13. | 6. | 2. | 2. | 2. |
| %RSD | .603 | .702 | .631 | 1.26 | .450 | .480 | .425 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124570.** | **1269300.** | **302840.** |
| Stddev | 137. | 5841. | 1865. |
| %RSD | .10971 | .46021 | .61576 |

Sample Name: ICVLL Acquired: 04/25/2019 15:51:21 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **31.5** | **1250.** | **1270.** | **60.9** | **31.7** | **12.7** | **1610.** | **15.8** | **16.2** | **32.1** | **33.7** | **29.5** |
| Stddev | .5 | 3. | 17. | 5.4 | .1 | .1 | 12. | .2 | .1 | .5 | .7 | 3.1 |
| %RSD | 1.67 | .229 | 1.37 | 8.83 | .471 | .605 | .728 | 1.37 | .436 | 1.62 | 2.08 | 10.4 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **33.6** | **1010.** | **1610.** | **33.1** | **31.8** | **33.4** | **34.4** | **71.5** | **70.5** | **64.5** | **33.7** | **33.8** |
| Stddev | 6.2 | 6. | 8. | .3 | .5 | .7 | .4 | 1.4 | 3.3 | 1.7 | .5 | .2 |
| %RSD | 18.3 | .626 | .512 | .777 | 1.46 | 2.09 | 1.27 | 1.98 | 4.71 | 2.56 | 1.48 | .605 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123990.** | **1259700.** | **301820.** |
| Stddev | 253. | 5434. | 2468. |
| %RSD | .20370 | .43134 | .81780 |

Sample Name: icb Acquired: 04/25/2019 16:03:40 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.715** | **-7.72** | **-4.05** | **-.358** | **-.042** | **-13.4** | **-.083** | **-.056** | **-.592** | **-.222** | **7.97** | **-11.1** |
| Stddev | .874 | .48 | 6.31 | .225 | .029 | .3 | .059 | .186 | .379 | 1.04 | 6.08 | 1.7 |
| %RSD | 122. | 6.17 | 156. | 62.7 | 69.0 | 1.95 | 71.5 | 331. | 64.0 | 469. | 76.3 | 15.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-21.1** | **-1.22** | **-1.40** | **-.444** | **.016** | **-.432** | **-.585** | **-2.33** | **-.039** | **-.561** |
| Stddev | .1 | .03 | .63 | .370 | 3.08 | 3.14 | 4.15 | 1.18 | .398 | .115 |
| %RSD | .504 | 2.51 | 45.4 | 83.3 | 19600. | 727. | 709. | 50.4 | 1020. | 20.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124930.** | **1269000.** | **303230.** |
| Stddev | 408. | 4214. | 1380. |
| %RSD | .32647 | .33204 | .45509 |

Sample Name: MRL/LLOQ Acquired: 04/25/2019 16:09:55 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.7** | **406.** | **19.7** | **9.12** | **4.06** | **500.** | **4.90** | **5.18** | **9.94** | **10.4** | **11.3** | F **17.3** |
| Stddev | .6 | 3. | 10.1 | .37 | .07 | 10. | .29 | .10 | .36 | .8 | 2.2 | 6.3 |
| %RSD | 5.79 | .620 | 51.3 | 4.11 | 1.67 | 2.02 | 5.84 | 1.94 | 3.67 | 8.08 | 19.1 | 36.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | 20.0 | | | | | | | | | | | 10.0 |
| Range | -30.0% | | | | | | | | | | | 30.0% |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **305.** | **503.** | **9.47** | **9.41** | **10.4** | **10.7** | **24.0** | **20.6** | **20.1** | **10.1** | **11.6** |
| Stddev | 4. | 3. | .10 | .26 | .6 | 1.3 | .7 | 2.1 | 3.2 | .4 | .2 |
| %RSD | 1.43 | .520 | 1.09 | 2.76 | 5.40 | 11.7 | 3.05 | 10.3 | 16.1 | 4.26 | 1.94 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124220.** | **1261900.** | **304400.** |
| Stddev | 277. | 7141. | 2207. |
| %RSD | .22331 | .56589 | .72497 |

Sample Name: ICSA Acquired: 04/25/2019 16:16:06 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.18** | **556000.** | **.263** | **.001** | **-.581** | **511000.** | **-.001** | **.702** | **-.214** | **-.735** | **.000** |
| Stddev | .31 | 15600. | 31.6 | 1.54 | .179 | 6610. | .823 | .252 | .486 | .723 | 8.05 |
| %RSD | 14.2 | 2.80 | 12000. | 278000. | 30.9 | 1.29 | 95700. | 35.9 | 228. | 98.4 | 4040000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **492000.** | **501000.** | **-4.13** | **-.177** | **-.556** | **-.253** | **-.729** | **.003** | **-.056** | **11600.** | **3.00** |
| Stddev | 6760. | 5120. | .18 | .743 | .868 | 3.49 | 1.90 | 4.84 | 4.32 | 92. | 2.06 |
| %RSD | 1.37 | 1.02 | 4.45 | 420. | 156. | 1380. | 260. | 169000. | 7720. | .794 | 68.6 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110890.** | **1136000.** | **286170.** |
| Stddev | 351. | 2934. | 807. |
| %RSD | .31660 | .25831 | .28184 |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **486.** | **496000.** | **794.** | **554.** | **477.** | **498.** | **486.** | **455000.** | **506.** | **470.** | **502.** |
| Stddev | 2. | 5510. | 14. | 12. | 2. | 5. | 6. | 4950. | 1. | 1. | 2. |
| %RSD | .321 | 1.11 | 1.72 | 2.15 | .316 | 1.05 | 1.31 | 1.09 | .160 | .261 | .495 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **395.** | **474.** | **440000.** | **446000.** | **463.** | **483.** | **503.** | **457.** | **464.** | **768.** | **413.** |
| Stddev | 1. | 3. | 3480. | 4830. | 2. | 2. | 2. | 3. | 2. | 24. | 4. |
| %RSD | .317 | .705 | .790 | 1.08 | .406 | .429 | .460 | .692 | .466 | 3.09 | .950 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **509.** | **475.** | **490.** | **520.** | **520.** | **472.** | **500.** |
| Stddev | 4. | 5. | 7. | 8. | 9. | 2. | 1. | 3. |
| %RSD | .847 | .902 | 1.50 | 1.63 | 1.75 | .405 | .146 | .563 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112550.** | **1144100.** | **287120.** |
| Stddev | 144. | 3899. | 1802. |
| %RSD | .12834 | .34078 | .62762 |

Sample Name: ccv1 Acquired: 04/25/2019 19:00:50 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **4510.** | **4890.** | **4870.** | **468.** | F **4360.** | **477.** | **4820.** | **4920.** | F **4370.** | **4790.** | **5120.** |
| Stddev | 3. | 14. | 13. | 55. | 6. | 22. | 1. | 19. | 8. | 35. | 148. | 123. |
| %RSD | .685 | .310 | .273 | 1.14 | 1.21 | .501 | .191 | .390 | .156 | .791 | 3.09 | 2.41 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4560.** | **4790.** | **4790.** | **4560.** | **4860.** | **4720.** | **4780.** | **4840.** | **4800.** |
| Stddev | 48. | 15. | 10. | 21. | 10. | 36. | 18. | 40. | 15. |
| %RSD | 1.04 | .304 | .198 | .449 | .201 | .751 | .382 | .819 | .306 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121360.** | **1235100.** | **300520.** |
| Stddev | 203. | 3809. | 1027. |
| %RSD | .16720 | .30835 | .34185 |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **467.** | **481.** | **497.** | **479.** | **509.** | **50.0** | **52.0** | **481.** | **48.8** | **50.9** | **497.** |
| Stddev | .9 | 2. | 6. | 4. | 1. | 7. | .1 | 2.4 | 4. | .3 | .2 | 2. |
| %RSD | 1.89 | .426 | 1.25 | .731 | .112 | 1.28 | .294 | 4.62 | .918 | .561 | .386 | .356 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **462.** | **472.** | **482.** | **470.** | **466.** | **477.** | **488.** | **501.** | **502.** | **479.** | **479.** |
| Stddev | 3. | 10. | 7. | 6. | 2. | 2. | 2. | 1. | 1. | 2. | 8. | 4. |
| %RSD | .595 | 2.19 | 1.54 | 1.16 | .482 | .380 | .357 | .257 | .127 | .489 | 1.61 | .748 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **502.** | **493.** | **516.** | **504.** | **498.** | **497.** | **490.** |
| Stddev | 3. | 4. | 7. | 1. | 7. | 2. | 1. | . |
| %RSD | .556 | .742 | 1.34 | .231 | 1.36 | .498 | .156 | .089 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124170.** | **1264700.** | **302550.** |
| Stddev | 370. | 4814. | 2853. |
| %RSD | .29826 | .38061 | .94303 |

Sample Name: ccb Acquired: 04/25/2019 19:12:08 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.905** | **-10.1** | **-7.60** | **-.385** | **.017** | **-14.1** | **-.062** | **.057** | **.067** | **.135** | **6.29** | **-14.8** |
| Stddev | .960 | .2 | 7.49 | .284 | .009 | .8 | .232 | .117 | .235 | .529 | 6.80 | 1.7 |
| %RSD | 106. | 2.41 | 98.5 | 73.6 | 52.2 | 5.38 | 374. | 206. | 349. | 393. | 108. | 11.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.6** | **-.842** | **.474** | **.171** | **1.21** | **-.309** | **3.78** | **-.395** | **-.159** | **-.163** |
| Stddev | .1 | .054 | .506 | .271 | 2.29 | 2.81 | 3.45 | 2.11 | .434 | .139 |
| %RSD | .280 | 6.43 | 107. | 159. | 190. | 909. | 91.3 | 535. | 273. | 85.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124240.** | **1271400.** | **302340.** |
| Stddev | 75. | 3984. | 990. |
| %RSD | .06008 | .31339 | .32745 |

Sample Name: 254965 Acquired: 04/25/2019 19:57:13 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.39** | **40400.** | **86.9** | **181.** | **214.** | **1.16** | **2880.** | **-1.43** | **.505** | **15.8** | **64.4** | **37.5** |
| Stddev | 1.18 | 1020. | 10.2 | 3. | 10. | .05 | 73. | .31 | .170 | .5 | 1.9 | 2.4 |
| %RSD | 84.6 | 2.52 | 11.7 | 1.39 | 4.57 | 3.95 | 2.53 | 21.9 | 33.7 | 2.97 | 2.88 | 6.37 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.4** | **66100.** | **4660.** | **1330.** | **.480** | **42.7** | **87.2** | **.232** | **1.07** | **11.5** | **106.** | **103.** |
| Stddev | 7.6 | 1750. | 166. | 34. | .356 | 1.1 | 2.0 | 1.97 | 3.28 | 2.7 | 4. | 3. |
| %RSD | 16.1 | 2.64 | 3.56 | 2.51 | 74.1 | 2.50 | 2.33 | 848. | 306. | 23.3 | 4.12 | 2.52 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **115.** |
| Stddev | 1. |
| %RSD | .979 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125910.** | **1281700.** | **309090.** |
| Stddev | 215. | 5391. | 1826. |
| %RSD | .17073 | .42060 | .59068 |

Sample Name: L254965 Acquired: 04/25/2019 20:03:20 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.01** | **12200.** | **16.5** | **35.7** | **.351** | **904.** | **-.912** | **-.160** | **3.38** | **19.0** | **12.5** | **15.4** |
| Stddev | .42 | 209. | 9.4 | 5.6 | .011 | 17. | .228 | .061 | .68 | 1.0 | 5.0 | 5.5 |
| %RSD | 41.7 | 1.71 | 56.9 | 15.8 | 3.05 | 1.84 | 25.1 | 38.0 | 20.0 | 5.32 | 39.8 | 35.4 |

| Elem | Fe2599 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **20100.** | **1170.** | **214.** | **-.740** | **11.1** | **15.5** | **.967** | **-1.28** | **3.34** | **30.5** | **26.1** |
| Stddev | 355. | 47. | 9. | .397 | 1.8 | 4.0 | 1.32 | 4.65 | 1.82 | 1.7 | 4.6 |
| %RSD | 1.77 | 4.02 | 4.03 | 53.7 | 16.5 | 25.8 | 136. | 363. | 54.4 | 5.64 | 17.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126530.** | **1283700.** | **309020.** |
| Stddev | 368. | 1545. | 1148. |
| %RSD | .29065 | .12031 | .37138 |

Sample Name: 1DUP254965 Acquired: 04/25/2019 20:09:22 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.898** | **37400.** | **74.4** | **138.** | **156.** | **1.08** | **2670.** | **-1.40** | **.353** | **15.0** | **64.7** | **28.1** |
| Stddev | .547 | 672. | 16.3 | 2. | 6. | .03 | 32. | .28 | .041 | .4 | 1.5 | 3.7 |
| %RSD | 60.9 | 1.80 | 21.9 | 1.50 | 4.00 | 2.73 | 1.18 | 20.3 | 11.6 | 2.96 | 2.27 | 13.1 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **36.0** | **61700.** | **4350.** | **598.** | **-.226** | **42.3** | **58.4** | **-.015** | **.381** | **11.3** | **104.** | **98.2** |
| Stddev | 6.4 | 951. | 85. | 15. | .349 | 1.8 | 1.7 | 1.68 | 3.99 | 1.6 | 9. | 2.4 |
| %RSD | 17.9 | 1.54 | 1.95 | 2.49 | 155. | 4.29 | 2.91 | 11400. | 1050. | 14.5 | 8.80 | 2.49 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **107.** |
| Stddev | 1. |
| %RSD | 1.27 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125930.** | **1278700.** | **309040.** |
| Stddev | 346. | 4484. | 3529. |
| %RSD | .27458 | .35064 | 1.1418 |

Sample Name: MSS254965 Acquired: 04/25/2019 20:15:31 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.08** | **36200.** | **1760.** | **1720.** | **136.** | **158.** | **1.08** | **2740.** | **-1.27** | **5.52** | **14.8** | **59.1** |
| Stddev | .64 | 623. | 20. | 24. | 1. | 3. | .11 | 21. | .33 | .13 | .2 | 2.0 |
| %RSD | 58.9 | 1.72 | 1.13 | 1.42 | 1.02 | 2.15 | 9.89 | .782 | 25.7 | 2.42 | 1.59 | 3.35 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **29.4** | **41.8** | **62300.** | **4320.** | **2210.** | **2500.** | **-.444** | **40.0** | **53.7** | **-1.20** | **1.54** | **11.9** |
| Stddev | 4.7 | 7.8 | 934. | 87. | 58. | 21. | .259 | 1.3 | 1.4 | 3.22 | 5.27 | 3.2 |
| %RSD | 15.8 | 18.8 | 1.50 | 2.02 | 2.64 | .826 | 58.3 | 3.27 | 2.52 | 269. | 343. | 26.6 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **96.0** | **104.** |
| Stddev | 2.8 | 2. |
| %RSD | 2.94 | 2.13 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125700.** | **1285800.** | **307540.** |
| Stddev | 369. | 3414. | 2466. |
| %RSD | .29352 | .26547 | .80185 |

Sample Name: ccv1 Acquired: 04/25/2019 20:21:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4540.** | **4880.** | **4870.** | **469.** | F **4330.** | **478.** | **4810.** | **4900.** | F **4360.** | **4830.** | **4950.** |
| Stddev | 2. | 72. | 8. | 45. | 1. | 13. | . | 28. | 1. | 26. | 229. | 103. |
| %RSD | .354 | 1.58 | .161 | .917 | .210 | .309 | .092 | .576 | .014 | .589 | 4.74 | 2.07 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4530.** | **4790.** | **4800.** | **4580.** | **4860.** | **4690.** | **4800.** | **4840.** | **4810.** |
| Stddev | 31. | 11. | 10. | 14. | 8. | 33. | 19. | 42. | 10. |
| %RSD | .677 | .224 | .205 | .316 | .162 | .705 | .388 | .876 | .199 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121260.** | **1237200.** | **300720.** |
| Stddev | 95. | 4335. | 2794. |
| %RSD | .07846 | .35041 | .92894 |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.3** | **467.** | **473.** | **492.** | **478.** | **505.** | **49.6** | **49.9** | **478.** | **48.8** | **50.9** | **496.** |
| Stddev | .1 | 1. | 15. | 6. | 1. | 7. | .3 | .7 | 7. | .2 | .1 | 2. |
| %RSD | .278 | .292 | 3.10 | 1.20 | .232 | 1.43 | .564 | 1.43 | 1.41 | .428 | .225 | .366 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **495.** | **457.** | **468.** | **482.** | **467.** | **466.** | **477.** | **487.** | **499.** | **501.** | **479.** | **476.** |
| Stddev | 3. | 3. | 3. | 4. | 3. | 3. | 3. | 2. | 2. | 2. | 6. | 5. |
| %RSD | .599 | .631 | .613 | .729 | .744 | .695 | .578 | .433 | .312 | .354 | 1.26 | 1.13 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **500.** | **491.** | **516.** | **498.** | **496.** | **496.** | **488.** |
| Stddev | 3. | 3. | 6. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .549 | .541 | 1.30 | .651 | .929 | .354 | .428 | .228 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124480.** | **1266700.** | **303030.** |
| Stddev | 212. | 2501. | 2034. |
| %RSD | .17053 | .19745 | .67130 |

Sample Name: ccb Acquired: 04/25/2019 20:33:00 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.616** | **-9.58** | **-3.94** | **-.200** | **-.005** | **-13.7** | **.063** | **.028** | **-.048** | **.082** | **5.21** | **-11.7** |
| Stddev | .319 | .74 | 6.55 | .212 | .032 | .7 | .093 | .104 | .089 | .671 | 3.41 | .7 |
| %RSD | 51.8 | 7.68 | 166. | 106. | 712. | 5.27 | 148. | 373. | 184. | 815. | 65.5 | 6.23 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.3** | **-.623** | **.265** | **.240** | **.628** | **1.95** | **3.11** | **-.114** | **.550** | **.028** |
| Stddev | .1 | .058 | .421 | .630 | 2.16 | .70 | 2.91 | 2.07 | .338 | .202 |
| %RSD | .254 | 9.23 | 159. | 262. | 344. | 35.8 | 93.5 | 1820. | 61.5 | 710. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124710.** | **1266200.** | **303360.** |
| Stddev | 246. | 7402. | 2134. |
| %RSD | .19686 | .58455 | .70331 |

Sample Name: MSDS254965 Acquired: 04/25/2019 20:39:16 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.842** | **32400.** | **1890.** | **1820.** | **142.** | **150.** | **1.14** | **2650.** | **-.900** | **5.81** | **15.4** | **59.6** |
| Stddev | .706 | 633. | 13. | 13. | 1. | 4. | .02 | 32. | .159 | .16 | .2 | .8 |
| %RSD | 83.8 | 1.95 | .673 | .704 | .644 | 2.85 | 1.63 | 1.22 | 17.7 | 2.81 | 1.33 | 1.42 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **27.1** | **36.9** | **58500.** | **4050.** | **2320.** | **2500.** | **.340** | **41.3** | **59.3** | **-1.16** | **1.63** | **11.4** |
| Stddev | 4.3 | 6.9 | 857. | 179. | 24. | 37. | .151 | .7 | 3.5 | 2.06 | 4.83 | .7 |
| %RSD | 15.9 | 18.6 | 1.47 | 4.43 | 1.02 | 1.50 | 44.4 | 1.63 | 5.97 | 178. | 297. | 6.25 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **95.1** | **105.** |
| Stddev | 1.1 | 1. |
| %RSD | 1.14 | 1.11 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126150.** | **1283900.** | **307310.** |
| Stddev | 369. | 5562. | 3955. |
| %RSD | .29247 | .43317 | 1.2869 |

Sample Name: PDSS254965 Acquired: 04/25/2019 20:45:24 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **66.1** | **39700.** | **2610.** | **2730.** | **3660.** | **71.6** | **82.0** | **321000.** | **57.4** | **72.0** | **648.** |
| Stddev | 2.6 | 868. | 154. | 172. | 274. | 2.5 | 7.1 | 25000. | 3.6 | 4.0 | 39. |
| %RSD | 3.97 | 2.19 | 5.91 | 6.28 | 7.50 | 3.43 | 8.67 | 7.80 | 6.22 | 5.62 | 6.09 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **345.** | **412.** | **433.** | **57600.** | **161000.** | **1200.** | **-.886** | **654.** | **657.** | **698.** | **632.** |
| Stddev | 12. | 27. | 34. | 1380. | 11900. | 31. | .671 | 39. | 40. | 44. | 36. |
| %RSD | 3.43 | 6.58 | 7.88 | 2.39 | 7.36 | 2.58 | 75.8 | 5.90 | 6.11 | 6.33 | 5.73 |

| Elem | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **667.** | **661.** | **2570.** | **2430.** | **976.** | **831.** | **709.** | **715.** |
| Stddev | 40. | 42. | 165. | 143. | 73. | 25. | 40. | 46. |
| %RSD | 6.03 | 6.33 | 6.42 | 5.90 | 7.43 | 3.06 | 5.63 | 6.37 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117470.** | **1199100.** | **296150.** |
| Stddev | 596. | 3343. | 3367. |
| %RSD | .50778 | .27878 | 1.1370 |

Sample Name: 255856 Acquired: 04/25/2019 20:51:34 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.788** | **13000.** | **38.4** | **226.** | **268.** | **.774** | **1100.** | **-.343** | **.339** | **5.38** | **27.4** | **80.8** |
| Stddev | .516 | 177. | 8.8 | 2. | 5. | .020 | 99. | .177 | .049 | .29 | 1.3 | 2.0 |
| %RSD | 65.5 | 1.36 | 22.8 | .843 | 1.77 | 2.60 | 9.06 | 51.5 | 14.4 | 5.35 | 4.81 | 2.50 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **91.3** | **22100.** | **1230.** | **6640.** | **-.366** | **22.1** | **281.** | **9.98** | **1.88** | **6.79** | **37.5** | **126.** |
| Stddev | 6.4 | 456. | 28. | 90. | .514 | .6 | 3. | 3.07 | 3.07 | .86 | 1.3 | 2. |
| %RSD | 6.98 | 2.06 | 2.30 | 1.35 | 141. | 2.68 | 1.14 | 30.8 | 163. | 12.6 | 3.53 | 1.20 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126060.** | **1281800.** | **308990.** |
| Stddev | 107. | 3379. | 3367. |
| %RSD | .08475 | .26360 | 1.0897 |

Sample Name: 255857 Acquired: 04/25/2019 20:57:32 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.18** | **15200.** | **31.8** | **180.** | **217.** | **.712** | **13600.** | **-.308** | **.571** | **6.86** | **34.9** | **86.6** |
| Stddev | .71 | 147. | 5.6 | 3. | 2. | .059 | 178. | .297 | .150 | .23 | 1.0 | 2.0 |
| %RSD | 59.9 | .963 | 17.6 | 1.88 | .992 | 8.27 | 1.31 | 96.4 | 26.2 | 3.42 | 2.76 | 2.28 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **93.0** | **21000.** | **5850.** | **9520.** | **.125** | **26.6** | **573.** | **552.** | **1.22** | **.051** | **5.00** | **61.0** |
| Stddev | 5.5 | 283. | 60. | 126. | .664 | .5 | 14. | 9. | 2.81 | 5.44 | 2.76 | 1.6 |
| %RSD | 5.90 | 1.35 | 1.03 | 1.33 | 530. | 1.90 | 2.50 | 1.60 | 230. | 10800. | 55.2 | 2.66 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **143.** |
| Stddev | 3. |
| %RSD | 1.81 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125740.** | **1275900.** | **307340.** |
| Stddev | 180. | 4950. | 1246. |
| %RSD | .14344 | .38794 | .40537 |

Sample Name: 255881 Acquired: 04/25/2019 21:04:03 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 3
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.08** | **98700.** | **295.** | **941.** | **998.** | **3.83** | **31900.** | **5.70** | **8.44** | **49.8** | **339.** |
| Stddev | .58 | 869. | 15. | 1. | 9. | .03 | 307. | .32 | .16 | .6 | 2. |
| %RSD | 18.8 | .881 | 5.08 | .148 | .946 | .817 | .962 | 5.55 | 1.91 | 1.13 | .443 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **610.** | **642.** | **177000.** | **14300.** | **17400.** | **7.57** | **146.** | **2140.** | **3.17** | **15.8** | **36.7** |
| Stddev | 7. | 8. | 1690. | 162. | 82. | .89 | 1. | 8. | 1.04 | 5.7 | 4.1 |
| %RSD | 1.12 | 1.30 | .955 | 1.13 | .475 | 11.7 | .891 | .365 | 33.0 | 36.2 | 11.1 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **345.** | **347.** | **2260.** |
| Stddev | 1. | 2. | 6. |
| %RSD | .357 | .665 | .267 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122860.** | **1242900.** | **304720.** |
| Stddev | 345. | 4334. | 1345. |
| %RSD | .28083 | .34873 | .44143 |

Sample Name: 255884 Acquired: 04/25/2019 21:10:33 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.66** | **18100.** | **39.0** | **852.** | **1010.** | **1.09** | **25500.** | **1.24** | **2.17** | **15.8** | **42.4** | **1160.** |
| Stddev | .68 | 685. | 4.1 | 7. | 35. | .03 | 689. | .21 | .17 | .4 | .6 | 38. |
| %RSD | 25.5 | 3.79 | 10.6 | .788 | 3.44 | 2.82 | 2.70 | 17.2 | 7.97 | 2.55 | 1.30 | 3.25 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **31900.** | **14800.** | **59700.** | **7.00** | **29.4** | **677.** | **637.** | **1.64** | **5.87** | **33.1** | **81.2** | **802.** |
| Stddev | 1250. | 418. | 1840. | .68 | .7 | 11. | 6. | 1.15 | 5.15 | 2.4 | 1.2 | 10. |
| %RSD | 3.91 | 2.82 | 3.08 | 9.64 | 2.23 | 1.56 | .975 | 70.4 | 87.8 | 7.17 | 1.45 | 1.21 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **792.** |
| Stddev | 7. |
| %RSD | .909 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124950.** | **1268600.** | **306840.** |
| Stddev | 91. | 2819. | 2554. |
| %RSD | .07297 | .22223 | .83236 |

Sample Name: 255885 Acquired: 04/25/2019 21:17:08 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.07** | **10800.** | **9.68** | **143.** | **163.** | **.719** | **3840.** | **-.176** | **.283** | **4.67** | **18.2** | **144.** |
| Stddev | .40 | 140. | 3.56 | 2. | 3. | .033 | 102. | .189 | .117 | .44 | .9 | 5. |
| %RSD | 37.1 | 1.30 | 36.8 | 1.16 | 1.89 | 4.55 | 2.65 | 108. | 41.5 | 9.42 | 4.82 | 3.56 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **154.** | **13300.** | **2680.** | **1970.** | **2150.** | **-1.41** | **10.2** | **96.9** | **-.310** | **-.401** | **2.00** | **26.1** |
| Stddev | 3. | 286. | 136. | 28. | 73. | .13 | .5 | 3.6 | 2.08 | 4.21 | 1.69 | .6 |
| %RSD | 2.04 | 2.15 | 5.09 | 1.40 | 3.38 | 9.00 | 5.01 | 3.77 | 672. | 1050. | 84.1 | 2.48 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **155.** |
| Stddev | . |
| %RSD | .269 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125500.** | **1282300.** | **305540.** |
| Stddev | 299. | 4367. | 1160. |
| %RSD | .23795 | .34058 | .37965 |

Sample Name: 255886 Acquired: 04/25/2019 21:23:19 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-4.29** | **15000.** | **14.8** | **3440.** | **1.29** | **6100.** | **1.49** | **1.21** | **35.5** | **9.56** | **678.** |
| Stddev | 1.10 | 337. | 4.5 | 93. | .02 | 113. | .24 | .13 | .3 | 1.37 | 27. |
| %RSD | 25.7 | 2.25 | 30.5 | 2.71 | 1.85 | 1.84 | 15.9 | 10.3 | .855 | 14.3 | 3.98 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **697.** | **19400.** | **2100.** | **135000.** | **16.5** | **21.8** | **1810.** | **2.32** | **14.5** | **78.9** | **155.** |
| Stddev | 12. | 446. | 78. | 3360. | .5 | .4 | 13. | 3.18 | 3.4 | 1.0 | 1. |
| %RSD | 1.67 | 2.30 | 3.69 | 2.49 | 3.08 | 1.80 | .732 | 137. | 23.5 | 1.30 | .843 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **141.** | **456.** | **445.** |
| Stddev | 3. | 2. | 3. |
| %RSD | 2.02 | .466 | .590 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124900.** | **1265600.** | **307980.** |
| Stddev | 258. | 4131. | 3846. |
| %RSD | .20693 | .32640 | 1.2488 |

Sample Name: 255887 Acquired: 04/25/2019 21:29:49 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.53** | **13500.** | **6.34** | **509.** | **536.** | **.739** | **1890.** | **.771** | **1.18** | **9.44** | **38.0** | **776.** |
| Stddev | 1.11 | 164. | 5.17 | 3. | 4. | .054 | 20. | .338 | .12 | .25 | .6 | 24. |
| %RSD | 72.5 | 1.21 | 81.6 | .493 | .679 | 7.28 | 1.04 | 43.8 | 9.72 | 2.68 | 1.49 | 3.10 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **811.** | **23900.** | **1590.** | **14700.** | **1.56** | **15.3** | **328.** | **.748** | **1.30** | **12.2** | **59.1** | **648.** |
| Stddev | 7. | 180. | 11. | 114. | .78 | .4 | 4. | .879 | 2.12 | 1.4 | .3 | 4. |
| %RSD | .831 | .752 | .673 | .774 | 50.1 | 2.29 | 1.09 | 117. | 163. | 11.3 | .509 | .581 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **636.** |
| Stddev | 3. |
| %RSD | .519 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125530.** | **1277400.** | **312000.** |
| Stddev | 220. | 4166. | 1207. |
| %RSD | .17535 | .32609 | .38700 |

Sample Name: ccv1 Acquired: 04/25/2019 21:41:44 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4530.** | **4860.** | **4860.** | **474.** | F **4410.** | **478.** | **4810.** | **4900.** | F **4350.** | **4630.** | **5040.** |
| Stddev | 2. | 44. | 16. | 47. | 6. | 50. | 1. | 25. | 5. | 47. | 62. | 98. |
| %RSD | .414 | .962 | .323 | .959 | 1.22 | 1.13 | .234 | .528 | .092 | 1.07 | 1.33 | 1.95 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4590.** | **4790.** | **4810.** | **4570.** | **4850.** | **4710.** | **4790.** | **4900.** | **4840.** |
| Stddev | 11. | 9. | 9. | 9. | 12. | 42. | 20. | 16. | 13. |
| %RSD | .241 | .197 | .177 | .187 | .253 | .896 | .419 | .317 | .268 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123120.** | **1256400.** | **301320.** |
| Stddev | 184. | 4473. | 1583. |
| %RSD | .14971 | .35599 | .52551 |

Sample Name: ccv2 Acquired: 04/25/2019 21:47:20 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.3** | **467.** | **478.** | **491.** | **478.** | **497.** | **50.3** | **51.0** | **473.** | **48.9** | **50.7** | **497.** |
| Stddev | .7 | 1. | 13. | 8. | . | 3. | .3 | 2.3 | 3. | .2 | .2 | 2. |
| %RSD | 1.49 | .220 | 2.65 | 1.64 | .028 | .698 | .572 | 4.54 | .607 | .457 | .456 | .462 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **500.** | **461.** | **471.** | **481.** | **473.** | **469.** | **479.** | **488.** | **501.** | **502.** | **476.** | **480.** |
| Stddev | 4. | 2. | 2. | 4. | 3. | 3. | 3. | 1. | 2. | 1. | 5. | 1. |
| %RSD | .792 | .362 | .404 | .782 | .564 | .707 | .546 | .189 | .322 | .258 | .991 | .246 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **503.** | **503.** | **492.** | **520.** | **504.** | **499.** | **497.** | **488.** |
| Stddev | 3. | 4. | 3. | 3. | 9. | 3. | 1. | . |
| %RSD | .497 | .889 | .593 | .664 | 1.74 | .674 | .259 | .096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 21:47:20 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **125190.** | **1270800.** | **306540.** |
| Stddev | 377. | 4168. | 1961. |
| %RSD | .30144 | .32799 | .63960 |

Sample Name: ccb Acquired: 04/25/2019 21:53:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.919** | **-8.70** | **1.12** | **.355** | **.023** | **-13.3** | **-.069** | **-.045** | **.059** | **.362** | **2.16** | **-15.3** |
| Stddev | .552 | .59 | 6.26 | .233 | .066 | .7 | .142 | .049 | .444 | .315 | 9.97 | 1.1 |
| %RSD | 60.1 | 6.77 | 557. | 65.6 | 291. | 5.24 | 206. | 109. | 749. | 87.0 | 461. | 7.26 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.0** | **-.297** | **.826** | **.328** | **1.80** | **.445** | **3.71** | **-.541** | **.542** | **.204** |
| Stddev | .0 | .064 | .110 | .339 | 4.52 | 1.79 | 2.67 | 3.26 | .327 | .221 |
| %RSD | .210 | 21.7 | 13.3 | 103. | 251. | 403. | 71.9 | 603. | 60.3 | 108. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

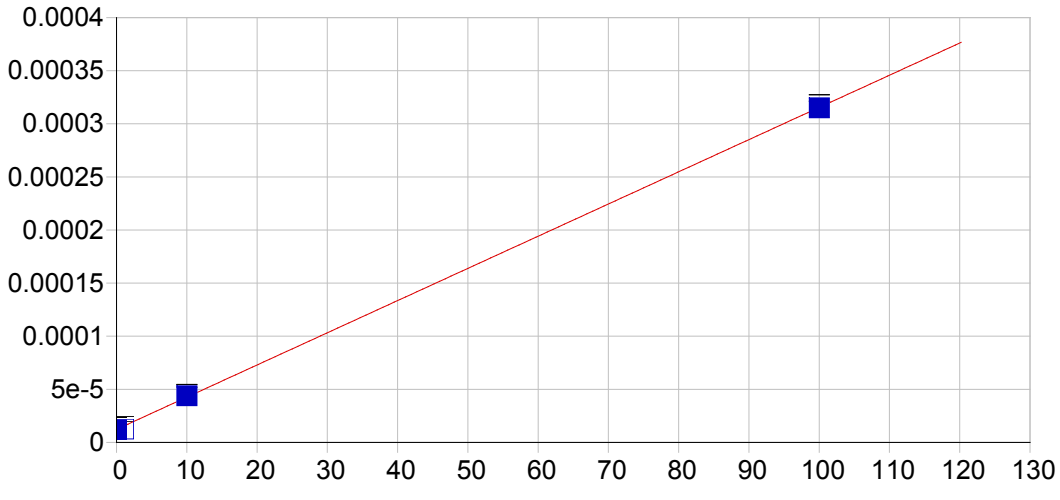
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **125360.** | **1274200.** | **305780.** |
| Stddev | 122. | 4485. | 3458. |
| %RSD | .09692 | .35199 | 1.1308 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:04:13 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000002 | 0.771259 | 2.570863 |
| Ag 338.289 {100} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.962425 | 0.000002 | 18.287510 | 60.958366 |
| Al 167.079 {501} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | None | 0.000058 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000014 | 0.663610 | 2.212032 |
| Al 308.215 {109} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.992739 | 0.000216 | 35.529198 | 118.43066 |
| Al 396.152 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Curvili | 1/Conc | -0.000023 | 0.000001 | 0.000000 | 1.000000 | 0.999721 | 0.000063 | 12.909176 | 43.030588 |
| As 193.759 {474} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Var | 0.539750 | 0.187381 | 0.000000 | 1.000000 | 0.999781 | 1.235779 | 3.306742 | 11.022473 |
| As 197.262 {471} | 04/30/2019 08:01:24 | 04/29/2019 15:16:22 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.998967 | 0.000000 | 7.150038 | 23.833460 |
| Ba 233.527 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.998869 | 0.000001 | 0.388630 | 1.295433 |
| Ba 455.403 { 74} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000125 | 0.000046 | 0.000000 | 1.000000 | 0.998156 | 0.000011 | 0.424860 | 1.416201 |
| Ba 493.409 { 68} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.010947 | 0.000056 | 0.000000 | 1.000000 | 0.998653 | 0.000137 | 0.907157 | 3.023855 |
| Be 313.042 {108} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | -0.000185 | 0.000058 | 0.000000 | 1.000000 | 0.999544 | 0.000002 | 0.049429 | 0.164762 |
| Be 234.861 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999290 | 0.000001 | 1.414818 | 4.716060 |
| Ca 315.887 {107} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.000054 | 0.000000 | 0.000000 | 1.000000 | 0.999799 | 0.000011 | 12.463600 | 41.545332 |
| Ca 317.933 {106} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.002916 | 0.000001 | 0.000000 | 1.000000 | 0.999746 | 0.000028 | 6.859728 | 22.865759 |
| Ca 393.366 { 86} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Var | 0.008895 | 0.000188 | 0.000000 | 1.000000 | 0.999982 | 0.000207 | 0.074229 | 0.247430 |
| Ca 396.847 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.008134 | 0.000111 | 0.000000 | 1.000000 | 0.998837 | 0.000251 | 0.118050 | 0.393499 |
| Cd 226.502 {449} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | -0.000010 | 0.000026 | 0.000000 | 1.000000 | 0.997348 | 0.000002 | 0.233555 | 0.778515 |
| Cd 228.802 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | 0.000024 | 0.000048 | 0.000000 | 1.000000 | 0.991474 | 0.000006 | 0.157317 | 0.524389 |
| Co 228.616 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000017 | 0.000018 | 0.000000 | 1.000000 | 0.996680 | 0.000006 | 0.449246 | 1.497487 |
| Co 238.892 {141} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.998281 | 0.000005 | 0.890001 | 2.966671 |
| Cr 205.560 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Var | 0.000037 | 0.000015 | 0.000000 | 1.000000 | 0.997498 | 0.000145 | 0.312030 | 1.040101 |
| Cr 267.716 {126} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.998132 | 0.000001 | 0.923046 | 3.076818 |
| Cu 224.700 {450} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | -0.000001 | 0.000006 | 0.000000 | 1.000000 | 0.999425 | 0.000011 | 0.447985 | 1.493282 |
| Cu 324.754 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | 32.917937 | 0.432226 | 0.000000 | 1.000000 | 0.999630 | 0.452439 | 5.608774 | 18.695912 |
| Cu 327.396 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 7.187822 | 0.321888 | 0.000000 | 1.000000 | 0.999459 | 0.282912 | 9.835319 | 32.784397 |
| Fe 234.349 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Curvili | 1/Var | 0.000030 | 0.000000 | 0.000000 | 1.000000 | 0.999923 | 0.000006 | 1.861928 | 6.206425 |
| Fe 239.562 {140} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000013 | 0.000000 | 0.000000 | 1.000000 | 0.994823 | 0.000040 | 17.270833 | 57.569443 |
| Fe 259.940 {129} | 04/30/2019 08:01:24 | 04/29/2019 15:35:49 | Curvili | 1/Var | 0.000065 | 0.000001 | 0.000000 | 1.000000 | 0.997286 | 0.000158 | 5.216183 | 17.387276 |
| Mg 202.582 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999696 | 0.000343 | 2.203469 | 7.344897 |
| Mg 279.079 {121} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.100000 | 0.999980 | 0.000001 | 225.46699 | 751.55664 |
| Mg 280.270 {120} | 04/30/2019 08:01:24 | 04/29/2019 15:16:24 | Linear | 1/Var | 0.001262 | 0.000024 | 0.000000 | 1.000000 | 0.992448 | 0.000619 | 0.051519 | 0.171731 |
| Mn 257.610 {131} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000029 | 0.000012 | 0.000000 | 1.000000 | 0.995548 | 0.000011 | 0.097079 | 0.323597 |
| Mn 259.373 {130} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999811 | 0.000028 | 1.512228 | 5.040759 |
| Mo 202.030 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Conc | 0.000010 | 0.000009 | 0.000000 | 1.000000 | 0.918937 | 0.000011 | 0.461169 | 1.537230 |
| Mo 203.844 {465} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Var | 0.000022 | 0.000006 | 0.000000 | 1.000000 | 0.999869 | 0.000018 | 0.801215 | 2.670716 |
| Mo 204.598 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999653 | 0.000025 | 0.916548 | 3.055158 |
| Ni 221.647 {452} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.998093 | 0.000030 | 0.768351 | 2.561171 |
| Ni 231.604 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000020 | 0.000011 | 0.000000 | 1.000000 | 0.984592 | 0.000007 | 0.735570 | 2.451899 |
| Pb 216.999 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000015 | 0.000001 | 0.000000 | 1.000000 | 0.999773 | 0.000038 | 5.620225 | 18.734085 |
| Pb 220.353 {453} | 04/30/2019 08:01:24 | 04/29/2019 15:09:57 | Linear | 1/Conc | 0.000028 | 0.000003 | 0.000000 | 1.000000 | 0.878400 | 0.000005 | 2.481162 | 8.270541 |
| Pb 220.353 {153} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999653 | 0.000000 | 6.969384 | 23.231279 |
| Sb 206.833 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.998562 | 0.000001 | 2.581313 | 8.604377 |
| Sb 217.581 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.933696 | 0.000006 | 2.801324 | 9.337748 |
| Se 196.090 {472} | 04/30/2019 08:01:24 | 04/29/2019 15:09:58 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999198 | 0.000000 | 4.389697 | 14.632322 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Curvili | 1/Conc | 0.000004 | 0.000000 | -0.000000 | 1.000000 | 0.999688 | 0.000000 | 28.202163 | 94.007210 |
| Tl 190.856 {476} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.997608 | 0.000002 | 2.696044 | 8.986812 |
| Tl 190.856 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.997785 | 0.000001 | 5.738296 | 19.127652 |
| V 290.882 {116} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.998924 | 0.000002 | 8.162286 | 27.207619 |
| V 292.402 {115} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000005 | 0.000007 | 0.000000 | 1.000000 | 0.998319 | 0.000005 | 0.630081 | 2.100271 |
| Zn 206.200 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000061 | 0.000017 | 0.000000 | 1.000000 | 0.996075 | 0.000214 | 0.372954 | 1.243179 |
| Zn 213.856 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:09:59 | Linear | 1/Conc | 0.000030 | 0.000027 | 0.000000 | 1.000000 | 0.999485 | 0.000004 | 0.208095 | 0.693650 |
| Y 224.306 {450}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.004901 | 0.000005 | 0.000000 | 1.000000 | 0.999164 | 0.000037 | 10.509748 | 35.032492 |
| Na 589.592 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 0.000353 | 0.000005 | 0.000000 | 1.000000 | 0.999651 | 0.000172 | 7.542021 | 25.140069 |
| Si 251.611 {134} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 5.496233 | 0.049700 | 0.000000 | 1.000000 | 0.999713 | 0.563773 | 25.456914 | 84.856379 |
| Ti 323.452 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000229 | 0.000006 | 0.000000 | 1.000000 | 0.998823 | 0.000003 | 1.679766 | 5.599219 |
| Ti 334.941 {101} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000004 | 0.000000 | 1.000000 | 0.999000 | 0.000001 | 2.153927 | 7.179758 |
| Sr 407.771 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000090 | 0.000090 | 0.000000 | 1.000000 | 0.998548 | 0.000019 | 0.191487 | 0.638289 |
| Sr 421.552 { 80} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000064 | 0.000134 | 0.000000 | 1.000000 | 0.998725 | 0.000027 | 0.129437 | 0.431456 |
| Sn 189.989 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.998477 | 0.000002 | 1.686047 | 5.620155 |
| B 249.678 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999110 | 0.000001 | 1.384749 | 4.615829 |
| B 249.773 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.996375 | 0.000019 | 0.746113 | 2.487044 |
| Li 670.784 { 50} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000113 | 0.000026 | 0.000000 | 1.000000 | 0.996196 | 0.000316 | 1.644438 | 5.481459 |
| K 766.490 { 44} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | -0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999481 | 0.000045 | 53.224850 | 177.41616 |
| P 213.618 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:16:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1106.1553 | 3687.1846 |
| S 182.034 {485} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Curvili | 1/Conc | 0.000025 | 0.000000 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 6.539657 | 21.798855 |
| Hg 184.950 {482} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.351706 | 0.000021 | 8.769662 | 29.232206 |
| Ce 404.076 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000036 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.280330 | 74.267767 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

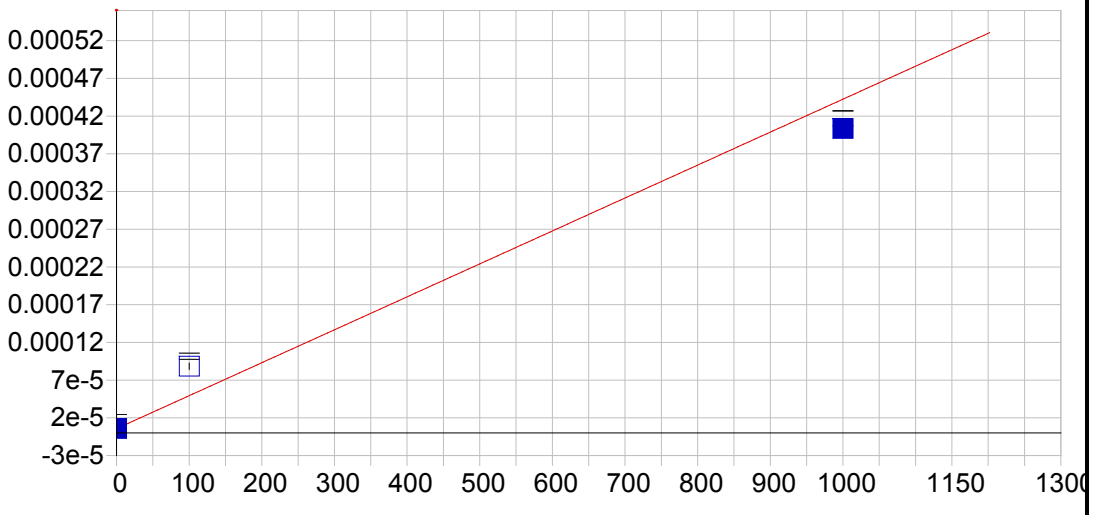



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.771259 | | |
| Predicted MQL: | 2.570863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.20712 | -.207 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.392 | .392 | 3.92 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.814 | -.186 | -.186 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .06215 | -.938 | -93.8 | .00001 | .000 | 1 |

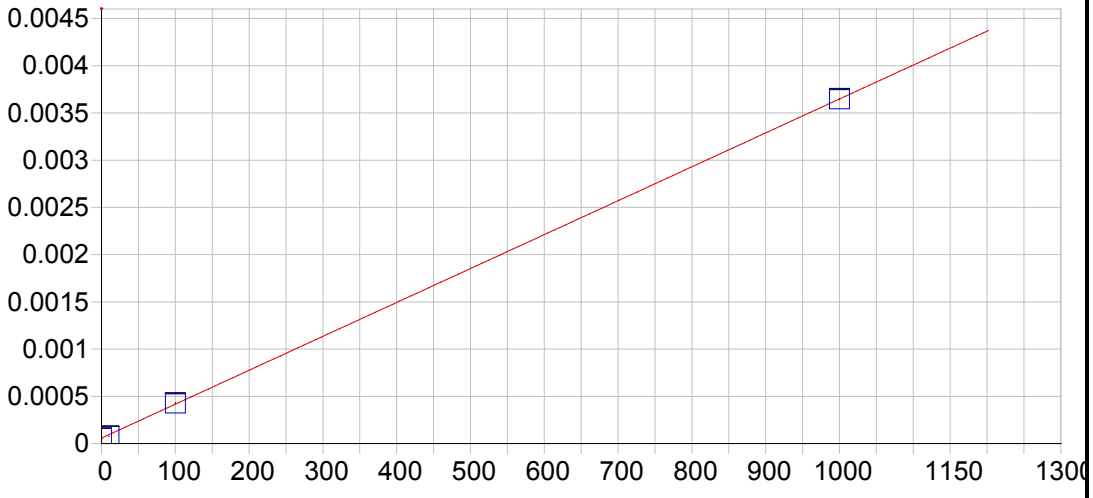



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.962425 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 18.287510 | | |
| Predicted MQL: | 60.958366 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08027 | -.080 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 189.19 | 89.2 | 89.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 910.83 | -89.2 | -8.92 | .00040 | .000 | 1 |

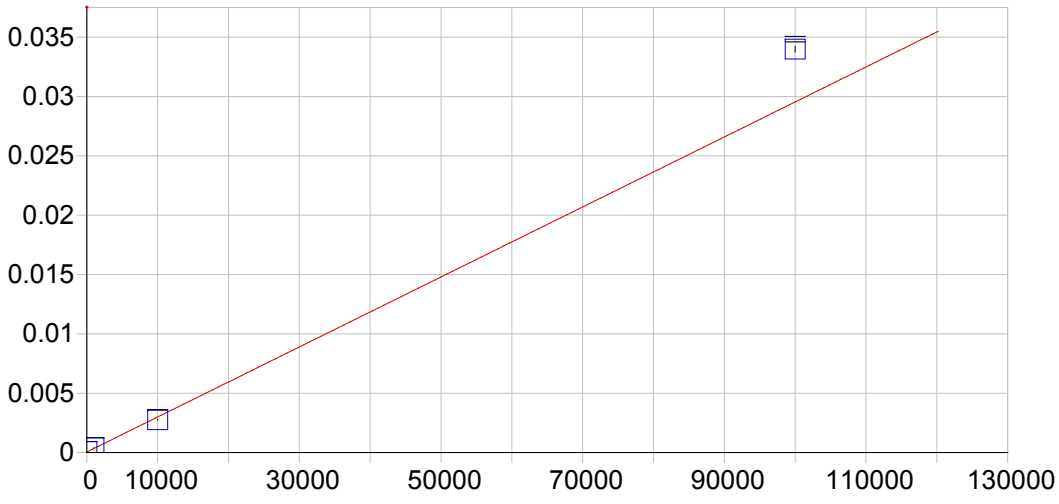



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.663610 | | |
| Predicted MQL: | 2.212032 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.0288 | 2.03 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.78 | -.219 | -.022 | .00365 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.5578 | -4.44 | -44.4 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.63 | 2.63 | 2.63 | .00043 | .000 | 1 |

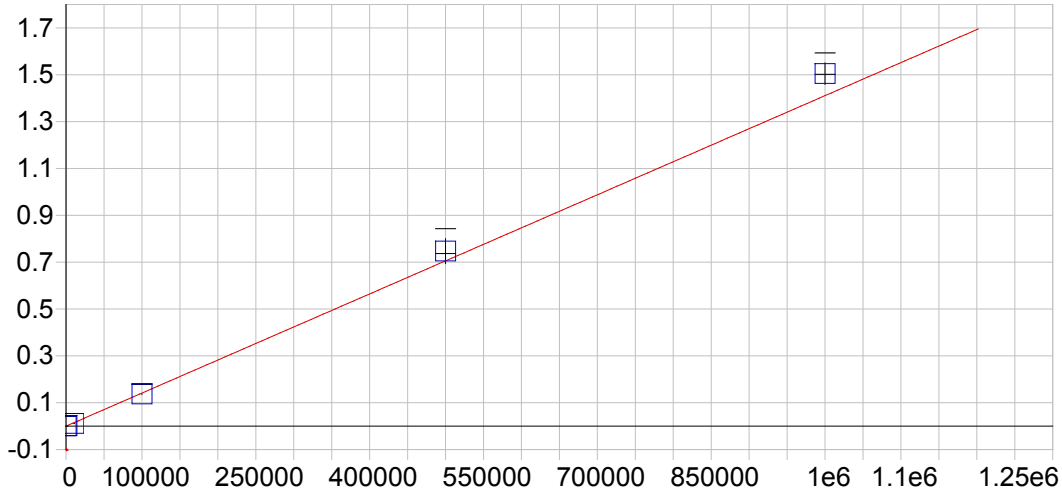



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992739 | Status: | OK. |
| Std Error of Est: | 0.000216 | | |
| Predicted MDL: | 35.529198 | | |
| Predicted MQL: | 118.430662 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 75.924 | 75.9 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9189.9 | -810. | -8.10 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1201.1 | 201. | 20.1 | .00040 | .000 | 1 |
| CalStd13=10 | 100000. | 115080. | 15100. | 15.1 | .03399 | .000 | 1 |

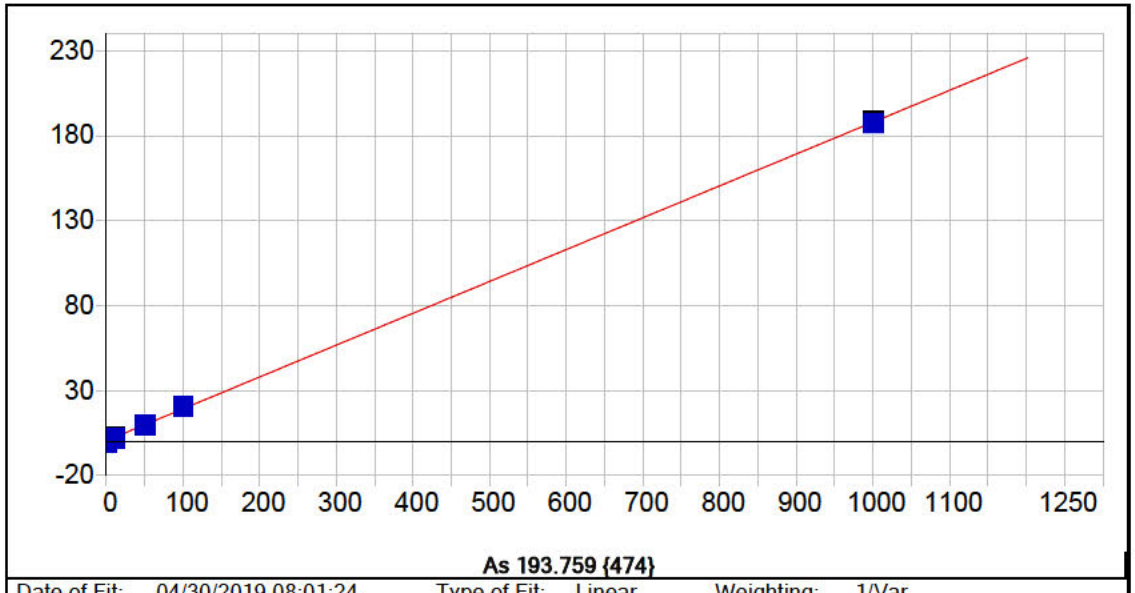



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999721 | Status: | OK. |
| Std Error of Est: | 0.000063 | | |
| Predicted MDL: | 12.909176 | | |
| Predicted MQL: | 43.030588 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33758 | .338 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 529520. | 29500. | 5.90 | .74706 | .053 | 1 |
| CalStd13=10 | 100000. | 96995. | -3010. | -3.01 | .13683 | .001 | 1 |
| CalStd10=10 | 10000. | 7635.5 | -2360. | -23.6 | .01075 | .000 | 1 |
| CalStd9=100 | 1000.0 | 919.15 | -80.8 | -8.08 | .00127 | .000 | 1 |
| CalibStd15= | 1000000. | 1066400. | 66400. | 6.64 | 1.5046 | .045 | 1 |

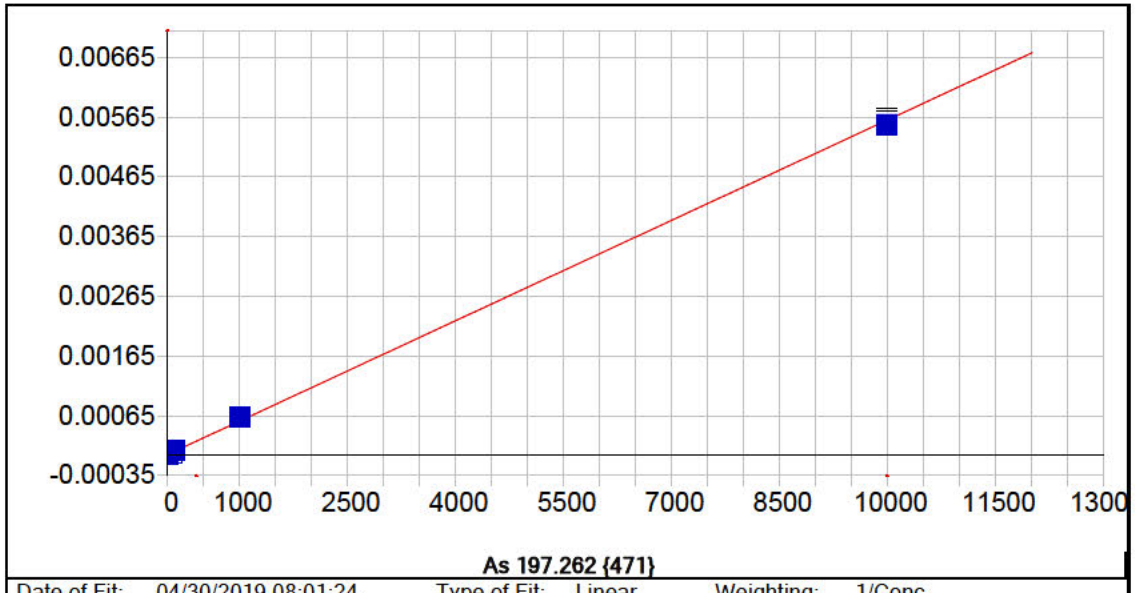



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.539750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.187381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 1.235779 | | |
| Predicted MDL: | 3.306742 | | |
| Predicted MQL: | 11.022473 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0560 | -6.06 | .000 | -.59503 | .623 | 1 |
| CalStd9=100 | 1000.0 | 997.06 | -2.94 | -.294 | 186.75 | 1.12 | 1 |
| CalStd7=50 | 50.000 | 47.791 | -2.21 | -4.42 | 9.4735 | .588 | 1 |
| CalStd5=10 | 10.000 | 7.5505 | -2.45 | -24.5 | 1.9497 | .990 | 1 |
| CalStd8=100 | 100.00 | 106.54 | 6.54 | 6.54 | 20.442 | .494 | 1 |

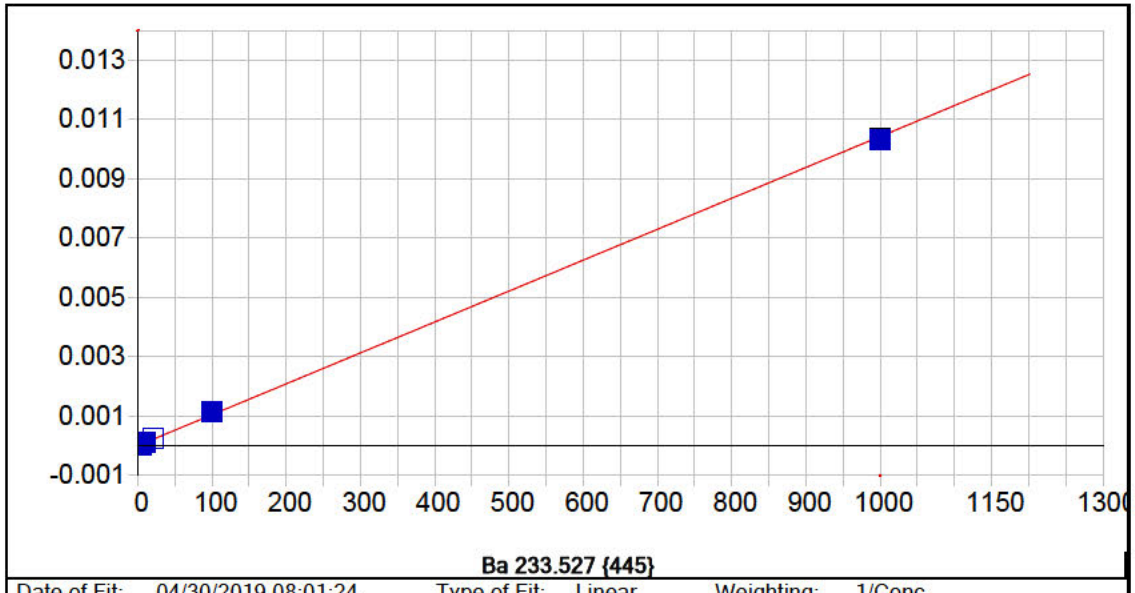



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.150038 | | |
| Predicted MQL: | 23.833460 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00548 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.8 | 132. | 13.2 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.208 | 8.21 | 16.4 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.48 | 14.5 | 14.5 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.4 | -156. | -1.56 | .00555 | .000 | 1 |

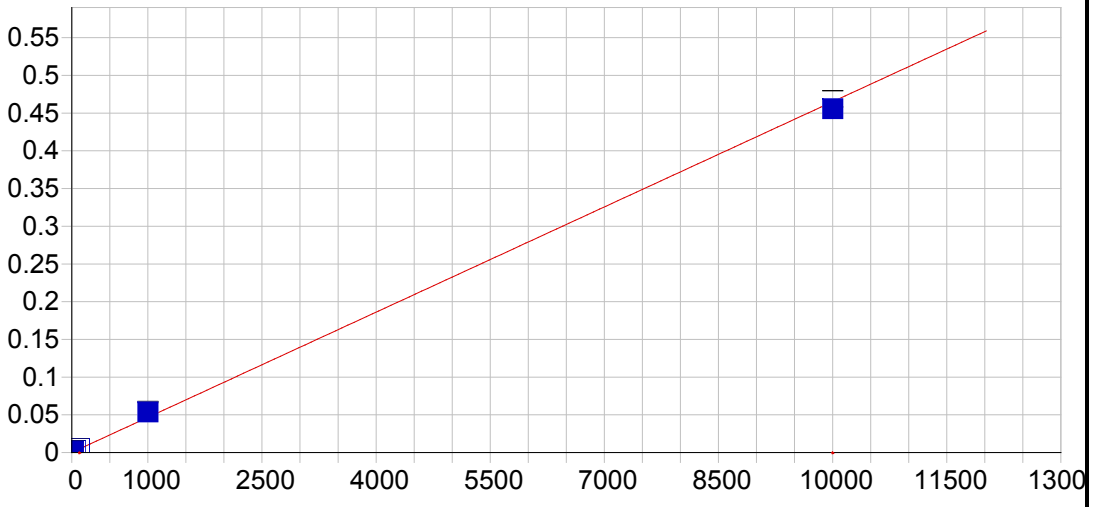



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998869 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.388630 | | |
| Predicted MQL: | 1.295433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.685 | 1.69 | 16.9 | .00013 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.379 | 2.38 | 11.9 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.99 | 8.99 | 8.99 | .00114 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.5664 | -1.43 | -28.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.19 | -10.8 | -1.08 | .01031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .18135 | -.819 | -81.9 | .00001 | .000 | 1 |

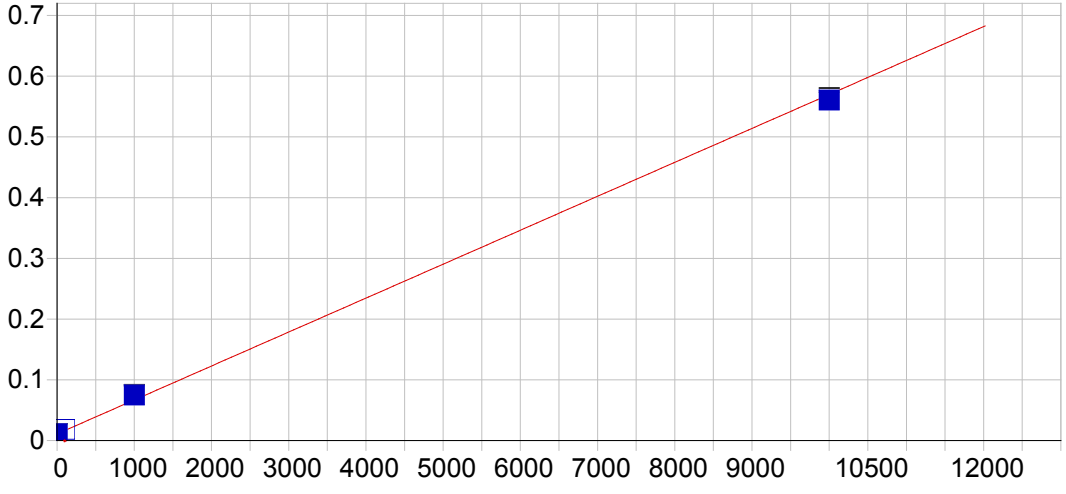



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000125 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998156 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.424860 | | |
| Predicted MQL: | 1.416201 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00102 | -.001 | .000 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.838 | 15.8 | 31.7 | .00319 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.147 | 3.15 | 31.5 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.954 | 5.95 | 29.8 | .00133 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.81 | 24.8 | 24.8 | .00593 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9621 | .962 | 19.2 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.5 | 151. | 15.1 | .05367 | .001 | 1 |
| CalStd3=1 | 1.0000 | .51857 | -.481 | -48.1 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.3 | -202. | -2.02 | .45572 | .011 | 1 |

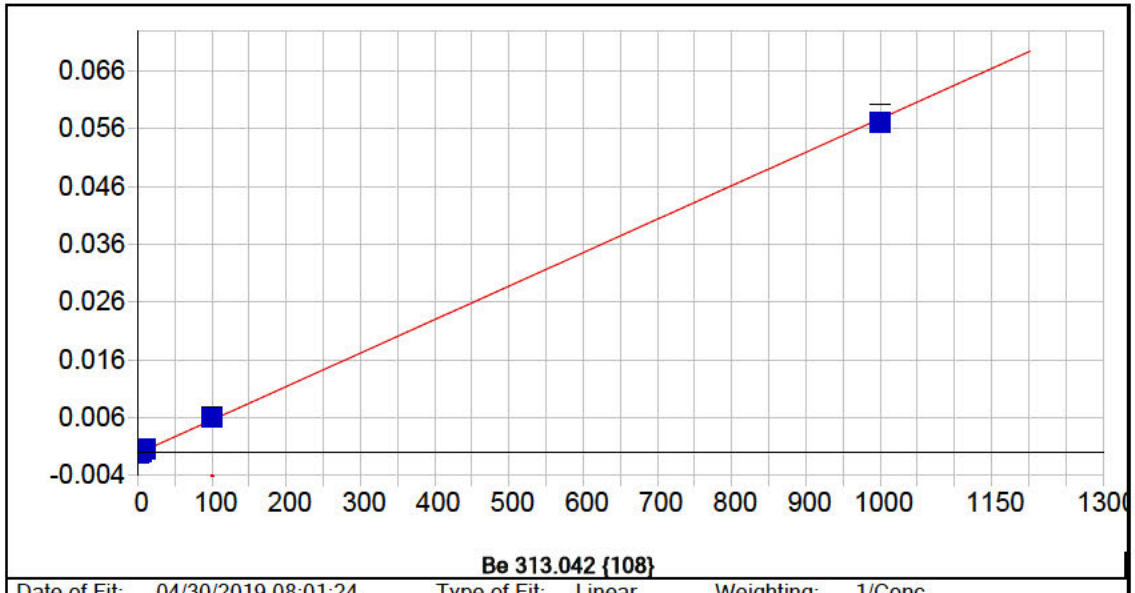



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010947 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998653 | Status: | OK. |
| Std Error of Est: | 0.000137 | | |
| Predicted MDL: | 0.907157 | | |
| Predicted MQL: | 3.023855 | | |

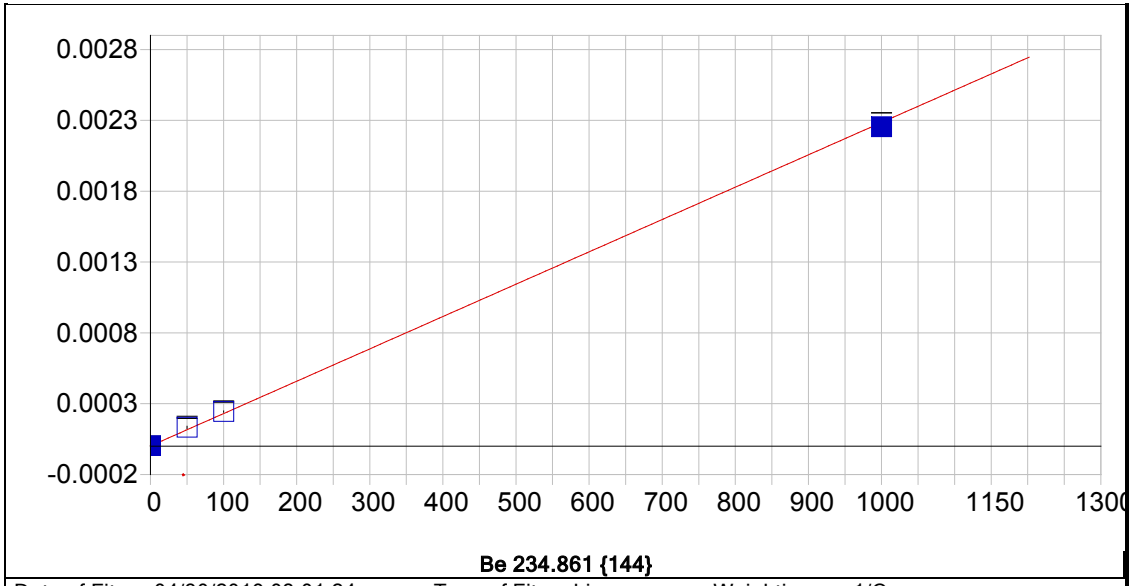
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03968 | -.040 | .000 | .01094 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1140.3 | 140. | 14.0 | .07469 | .001 | 1 |
| CalStd8=100 | 100.00 | 127.32 | 27.3 | 27.3 | .01806 | .000 | 1 |
| CalStd10=10 | 10000. | 9832.4 | -168. | -1.68 | .56060 | .003 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000185 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000058 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999544 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.049429 | | |
| Predicted MQL: | 0.164762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.811 | 1.81 | 18.1 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.89 | 6.89 | 6.89 | .00601 | .000 | 1 |
| CalStd2=0.5 | .50000 | .48965 | -.010 | -2.07 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7741 | .774 | 15.5 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.47 | -9.53 | -.953 | .05717 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0666 | .067 | 6.66 | -.00012 | .000 | 1 |

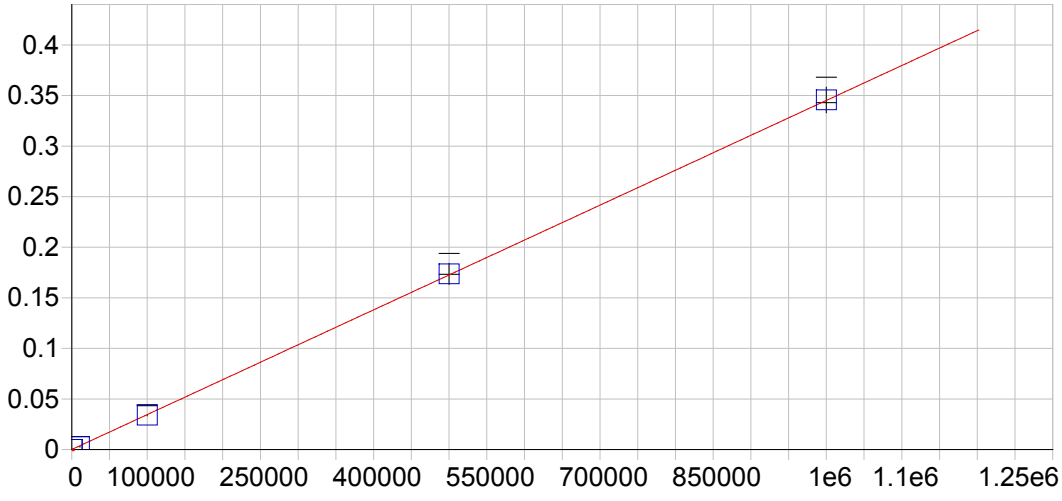



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999290 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.414818 | | |
| Predicted MQL: | 4.716060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00973 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.57 | -13.4 | -1.34 | .00225 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.08 | 6.08 | 6.08 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.360 | 7.36 | 14.7 | .00013 | .000 | 1 |

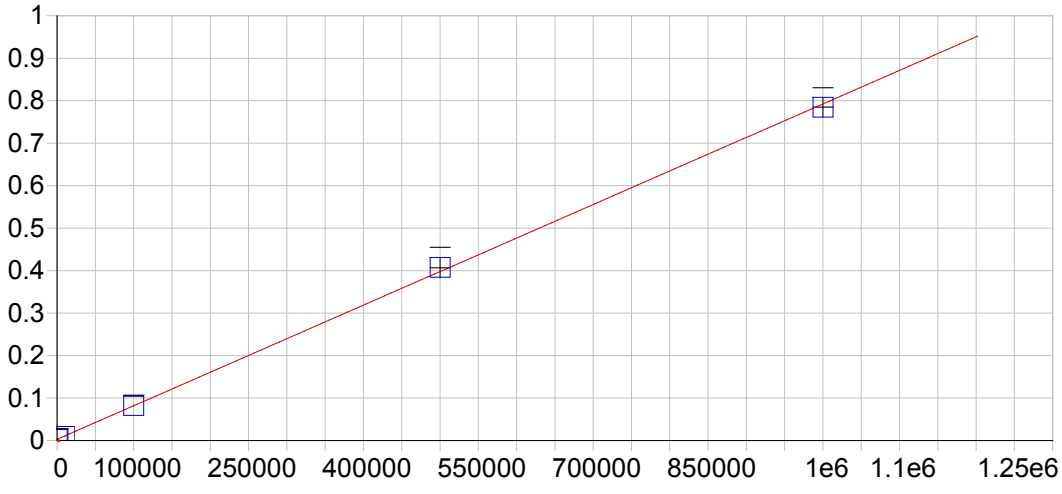



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999799 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 12.463600 | | |
| Predicted MQL: | 41.545332 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .37459 | .375 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 7609.8 | -2390. | -23.9 | .00268 | .000 | 1 |
| CalStd13=10 | 100000. | 97961. | -2040. | -2.04 | .03386 | .001 | 1 |
| CalStd14=50 | 500000. | 503050. | 3050. | .611 | .17366 | .010 | 1 |
| CalStd9=100 | 1000.0 | 877.21 | -123. | -12.3 | .00036 | .000 | 1 |
| CalibStd15= | 1000000. | 1001500. | 1500. | .150 | .34568 | .013 | 1 |

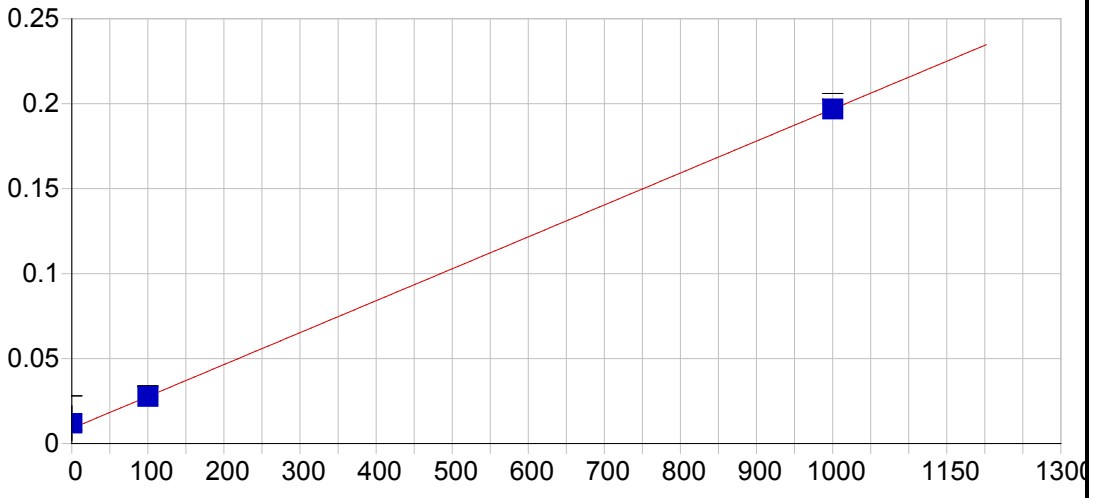



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002916 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 6.859728 | | |
| Predicted MQL: | 22.865759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13150 | .131 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 7981.1 | -2020. | -20.2 | .00922 | .000 | 1 |
| CalStd13=10 | 100000. | 100320. | 322. | .322 | .08212 | .001 | 1 |
| CalStd14=50 | 500000. | 512170. | 12200. | 2.43 | .40730 | .024 | 1 |
| CalStd9=100 | 1000.0 | 1053.4 | 53.4 | 5.34 | .00375 | .000 | 1 |
| CalibStd15= | 1000000. | 989470. | -10500. | -1.05 | .78415 | .023 | 1 |

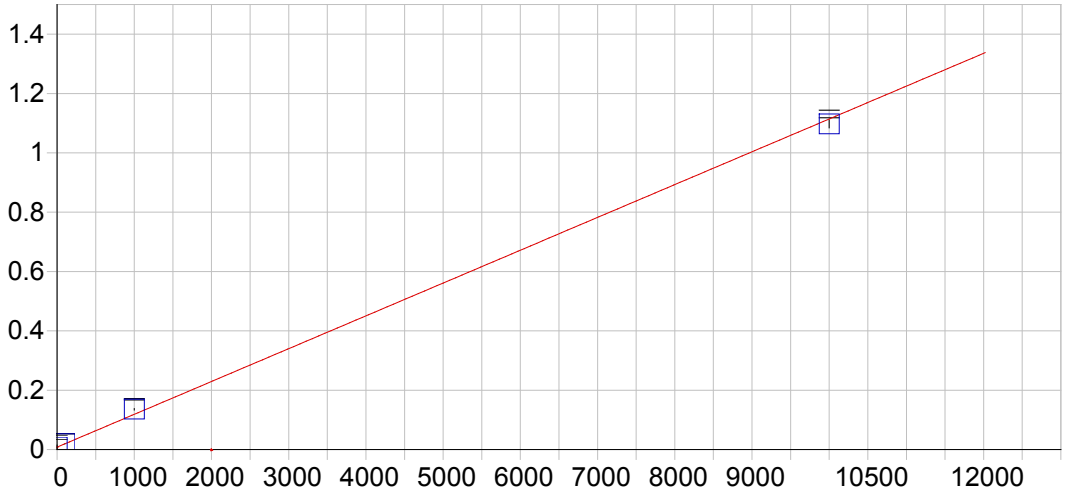



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008895 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000188 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999982 | Status: | OK. |
| Std Error of Est: | 0.000207 | | |
| Predicted MDL: | 0.074229 | | |
| Predicted MQL: | 0.247430 | | |

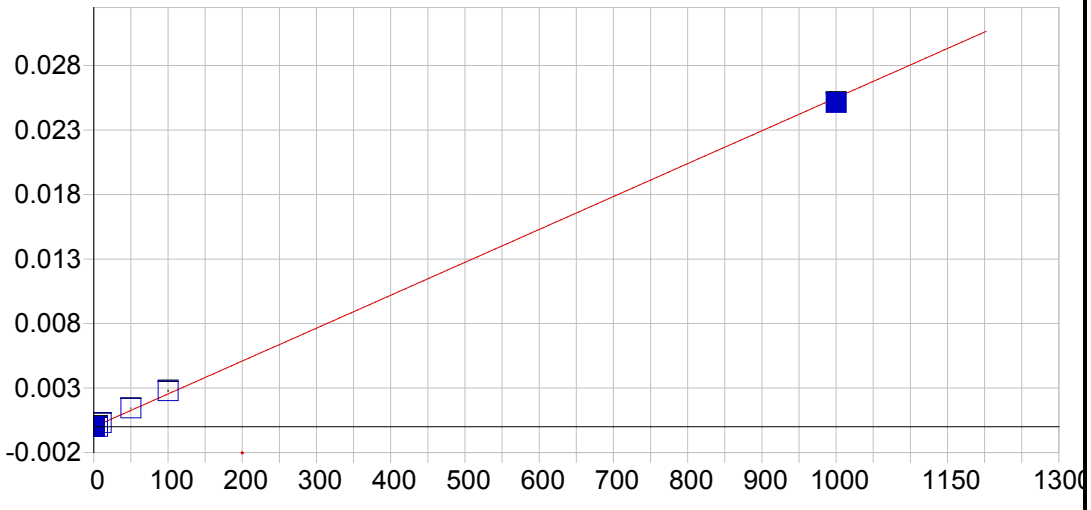
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 16.421 | 16.4 | .000 | .01198 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .196 | .020 | .19683 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.972 | -.028 | -.028 | .02768 | .000 | 1 |




**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.008134 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000111 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.998837 | | Status: | OK. | |
| Std Error of Est: | 0.000251 | | | | |
| Predicted MDL: | 0.118050 | | | | |
| Predicted MQL: | 0.393499 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01340 | -.013 | .000 | .00813 | .007 | 1 |
| CalStd10=10 | 10000. | 9847.0 | -153. | -1.53 | 1.0973 | .013 | 1 |
| CalStd8=100 | 100.00 | 99.586 | -.414 | -.414 | .01915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1153.4 | 153. | 15.3 | .13571 | .002 | 1 |

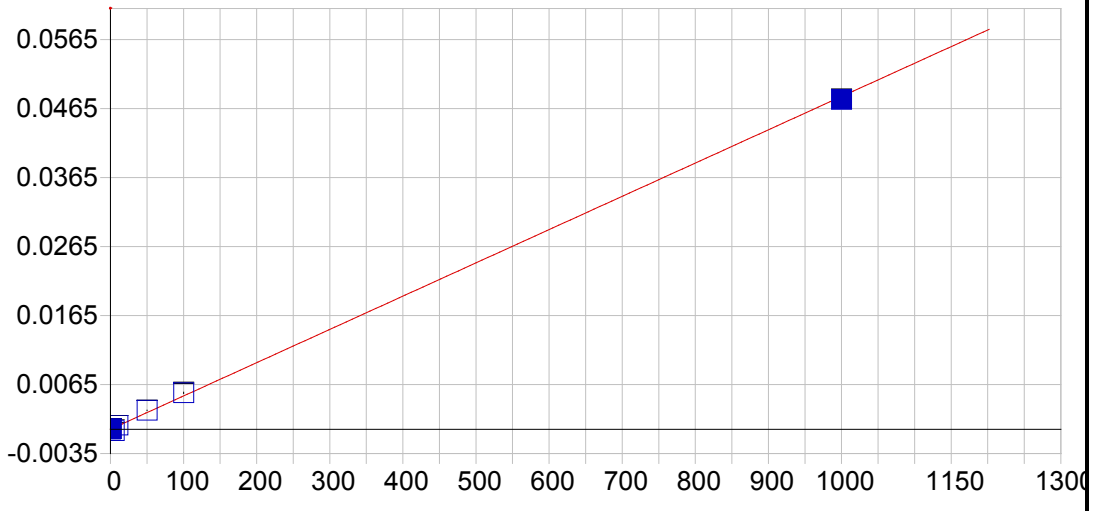



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997348 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.233555 | | |
| Predicted MQL: | 0.778515 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.865 | 6.87 | 13.7 | .00144 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2285 | .228 | 22.8 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61713 | .117 | 23.4 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | .73284 | -4.27 | -85.3 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.55 | 9.55 | 9.55 | .00278 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.062 | 2.06 | 20.6 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.44 | -14.6 | -1.46 | .02513 | .000 | 1 |

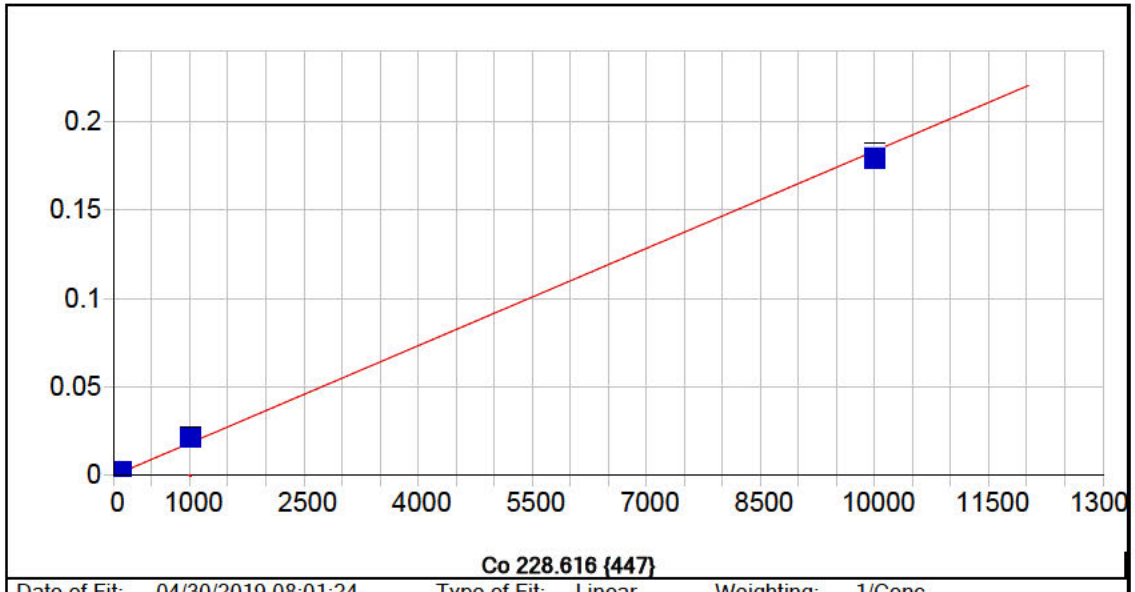



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991474 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.157317 | | |
| Predicted MQL: | 0.524389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.791 | 6.79 | 13.6 | .00276 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1739 | .174 | 17.4 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71504 | .215 | 43.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | -4.4200 | -9.42 | -188. | -.00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00530 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.002 | 2.00 | 20.0 | .00060 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.91 | -9.09 | -.909 | .04781 | .000 | 1 |

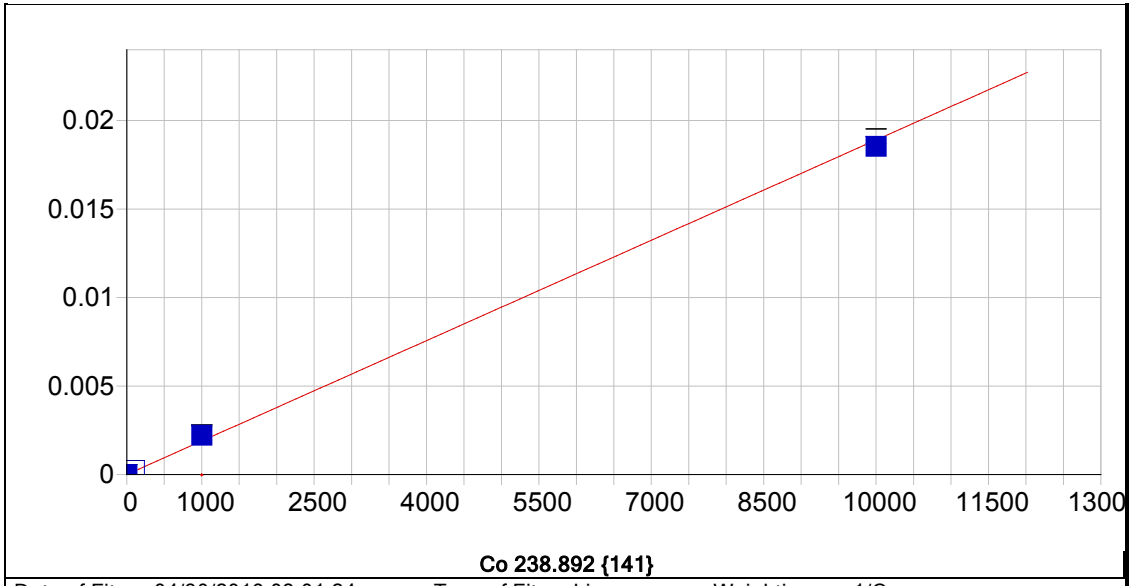



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996680 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.449246 | | |
| Predicted MQL: | 1.497487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00352 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.275 | 16.3 | 32.6 | .00123 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.608 | 3.61 | 36.1 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 16.987 | 12.0 | 240. | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 127.97 | 28.0 | 28.0 | .00236 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1163.2 | 163. | 16.3 | .02135 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0124 | .012 | 1.24 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9777.2 | -223. | -2.23 | .17958 | .003 | 1 |

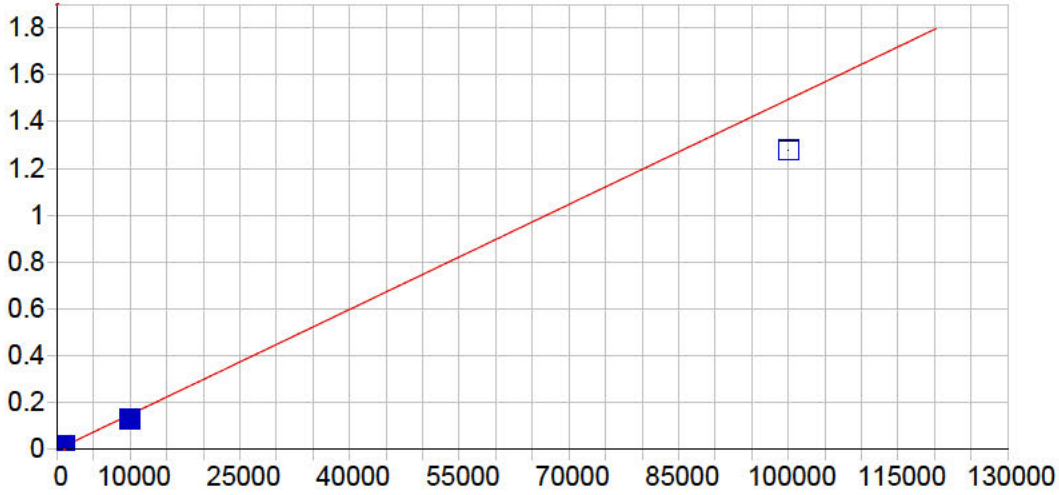



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998281 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.890001 | | |
| Predicted MQL: | 2.966671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03977 | -.040 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1168.3 | 168. | 16.8 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9806.8 | -193. | -1.93 | .01854 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.86 | 24.9 | 24.9 | .00024 | .000 | 1 |

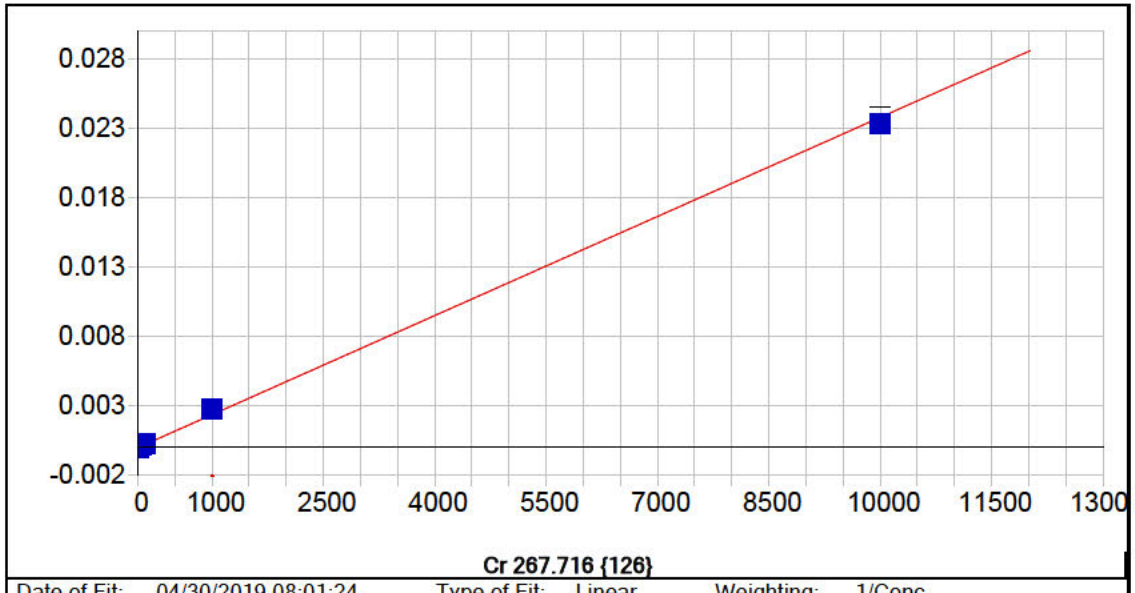



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997498 | Status: | OK. |
| Std Error of Est: | 0.000145 | | |
| Predicted MDL: | 0.312030 | | |
| Predicted MQL: | 1.040101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.1414 | -2.14 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9178 | -.082 | -.822 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.687 | 5.69 | 11.4 | .00087 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.5 | 30.5 | 3.05 | .01544 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.35 | 9.35 | 9.35 | .00167 | .000 | 1 |
| CalStd4=5 | 5.0000 | 51.363 | 46.4 | 927. | .00080 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.5639 | -2.56 | -256. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 8651.3 | -1350. | -13.5 | .12935 | .002 | 1 |
| CalStd12=10 | 100000. | 85458. | -14500. | -14.5 | 1.2774 | .003 | 1 |

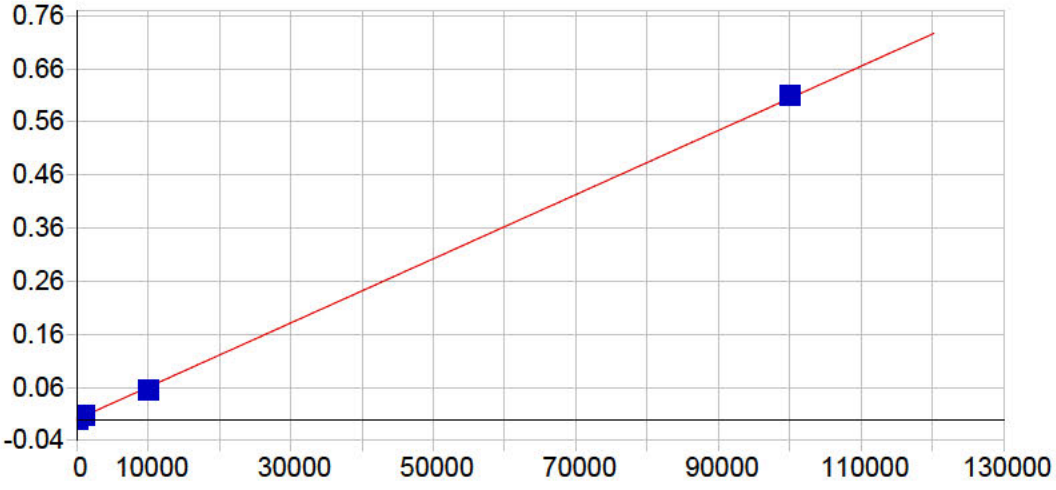



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998132 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.923046 | | |
| Predicted MQL: | 3.076818 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00873 | -.009 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.160 | 3.16 | 31.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 63.410 | 13.4 | 26.8 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1156.3 | 156. | 15.6 | .00275 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.83 | 23.8 | 23.8 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 8.9402 | 3.94 | 78.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9799.4 | -201. | -2.01 | .02328 | .001 | 1 |

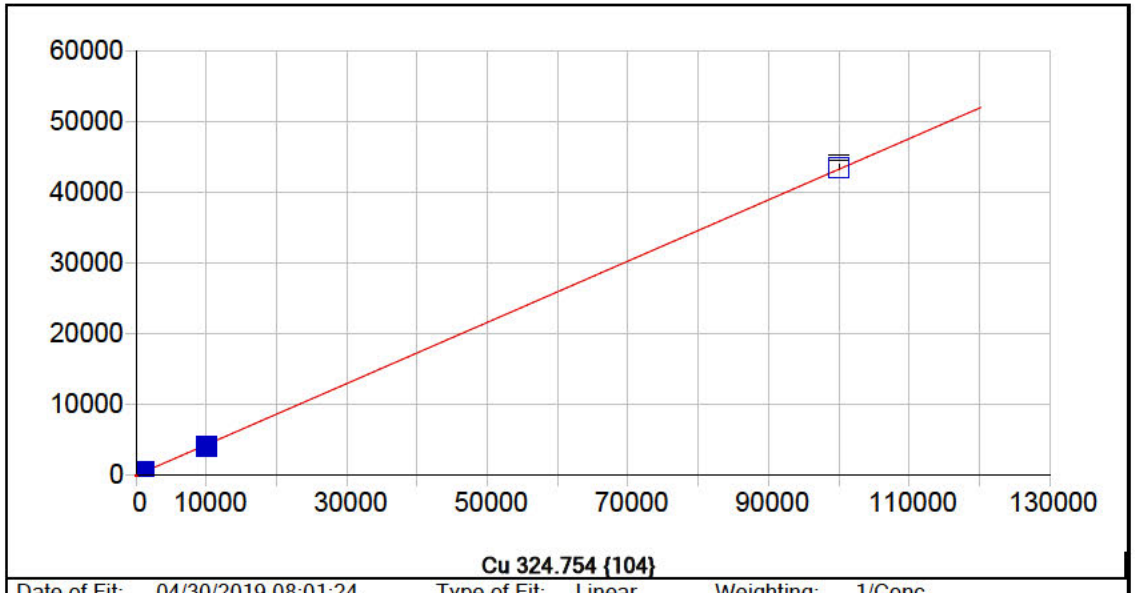



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999425 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.447985 | | |
| Predicted MQL: | 1.493282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03345 | .033 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.2 | 44.2 | 4.42 | .00631 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.011 | -27.0 | -54.0 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.772 | -33.2 | -33.2 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.7070 | -15.3 | -76.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100930. | 926. | .926 | .60996 | .000 | 1 |
| CalStd10=10 | 10000. | 9105.5 | -895. | -8.95 | .05503 | .001 | 1 |

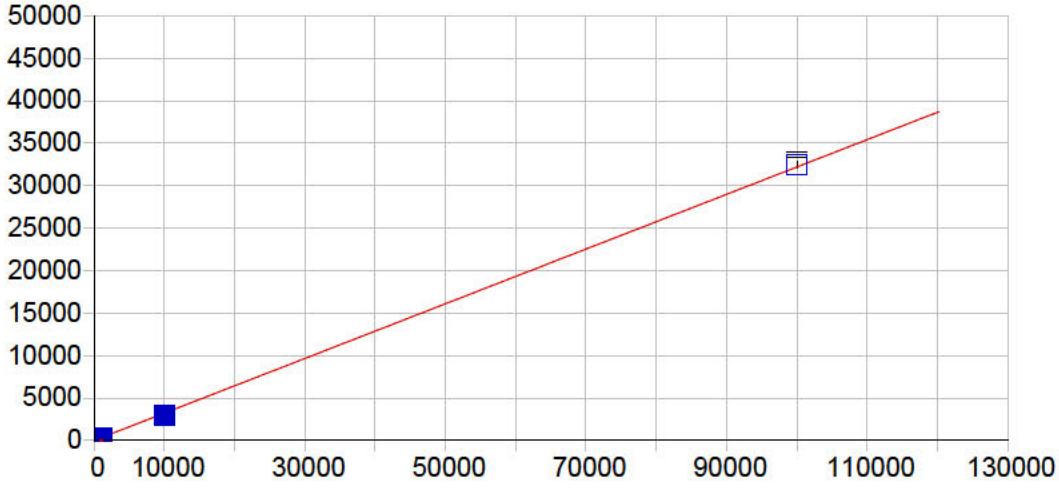



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 32.917937 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.432226 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999630 | Status: | OK. |
| Std Error of Est: | 0.452439 | | |
| Predicted MDL: | 5.608774 | | |
| Predicted MQL: | 18.695912 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01484 | -.015 | .000 | 32.912 | 1.24 | 1 |
| CalStd9=100 | 1000.0 | 1083.9 | 83.9 | 8.39 | 501.38 | 9.93 | 1 |
| CalStd8=100 | 100.00 | 121.35 | 21.4 | 21.4 | 85.370 | 1.21 | 1 |
| CalStd10=10 | 10000. | 9248.4 | -752. | -7.52 | 4030.0 | 17.9 | 1 |
| CalStd12=10 | 100000. | 100620. | 619. | .619 | 43523. | 365. | 1 |
| CalStd5=10 | 10.000 | 15.681 | 5.68 | 56.8 | 39.696 | 3.29 | 1 |
| CalStd6=20 | 20.000 | 28.281 | 8.28 | 41.4 | 45.142 | .661 | 1 |
| CalStd7=50 | 50.000 | 63.663 | 13.7 | 27.3 | 60.435 | .678 | 1 |

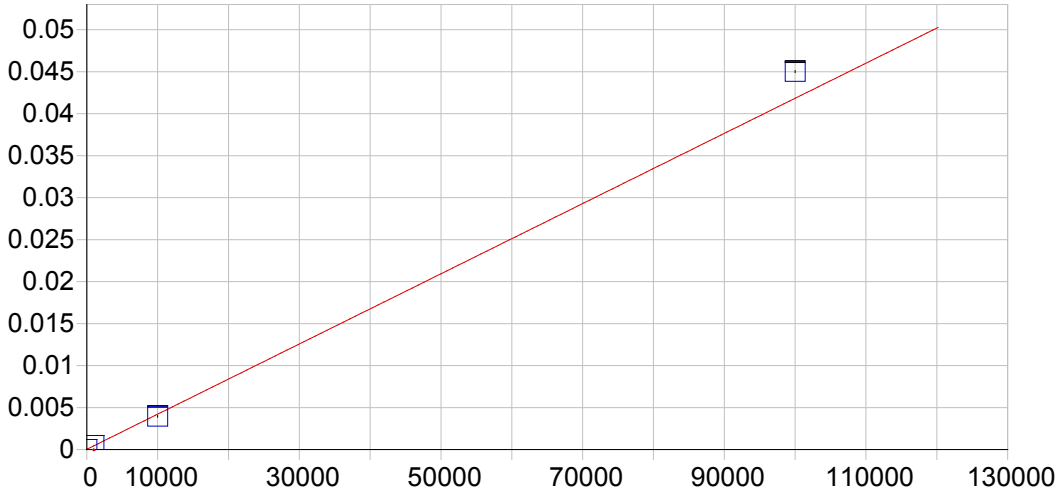



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.187822 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.321888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999459 | Status: | OK. |
| Std Error of Est: | 0.282912 | | |
| Predicted MDL: | 9.835319 | | |
| Predicted MQL: | 32.784397 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01440 | -.014 | .000 | 7.1832 | 2.95 | 1 |
| CalStd6=20 | 20.000 | 24.984 | 4.98 | 24.9 | 15.226 | 3.16 | 1 |
| CalStd7=50 | 50.000 | 66.452 | 16.5 | 32.9 | 28.568 | 1.65 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | 46.347 | 5.06 | 1 |
| CalStd9=100 | 1000.0 | 1078.5 | 78.5 | 7.85 | 354.16 | 6.84 | 1 |
| CalStd10=10 | 10000. | 9093.8 | -906. | -9.06 | 2934.4 | 26.3 | 1 |
| CalStd12=10 | 100000. | 100770. | 771. | .771 | 32444. | 356. | 1 |
| CalStd4=5 | 5.0000 | 12.546 | 7.55 | 151. | 11.225 | 2.33 | 1 |
| CalStd5=10 | 10.000 | 15.797 | 5.80 | 58.0 | 12.271 | 2.94 | 1 |

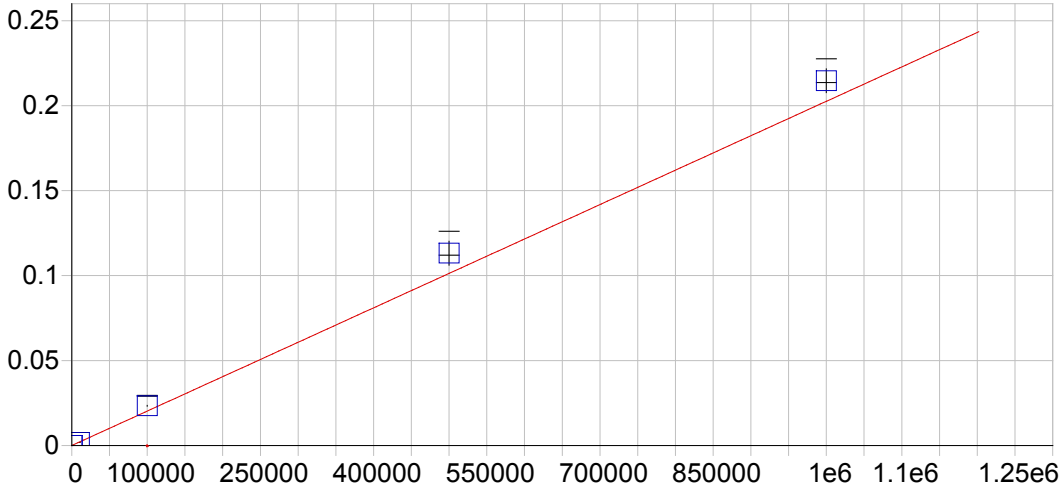



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 1.861928 | | |
| Predicted MQL: | 6.206425 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23485 | -.235 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9375.0 | -625. | -6.25 | .00395 | .000 | 1 |
| CalStd13=10 | 100000. | 107610. | 7610. | 7.61 | .04501 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1097.8 | 97.8 | 9.78 | .00049 | .000 | 1 |

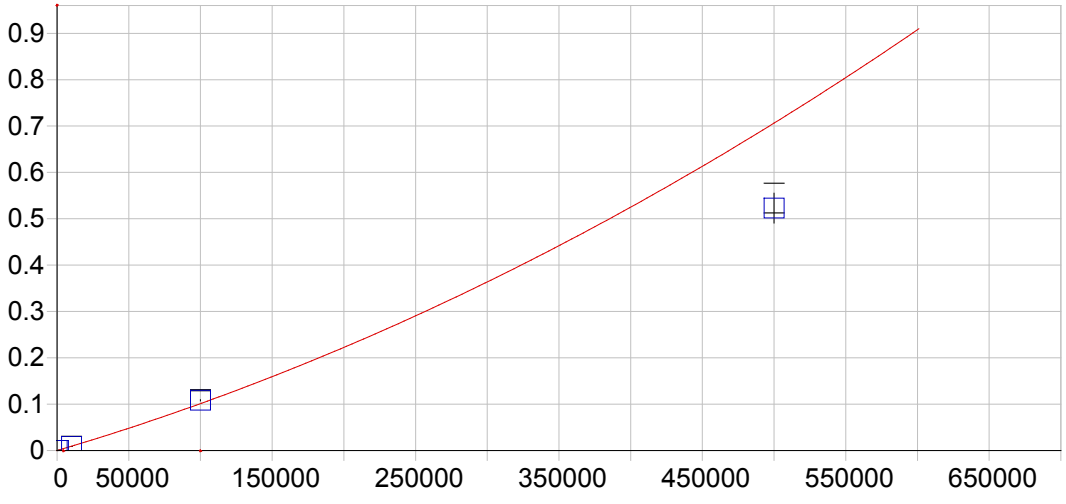



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994823 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 17.270833 | | |
| Predicted MQL: | 57.569443 | | |

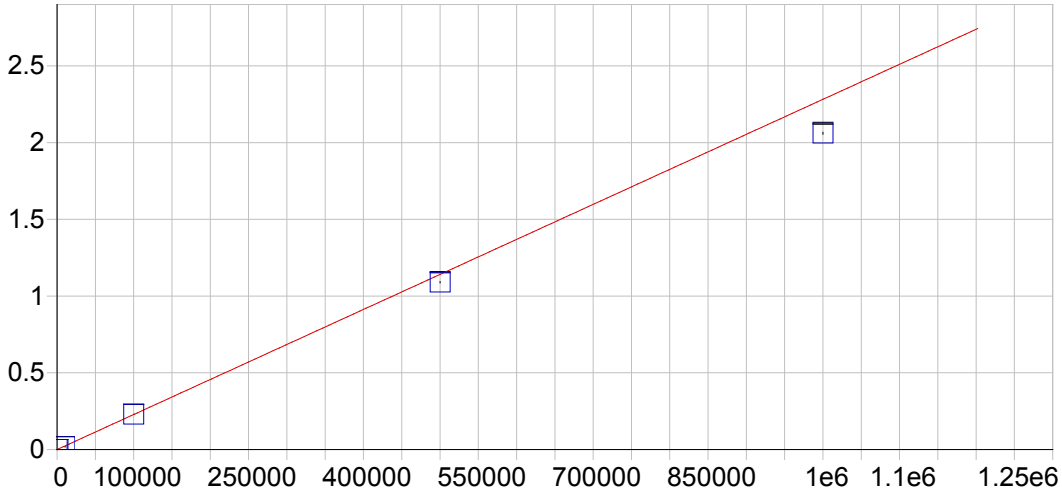
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0192 | -2.02 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9267.3 | -733. | -7.33 | .00189 | .000 | 1 |
| CalStd13=10 | 100000. | 115270. | 15300. | 15.3 | .02336 | .000 | 1 |
| CalStd14=50 | 500000. | 558690. | 58700. | 11.7 | .11317 | .007 | 1 |
| CalStd9=100 | 1000.0 | 1068.1 | 68.1 | 6.81 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 1059600. | 59600. | 5.96 | .21464 | .007 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000065 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997286 | | Status: | Warning | Positive Curvature |
| Std Error of Est: | 0.000158 | | | | |
| Predicted MDL: | 5.216183 | | | | |
| Predicted MQL: | 17.387276 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.898 | -24.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9540.9 | -459. | -4.59 | .00886 | .000 | 1 |
| CalStd13=10 | 100000. | 106310. | 6310. | 6.31 | .10833 | .001 | 1 |
| CalStd14=50 | 500000. | 398750. | -101000. | -20.2 | .52289 | .032 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .00106 | .000 | 1 |

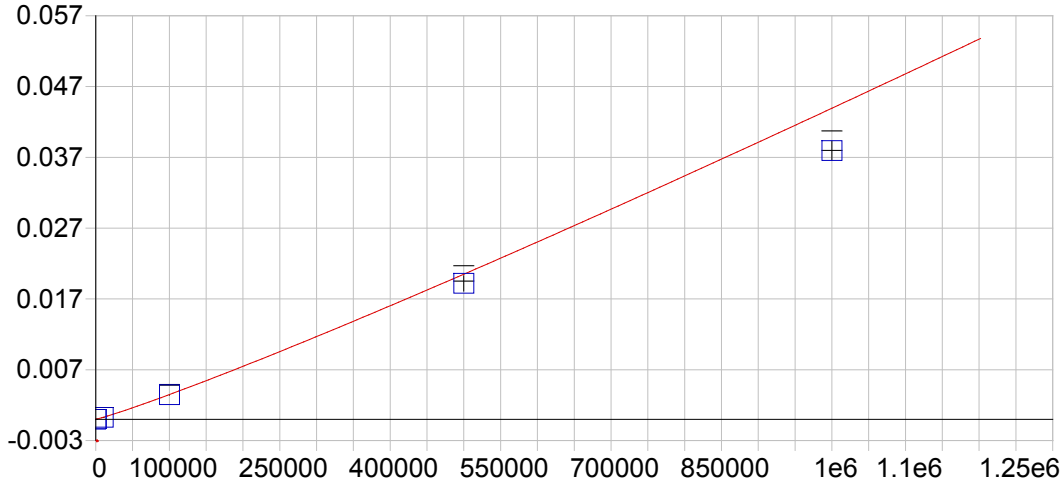



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999696 | Status: | OK. |
| Std Error of Est: | 0.000343 | | |
| Predicted MDL: | 2.203469 | | |
| Predicted MQL: | 7.344897 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 23.811 | 23.8 | .000 | .00006 | .000 | 1 |
| CalStd13=10 | 100000. | 100590. | 591. | .591 | .22957 | .000 | 1 |
| CalStd10=10 | 10000. | 7754.8 | -2250. | -22.5 | .01770 | .000 | 1 |
| CalStd14=50 | 500000. | 477620. | -22400. | -4.48 | 1.0900 | .004 | 1 |
| CalStd9=100 | 1000.0 | 997.86 | -2.14 | -.214 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 903090. | -96900. | -9.69 | 2.0610 | .006 | 1 |

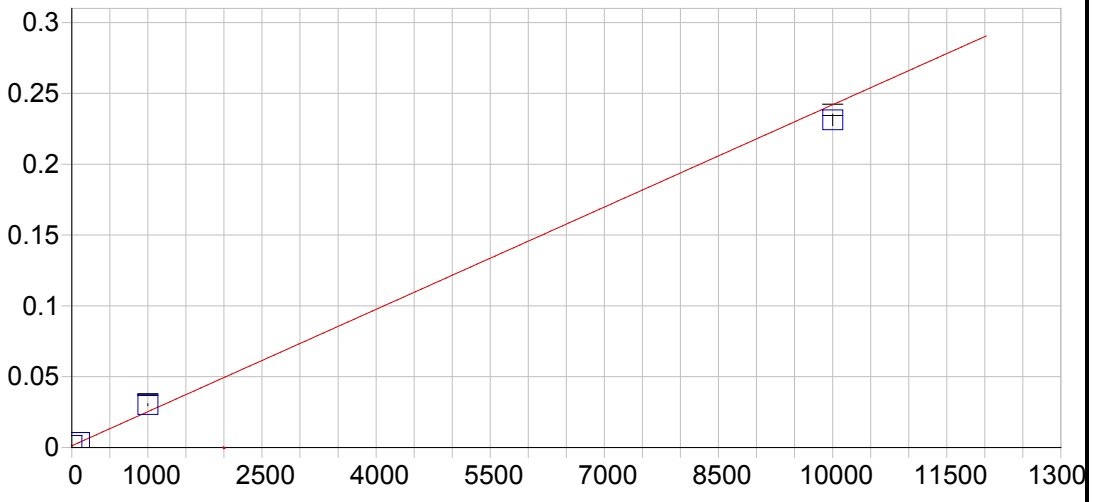



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.100000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 225.466994 | | |
| Predicted MQL: | 751.556647 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99264. | -736. | -.736 | .00346 | .000 | 1 |
| CalStd10=10 | 10000. | 9429.9 | -570. | -5.70 | .00026 | .000 | 1 |
| CalStd14=50 | 500000. | 470980. | -29000. | -5.80 | .01919 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1323.1 | 323. | 32.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 875190. | -125000. | -12.5 | .03794 | .001 | 1 |

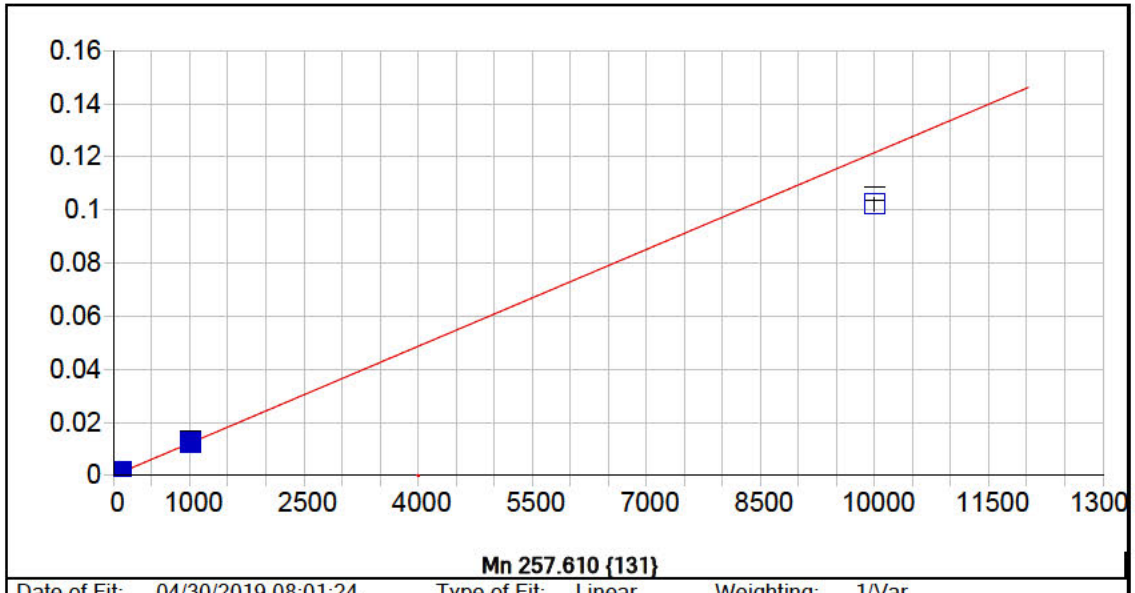



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001262 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992448 | Status: | OK. |
| Std Error of Est: | 0.000619 | | |
| Predicted MDL: | 0.051519 | | |
| Predicted MQL: | 0.171731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.739 | 11.7 | .000 | .00154 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1206.8 | 207. | 20.7 | .03031 | .001 | 1 |
| CalStd10=10 | 10000. | 9556.1 | -444. | -4.44 | .23129 | .004 | 1 |
| CalStd8=100 | 100.00 | 93.604 | -6.40 | -6.40 | .00351 | .000 | 1 |

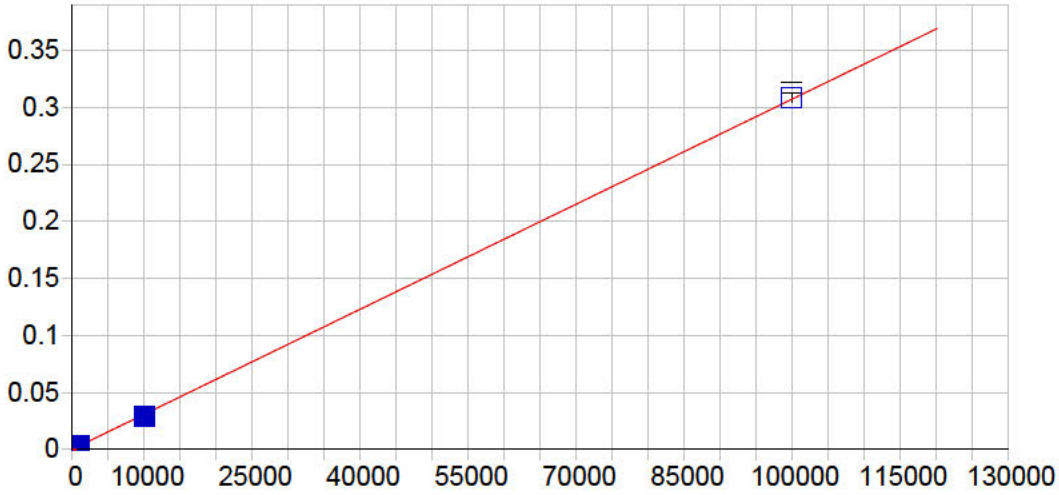



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995548 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.097079 | | |
| Predicted MQL: | 0.323597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04516 | -.045 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.003 | 5.00 | 10.0 | .00070 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.805 | .805 | 4.02 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.55 | 8.55 | 8.55 | .00135 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2295 | -.770 | -15.4 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.2 | 22.2 | 2.22 | .01246 | .000 | 1 |
| CalStd10=10 | 10000. | 8405.2 | -1590. | -15.9 | .10223 | .003 | 1 |

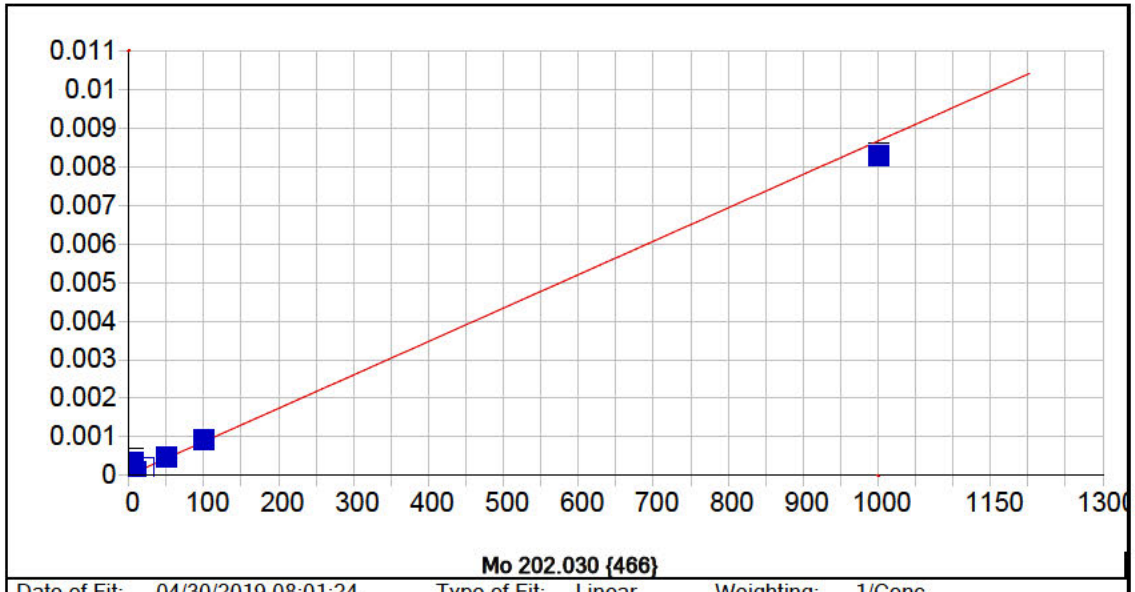



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999811 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 1.512228 | | |
| Predicted MQL: | 5.040759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04534 | -.045 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9446.9 | -553. | -5.53 | .02904 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1096.1 | 96.1 | 9.61 | .00338 | .000 | 1 |
| CalStd12=10 | 100000. | 100460. | 458. | .458 | .30829 | .005 | 1 |

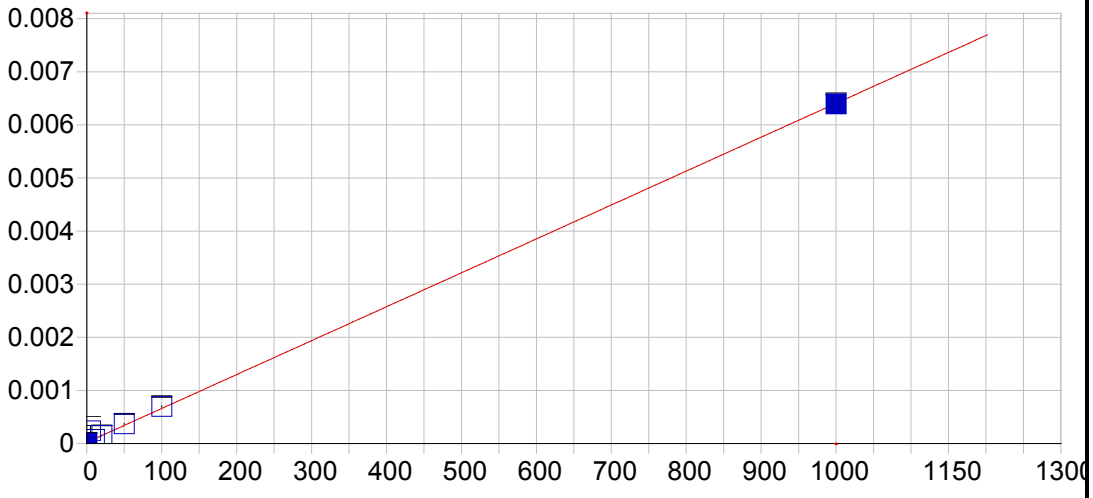



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.918937 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.461169 | | |
| Predicted MQL: | 1.537230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03405 | -.034 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.376 | 4.38 | 8.75 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.645 | 1.65 | 8.23 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.38 | 4.38 | 4.38 | .00092 | .000 | 1 |
| CalStd4=5 | 5.0000 | 37.919 | 32.9 | 658. | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.12 | -43.9 | -4.39 | .00831 | .000 | 1 |

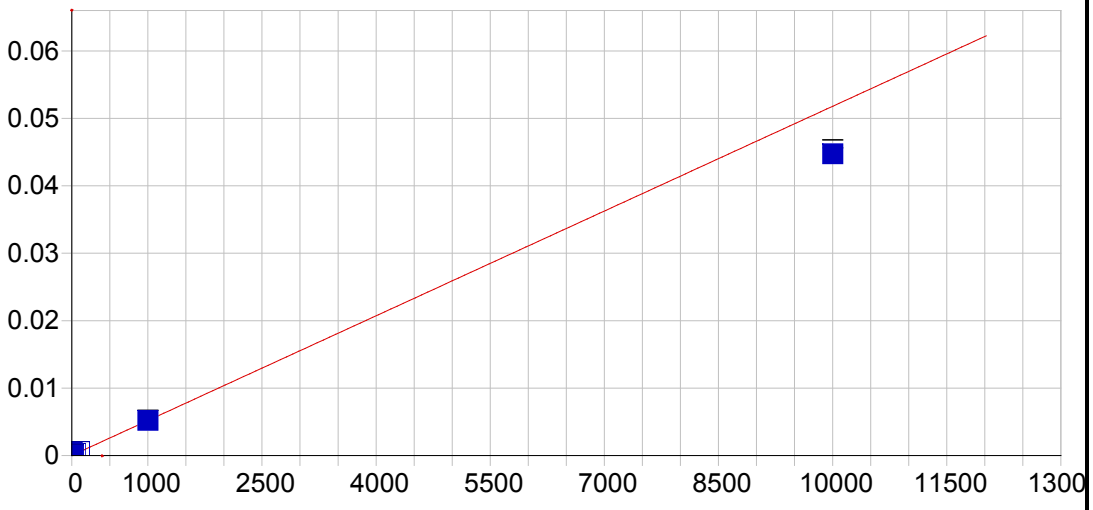



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999869 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.801215 | | |
| Predicted MQL: | 2.670716 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8973 | -1.90 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.529 | 4.53 | 9.06 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.586 | .586 | 2.93 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1156 | -.884 | -8.84 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.51 | 5.51 | 5.51 | .00070 | .000 | 1 |
| CalStd4=5 | 5.0000 | 33.690 | 28.7 | 574. | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.91 | -2.09 | -.209 | .00639 | .000 | 1 |

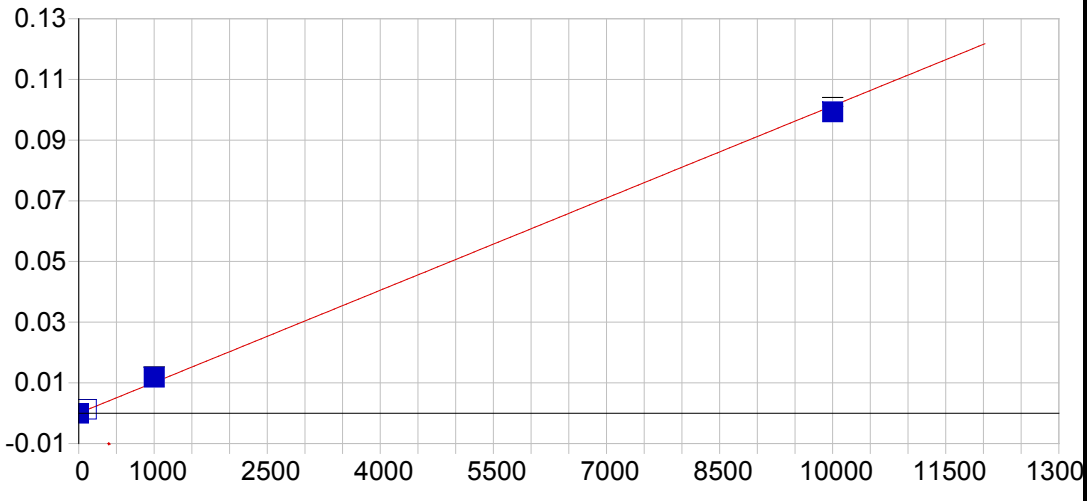



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.916548 | | |
| Predicted MQL: | 3.055158 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3158 | -2.32 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.135 | 5.14 | 10.3 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.378 | .378 | 1.89 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6092 | -.391 | -3.91 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.62 | 7.62 | 7.62 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 83.457 | 78.5 | 1570. | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.19 | .219 | .00520 | .000 | 1 |
| CalStd10=10 | 10000. | 8637.4 | -1360. | -13.6 | .04474 | .001 | 1 |

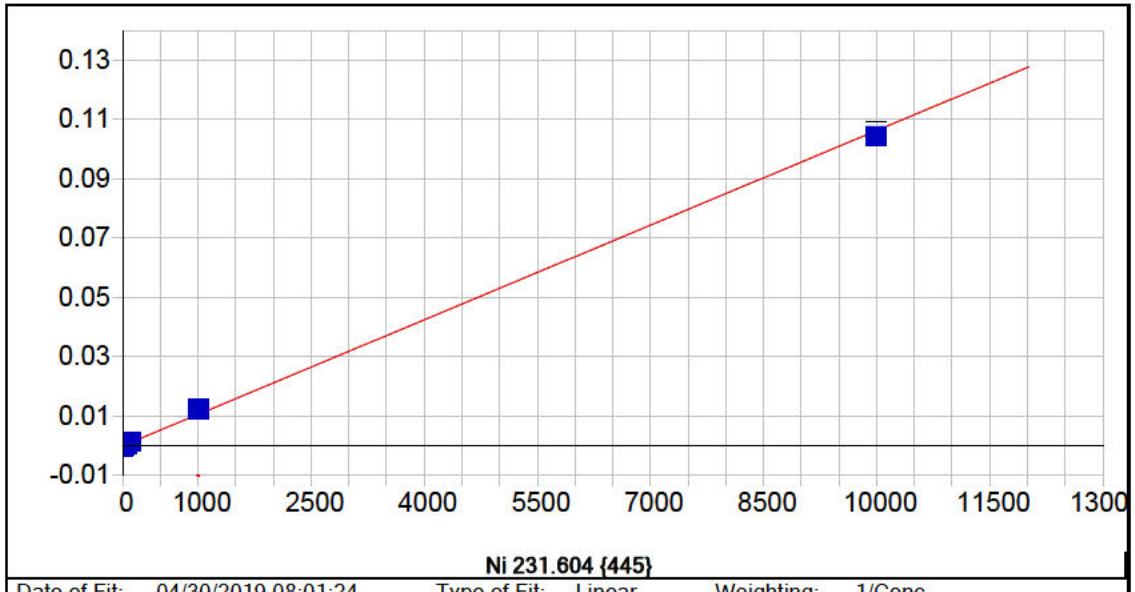



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998093 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 0.768351 | | |
| Predicted MQL: | 2.561171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04496 | -.045 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.5 | -202. | -2.02 | .09927 | .001 | 1 |
| CalStd8=100 | 100.00 | 129.81 | 29.8 | 29.8 | .00132 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1171.7 | 172. | 17.2 | .01187 | .000 | 1 |

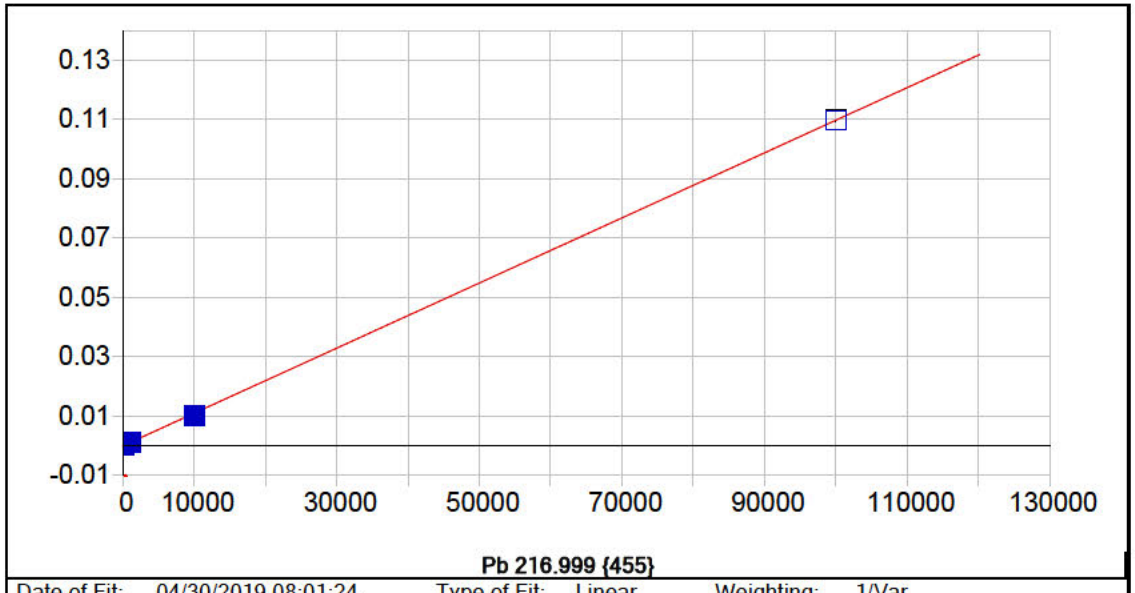



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.984592 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.735570 | | |
| Predicted MQL: | 2.451899 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00668 | .007 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 67.596 | 17.6 | 35.2 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.230 | 4.23 | 42.3 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 130.34 | 30.3 | 30.3 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | -33.889 | -38.9 | -778. | -.00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1173.8 | 174. | 17.4 | .01246 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86059 | -.139 | -13.9 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9813.3 | -187. | -1.87 | .10451 | .002 | 1 |

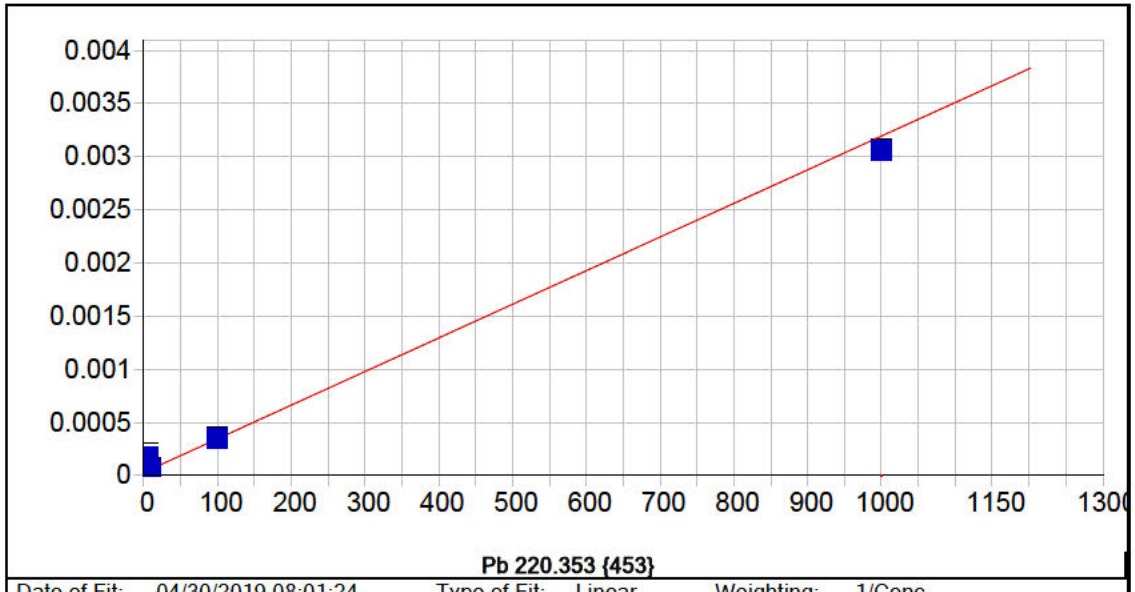



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999773 | Status: | OK. |
| Std Error of Est: | 0.000038 | | |
| Predicted MDL: | 5.620225 | | |
| Predicted MQL: | 18.734085 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.705 | -15.7 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1080.9 | 80.9 | 8.09 | .00120 | .000 | 1 |
| CalStd10=10 | 10000. | 9090.5 | -909. | -9.09 | .00999 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.63 | 8.63 | 8.63 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.9071 | -7.09 | -70.9 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99918. | -82.0 | -.082 | .10965 | .000 | 1 |

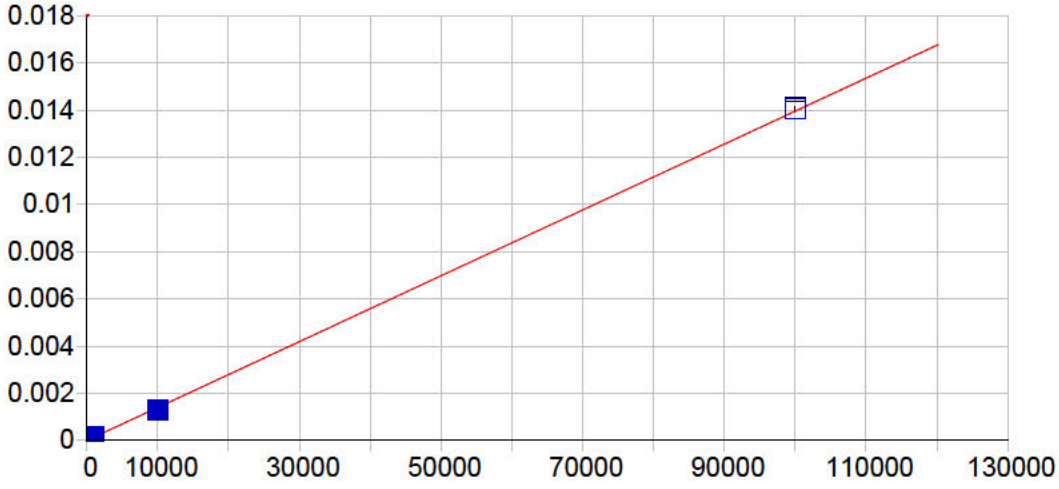



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.878400 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.481162 | | |
| Predicted MQL: | 8.270541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04083 | -.041 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.034 | 1.03 | 10.3 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.10 | 2.10 | 2.10 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 45.423 | 40.4 | 808. | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.47 | -43.5 | -4.35 | .00305 | .000 | 1 |

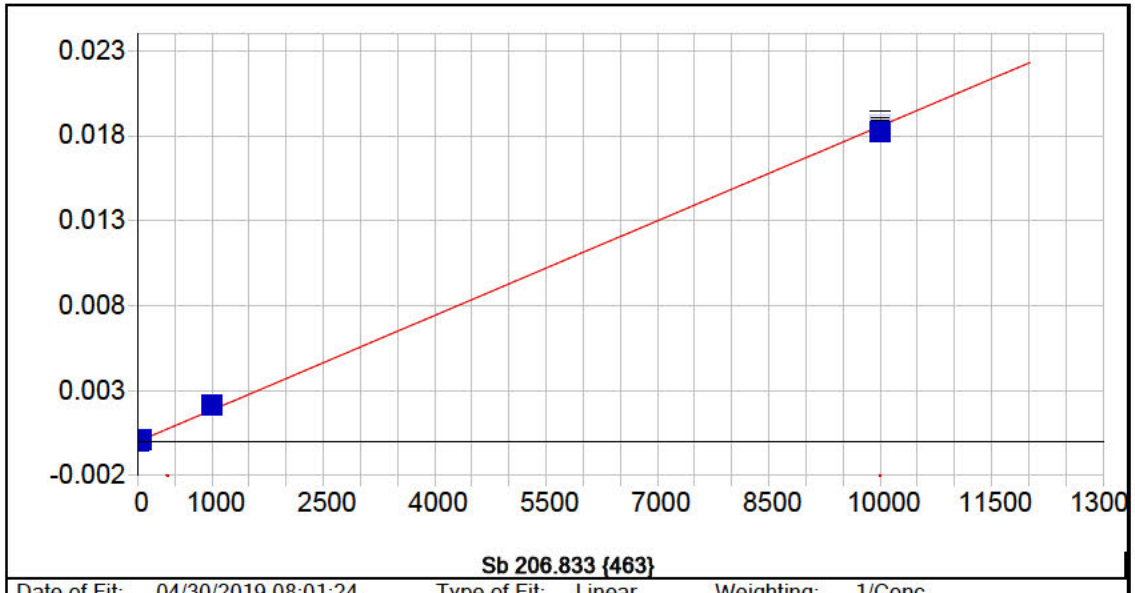



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.969384 | | |
| Predicted MQL: | 23.231279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01616 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1112.0 | 112. | 11.2 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9232.4 | -768. | -7.68 | .00129 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.00 | 12.0 | 12.0 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100640. | 644. | .644 | .01405 | .000 | 1 |

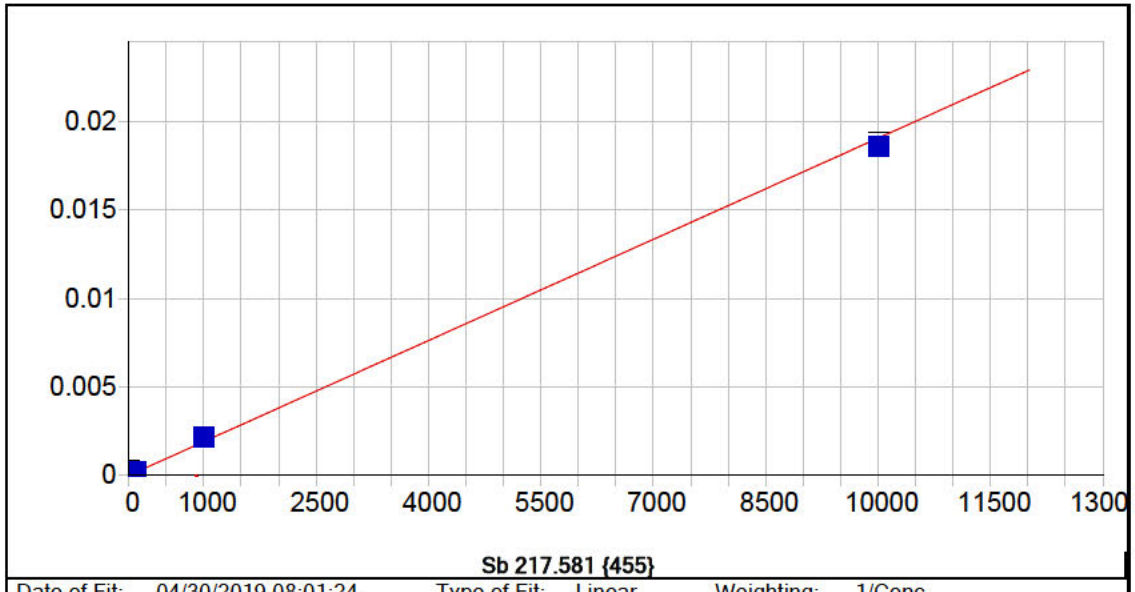



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998562 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.581313 | | |
| Predicted MQL: | 8.604377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00953 | -.010 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1149.7 | 150. | 15.0 | .00217 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.959 | 4.96 | 49.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.221 | 16.2 | 32.4 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.1 | -171. | -1.71 | .01859 | .000 | 1 |

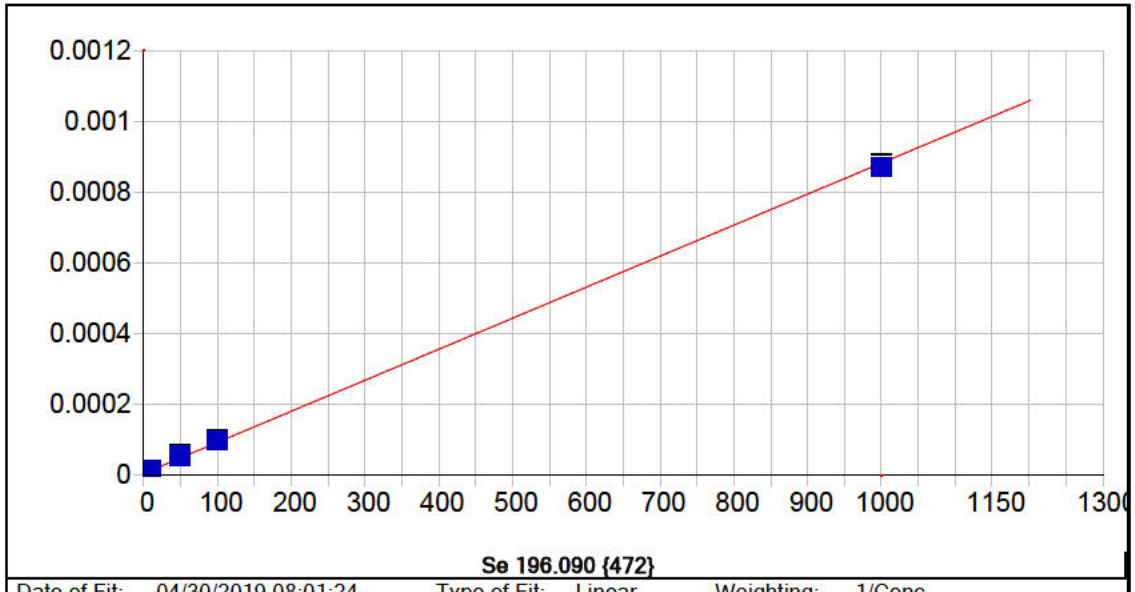



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.933696 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 2.801324 | | |
| Predicted MQL: | 9.337748 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09365 | -.094 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1135.8 | 136. | 13.6 | .00217 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.009 | 5.01 | 25.0 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.209 | 2.21 | 22.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.01 | 24.0 | 24.0 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 94.543 | 89.5 | 1790. | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9743.4 | -257. | -2.57 | .01856 | .000 | 1 |

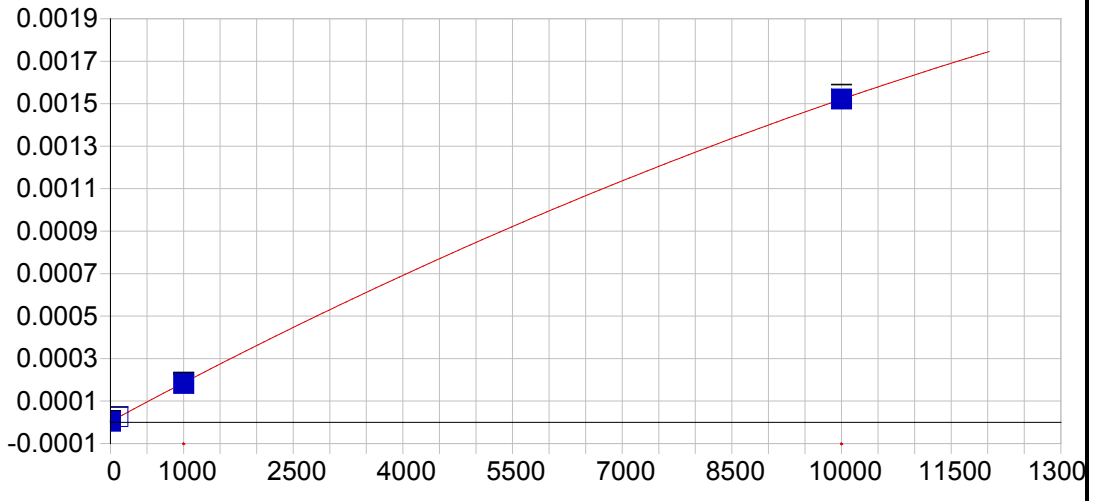



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999198 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.389697 | | |
| Predicted MQL: | 14.632322 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00167 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.114 | 8.11 | 16.2 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.41 | -13.6 | -1.36 | .00087 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5938 | -.406 | -4.06 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.88 | 5.88 | 5.88 | .00010 | .000 | 1 |

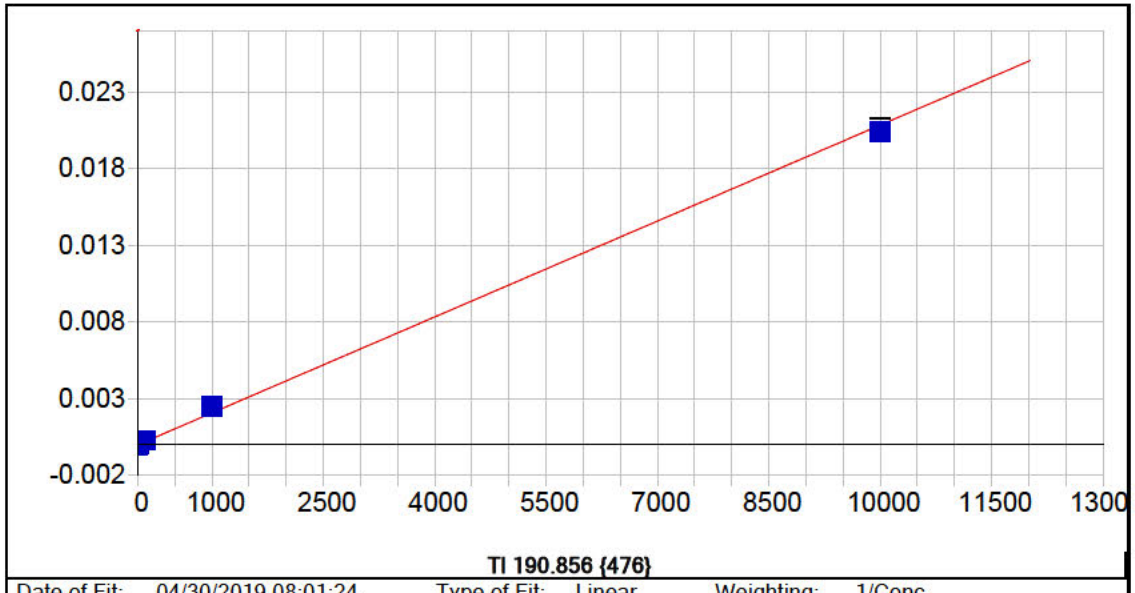



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999688 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.202163 | | |
| Predicted MQL: | 94.007210 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01855 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.30 | -23.7 | -2.37 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.26 | .033 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.89 | 20.9 | 20.9 | .00003 | .000 | 1 |

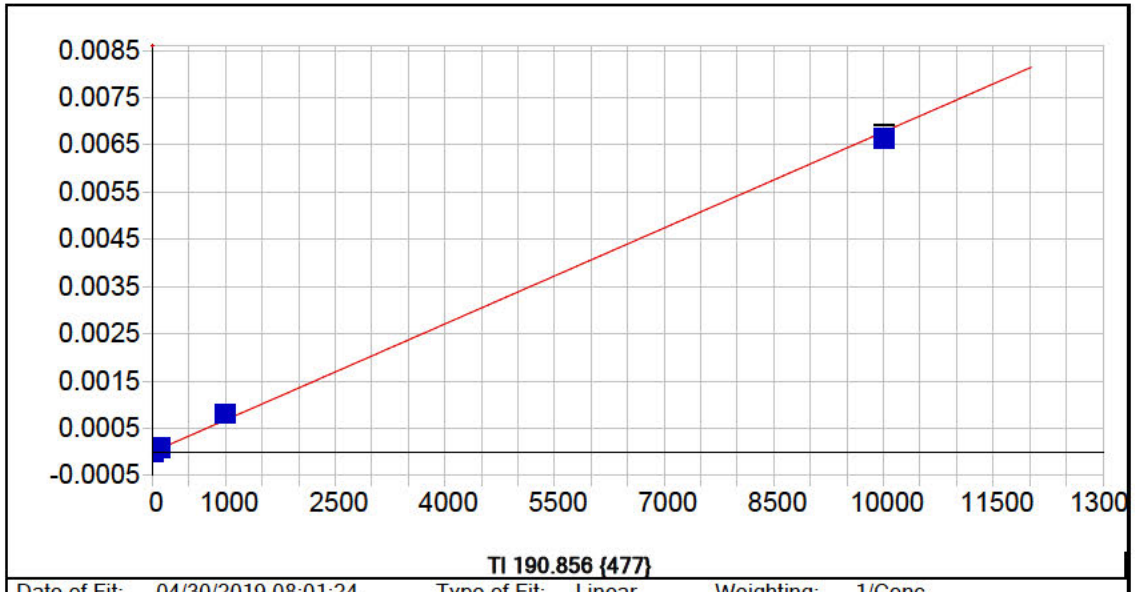



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997608 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 2.696044 | | |
| Predicted MQL: | 8.986812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00879 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1186.9 | 187. | 18.7 | .00248 | .000 | 1 |
| CalStd8=100 | 100.00 | 135.27 | 35.3 | 35.3 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.620 | 3.62 | 36.2 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9774.2 | -226. | -2.26 | .02045 | .000 | 1 |

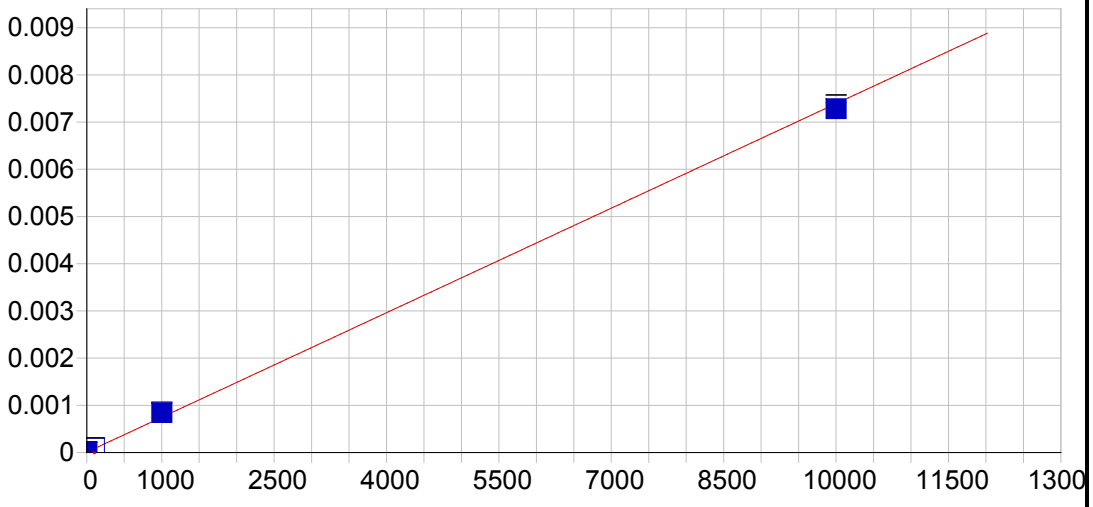



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997785 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.738296 | | |
| Predicted MQL: | 19.127652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00518 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1191.3 | 191. | 19.1 | .00081 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.17 | 28.2 | 28.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.666 | .666 | 6.66 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9779.8 | -220. | -2.20 | .00663 | .000 | 1 |

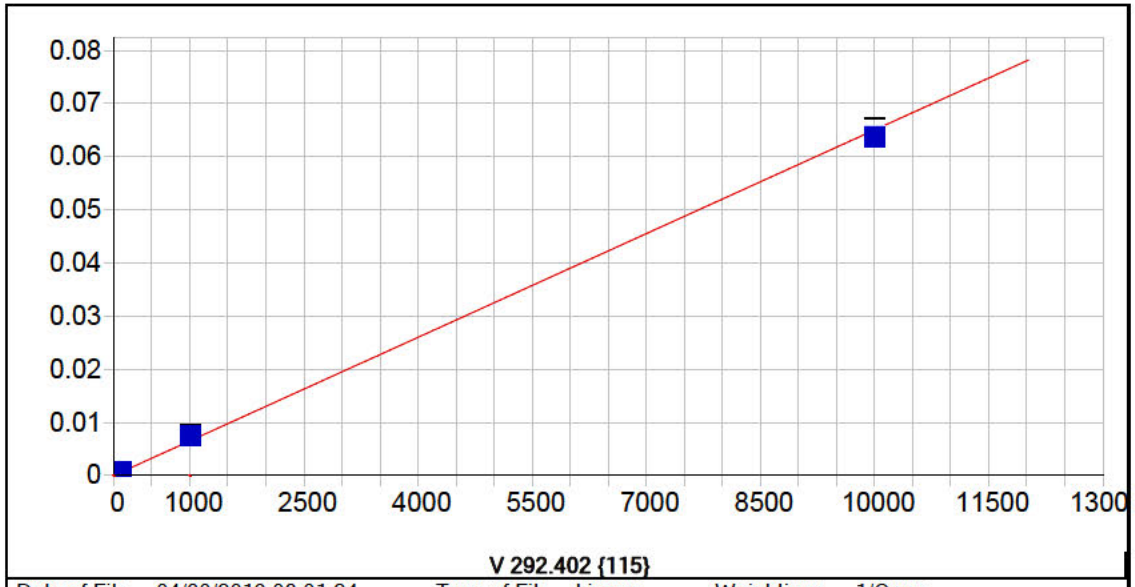



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998924 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 8.162286 | | |
| Predicted MQL: | 27.207619 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03327 | -.033 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1129.9 | 130. | 13.0 | .00084 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.3 | -152. | -1.52 | .00728 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.80 | 21.8 | 21.8 | .00010 | .000 | 1 |

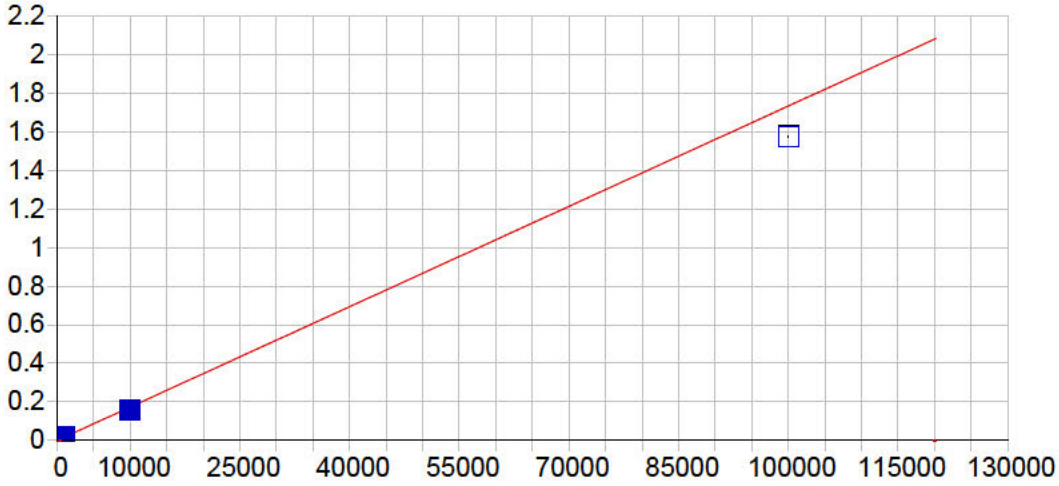



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998319 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.630081 | | |
| Predicted MQL: | 2.100271 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01257 | -.013 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 62.800 | 12.8 | 25.6 | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1150.5 | 150. | 15.0 | .00749 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.252 | 5.25 | 26.3 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.751 | 3.75 | 37.5 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.26 | 23.3 | 23.3 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9805.2 | -195. | -1.95 | .06401 | .002 | 1 |

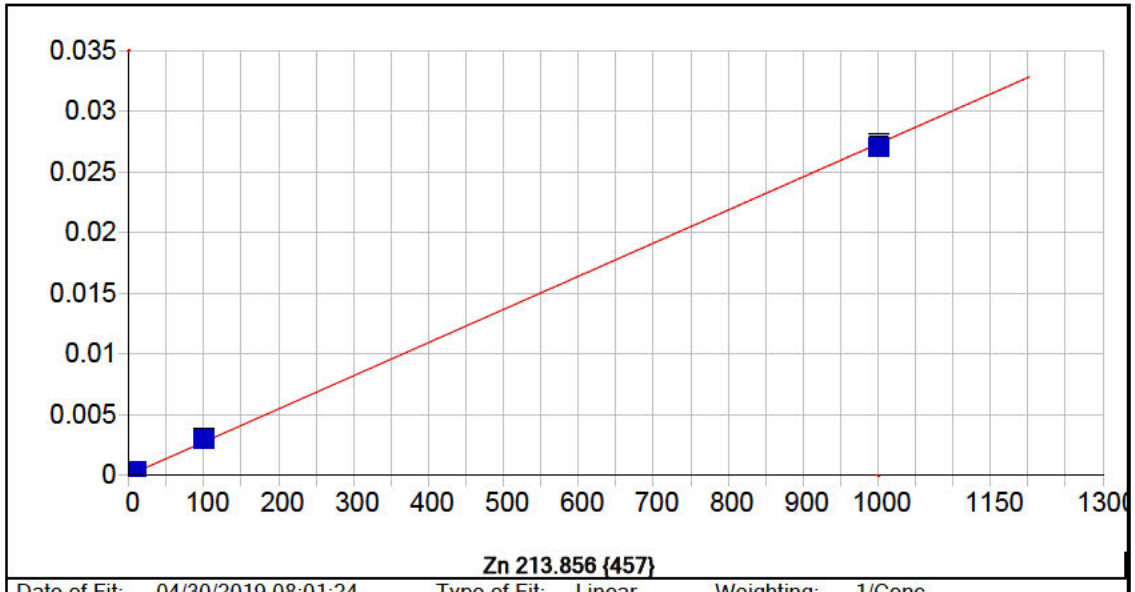



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996075 | Status: | OK. |
| Std Error of Est: | 0.000214 | | |
| Predicted MDL: | 0.372954 | | |
| Predicted MQL: | 1.243179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9095.3 | -905. | -9.05 | .15761 | .003 | 1 |
| Blank | .00000 | -2.7928 | -2.79 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01879 | .000 | 1 |
| CalStd12=10 | 100000. | 90861. | -9140. | -9.14 | 1.5740 | .004 | 1 |
| CalStd5=10 | 10.000 | 10.445 | .445 | 4.45 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.52 | 19.5 | 19.5 | .00213 | .000 | 1 |

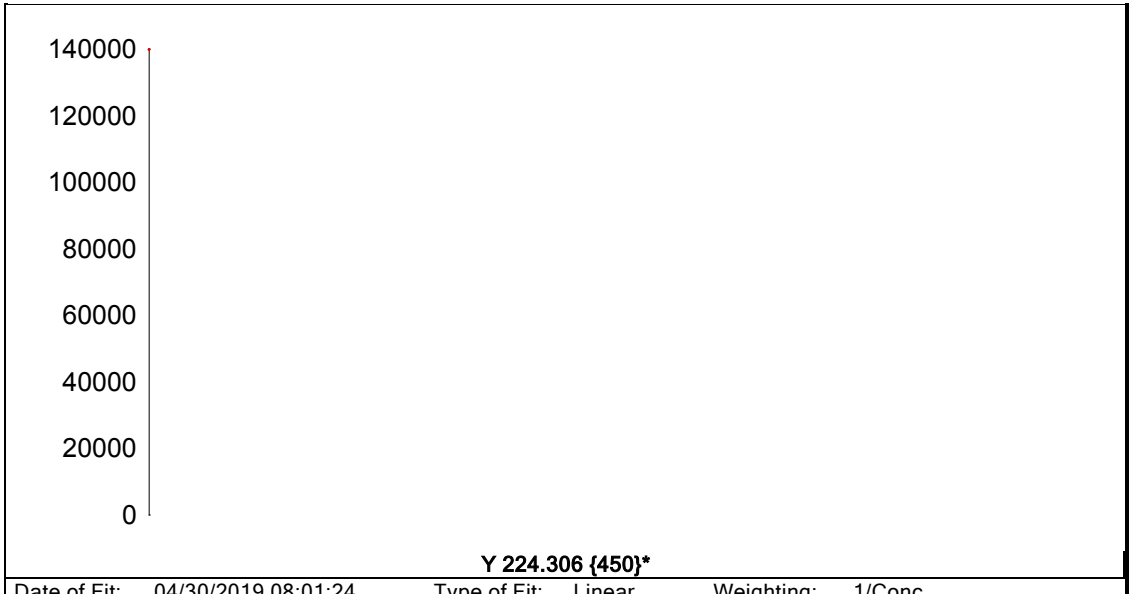



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

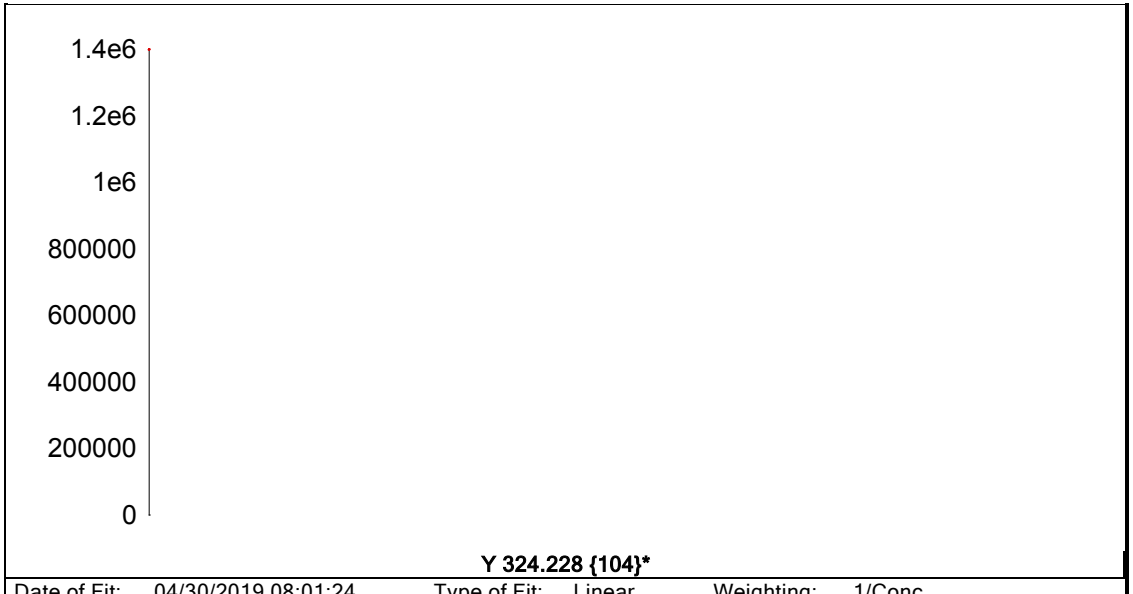
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999485 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.208095 | | |
| Predicted MQL: | 0.693650 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00259 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.74 | -10.3 | -1.03 | .02724 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.852 | 1.85 | 18.5 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.42 | 8.42 | 8.42 | .00301 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

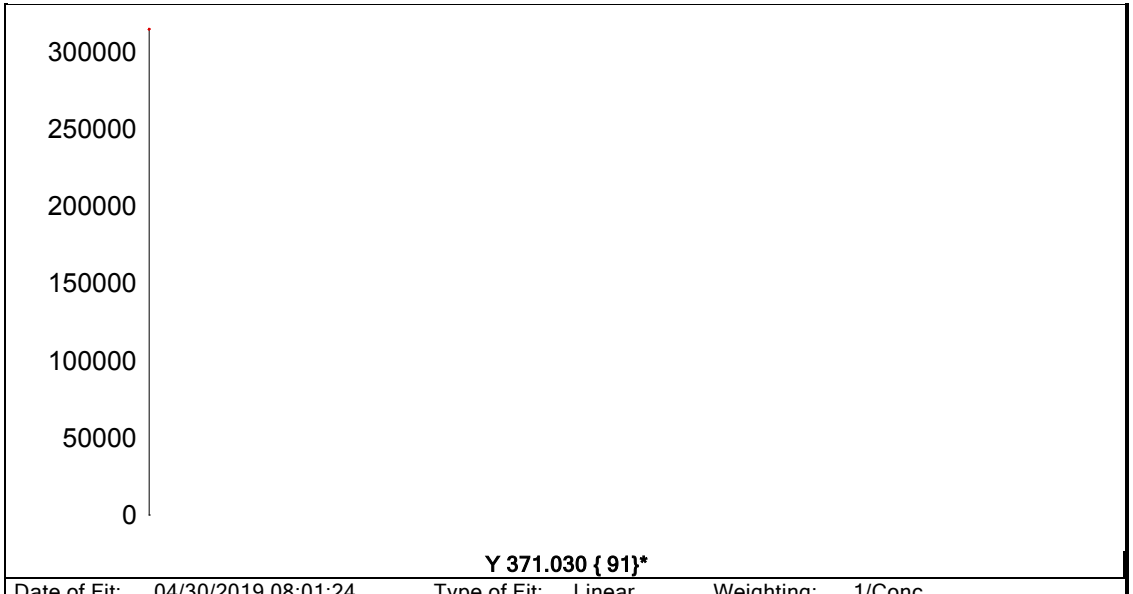
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 126700. | 632. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

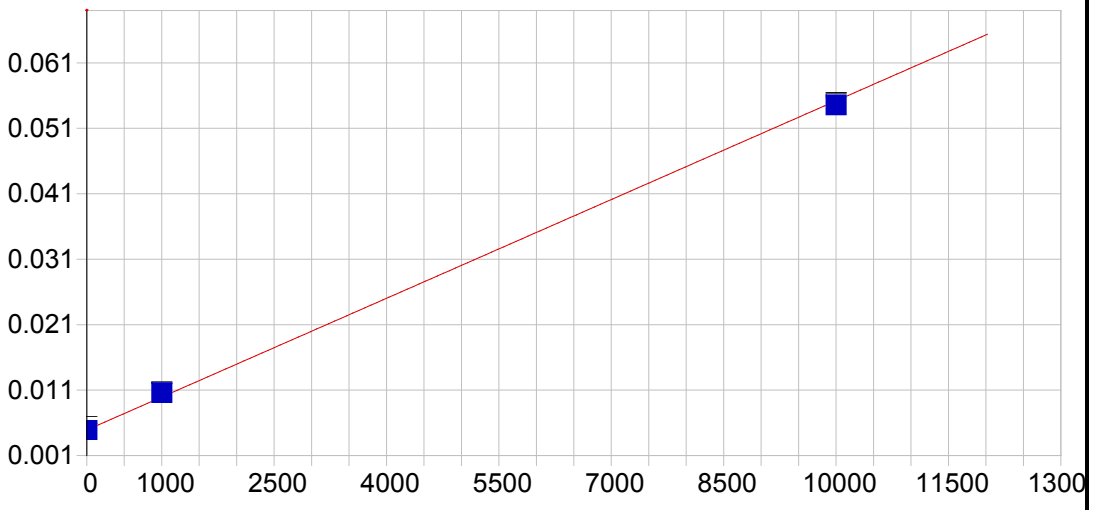
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1295600. | 3610. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 287860. | 9200. | 1 |

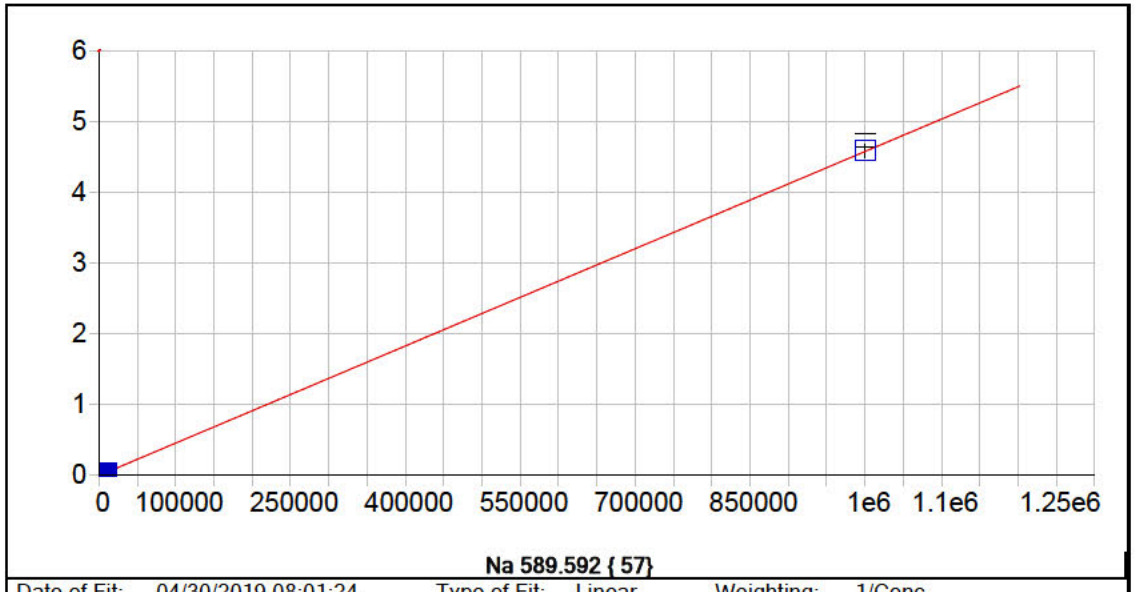



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004901 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999164 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 10.509748 | | |
| Predicted MQL: | 35.032492 | | |

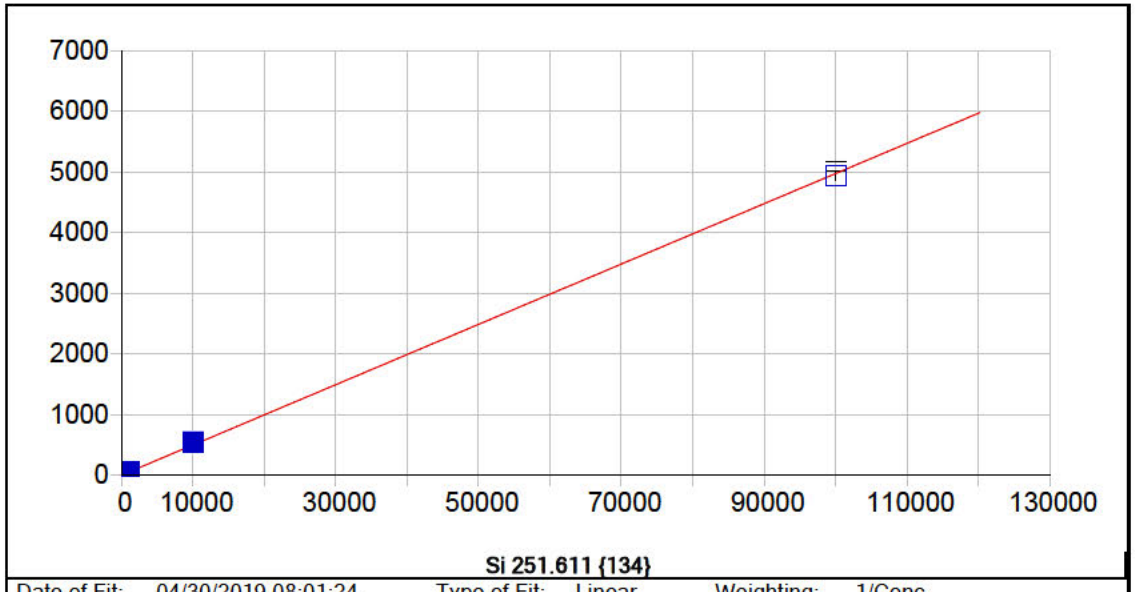
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11639 | -.116 | .000 | .00490 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | .01058 | .000 | 1 |
| CalStd10=10 | 10000. | 9870.7 | -129. | -1.29 | .05456 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000353 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 7.542021 | | |
| Predicted MQL: | 25.140069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44012 | .440 | .000 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 814.88 | -185. | -18.5 | .00408 | .000 | 1 |
| CalStd10=10 | 10000. | 7422.4 | -2580. | -25.8 | .03432 | .000 | 1 |
| CalibStd15= | 1000000. | 1002800. | 2760. | .276 | 4.5893 | .089 | 1 |

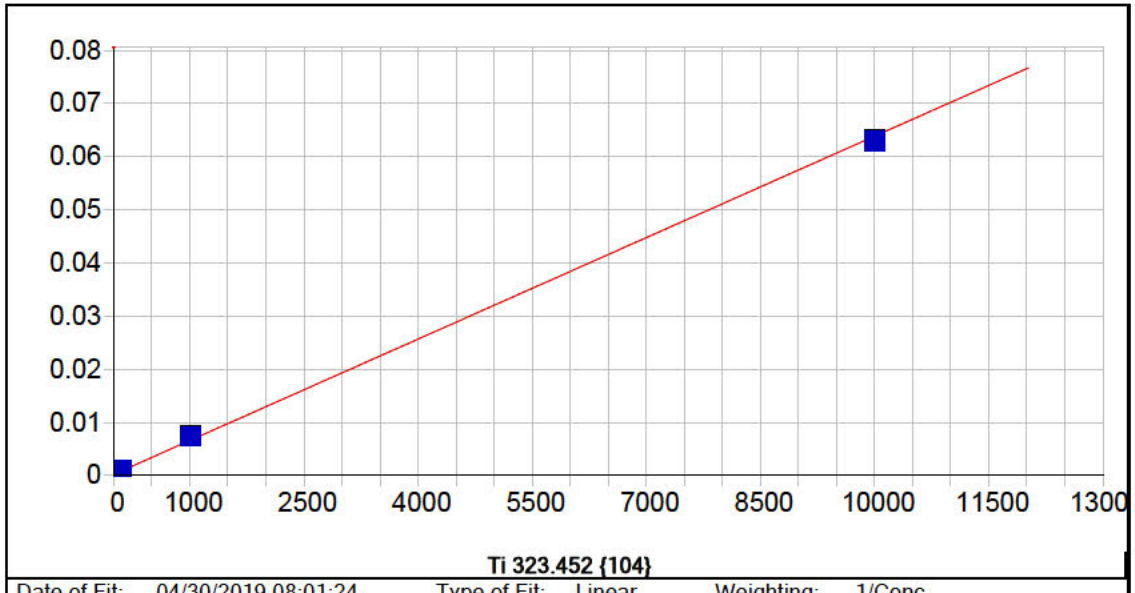



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.496233 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.049700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.563773 | | |
| Predicted MDL: | 25.456914 | | |
| Predicted MQL: | 84.856379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05943 | -.059 | .000 | 5.4933 | 3.24 | 1 |
| CalStd9=100 | 1000.0 | 991.13 | -8.87 | -.887 | 58.676 | 3.89 | 1 |
| CalStd10=10 | 10000. | 10762. | 762. | 7.62 | 565.27 | 4.29 | 1 |
| CalibStd15= | 100000. | 99209. | -791. | -.791 | 4936.2 | 82.1 | 1 |

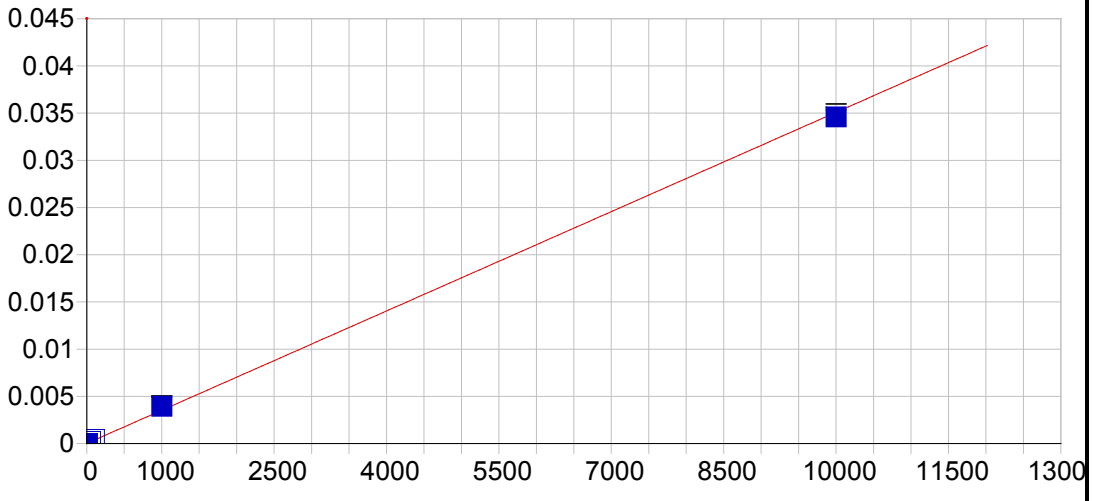



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000229 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998823 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.679766 | | |
| Predicted MQL: | 5.599219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00312 | -.003 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.426 | 1.43 | 14.3 | .00030 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.46 | 21.5 | 21.5 | .00100 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1118.2 | 118. | 11.8 | .00735 | .000 | 1 |
| CalStd10=10 | 10000. | 9843.9 | -156. | -1.56 | .06295 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.862 | 15.9 | 31.7 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2356 | -.764 | -15.3 | .00026 | .000 | 1 |

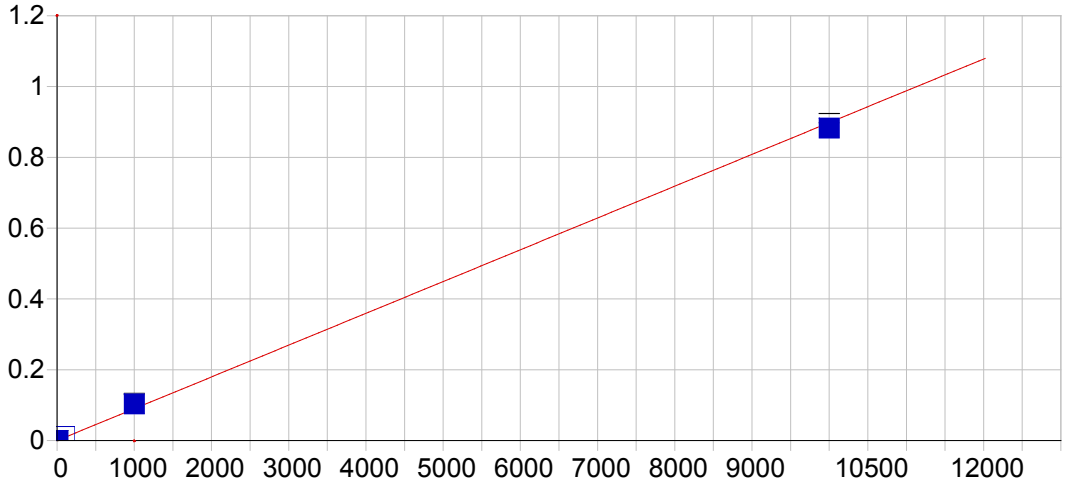



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.153927 | | |
| Predicted MQL: | 7.179758 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.46 | 18.5 | 18.5 | .00043 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1115.8 | 116. | 11.6 | .00393 | .000 | 1 |
| CalStd10=10 | 10000. | 9857.1 | -143. | -1.43 | .03460 | .000 | 1 |
| CalStd7=50 | 50.000 | 60.626 | 10.6 | 21.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5173 | -2.48 | -49.7 | .00002 | .000 | 1 |

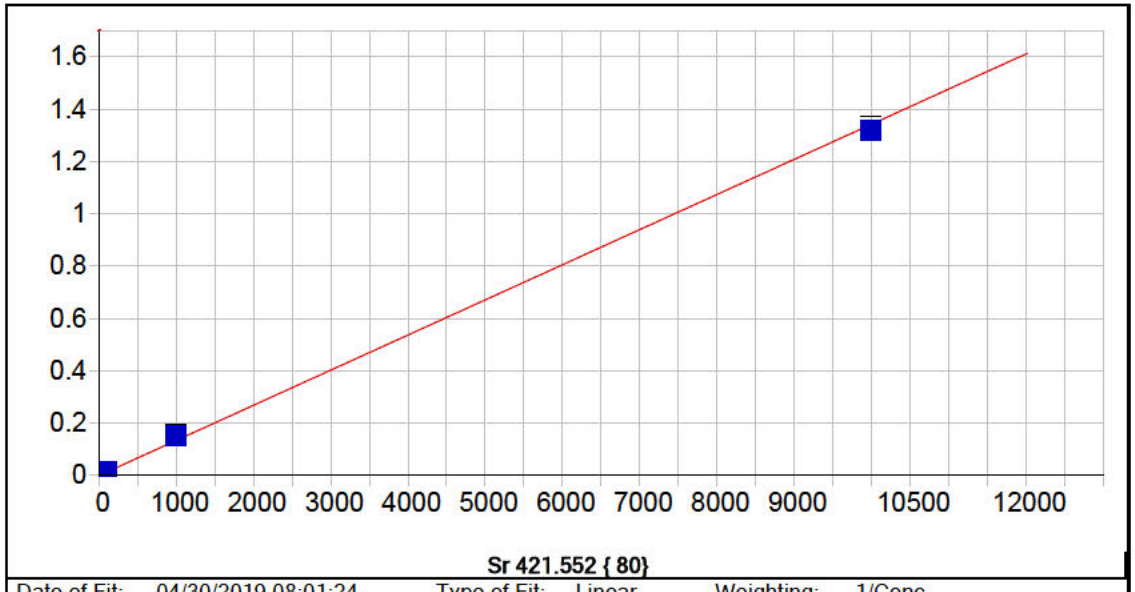



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000090 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998548 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.191487 | | |
| Predicted MQL: | 0.638289 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00094 | -.001 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .96922 | -.031 | -3.08 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.2802 | 1.28 | 25.6 | .00065 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.494 | 3.49 | 34.9 | .00130 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.84 | 23.8 | 23.8 | .01121 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1148.3 | 148. | 14.8 | .10324 | .002 | 1 |
| CalStd10=10 | 10000. | 9823.1 | -177. | -1.77 | .88250 | .013 | 1 |

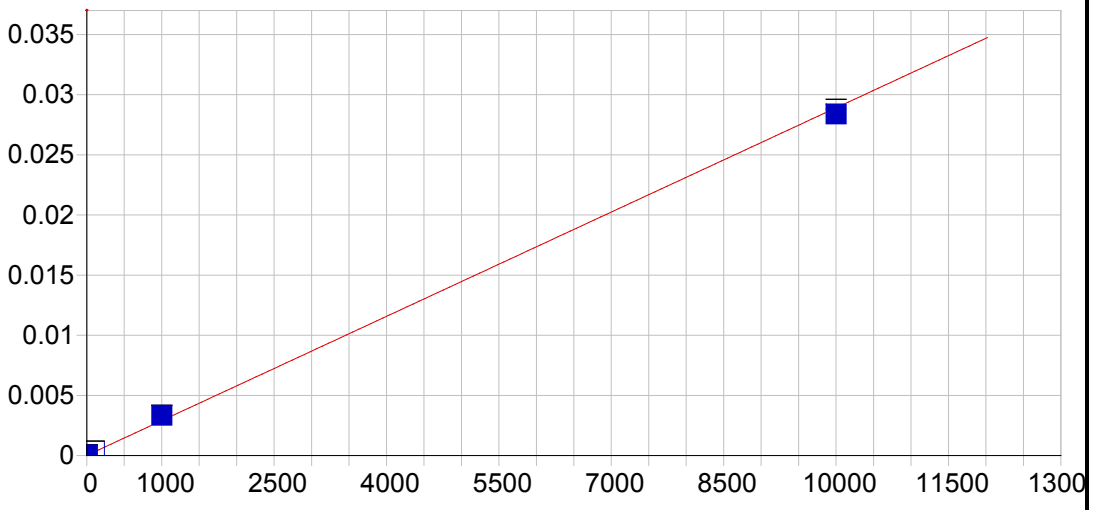



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998725 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.129437 | | |
| Predicted MQL: | 0.431456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | .59172 | -.408 | -40.8 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0861 | 1.09 | 21.7 | .00088 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.395 | 3.40 | 34.0 | .00186 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.02 | 23.0 | 23.0 | .01657 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1137.3 | 137. | 13.7 | .15263 | .003 | 1 |
| CalStd10=10 | 10000. | 9835.6 | -164. | -1.64 | 1.3195 | .013 | 1 |

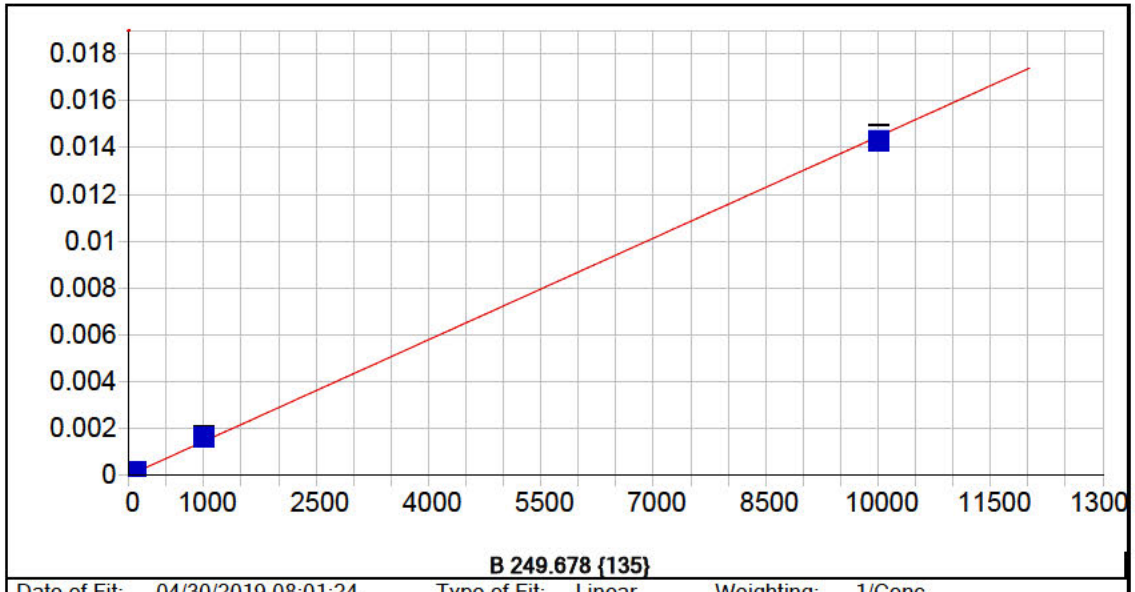



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998477 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.686047 | | |
| Predicted MQL: | 5.620155 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00781 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9819.9 | -180. | -1.80 | .02839 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.1 | 151. | 15.1 | .00334 | .000 | 1 |
| CalStd8=100 | 100.00 | 125.03 | 25.0 | 25.0 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.973 | 3.97 | 39.7 | .00005 | .000 | 1 |

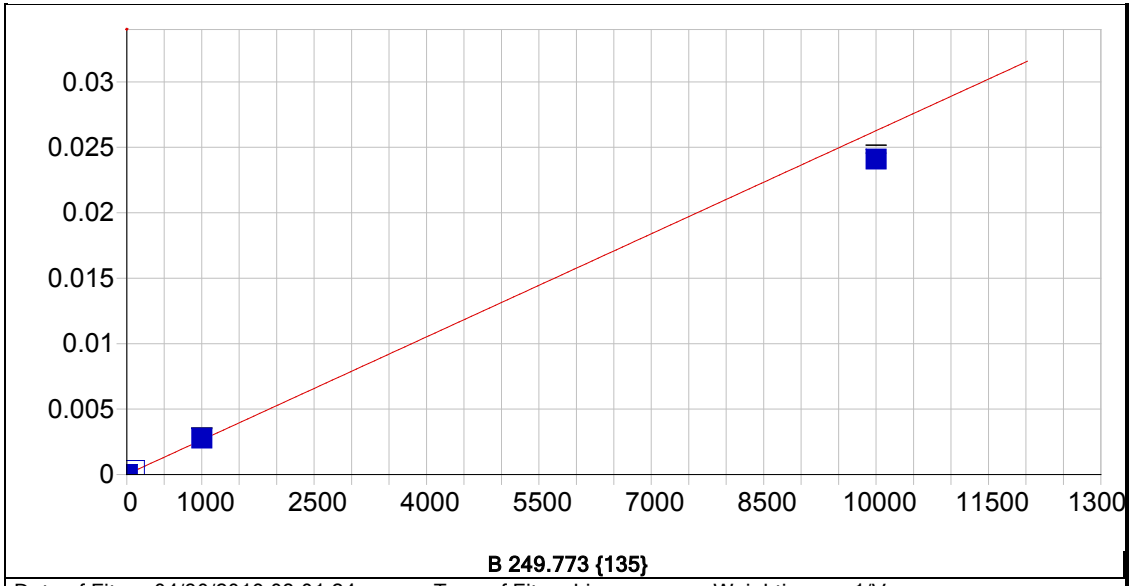



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999110 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.384749 | | |
| Predicted MQL: | 4.615829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00023 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.83 | 15.8 | 15.8 | .00018 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1048 | -2.90 | -29.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1121.6 | 122. | 12.2 | .00164 | .000 | 1 |
| CalStd10=10 | 10000. | 9865.4 | -135. | -1.35 | .01433 | .000 | 1 |

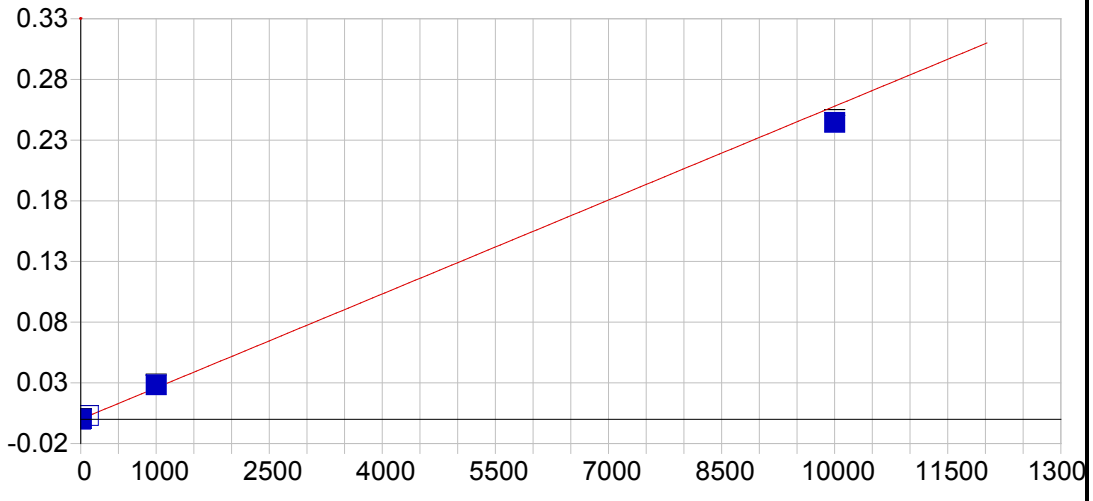



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996375 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.746113 | | |
| Predicted MQL: | 2.487044 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .98371 | .984 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.20 | 10.2 | 10.2 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9208 | -2.08 | -20.8 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.7 | 51.7 | 5.17 | .00278 | .000 | 1 |
| CalStd10=10 | 10000. | 9170.7 | -829. | -8.29 | .02410 | .000 | 1 |

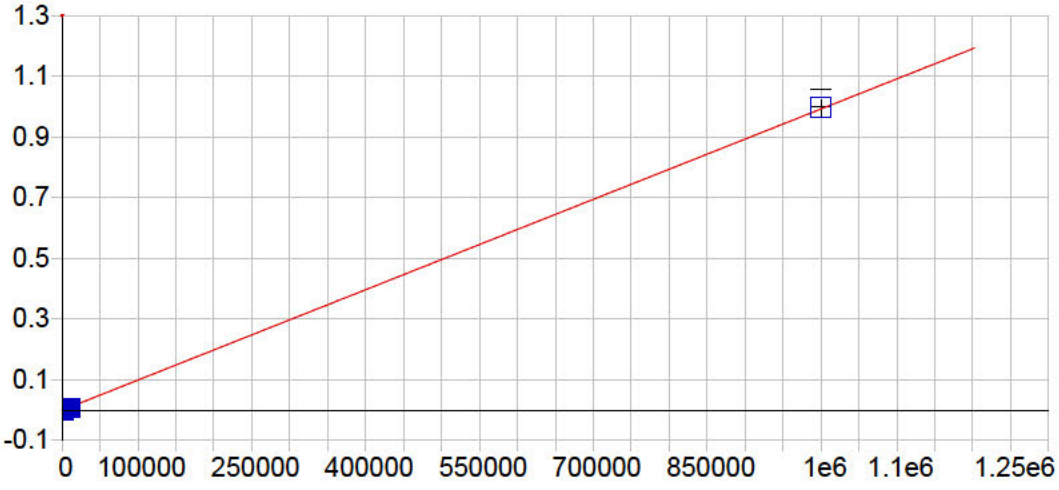



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996196 | Status: | OK. |
| Std Error of Est: | 0.000316 | | |
| Predicted MDL: | 1.644438 | | |
| Predicted MQL: | 5.481459 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.7449 | -7.74 | .000 | -.00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4820 | -3.52 | -35.2 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.33 | 12.3 | 12.3 | .00301 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1095.5 | 95.5 | 9.55 | .02836 | .001 | 1 |
| CalStd10=10 | 10000. | 9480.5 | -520. | -5.20 | .24456 | .002 | 1 |

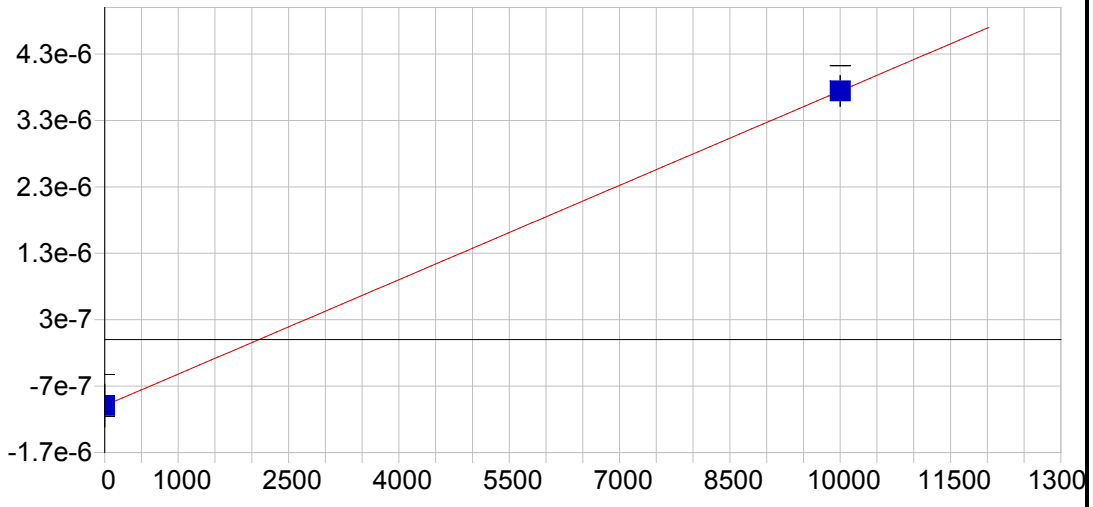



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999481 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 53.224850 | | |
| Predicted MQL: | 177.416168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .55818 | .558 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 750.89 | -249. | -24.9 | .00072 | .000 | 1 |
| CalStd10=10 | 10000. | 6875.5 | -3120. | -31.2 | .00680 | .000 | 1 |
| CalibStd15= | 1000000. | 1003400. | 3370. | .337 | .99608 | .027 | 1 |

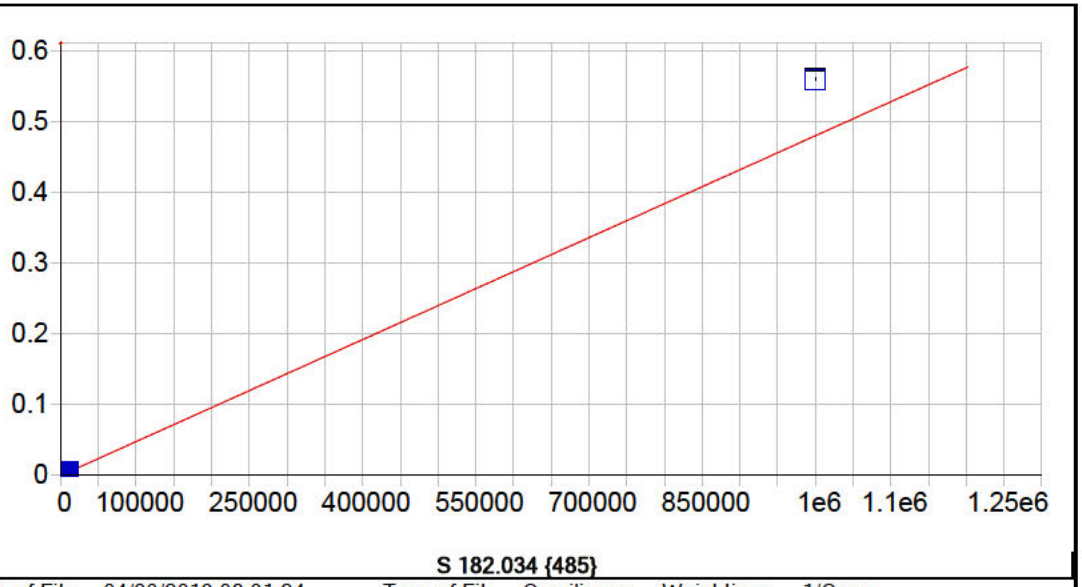



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1106.155392 | | |
| Predicted MQL: | 3687.184641 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00000 | .000 | 1 |

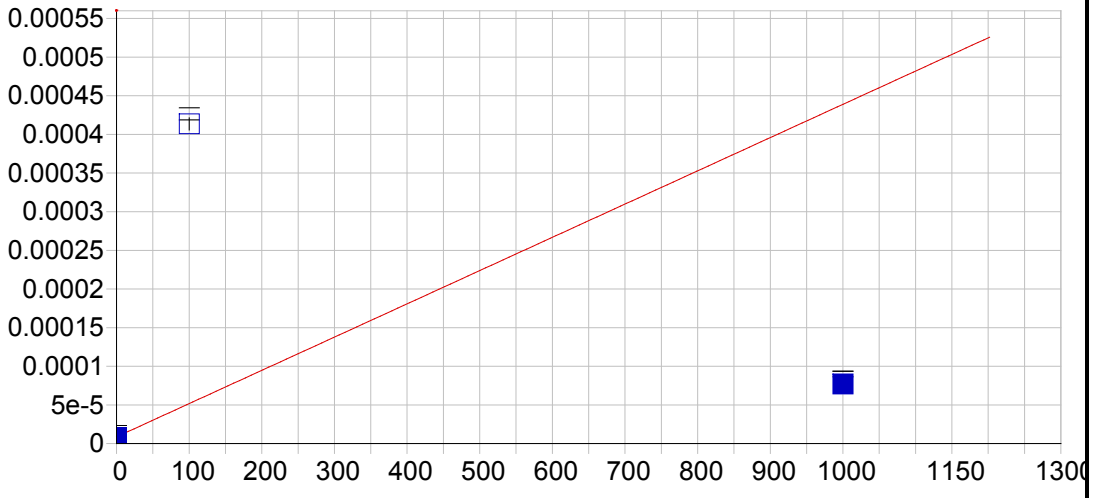



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 6.539657 | | |
| Predicted MQL: | 21.798855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09299 | -.093 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1103.6 | 104. | 10.4 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9912.2 | -87.8 | -.878 | .00479 | .000 | 1 |
| CalibStd15= | 1000000. | 1166000. | 166000. | 16.6 | .55925 | .001 | 1 |

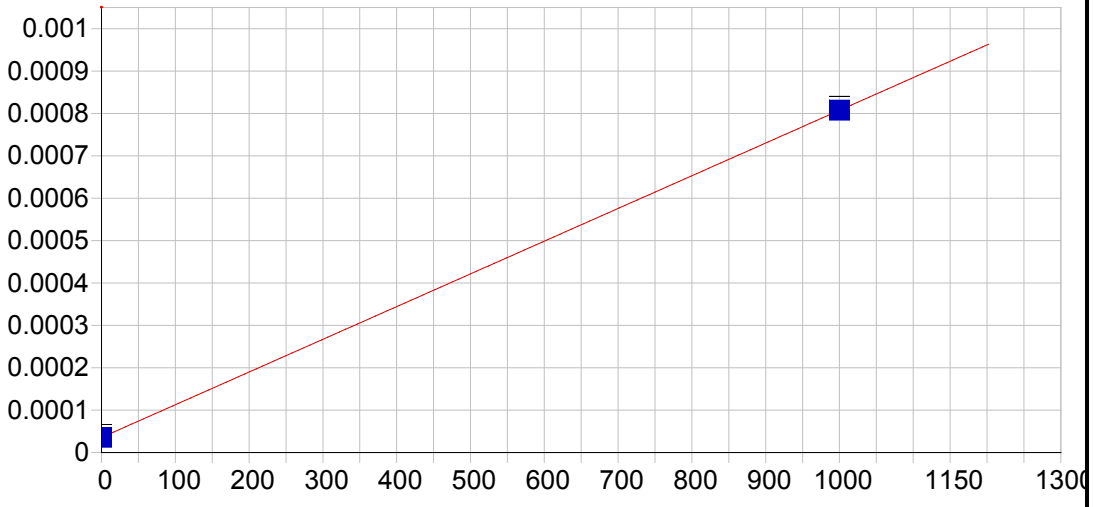



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.351706 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 8.769662 | | |
| Predicted MQL: | 29.232206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75710 | -.757 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 941.22 | 841. | 841. | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 158.78 | -841. | -84.1 | .00008 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000036 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.280330 | | |
| Predicted MQL: | 74.267767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00081 | .000 | 1 |

Sample Name: Blank Acquired: 04/29/2019 14:05:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.595** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.008** | **-.000** |
| Stddev | .000 | .000 | .000 | .623 | .000 | .000 | .000 | .000 | .000 | .000 | .007 | .000 |
| %RSD | 21.1 | 19.7 | 44.3 | 105. | 1380. | 95.5 | 2.89 | 1.22 | 136. | 31.2 | 84.8 | 17.3 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **32.9** | **7.18** | **.000** | **.000** | **.000** | **-.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.2 | 2.95 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.5 | 57.1 | 10.1 | 74.1 | 84.2 | 3.76 | 41.1 | 1.97 | 17.8 | 25.0 | 263. | 5.86 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.35 | 50.7 | 26.0 | 86.5 | 234. | 16.4 | 200. | 9.31 | 190. | 77.9 | 46.1 | 122. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 129. | 53.8 | 28.8 | 40.4 | 12.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1295600.** | **287860.** |
| Stddev | 632. | 3609. | 9201. |
| %RSD | .49904 | .27857 | 3.1964 |

Sample Name: CalStd2=0.5 Acquired: 04/29/2019 14:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.22 | 142. | 3.55 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **126980.** | **1297900.** |
| Stddev | 274. | 2751. |
| %RSD | .21587 | .21197 |

Sample Name: CalStd3=1 Acquired: 04/29/2019 14:18:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.2 | 22.5 | 1.42 | 9.82 | 6.90 | 16.6 | 23.9 | 50.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1298300.** | **279670.** |
| Stddev | 1171. | 9813. | 1746. |
| %RSD | .92435 | .75586 | .62446 |

Sample Name: CalStd4=5 Acquired: 04/29/2019 14:24:48 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.001** | **.000** | **11.2** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.3 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 10.9 | 840. | 123. | 28.5 | 37.1 | 35.4 | 20.7 | 17.1 | 35.4 | 46.7 | 45.9 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 21.1 | 52.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117820.** | **1258200.** | **279990.** |
| Stddev | 1002. | 22700. | 4543. |
| %RSD | .85066 | 1.8042 | 1.6225 |

Sample Name: CalStd5=10 Acquired: 04/29/2019 14:38:57 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.95** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **39.7** |
| Stddev | .000 | .000 | .99 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.3 |
| %RSD | 3.06 | 3.33 | 50.8 | 29.0 | 2.78 | 1.22 | .861 | 1.90 | 1.46 | 1.04 | 1.45 | 8.29 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 23.9 | 1.07 | 1.95 | 4.86 | 2.85 | 22.0 | 10.6 | 8.52 | 5.57 | 6.62 | 12.2 | 3.48 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.54 | .513 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127470.** | **1314900.** | **279840.** |
| Stddev | 543. | 5916. | 2698. |
| %RSD | .42597 | .44994 | .96416 |

Sample Name: CalStd6=20 Acquired: 04/29/2019 14:45:45 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **45.1** | **15.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .7 | 3.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.50 | 1.46 | 20.8 | 4.06 | 1.08 | 2.09 | 7.34 | 4.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127230.** | **1336500.** | **281290.** |
| Stddev | 281. | 43722. | 4762. |
| %RSD | .22067 | 3.2714 | 1.6930 |

Sample Name: CalStd7=50 Acquired: 04/29/2019 14:51:59 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **9.47** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **60.4** | **28.6** | **.001** | **.000** |
| Stddev | .59 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .7 | 1.7 | .000 | .000 |
| %RSD | 6.20 | 13.3 | 6.05 | .715 | .561 | .416 | .571 | 4.00 | 1.12 | 5.76 | 3.81 | .557 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.92 | .610 | 2.57 | 4.98 | 4.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127250.** | **1316800.** | **277460.** |
| Stddev | 420. | 21696. | 1525. |
| %RSD | .32990 | 1.6476 | .54972 |

Sample Name: CalStd8=100 Acquired: 04/29/2019 14:58:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **20.4** | **.000** | **.001** | **.018** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .963 | 1.50 | 2.42 | 3.40 | 1.41 | .981 | 1.80 | 2.05 | 1.32 | 1.97 | 1.86 | 1.68 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **85.4** | **46.3** | **.004** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 1.2 | 5.1 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.44 | 2.03 | 1.56 | 1.42 | 10.9 | 1.66 | 1.75 | 1.48 | 1.88 | 1.49 | 1.90 | 3.34 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.75 | 3.28 | 1.72 | 9.43 | 1.14 | 9.36 | 2.05 | 1.72 | 2.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127180.** | **1310400.** | **281060.** |
| Stddev | 947. | 4674. | 2562. |
| %RSD | .74427 | .35668 | .91156 |

Sample Name: CalStd9=1000 Acquired: 04/29/2019 15:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **187.** | **.001** | **.010** | **.075** | **.057** | **.002** | **.000** | **.136** | **.025** | **.048** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .001 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .200 | 3.18 | .600 | .448 | .355 | 1.58 | 2.26 | 1.21 | 2.00 | 1.68 | .171 | .112 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.003** | **501.** | **354.** | **.000** | **.000** | **.001** | **.000** | **.030** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 7. | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .177 | 2.19 | .085 | 2.28 | 1.98 | 1.93 | 2.35 | 1.99 | 1.63 | 7.99 | 2.19 | 2.33 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.012** | **.012** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.08 | .308 | .184 | .205 | .238 | .841 | .510 | .345 | .214 | .911 | 3.43 | .458 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.019** | **.027** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | 2.36 | .194 | .212 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127570.** | **1307300.** | **280800.** |
| Stddev | 349. | 1896. | 1299. |
| %RSD | .27346 | .14504 | .46270 |

Sample Name: CalStd10=10000 Acquired: 04/29/2019 15:10:04 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.561** | **.003** | **1.10** | **.180** | **.019** | **.129** | **.023** | **4030.** | **2930.** | **.004** |
| Stddev | .000 | .000 | .003 | .000 | .01 | .003 | .000 | .002 | .001 | 18. | 26. | .000 |
| %RSD | 1.36 | 1.33 | .608 | .509 | 1.17 | 1.45 | 2.27 | 1.41 | 2.34 | .443 | .897 | 2.36 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.009** | **.000** | **.231** | **.084** | **.029** | **.045** | **.099** | **.105** | **.010** | **.019** | **.019** |
| Stddev | .000 | .000 | .000 | .004 | .002 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | .808 | .895 | 1.21 | 1.72 | 1.97 | .795 | 1.32 | 1.49 | 1.45 | 1.24 | 1.27 | 1.21 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.020** | **.007** | **.064** | **.158** |
| Stddev | .000 | .000 | .000 | .002 | .003 |
| %RSD | 1.31 | 1.21 | 1.12 | 2.37 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125980.** | **1287600.** | **280530.** |
| Stddev | 699. | 6558. | 1857. |
| %RSD | .55457 | .50933 | .66194 |

Sample Name: CalStd12=100K  Acquired: 04/29/2019 15:16:31  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.28** | **43500.** | **32400.** | **.308** | **.110** | **1.57** |
| Stddev | .00 | 365. | 356. | .005 | .000 | .00 |
| %RSD | .220 | .838 | 1.10 | 1.48 | .171 | .244 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126080.** | **1291400.** | **280400.** |
| Stddev | 291. | 5332. | 3029. |
| %RSD | .23081 | .41287 | 1.0804 |

Sample Name: CalStd13=100000 Acquired: 04/29/2019 15:22:50 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.137** | **.034** | **.045** | **.023** | **.108** | **.003** |
| Stddev | .001 | .001 | .000 | .000 | .001 | .000 |
| %RSD | .846 | 1.58 | .264 | 1.03 | 1.09 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122870.** | **1255700.** | **276750.** |
| Stddev | 346. | 2861. | 2131. |
| %RSD | .28177 | .22782 | .77016 |

Sample Name: CalStd14=500000 Acquired: 04/29/2019 15:29:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.747** | **.174** | **.113** | **.523** | **.019** |
| Stddev | .053 | .010 | .007 | .032 | .001 |
| %RSD | 7.08 | 5.95 | 6.23 | 6.16 | 5.67 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **113070.** | **256400.** |
| Stddev | 158. | 15182. |
| %RSD | .13942 | 5.9212 |

Sample Name: CalibStd15=1000k Acquired: 04/29/2019 15:35:54 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.50** | **.346** | **.215** | **.038** |
| Stddev | .04 | .013 | .007 | .001 |
| %RSD | 3.02 | 3.65 | 3.25 | 3.63 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100510.** | **240940.** |
| Stddev | 265. | 3898. |
| %RSD | .26327 | 1.6180 |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.1** | **9800.** | **1980.** | **2230.** | **2200.** | **47.0** | **8230.** | **47.2** | **53.9** | **567.** | **220.** | **261.** |
| Stddev | .9 | 149. | 22. | 31. | 36. | .8 | 95. | .3 | .7 | 7. | 3. | 3. |
| %RSD | 2.04 | 1.52 | 1.13 | 1.40 | 1.65 | 1.77 | 1.15 | .728 | 1.23 | 1.26 | 1.50 | 1.18 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **266.** | **5250.** | **10400.** | **489.** | **521.** | **465.** | **487.** | **566.** | **565.** | **504.** | **454.** | **558.** |
| Stddev | 8. | 77. | 198. | 9. | 10. | 6. | 5. | 8. | 8. | 13. | 11. | 7. |
| %RSD | 3.18 | 1.46 | 1.90 | 1.87 | 1.91 | 1.24 | .992 | 1.46 | 1.33 | 2.48 | 2.32 | 1.32 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **553.** | **1940.** | **2280.** | **545.** | **552.** | **516.** | **463.** |
| Stddev | 7. | 36. | 21. | 7. | 11. | 8. | 8. |
| %RSD | 1.28 | 1.87 | .934 | 1.24 | 2.07 | 1.49 | 1.77 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127840.** | **1307600.** | **282500.** |
| Stddev | 723. | 3041. | 3053. |
| %RSD | .56570 | .23256 | 1.0807 |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.7** | **1190.** | **1090.** | **62.9** | **29.9** | **11.9** | **1690.** | **15.5** | **15.6** | **34.8** | **35.4** | **33.5** |
| Stddev | .6 | 4. | 10. | 2.2 | .6 | .0 | 19. | .2 | .1 | .6 | .8 | 5.8 |
| %RSD | 2.07 | .337 | .895 | 3.47 | 2.00 | .210 | 1.10 | 1.29 | .722 | 1.84 | 2.40 | 17.5 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2790 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.9** | **1010.** | F **2000.** | **1770.** | **31.3** | **30.8** | **36.0** | **27.9** | F **73.5** | **65.8** | **71.9** | **34.5** |
| Stddev | 9.5 | 7. | 9. | 11. | .1 | .4 | .2 | 1.2 | 3.3 | 3.7 | 1.4 | .2 |
| %RSD | 27.2 | .689 | .472 | .607 | .360 | 1.44 | .578 | 4.12 | 4.43 | 5.66 | 1.91 | .643 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 1500. | | | | | | 60.0 | | | |
| Range | | | 20.0% | | | | | | 20.0% | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.8** |
| Stddev | .5 |
| %RSD | 1.78 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126440.** | **1299100.** | **281370.** |
| Stddev | 219. | 5591. | 1830. |
| %RSD | .17330 | .43034 | .65021 |

Sample Name: icb Acquired: 04/29/2019 16:14:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.28** | **-7.66** | **-3.49** | **-.678** | **.040** | **-65.2** | **-.007** | **-.012** | **-.389** | **-1.22** | **-4.14** | **-25.7** |
| Stddev | .34 | .15 | 1.09 | .359 | .035 | .2 | .032 | .075 | .382 | .46 | 9.91 | 1.7 |
| %RSD | 26.3 | 1.92 | 31.4 | 53.0 | 88.7 | .234 | 459. | 599. | 98.2 | 37.6 | 240. | 6.64 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-45.1** | **-2.33** | **-.779** | **-.444** | **-1.13** | **-1.37** | **-3.02** | **.005** | **-.886** | **-.475** |
| Stddev | .0 | .06 | .620 | .386 | 1.46 | 2.34 | 3.42 | 1.60 | .585 | .118 |
| %RSD | .069 | 2.49 | 79.6 | 87.1 | 129. | 171. | 113. | 35200. | 66.0 | 24.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127950.** | **1314600.** | **279150.** |
| Stddev | 183. | 1396. | 1497. |
| %RSD | .14280 | .10615 | .53616 |

Sample Name: MRL/LLOQ  Acquired: 04/29/2019 16:20:21  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.83** | **399.** | **17.3** | **9.58** | **3.95** | **517.** | **5.09** | **5.18** | **11.3** | **11.0** | F **13.3** | **7.86** |
| Stddev | 1.05 | 1. | 2.5 | .18 | .05 | 14. | .17 | .15 | .5 | .5 | 4.8 | 7.22 |
| %RSD | 10.7 | .244 | 14.5 | 1.86 | 1.29 | 2.78 | 3.44 | 2.86 | 4.58 | 4.90 | 36.2 | 91.9 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 20.0 | | | | | | | | | | 10.0 | |
| Range | -30.0% | | | | | | | | | | 30.0% | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **307.** | **557.** | **8.25** | **9.62** | **11.6** | **8.10** | **21.4** | **19.7** | **23.6** | **10.9** | **10.8** |
| Stddev | 2. | 4. | .12 | .52 | .7 | 1.19 | .9 | 3.6 | 1.2 | .6 | .2 |
| %RSD | .663 | .694 | 1.39 | 5.44 | 5.69 | 14.7 | 4.16 | 18.0 | 4.87 | 5.32 | 1.75 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127160.** | **1305200.** | **281920.** |
| Stddev | 119. | 3887. | 2379. |
| %RSD | .09325 | .29784 | .84390 |

Sample Name: ICSA Acquired: 04/29/2019 16:26:32 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.57** | **526000.** | **.004** | **.000** | **-.667** | **500000.** | **-.001** | **1.18** | **-.018** | **-1.26** | **.003** |
| Stddev | 1.50 | 23900. | 6.63 | 1.21 | .217 | 7850. | .538 | .23 | .727 | 1.07 | 6.54 |
| %RSD | 95.8 | 4.54 | 159000. | 2500000. | 32.5 | 1.57 | 58400. | 19.2 | 4030. | 84.3 | 198000. |
| Check ? | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **542000.** | **473000.** | **-5.48** | **2.51** | **-.575** | **1.54** | **-4.63** | **-11.4** | **-.063** | **13300.** | **-6.89** |
| Stddev | 8100. | 7050. | .16 | .71 | 1.79 | 2.10 | 5.91 | 8.1 | 1.69 | 228. | 1.94 |
| %RSD | 1.49 | 1.49 | 2.86 | 28.5 | 311. | 136. | 128. | 71.3 | 2680. | 1.71 | 28.2 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112330.** | **1167300.** | **261400.** |
| Stddev | 184. | 5118. | 4079. |
| %RSD | .16359 | .43841 | 1.5603 |

Sample Name: ICSAB  Acquired: 04/29/2019 16:33:05  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **431000.** | **536.** | **577.** | **460.** | **533.** | **447.** | **407000.** | **484.** | **514.** | **523.** |
| Stddev | 1. | 3080. | 4. | 12. | 6. | 2. | 5. | 4890. | 7. | 8. | 4. |
| %RSD | .232 | .714 | .730 | 2.06 | 1.40 | .354 | 1.09 | 1.20 | 1.47 | 1.63 | .686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2025 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | **498.** | **446000.** | **402000.** | **452.** | **521.** | **454.** | **480.** | **503.** | **504.** | F **765.** |
| Stddev | 4. | 12. | 2900. | 6120. | 2. | 7. | 7. | 8. | 8. | 7. | 23. |
| %RSD | .885 | 2.37 | .651 | 1.52 | .475 | 1.27 | 1.59 | 1.59 | 1.58 | 1.40 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | | | 500. |
| Range | | | | | | | | | | | 20.0% |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F **395.** | **502.** | **528.** | **444.** | **534.** | **550.** | **539.** | **482.** | **444.** |
| Stddev | 11. | 6. | 16. | 11. | 8. | 7. | 3. | 7. | 8. |
| %RSD | 2.70 | 1.22 | 3.02 | 2.45 | 1.51 | 1.28 | .483 | 1.39 | 1.80 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | |
| Range | -20.0% | | | | | | | | |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114940.** | **1185100.** | **265530.** |
| Stddev | 897. | 3486. | 319. |
| %RSD | .78024 | .29412 | .12000 |

Sample Name: 255886 Acquired: 04/29/2019 17:24:24 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.25** | **1470.** | **1470.** | **3.12** | **326.** | **426.** | **.200** | **781.** | **.767** | **.127** | **3.89** | **.064** |
| Stddev | .71 | 5. | 17. | 3.23 | 2. | 11. | .221 | 11. | .106 | .119 | .52 | .840 |
| %RSD | 56.8 | .318 | 1.15 | 104. | .466 | 2.55 | 110. | 1.38 | 13.8 | 93.6 | 13.3 | 1310. |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **107.** | **85.4** | **2250.** | **292.** | **17600.** | **.473** | **3.03** | **185.** | **-.216** | **-1.04** | **9.51** | **16.1** |
| Stddev | 5. | 5.8 | 102. | 31. | 262. | .377 | .23 | 3. | 1.03 | 3.59 | 2.00 | 1.3 |
| %RSD | 5.04 | 6.74 | 4.52 | 10.6 | 1.49 | 79.7 | 7.75 | 1.46 | 478. | 346. | 21.1 | 7.89 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **44.7** |
| Stddev | .3 |
| %RSD | .564 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **130160.** | **1313000.** | **286970.** |
| Stddev | 465. | 87107. | 5896. |
| %RSD | .35724 | 6.6342 | 2.0546 |

Sample Name: ccv1 Acquired: 04/29/2019 17:49:42 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **460.** | F **4050.** | **5450.** | **5400.** | **459.** | F **4140.** | **485.** | **5340.** | **4640.** | **5180.** | **5240.** | **5390.** |
| Stddev | 23. | 56. | 22. | 119. | 10. | 64. | 1. | 231. | 5. | 83. | 101. | 145. |
| %RSD | 4.89 | 1.38 | .395 | 2.20 | 2.25 | 1.53 | .210 | 4.32 | .106 | 1.61 | 1.93 | 2.68 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | | | |
| Range | | -10.4% | | | | -10.4% | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5320.** | **4980.** | F **5680.** | **5170.** | **5450.** | **4810.** | F **5640.** | **5330.** | **5300.** |
| Stddev | 118. | 28. | 24. | 34. | 22. | 36. | 28. | 105. | 16. |
| %RSD | 2.22 | .563 | .413 | .664 | .403 | .738 | .505 | 1.96 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | 5000. | | |
| Range | | | 10.4% | | | | 10.4% | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123080.** | **1257500.** | **274160.** |
| Stddev | 473. | 75307. | 1908. |
| %RSD | .38434 | 5.9889 | .69588 |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **480.** | **485.** | F **553.** | **503.** | F **587.** | **49.4** | **50.2** | **527.** | **52.0** | **52.2** | F **591.** |
| Stddev | .5 | 1. | 3. | 4. | . | 2. | .6 | 1.1 | 2. | .3 | .1 | 1. |
| %RSD | 1.01 | .272 | .694 | .689 | .096 | .255 | 1.19 | 2.10 | .320 | .565 | .221 | .179 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. | | 500. | | | | | | 500. |
| Range | | | | 10.4% | | 10.4% | | | | | | 10.4% |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **552.** | F **561.** | **514.** | **510.** | **544.** | **472.** | F **556.** | **491.** | **514.** | F **596.** | F **592.** | **545.** |
| Stddev | 5. | 4. | 12. | 5. | 7. | 5. | 1. | 1. | 1. | . | 1. | 4. |
| %RSD | .948 | .784 | 2.34 | 1.03 | 1.33 | 1.15 | .112 | .260 | .267 | .047 | .196 | .745 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | 500. | 500. | | | | | 500. | | | 500. | 500. | |
| Range | 10.4% | 10.4% | | | | | 10.4% | | | 10.4% | 10.4% | |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **480.** | F **565.** | F **558.** | **498.** | F **615.** | F **554.** | **544.** | **552.** | **455.** |
| Stddev | 3. | 1. | 3. | 5. | 4. | 11. | 5. | 2. | 1. |
| %RSD | .704 | .182 | .537 | .979 | .574 | 1.95 | .948 | .367 | .247 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 500. | 500. | | 500. | 500. | | | |
| Range | | 10.4% | 10.4% | | 10.4% | 10.4% | | | |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126540.** | **1325700.** | **275670.** |
| Stddev | 143. | 8007. | 1112. |
| %RSD | .11323 | .60400 | .40336 |

Sample Name: ccb Acquired: 04/29/2019 18:00:55 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.615** | **-12.1** | **-4.13** | **-.238** | **.260** | **-64.5** | **.217** | **.078** | **.468** | **.061** | **-3.75** | **-28.2** |
| Stddev | .604 | .2 | 3.07 | .527 | .060 | .6 | .114 | .159 | .143 | .576 | 6.55 | 1.5 |
| %RSD | 98.2 | 1.65 | 74.3 | 221. | 23.2 | .865 | 52.5 | 205. | 30.5 | 946. | 175. | 5.41 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-47.9** | **-1.73** | **1.70** | **.564** | **-.448** | **-.133** | **-1.41** | **1.69** | **.185** | **.066** |
| Stddev | .1 | .15 | .60 | .584 | 3.79 | 2.55 | 3.40 | 2.46 | .360 | .070 |
| %RSD | .188 | 8.63 | 35.3 | 104. | 848. | 1920. | 241. | 146. | 195. | 106. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

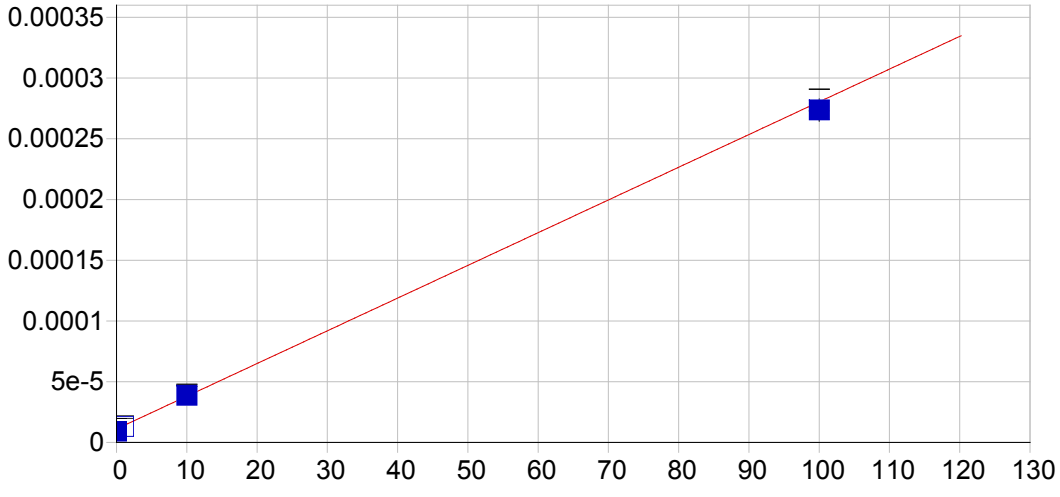
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126900.** | **1349400.** | **276260.** |
| Stddev | 436. | 24445. | 4406. |
| %RSD | .34375 | 1.8115 | 1.5949 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/12/2019 12:30:12 | 04/03/2019 14:55:03 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.998948 | 0.000002 | 0.840534 | 2.801781 |
| Ag 338.289 {100} | 04/12/2019 12:30:12 | 04/03/2019 15:00:39 | Linear | 1/Conc | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.469763 | 31.565876 |
| Al 167.079 {501} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | None | 0.000038 | 0.000005 | 0.000000 | 1.000000 | 0.999974 | 0.000020 | 0.710137 | 2.367124 |
| Al 308.215 {109} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Linear | 1/Var | 0.000061 | 0.000000 | 0.000000 | 1.000000 | 0.999866 | 0.000013 | 29.257129 | 97.523765 |
| Al 396.152 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:34:05 | Curvili | 1/Conc | -0.000025 | 0.000001 | 0.000000 | 1.000000 | 0.999969 | 0.000016 | 14.461269 | 48.204230 |
| As 193.759 {474} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Var | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999984 | 0.000002 | 3.702299 | 12.340998 |
| As 197.262 {471} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | -0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 8.640076 | 28.800254 |
| Ba 233.527 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Conc | -0.000000 | 0.000014 | 0.000000 | 1.000000 | 0.999978 | 0.000000 | 0.385605 | 1.285350 |
| Ba 455.403 { 74} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.000059 | 0.000044 | 0.000000 | 1.000000 | 0.999967 | 0.000001 | 0.386546 | 1.288486 |
| Ba 493.409 { 68} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Var | 0.008860 | 0.000040 | 0.000000 | 1.000000 | 0.999994 | 0.000024 | 1.031177 | 3.437257 |
| Be 313.042 {108} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000024 | 0.000054 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.038732 | 0.129107 |
| Be 234.861 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999985 | 0.000000 | 1.063490 | 3.544965 |
| Ca 315.887 {107} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000073 | 0.000000 | 0.000000 | 1.000000 | 0.999814 | 0.000026 | 12.703344 | 42.344479 |
| Ca 317.933 {106} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.003777 | 0.000001 | 0.000000 | 1.000000 | 0.999902 | 0.000015 | 7.356272 | 24.520908 |
| Ca 393.366 { 86} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Var | 0.005182 | 0.000159 | 0.000000 | 1.000000 | 0.995263 | 0.005641 | 0.080763 | 0.269209 |
| Ca 396.847 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.017159 | 0.000120 | 0.000000 | 1.000000 | 0.994122 | 0.000616 | 0.099859 | 0.332864 |
| Cd 226.502 {449} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000013 | 0.000034 | 0.000000 | 1.000000 | 0.999928 | 0.000000 | 0.235113 | 0.783710 |
| Cd 228.802 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:00:42 | Linear | 1/Conc | 0.000028 | 0.000062 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 0.164609 | 0.548698 |
| Co 228.616 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000006 | 0.000029 | 0.000000 | 1.000000 | 0.999923 | 0.000001 | 0.387286 | 1.290953 |
| Co 238.892 {141} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999986 | 0.000001 | 0.807762 | 2.692542 |
| Cr 205.560 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Var | 0.000020 | 0.000016 | 0.000000 | 1.000000 | 0.997587 | 0.000066 | 0.368554 | 1.228514 |
| Cr 267.716 {126} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.932952 | 3.109840 |
| Cu 224.700 {450} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999685 | 0.000011 | 0.487339 | 1.624464 |
| Cu 324.754 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | 198.71895 | 0.845033 | 0.000000 | 1.000000 | 0.999907 | 0.442229 | 3.237496 | 10.791653 |
| Cu 327.396 {103} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 7.283647 | 0.431855 | 0.000000 | 1.000000 | 0.999882 | 0.176994 | 8.308669 | 27.695563 |
| Fe 234.349 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Curvili | 1/Var | 0.000019 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000000 | 1.712355 | 5.707849 |
| Fe 239.562 {140} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000029 | 0.000000 | 0.000000 | 1.000000 | 0.998865 | 0.000064 | 11.697136 | 38.990454 |
| Fe 259.940 {129} | 04/12/2019 12:30:12 | 04/03/2019 15:26:42 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.998255 | 0.000033 | 3.951315 | 13.171051 |
| Mg 202.582 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000058 | 0.000003 | 0.000000 | 1.000000 | 0.999028 | 0.000109 | 2.561991 | 8.539971 |
| Mg 279.079 {121} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Full Fit | 1/Conc | -0.000003 | 0.000000 | 0.000000 | 1.030000 | 0.999974 | 0.000001 | 87.004312 | 290.01437 |
| Mg 280.270 {120} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | 0.000148 | 0.000027 | 0.000000 | 1.000000 | 0.999796 | 0.000033 | 0.040780 | 0.135933 |
| Mn 257.610 {131} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Conc | 0.000001 | 0.000009 | 0.000000 | 1.000000 | 0.999926 | 0.000001 | 0.120880 | 0.402933 |
| Mn 259.373 {130} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999853 | 0.000026 | 1.336755 | 4.455850 |
| Mo 202.030 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:00:43 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.468446 | 1.561488 |
| Mo 203.844 {465} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Var | 0.000008 | 0.000008 | 0.000000 | 1.000000 | 0.999951 | 0.000008 | 0.885886 | 2.952955 |
| Mo 204.598 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | -0.000007 | 0.000007 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 0.880737 | 2.935789 |
| Ni 221.647 {452} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999923 | 0.000009 | 0.659772 | 2.199241 |
| Ni 231.604 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000031 | 0.000017 | 0.000000 | 1.000000 | 0.999914 | 0.000001 | 0.636840 | 2.122800 |
| Pb 216.999 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999755 | 0.000022 | 5.202291 | 17.340971 |
| Pb 220.353 {453} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Conc | 0.000030 | 0.000004 | 0.000000 | 1.000000 | 0.999244 | 0.000000 | 2.562058 | 8.540192 |
| Pb 220.353 {153} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999906 | 0.000000 | 6.767648 | 22.558828 |
| Sb 206.833 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000007 | 0.000003 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 2.380937 | 7.936456 |
| Sb 217.581 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999893 | 0.000000 | 2.579773 | 8.599243 |
| Se 196.090 {472} | 04/12/2019 12:30:12 | 04/03/2019 15:00:45 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999018 | 0.000000 | 4.530040 | 15.100132 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Curvili | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999905 | 0.000000 | 23.155478 | 77.184928 |
| Tl 190.856 {476} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999705 | 0.000001 | 2.323578 | 7.745262 |
| Tl 190.856 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999828 | 0.000000 | 5.817160 | 19.390533 |
| V 290.882 {116} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 5.979888 | 19.932959 |
| V 292.402 {115} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 0.564743 | 1.882477 |
| Zn 206.200 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000041 | 0.000024 | 0.000000 | 1.000000 | 0.997616 | 0.000150 | 0.362951 | 1.209837 |
| Zn 213.856 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:00:46 | Linear | 1/Conc | 0.000072 | 0.000044 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.176452 | 0.588174 |
| Y 224.306 {450}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:38 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.004390 | 0.000005 | 0.000000 | 1.000000 | 1.000000 | 0.000001 | 8.191976 | 27.306587 |
| Na 589.592 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000051 | 0.000003 | 0.000000 | 1.000000 | 1.000000 | 0.000003 | 9.323428 | 31.078092 |
| Si 251.611 {134} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.092998 | 0.072976 | 0.000000 | 1.000000 | 0.998832 | 1.671194 | 19.062042 | 63.540140 |
| Ti 323.452 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000253 | 0.000008 | 0.000000 | 1.000000 | 0.999959 | 0.000001 | 1.317547 | 4.391824 |
| Ti 334.941 {101} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000002 | 0.000005 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 1.513558 | 5.045195 |
| Sr 407.771 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000066 | 0.000090 | 0.000000 | 1.000000 | 0.999998 | 0.000001 | 0.170987 | 0.569955 |
| Sr 421.552 { 80} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000007 | 0.000084 | 0.000000 | 1.000000 | 0.999990 | 0.000001 | 0.184340 | 0.614467 |
| Sn 189.989 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999932 | 0.000001 | 1.392712 | 4.642373 |
| B 249.678 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 1.807993 | 6.026642 |
| B 249.773 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999987 | 0.000001 | 0.680433 | 2.268110 |
| Li 670.784 { 50} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000001 | 0.000034 | 0.000000 | 1.000000 | 0.999980 | 0.000015 | 1.018434 | 3.394779 |
| K 766.490 { 44} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000066 | 0.000002 | 0.000000 | 1.000000 | 1.000000 | 0.000002 | 27.773860 | 92.579535 |
| P 213.618 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:07:20 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.557307 | 15.191024 |
| S 182.034 {485} | 04/12/2019 12:30:12 | 04/03/2019 15:34:07 | Curvili | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.132317 | 20.441056 |
| Hg 184.950 {482} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000009 | 0.000005 | 0.000000 | 1.000000 | 0.999910 | 0.000001 | 1.117100 | 3.723667 |
| Ce 404.076 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 21.843516 | 72.811721 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

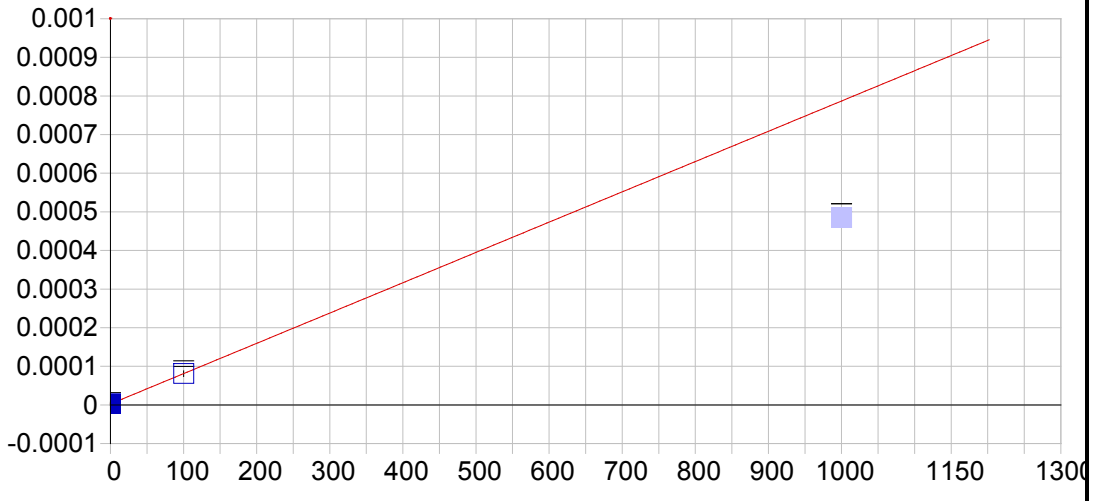



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998948 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.840534 | | |
| Predicted MQL: | 2.801781 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.69812 | -.698 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.271 | .271 | 2.71 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.483 | -2.52 | -2.52 | .00027 | .000 | 1 |
| CalStd3=1 | 1.0000 | .69860 | -.301 | -30.1 | .00001 | .000 | 1 |

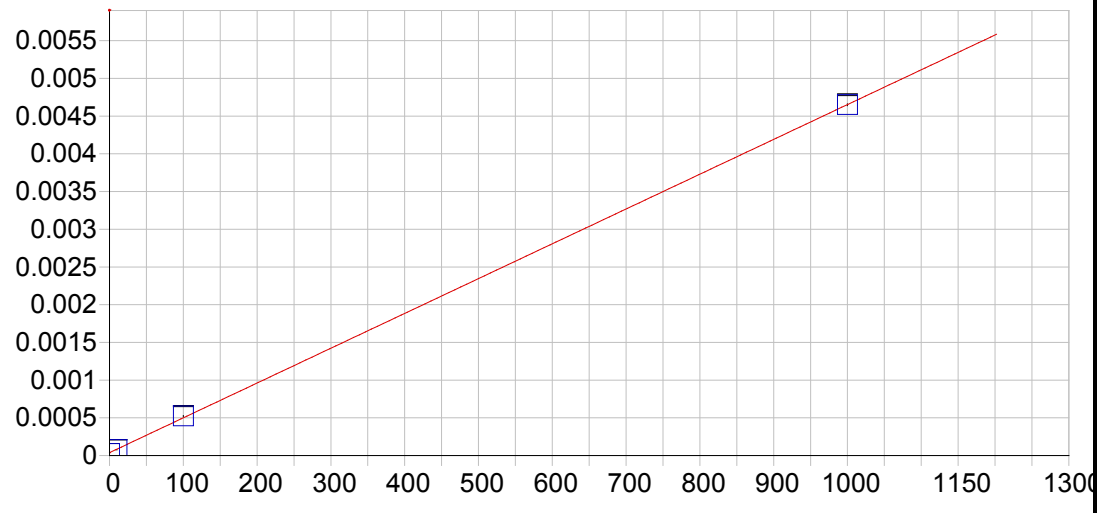



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.469763 | | |
| Predicted MQL: | 31.565876 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.00 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 614.67 | -385. | -38.5 | .00048 | .000 | 0 |

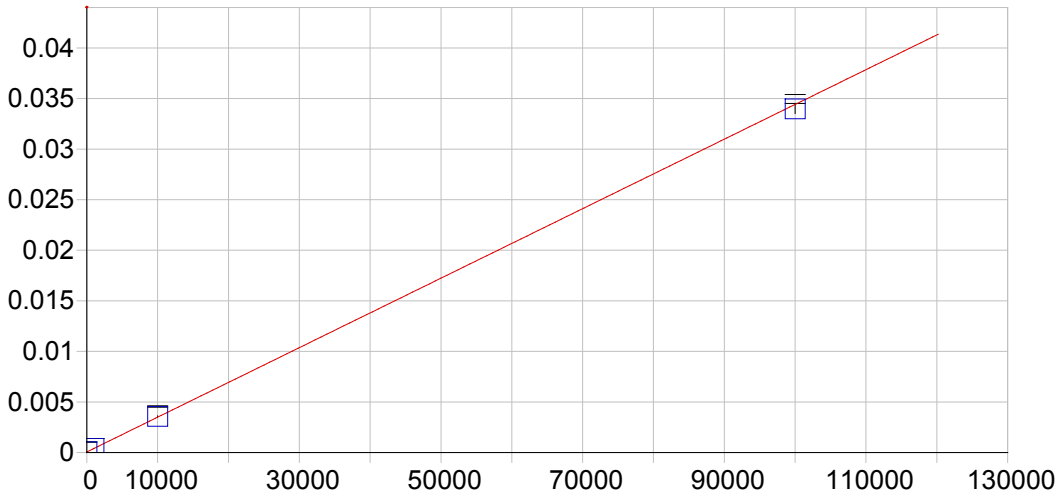



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 0.710137 | | |
| Predicted MQL: | 2.367124 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.9331 | -2.93 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.51 | -.488 | -.049 | .00465 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3797 | -1.62 | -16.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.04 | 5.04 | 5.04 | .00052 | .000 | 1 |

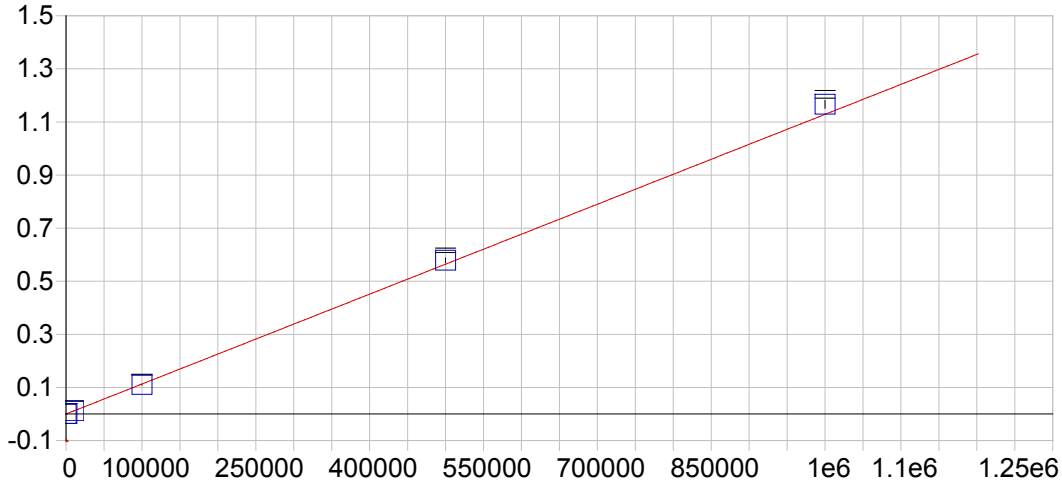



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 29.257129 | | |
| Predicted MQL: | 97.523765 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -11.568 | -11.6 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10191. | 191. | 1.91 | .00356 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.7 | 6.70 | .670 | .00041 | .000 | 1 |
| CalStd13=10 | 100000. | 98668. | -1330. | -1.33 | .03396 | .000 | 1 |

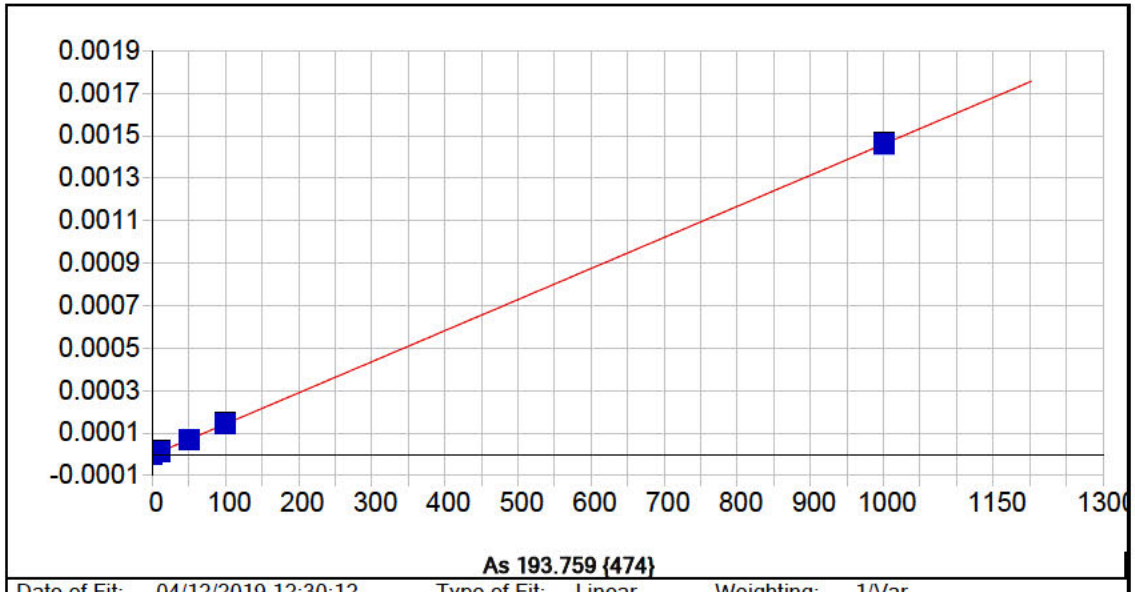



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 14.461269 | | |
| Predicted MQL: | 48.204230 | | |

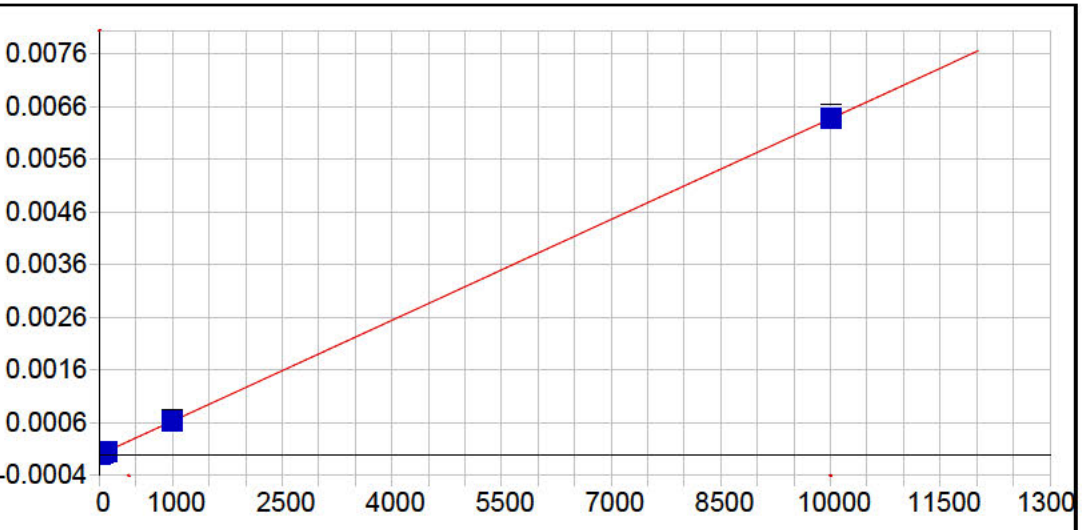
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02340 | -.023 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 512920. | 12900. | 2.58 | .57884 | .009 | 1 |
| CalStd13=10 | 100000. | 97807. | -2190. | -2.19 | .11036 | .002 | 1 |
| CalStd10=10 | 10000. | 10194. | 194. | 1.94 | .01148 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.3 | 23.3 | 2.33 | .00113 | .000 | 1 |
| CalibStd15= | 1000000. | 1033300. | 33300. | 3.33 | 1.1661 | .014 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 3.702299 | | |
| Predicted MQL: | 12.340998 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.7697 | 1.77 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .522 | .052 | .00146 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.090 | -.910 | -1.82 | .00007 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.885 | .885 | 8.85 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.42 | .418 | .418 | .00014 | .000 | 1 |

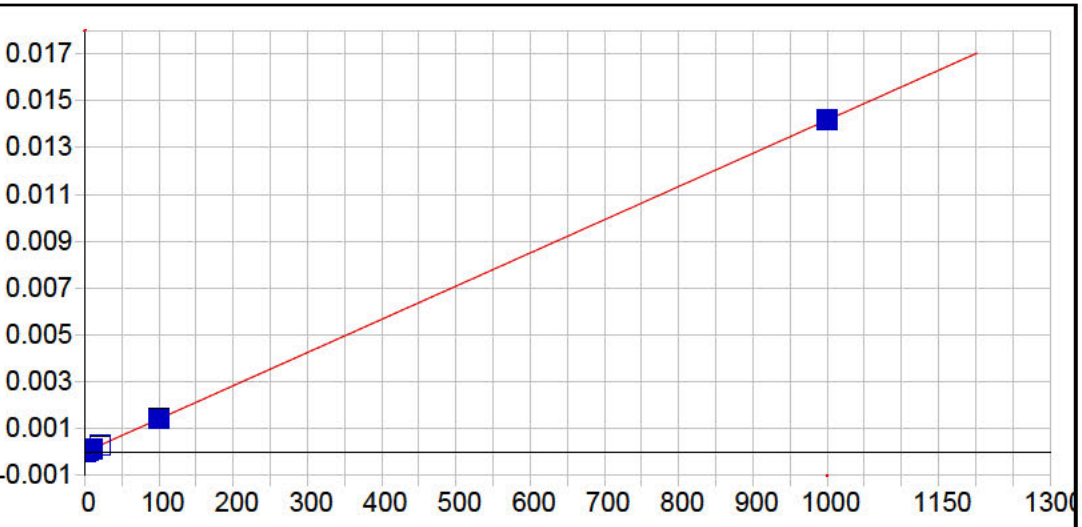



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.640076 | | |
| Predicted MQL: | 28.800254 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00220 | .002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.1 | 8.14 | .814 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.623 | -1.38 | -2.75 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7994 | -2.20 | -22.0 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.98 | 1.98 | 1.98 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.4 | -6.56 | -.066 | .00641 | .000 | 1 |

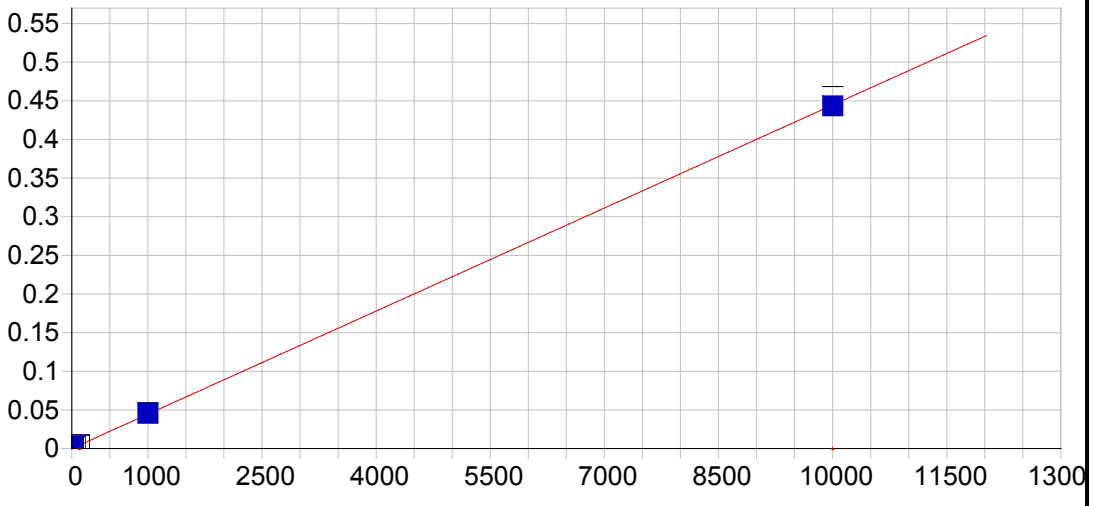



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.385605 | | |
| Predicted MQL: | 1.285350 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00007 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.489 | .489 | 4.89 | .00015 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.897 | -.103 | -.514 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00141 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6838 | -.316 | -6.32 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .462 | .046 | .01418 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95385 | -.046 | -4.62 | .00001 | .000 | 1 |

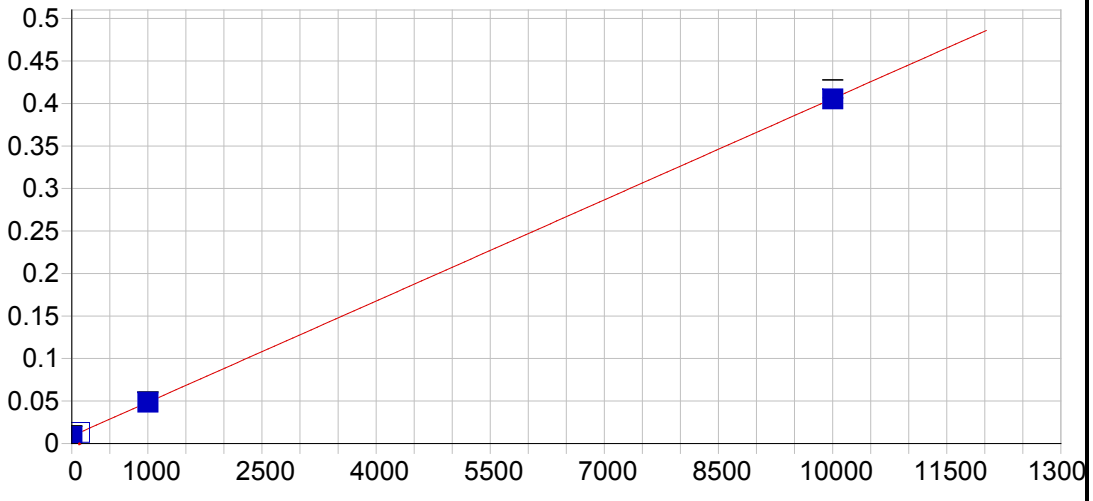



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.386546 | | |
| Predicted MQL: | 1.288486 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.643 | .643 | 1.29 | .00231 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.735 | .735 | 7.35 | .00054 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.036 | .036 | .179 | .00095 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.69 | 3.69 | 3.69 | .00467 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9429 | -.057 | -1.14 | .00028 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.5 | 21.5 | 2.15 | .04547 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0828 | .083 | 8.28 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9973.4 | -26.6 | -.266 | .44343 | .012 | 1 |

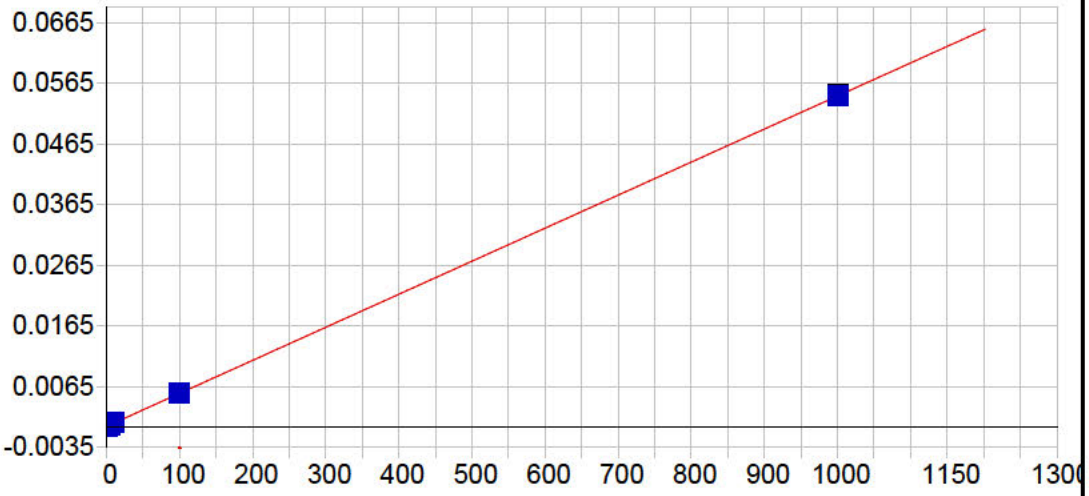



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008860 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000040 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 1.031177 | | |
| Predicted MQL: | 3.437257 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05731 | -.057 | .000 | .00886 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.74 | -.258 | -.026 | .04854 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.90 | 2.90 | 2.90 | .01294 | .000 | 1 |
| CalStd10=10 | 10000. | 9990.0 | -9.96 | -.100 | .40536 | .011 | 1 |

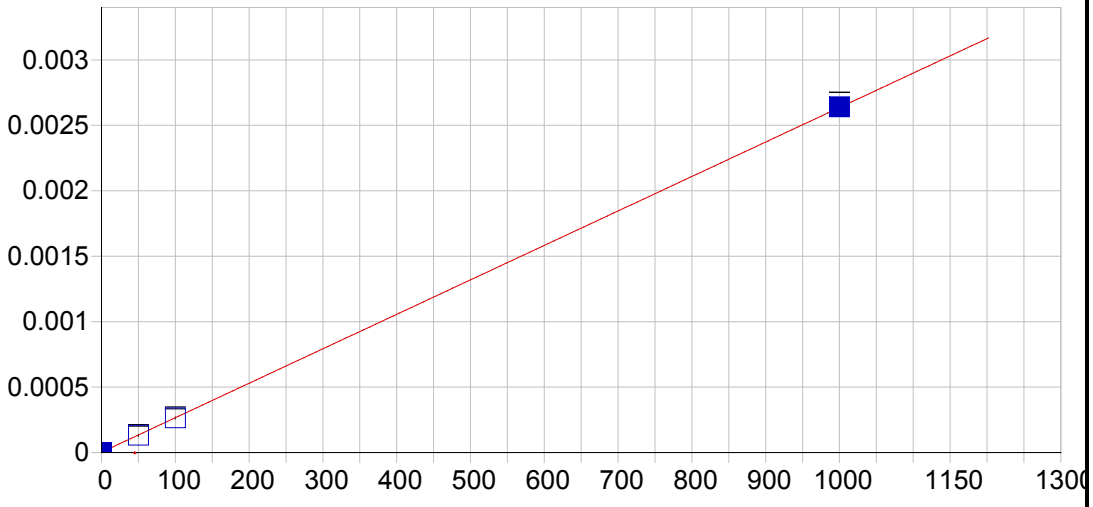



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.038732 | | |
| Predicted MQL: | 0.129107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00002 | .000 | .000 | -.00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.342 | .342 | 3.42 | .00054 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.895 | -1.11 | -1.11 | .00536 | .000 | 1 |
| CalStd2=0.5 | .50000 | .49707 | -.003 | -.586 | .00000 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8966 | -.103 | -2.07 | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .913 | .091 | .05447 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95674 | -.043 | -4.33 | .00003 | .000 | 1 |

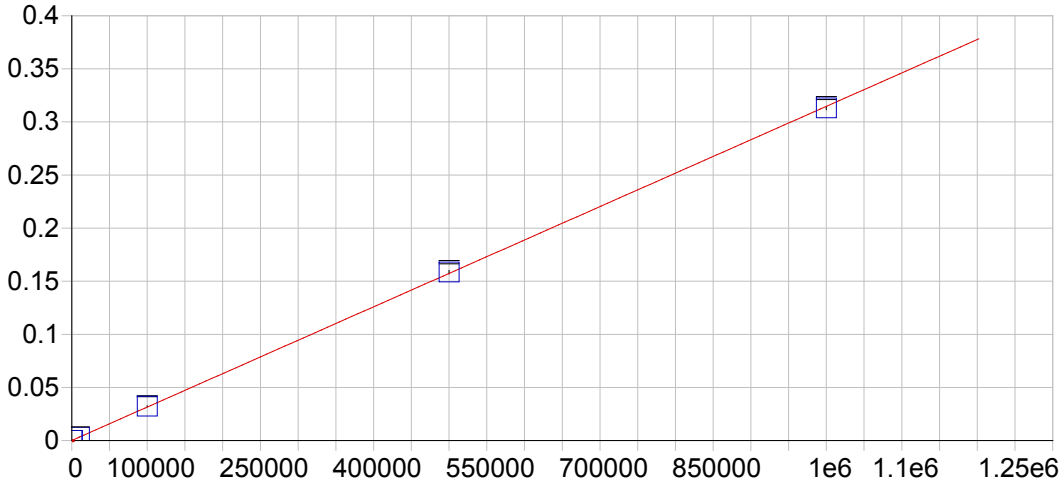



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.063490 | | |
| Predicted MQL: | 3.544965 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00139 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.312 | -.688 | -.688 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00013 | .000 | 1 |

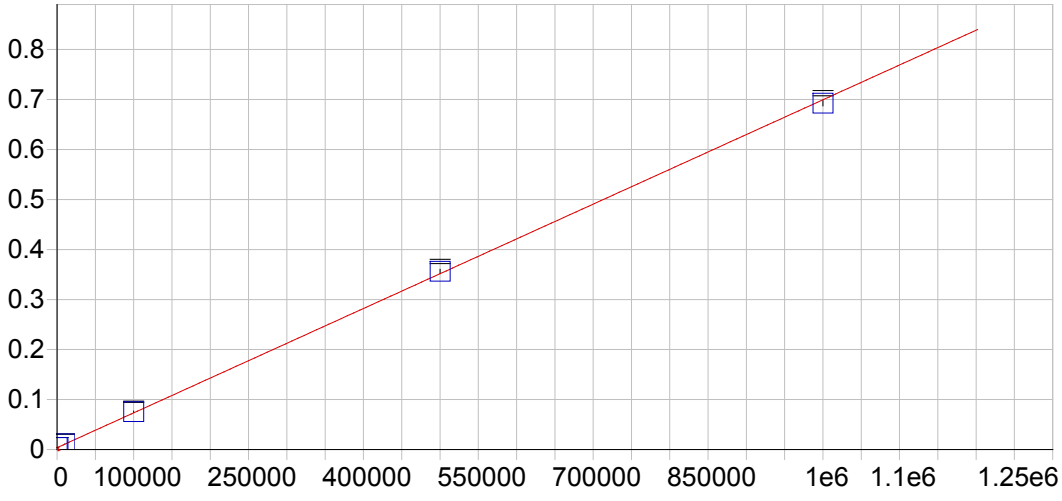



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000073 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999814 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 12.703344 | | |
| Predicted MQL: | 42.344479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 49.256 | 49.3 | .000 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 10409. | 409. | 4.09 | .00335 | .000 | 1 |
| CalStd13=10 | 100000. | 102410. | 2410. | 2.41 | .03229 | .000 | 1 |
| CalStd14=50 | 500000. | 503620. | 3620. | .724 | .15852 | .002 | 1 |
| CalStd9=100 | 1000.0 | 954.41 | -45.6 | -4.56 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 994810. | -5190. | -.519 | .31306 | .001 | 1 |

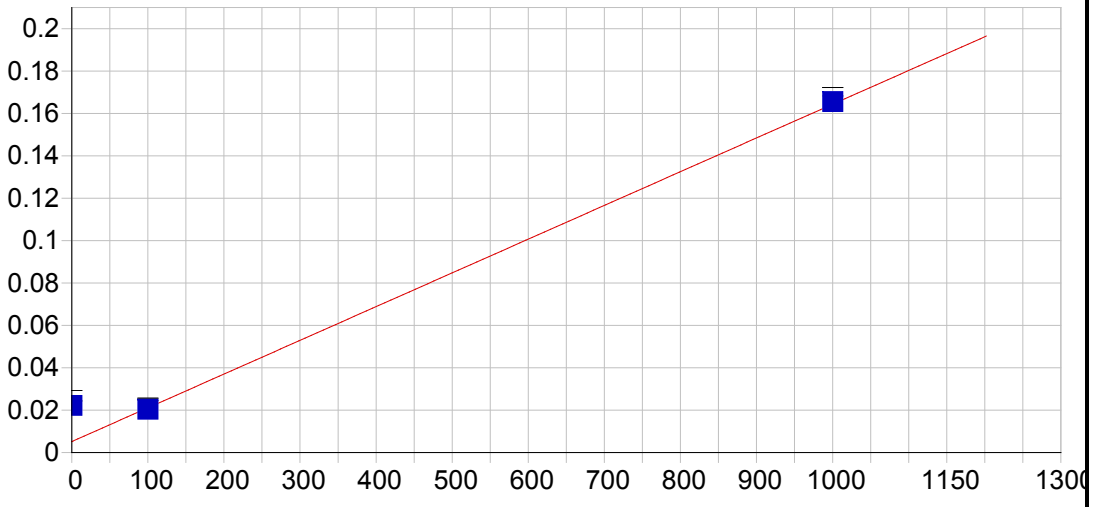



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003777 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999902 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 7.356272 | | |
| Predicted MQL: | 24.520908 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02441 | .024 | .000 | .00378 | .000 | 1 |
| CalStd10=10 | 10000. | 10475. | 475. | 4.75 | .01106 | .000 | 1 |
| CalStd13=10 | 100000. | 103110. | 3110. | 3.11 | .07551 | .001 | 1 |
| CalStd14=50 | 500000. | 506500. | 6500. | 1.30 | .35615 | .004 | 1 |
| CalStd9=100 | 1000.0 | 893.99 | -106. | -10.6 | .00440 | .000 | 1 |
| CalibStd15= | 1000000. | 990030. | -9970. | -.997 | .69254 | .005 | 1 |

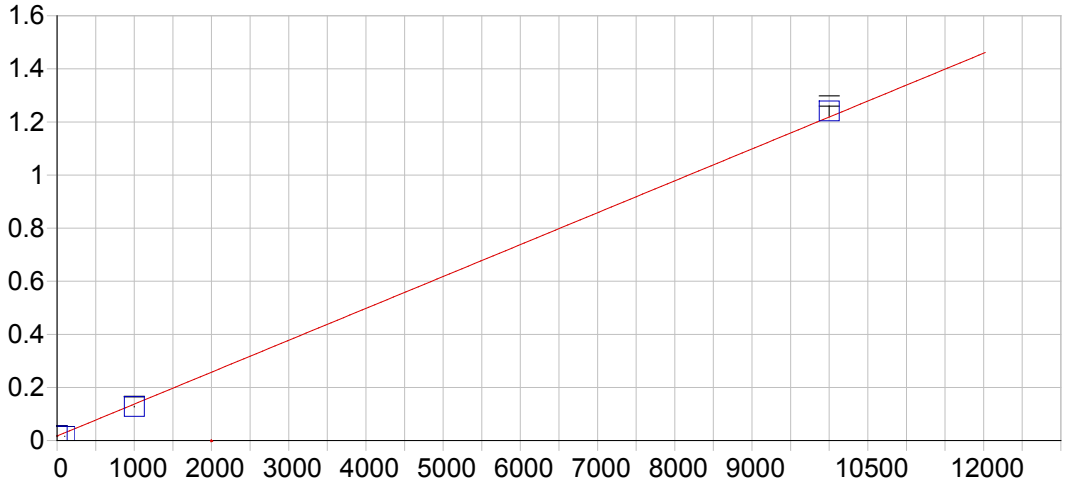



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005182 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000159 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995263 | Status: | OK. |
| Std Error of Est: | 0.005641 | | |
| Predicted MDL: | 0.080763 | | |
| Predicted MQL: | 0.269209 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 106.57 | 107. | .000 | .02215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1007.3 | 7.32 | .732 | .16553 | .002 | 1 |
| CalStd8=100 | 100.00 | 95.448 | -4.55 | -4.55 | .02038 | .000 | 1 |

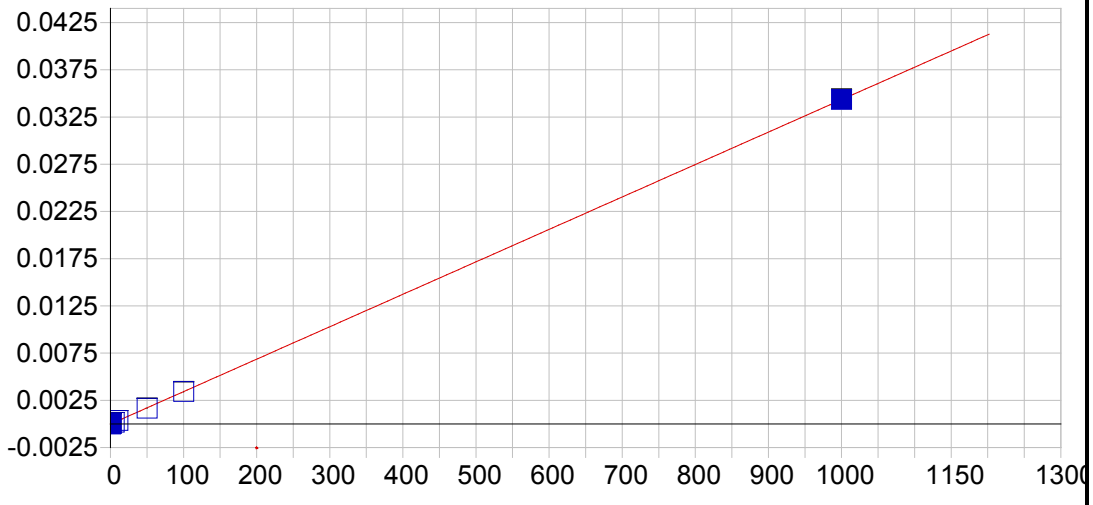



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.017159 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000120 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994122 | Status: | OK. |
| Std Error of Est: | 0.000616 | | |
| Predicted MDL: | 0.099859 | | |
| Predicted MQL: | 0.332864 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11631 | .116 | .000 | .01717 | .002 | 1 |
| CalStd10=10 | 10000. | 10188. | 188. | 1.88 | 1.2411 | .019 | 1 |
| CalStd8=100 | 100.00 | -10.442 | -110. | -110. | .01590 | .000 | 1 |
| CalStd9=100 | 1000.0 | 922.57 | -77.4 | -7.74 | .12800 | .001 | 1 |

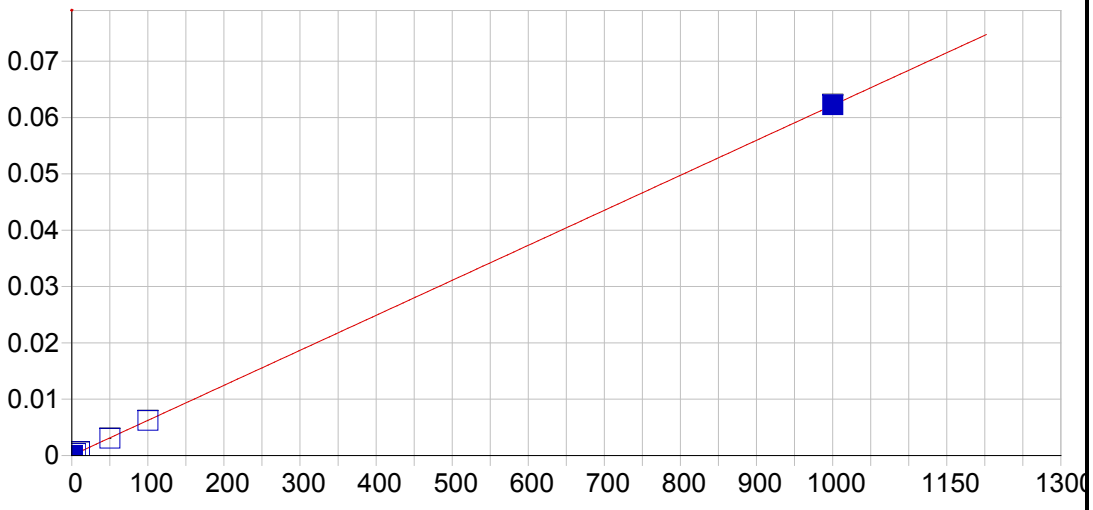



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.235113 | | |
| Predicted MQL: | 0.783710 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00026 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.536 | -1.46 | -2.93 | .00165 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1985 | .199 | 19.9 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .62555 | .126 | 25.1 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0937 | .094 | 1.87 | .00016 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.923 | -.077 | -.077 | .00342 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.717 | .717 | 7.17 | .00035 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .406 | .041 | .03435 | .000 | 1 |

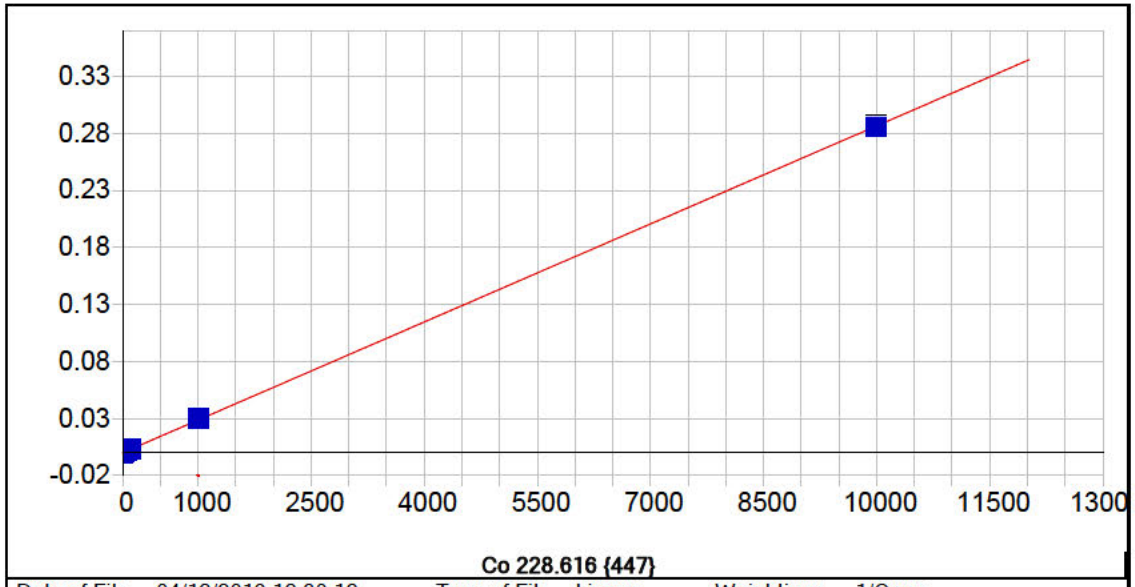



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.164609 | | |
| Predicted MQL: | 0.548698 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00007 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.735 | -1.26 | -2.53 | .00306 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0788 | .079 | 7.88 | .00010 | .000 | 1 |
| CalStd2=0.5 | .50000 | .53614 | .036 | 7.23 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9219 | -.078 | -1.56 | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.720 | -.280 | -.280 | .00623 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.327 | .327 | 3.27 | .00067 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.2 | 1.18 | .118 | .06225 | .000 | 1 |

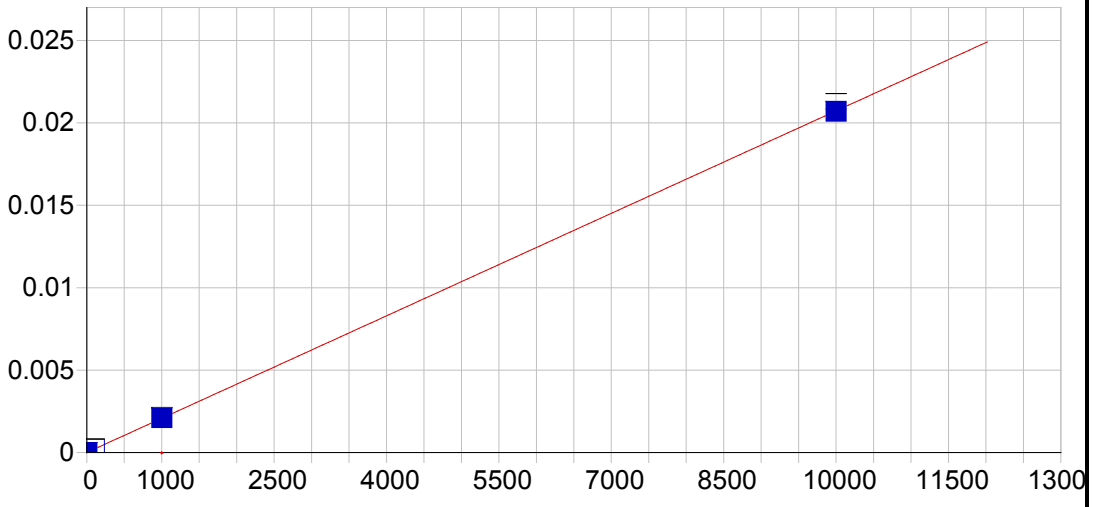



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000029 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.387286 | | |
| Predicted MQL: | 1.290953 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00075 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.263 | 1.26 | 2.53 | .00148 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.964 | .964 | 9.64 | .00032 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6897 | .690 | 13.8 | .00017 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.99 | 3.99 | 3.99 | .00299 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.7 | 31.7 | 3.17 | .02958 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4274 | .427 | 42.7 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9961.0 | -39.0 | -.390 | .28586 | .002 | 1 |

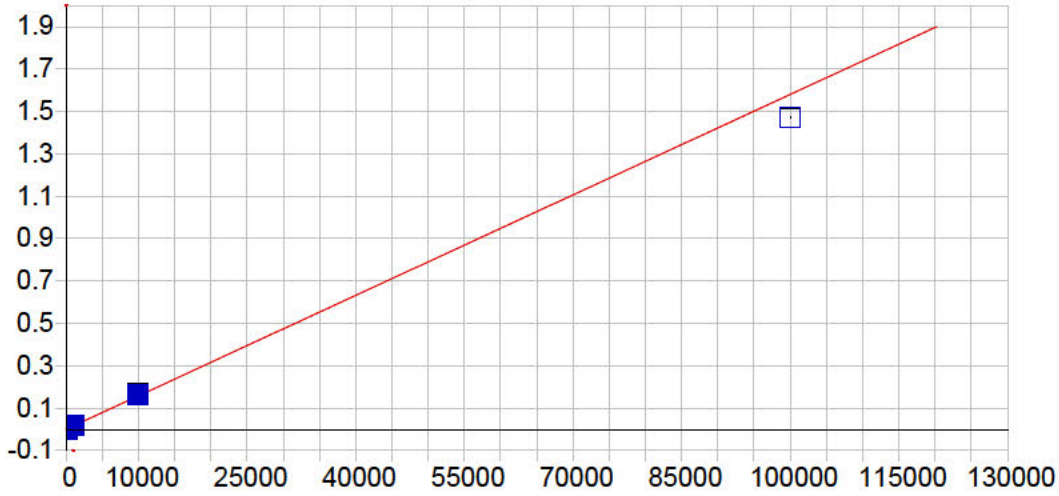



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.807762 | | |
| Predicted MQL: | 2.692542 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00322 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.0 | 16.0 | 1.60 | .00211 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.2 | -17.8 | -.178 | .02070 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.80 | 1.80 | 1.80 | .00021 | .000 | 1 |

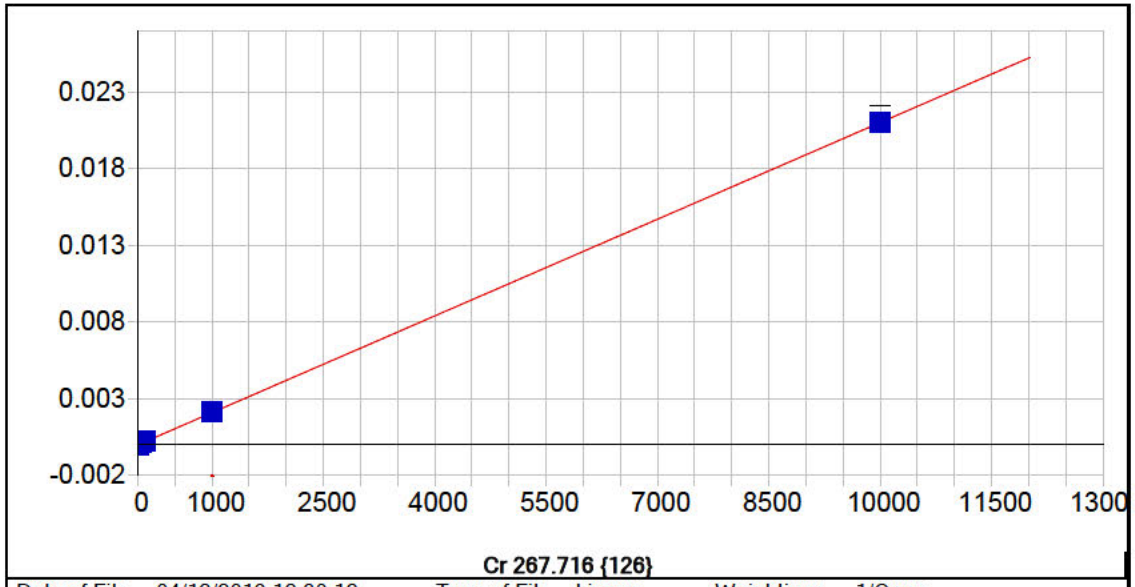



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997587 | Status: | OK. |
| Std Error of Est: | 0.000066 | | |
| Predicted MDL: | 0.368554 | | |
| Predicted MQL: | 1.228514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8471 | -1.85 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4526 | -.547 | -5.47 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.308 | .308 | .615 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1079.6 | 79.6 | 7.96 | .01708 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | .00166 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8868 | -1.11 | -22.3 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -.73498 | -1.73 | -173. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10462. | 462. | 4.62 | .16539 | .001 | 1 |
| CalStd12=10 | 100000. | 93104. | -6900. | -6.90 | 1.4716 | .004 | 1 |

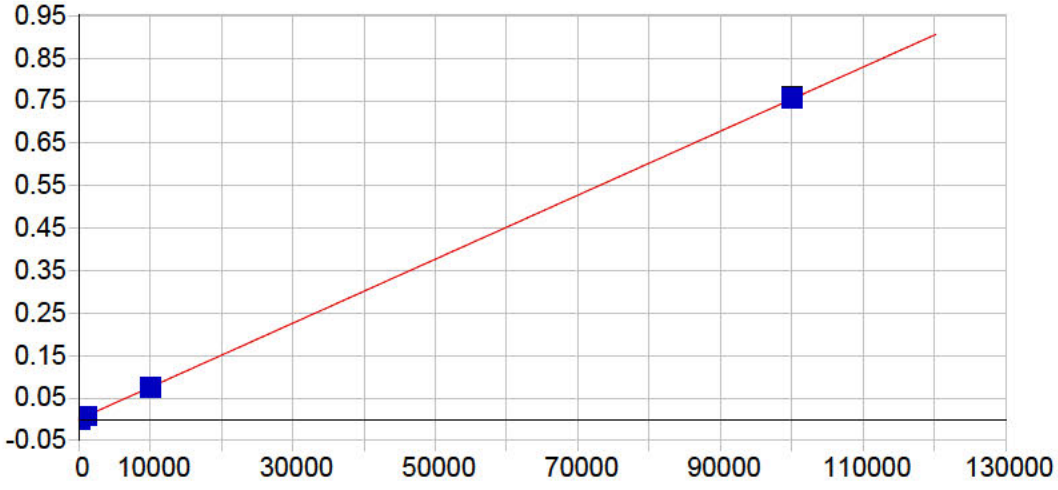



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.932952 | | |
| Predicted MQL: | 3.109840 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00114 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.003 | 1.00 | 10.0 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.830 | -.170 | -.339 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.7 | 9.72 | .972 | .00212 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.836 | -.164 | -.164 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6215 | .621 | 12.4 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.0 | -11.0 | -.110 | .02098 | .000 | 1 |

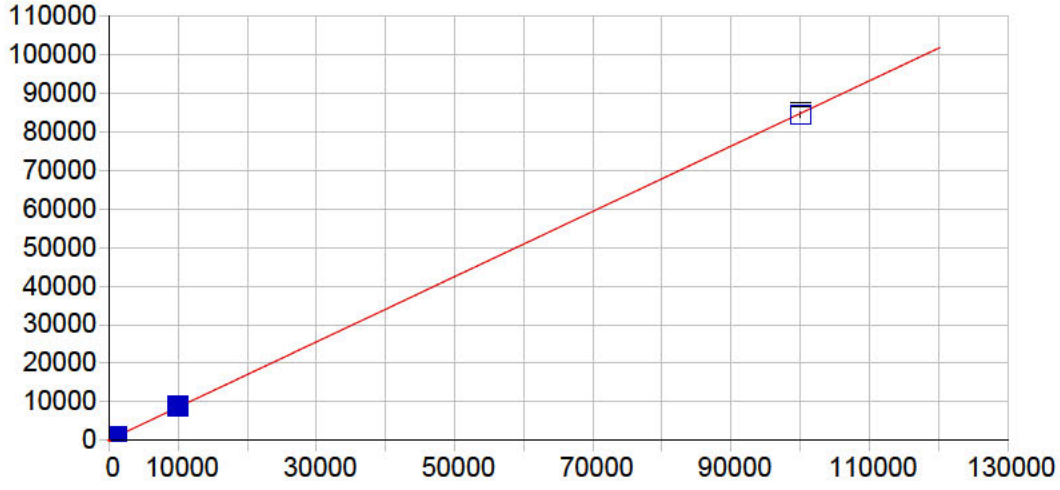



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999685 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.487339 | | |
| Predicted MQL: | 1.624464 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .04243 | .042 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 975.82 | -24.2 | -2.42 | .00735 | .000 | 1 |
| CalStd7=50 | 50.000 | 10.378 | -39.6 | -79.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 50.380 | -49.6 | -49.6 | .00038 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.8599 | -16.1 | -80.7 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100160. | 162. | .162 | .75474 | .006 | 1 |
| CalStd10=10 | 10000. | 9967.6 | -32.4 | -.324 | .07511 | .001 | 1 |

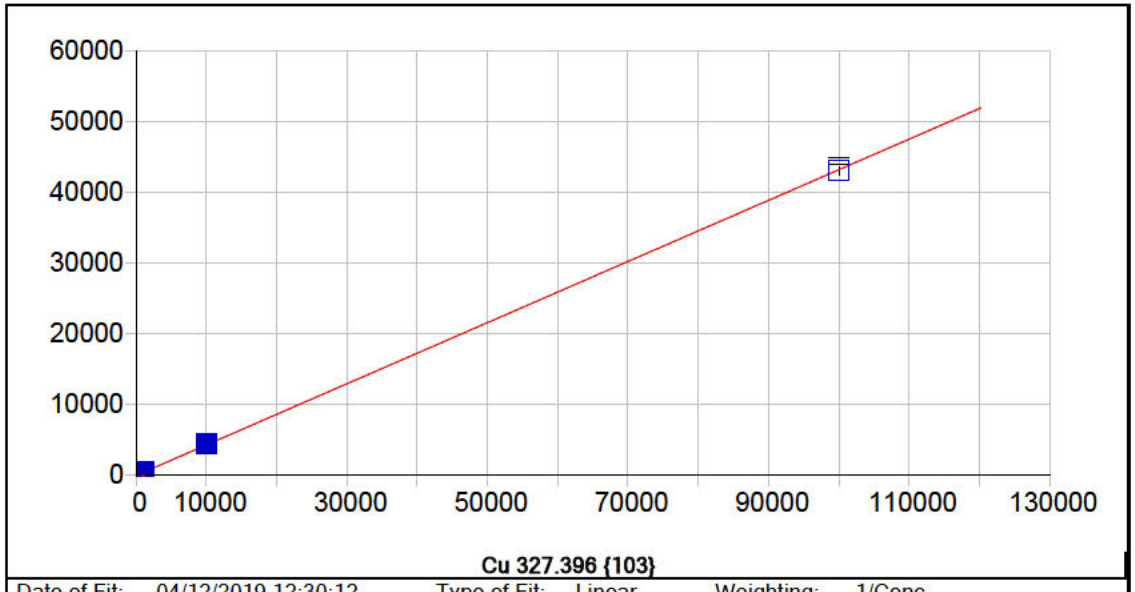



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 198.718958 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.845033 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999907 | Status: | OK. |
| Std Error of Est: | 0.442229 | | |
| Predicted MDL: | 3.237496 | | |
| Predicted MQL: | 10.791653 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00638 | .006 | .000 | 198.72 | 2.77 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | 1082.6 | 11.6 | 1 |
| CalStd8=100 | 100.00 | 100.50 | .505 | .505 | 283.65 | 4.53 | 1 |
| CalStd10=10 | 10000. | 10367. | 367. | 3.67 | 8958.9 | 92.7 | 1 |
| CalStd12=10 | 100000. | 99602. | -398. | -.398 | 84365. | 667. | 1 |
| CalStd5=10 | 10.000 | 6.5763 | -3.42 | -34.2 | 204.28 | 2.61 | 1 |
| CalStd6=20 | 20.000 | 15.469 | -4.53 | -22.7 | 211.79 | 2.62 | 1 |
| CalStd7=50 | 50.000 | 42.368 | -7.63 | -15.3 | 234.52 | .971 | 1 |

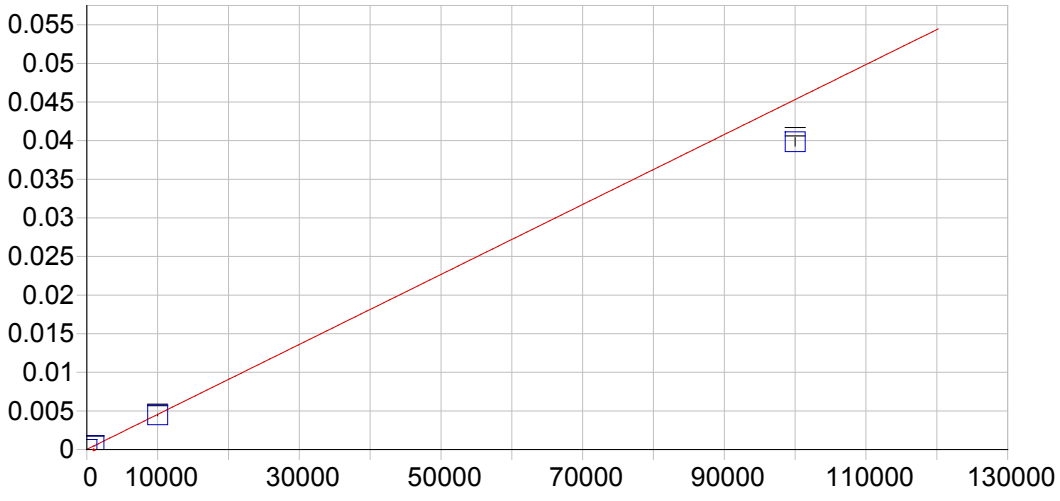



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.283647 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.431855 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.176994 | | |
| Predicted MDL: | 8.308669 | | |
| Predicted MQL: | 27.695563 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00942 | -.009 | .000 | 7.2796 | 1.90 | 1 |
| CalStd6=20 | 20.000 | 25.187 | 5.19 | 25.9 | 18.156 | 2.77 | 1 |
| CalStd7=50 | 50.000 | 51.906 | 1.91 | 3.81 | 29.687 | 2.69 | 1 |
| CalStd8=100 | 100.00 | 108.69 | 8.69 | 8.69 | 54.196 | 2.95 | 1 |
| CalStd9=100 | 1000.0 | 1048.4 | 48.4 | 4.84 | 459.79 | 5.77 | 1 |
| CalStd10=10 | 10000. | 10300. | 300. | 3.00 | 4455.6 | 59.3 | 1 |
| CalStd12=10 | 100000. | 99623. | -377. | -.377 | 43030. | 510. | 1 |
| CalStd4=5 | 5.0000 | 7.0329 | 2.03 | 40.7 | 10.320 | 4.08 | 1 |
| CalStd5=10 | 10.000 | 20.184 | 10.2 | 102. | 15.998 | 2.74 | 1 |

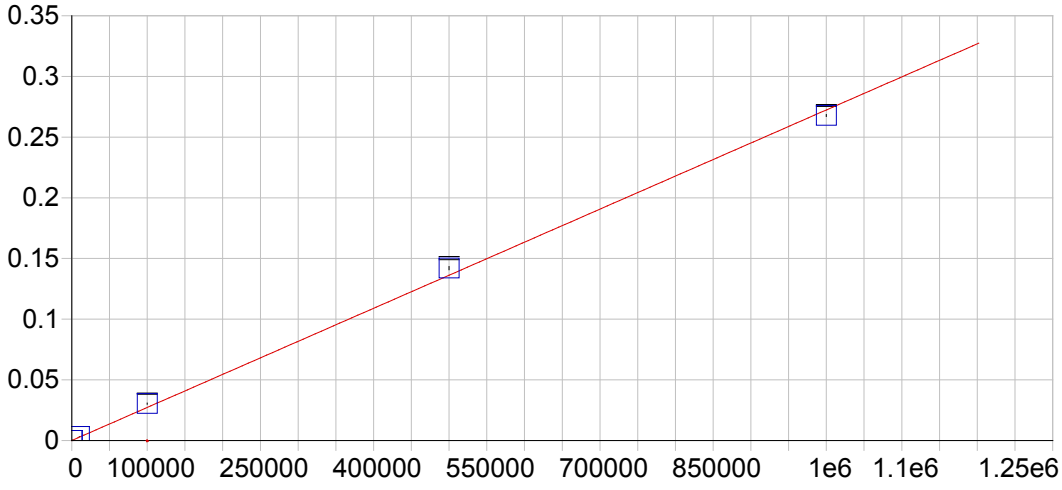



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.712355 | | |
| Predicted MQL: | 5.707849 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00371 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9842.6 | -157. | -1.57 | .00448 | .000 | 1 |
| CalStd13=10 | 100000. | 87917. | -12100. | -12.1 | .03984 | .001 | 1 |
| CalStd9=100 | 1000.0 | 999.28 | -.719 | -.072 | .00047 | .000 | 1 |

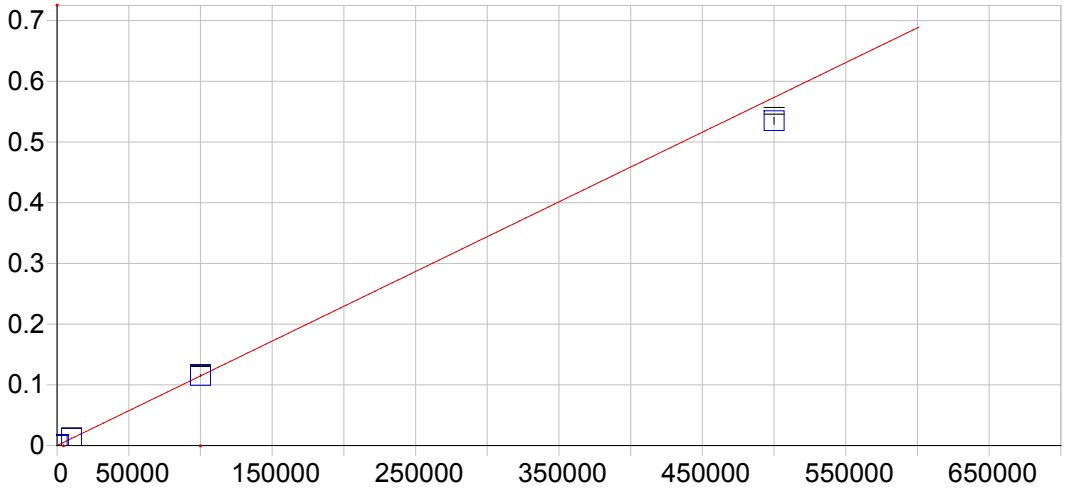



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998865 | Status: | OK. |
| Std Error of Est: | 0.000064 | | |
| Predicted MDL: | 11.697136 | | |
| Predicted MQL: | 38.990454 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -86.800 | -86.8 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11756. | 1760. | 17.6 | .00323 | .000 | 1 |
| CalStd13=10 | 100000. | 111610. | 11600. | 11.6 | .03043 | .000 | 1 |
| CalStd14=50 | 500000. | 521270. | 21300. | 4.25 | .14200 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1098.5 | 98.5 | 9.85 | .00033 | .000 | 1 |
| CalibStd15= | 1000000. | 983110. | -16900. | -1.69 | .26778 | .001 | 1 |

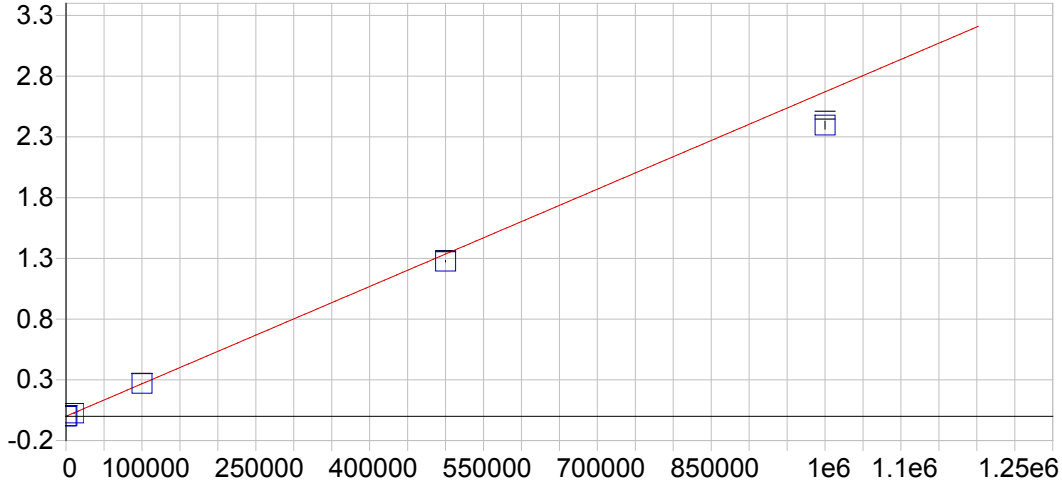



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998255 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 3.951315 | | |
| Predicted MQL: | 13.171051 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0632 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10666. | 666. | 6.66 | .01225 | .000 | 1 |
| CalStd13=10 | 100000. | 100420. | 420. | .420 | .11519 | .001 | 1 |
| CalStd14=50 | 500000. | 466320. | -33700. | -6.74 | .53486 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1063.7 | 63.7 | 6.37 | .00123 | .000 | 1 |

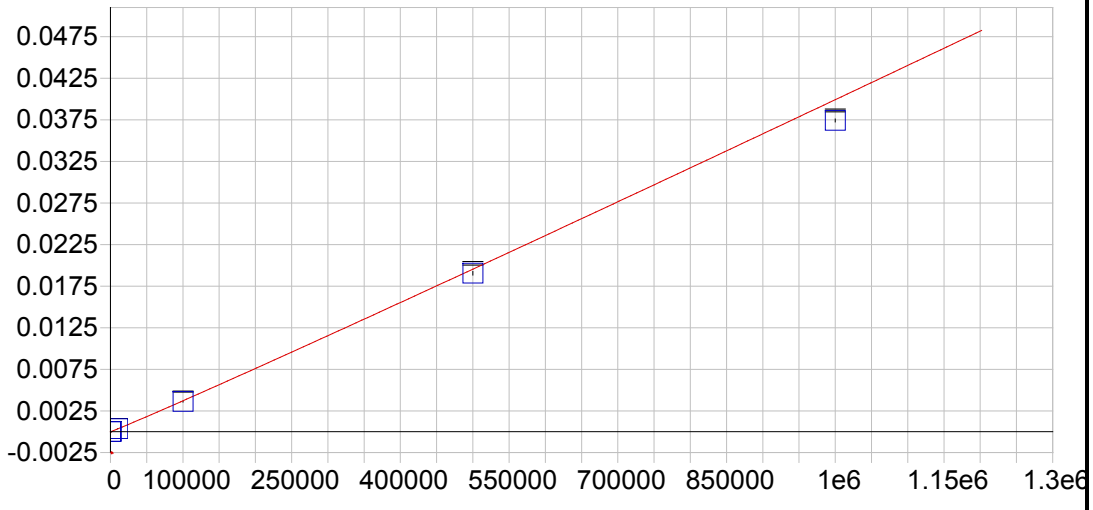



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999028 | Status: | OK. |
| Std Error of Est: | 0.000109 | | |
| Predicted MDL: | 2.561991 | | |
| Predicted MQL: | 8.539971 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -21.852 | -21.9 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 100950. | 947. | .947 | .26969 | .002 | 1 |
| CalStd10=10 | 10000. | 9590.2 | -410. | -4.10 | .02567 | .000 | 1 |
| CalStd14=50 | 500000. | 477840. | -22200. | -4.43 | 1.2764 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1022.1 | 22.1 | 2.21 | .00279 | .000 | 1 |
| CalibStd15= | 1000000. | 897240. | -103000. | -10.3 | 2.3966 | .032 | 1 |

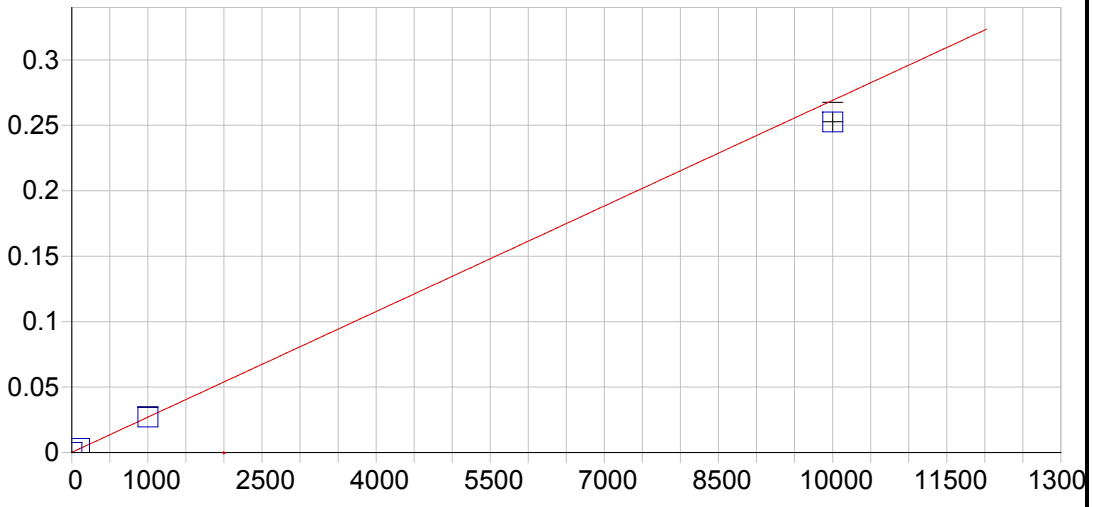



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.030000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 87.004312 | | |
| Predicted MQL: | 290.014373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97451. | -2550. | -2.55 | .00363 | .000 | 1 |
| CalStd10=10 | 10000. | 10451. | 451. | 4.51 | .00036 | .000 | 1 |
| CalStd14=50 | 500000. | 487720. | -12300. | -2.46 | .01905 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1117.3 | 117. | 11.7 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 939270. | -60700. | -6.07 | .03742 | .000 | 1 |

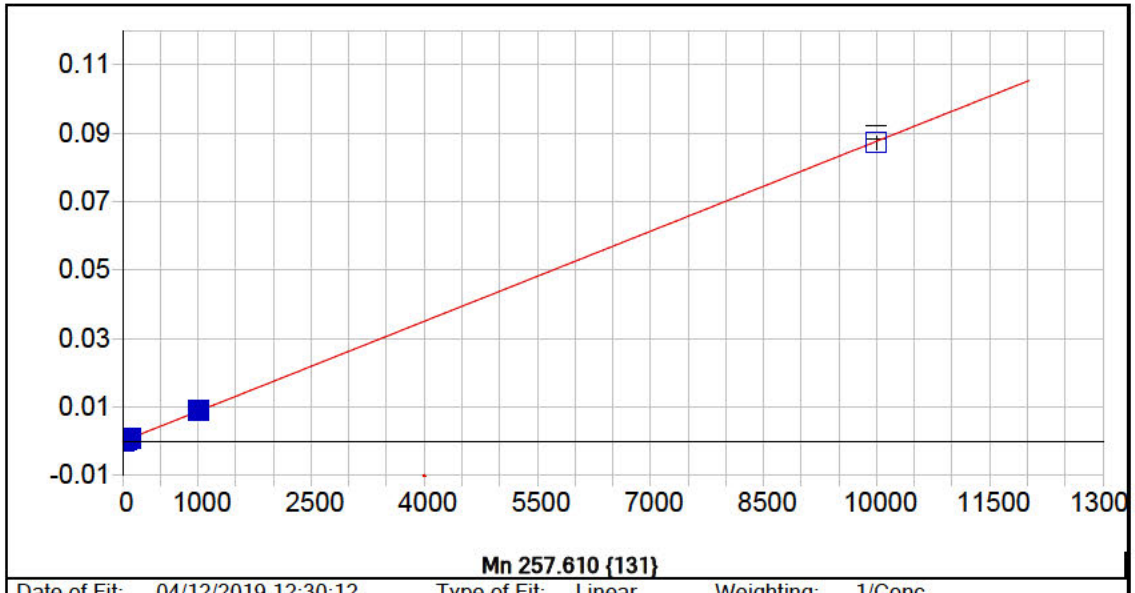



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000148 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999796 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 0.040780 | | |
| Predicted MQL: | 0.135933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.06296 | -.063 | .000 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.06 | -.935 | -.094 | .02701 | .000 | 1 |
| CalStd10=10 | 10000. | 9383.2 | -617. | -6.17 | .25247 | .007 | 1 |
| CalStd8=100 | 100.00 | 107.03 | 7.03 | 7.03 | .00303 | .000 | 1 |

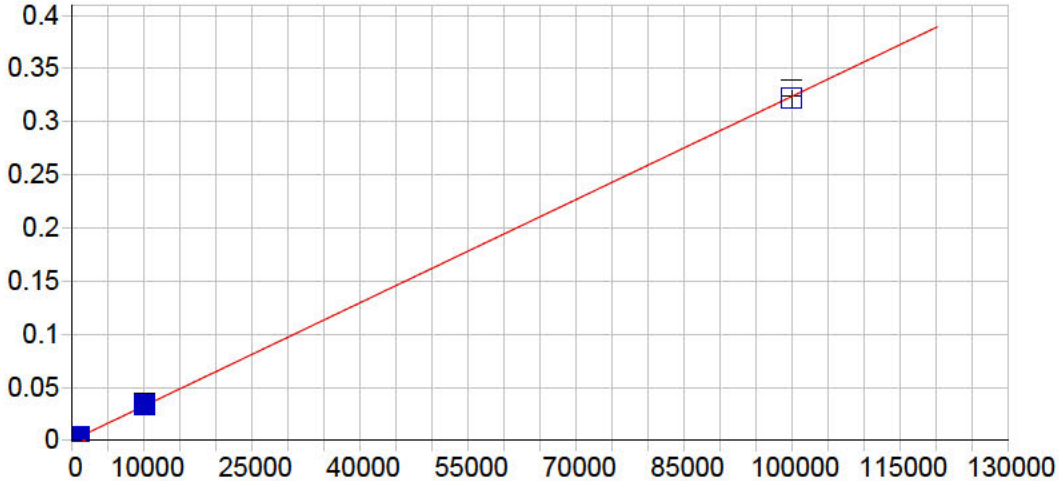



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999926 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.120880 | | |
| Predicted MQL: | 0.402933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00125 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.773 | .773 | 7.73 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.792 | .792 | 1.58 | .00045 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.275 | .275 | 1.38 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.73 | 3.73 | 3.73 | .00091 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3757 | .376 | 7.51 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.3 | 35.3 | 3.53 | .00908 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.7 | -41.3 | -.413 | .08729 | .002 | 1 |

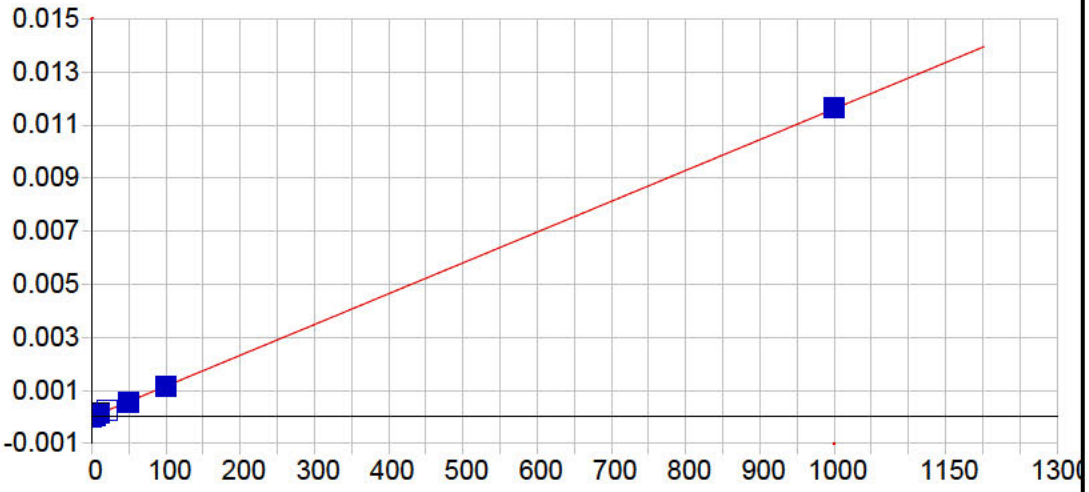



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999853 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 1.336755 | | |
| Predicted MQL: | 4.455850 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09654 | -.097 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10518. | 518. | 5.18 | .03410 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1050.4 | 50.4 | 5.04 | .00341 | .000 | 1 |
| CalStd12=10 | 100000. | 99431. | -569. | -.569 | .32194 | .007 | 1 |

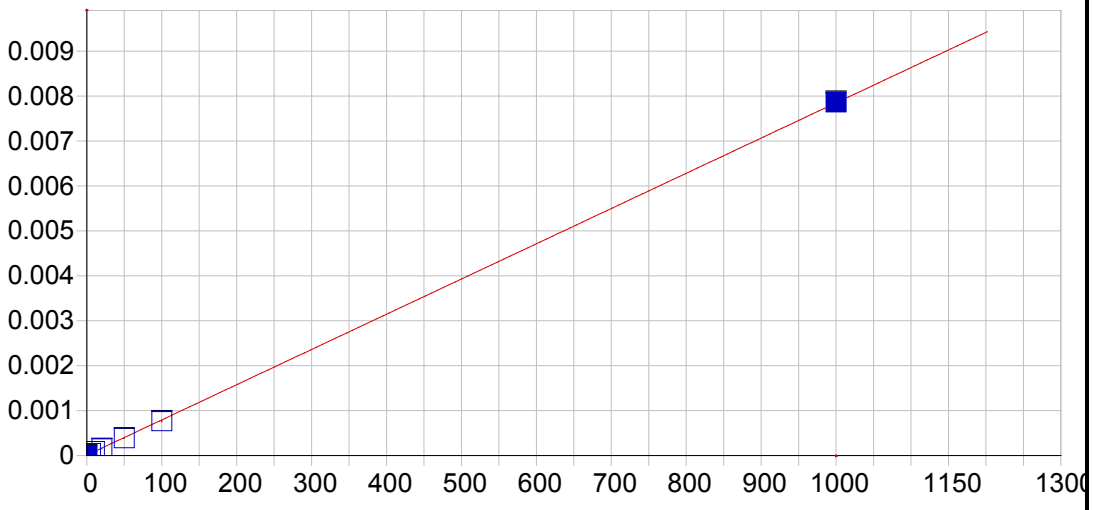



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.468446 | | |
| Predicted MQL: | 1.561488 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00011 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.448 | -1.55 | -3.10 | .00057 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.754 | -.246 | -1.23 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.528 | .528 | 5.28 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.223 | -.777 | -.777 | .00116 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8741 | -.126 | -2.52 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.17 | .217 | .01165 | .000 | 1 |

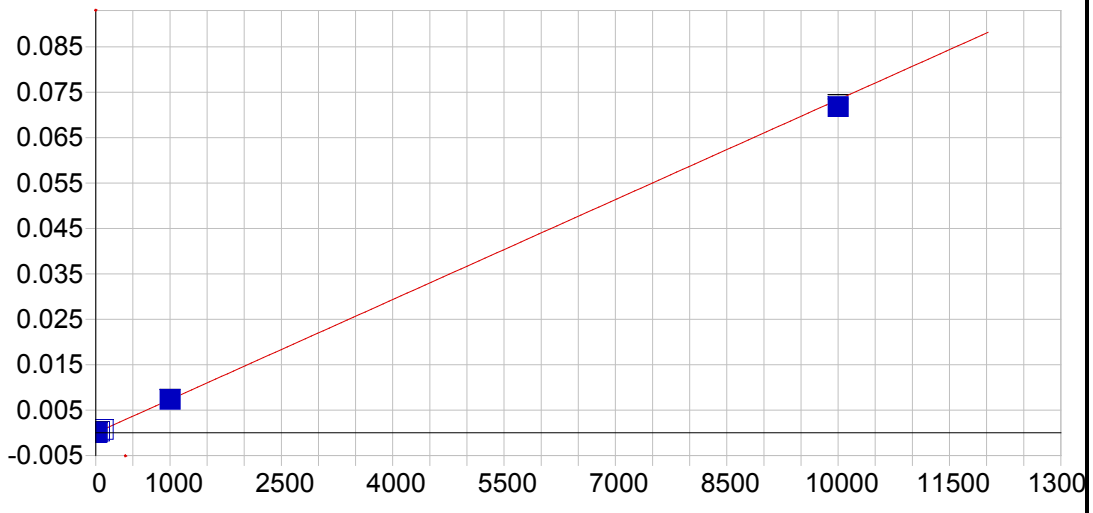



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999951 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.885886 | | |
| Predicted MQL: | 2.952955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .17179 | .172 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.589 | -1.41 | -2.82 | .00039 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.954 | -1.05 | -5.23 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.634 | .634 | 6.34 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.851 | -3.15 | -3.15 | .00077 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7680 | -.232 | -4.64 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00786 | .000 | 1 |

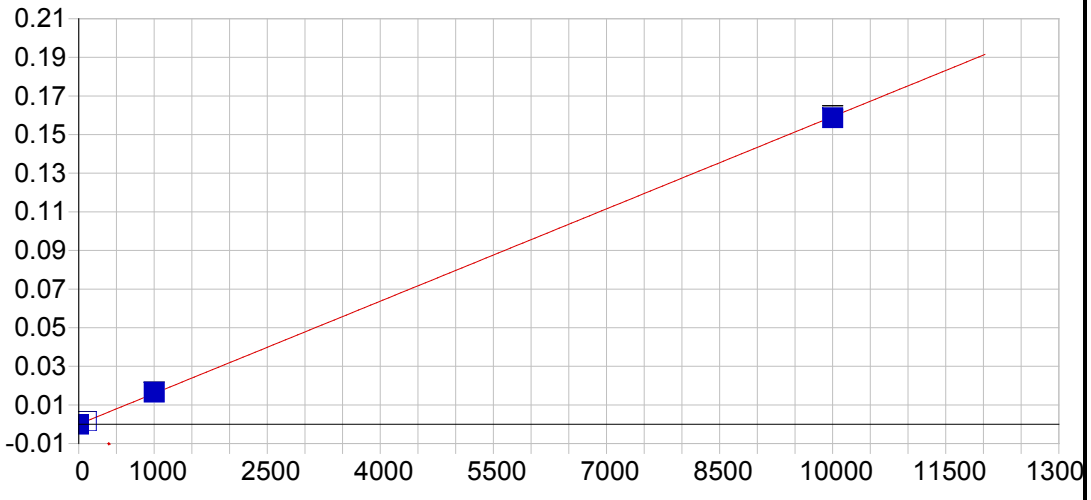



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.880737 | | |
| Predicted MQL: | 2.935789 | | |

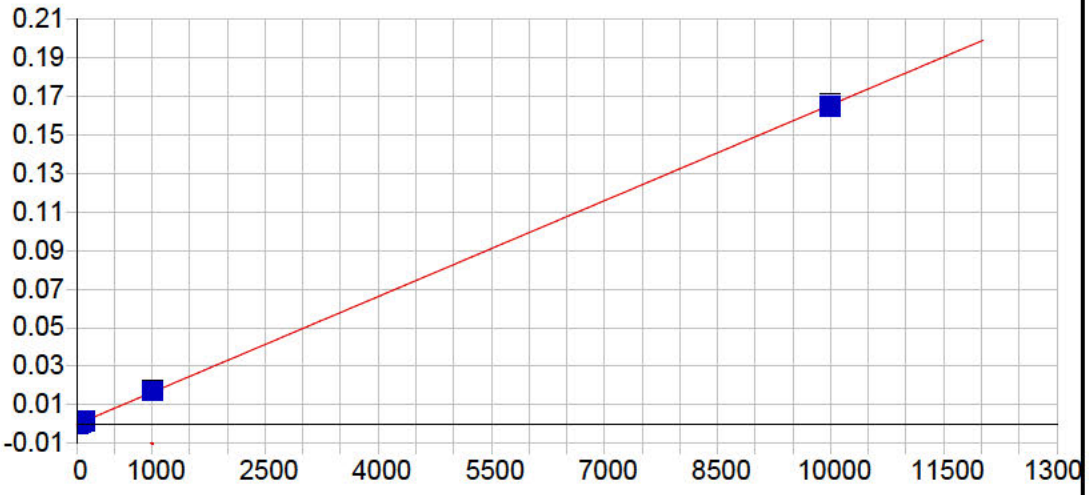
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .12357 | .124 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.302 | -.698 | -1.40 | .00036 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.989 | -.011 | -.057 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.727 | .727 | 7.27 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.790 | -.210 | -.210 | .00073 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9852 | -.015 | -.296 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.3 | .333 | .033 | .00733 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.0 | -215. | -2.15 | .07180 | .000 | 1 |




**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000016 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999923 | | Status: | OK. | |
| Std Error of Est: | 0.000009 | | | | |
| Predicted MDL: | 0.659772 | | | | |
| Predicted MQL: | 2.199241 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00701 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.8 | -41.2 | -.412 | .15867 | .001 | 1 |
| CalStd8=100 | 100.00 | 103.67 | 3.67 | 3.67 | .00165 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.6 | 37.6 | 3.76 | .01653 | .000 | 1 |

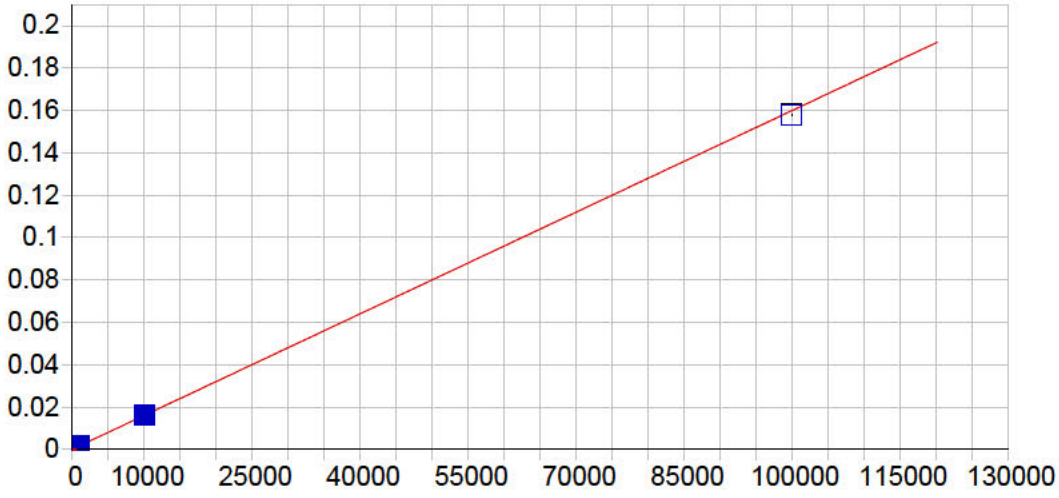



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000031 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999914 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.636840 | | |
| Predicted MQL: | 2.122800 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00042 | -.000 | .000 | -.00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.044 | .044 | .088 | .00080 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.998 | .998 | 9.98 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.76 | 3.76 | 3.76 | .00169 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0907 | .091 | 1.81 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.9 | 37.9 | 3.79 | .01714 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2347 | .235 | 23.5 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.0 | -43.0 | -.430 | .16501 | .001 | 1 |

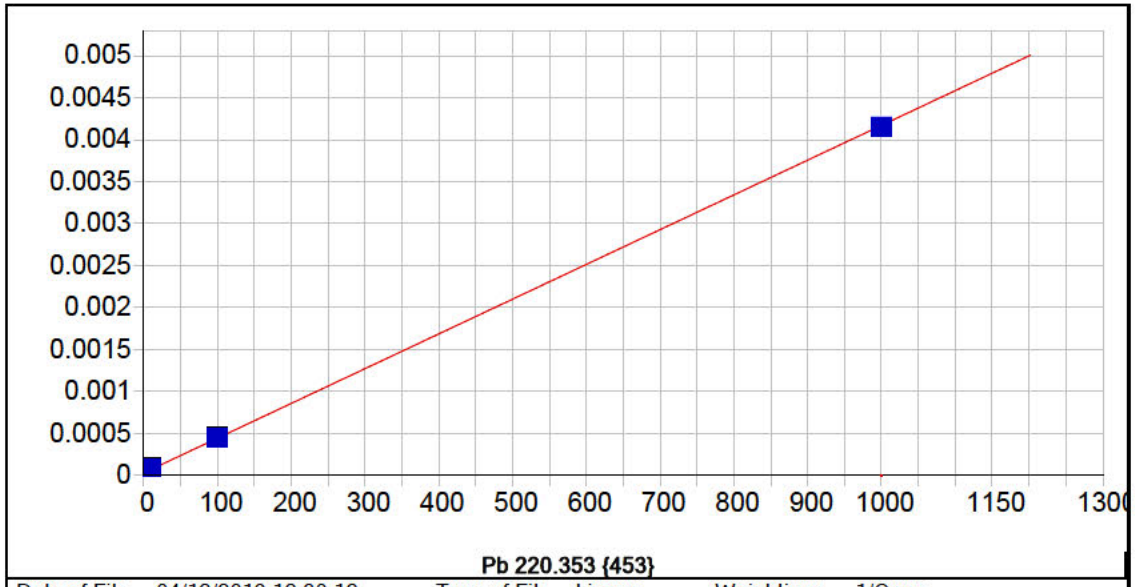



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999755 | Status: | OK. |
| Std Error of Est: | 0.000022 | | |
| Predicted MDL: | 5.202291 | | |
| Predicted MQL: | 17.340971 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1114 | -3.11 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1054.0 | 54.0 | 5.40 | .00170 | .000 | 1 |
| CalStd10=10 | 10000. | 10128. | 128. | 1.28 | .01620 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.27 | 1.27 | 1.27 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.5570 | -3.44 | -34.4 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 98862. | -1140. | -1.14 | .15805 | .000 | 1 |

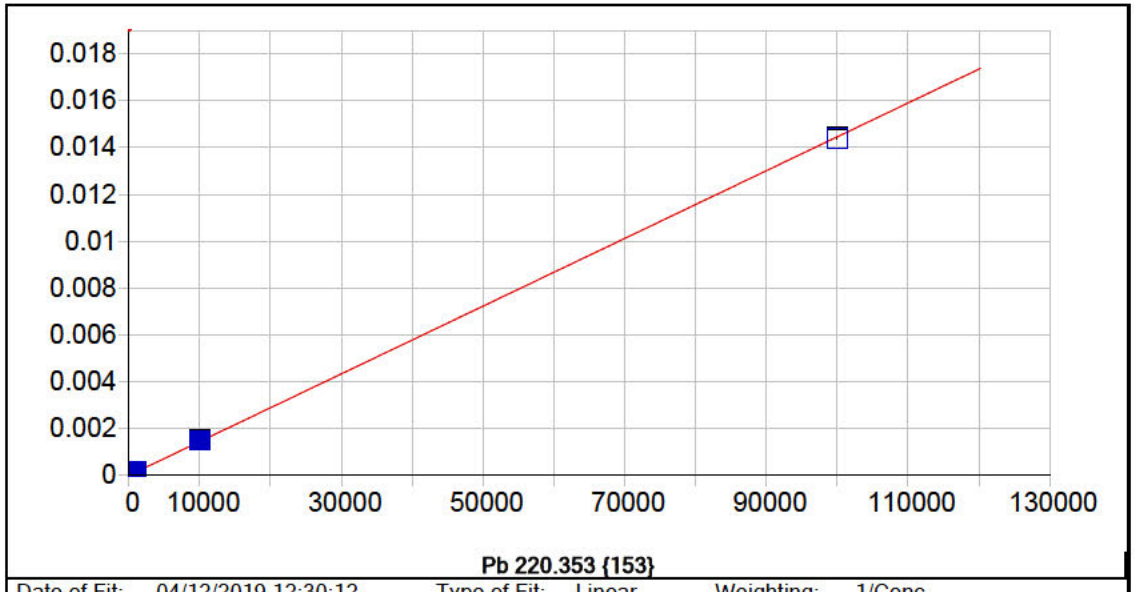



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999244 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.562058 | | |
| Predicted MQL: | 8.540192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00338 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.254 | 1.25 | 12.5 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.86 | .861 | .861 | .00045 | .000 | 1 |
| CalStd4=5 | 5.0000 | 7.7362 | 2.74 | 54.7 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.15 | -4.85 | -.485 | .00415 | .000 | 1 |

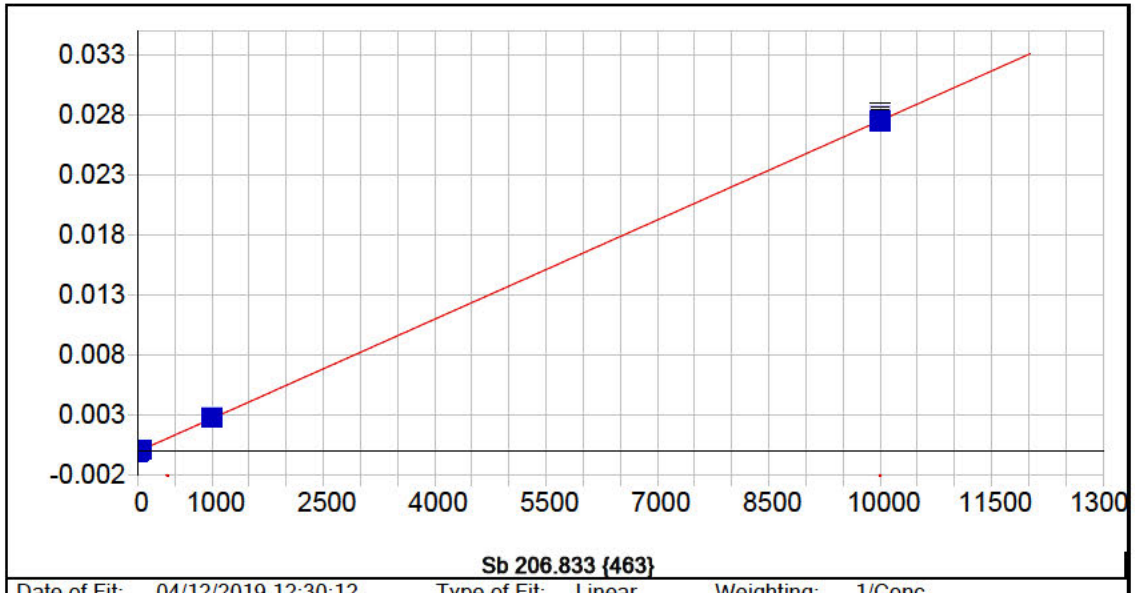



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.767648 | | |
| Predicted MQL: | 22.558828 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02275 | -.023 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1071.6 | 71.6 | 7.16 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 10350. | 350. | 3.50 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.53 | 12.5 | 12.5 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99566. | -434. | -.434 | .01440 | .000 | 1 |

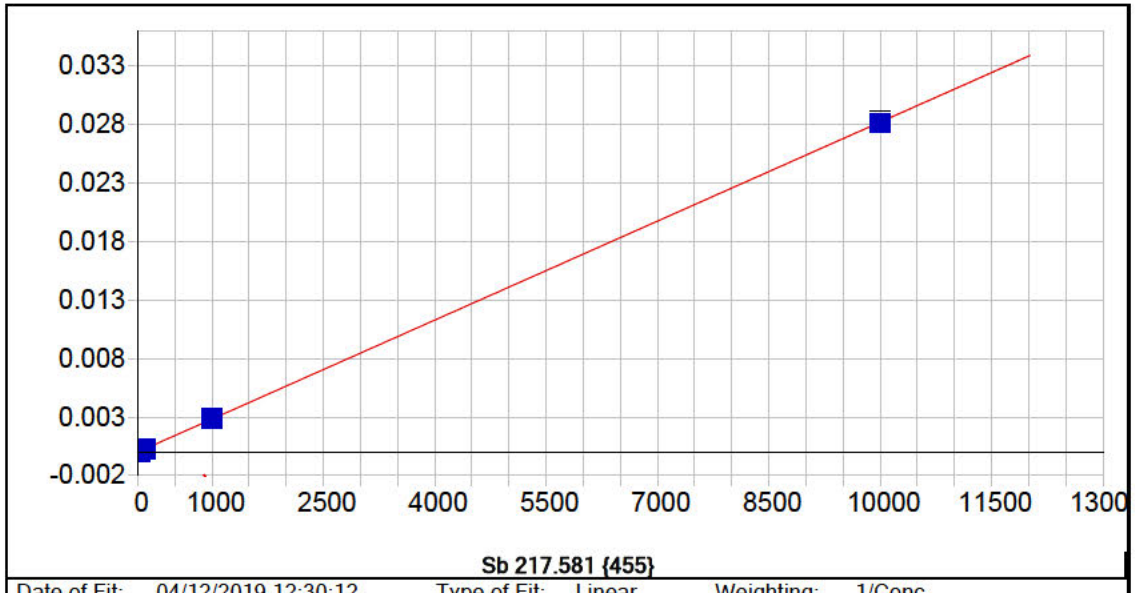



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.380937 | | |
| Predicted MQL: | 7.936456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00221 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.0 | 21.0 | 2.10 | .00285 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.803 | .803 | 1.61 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9976.3 | -23.7 | -.237 | .02795 | .000 | 1 |

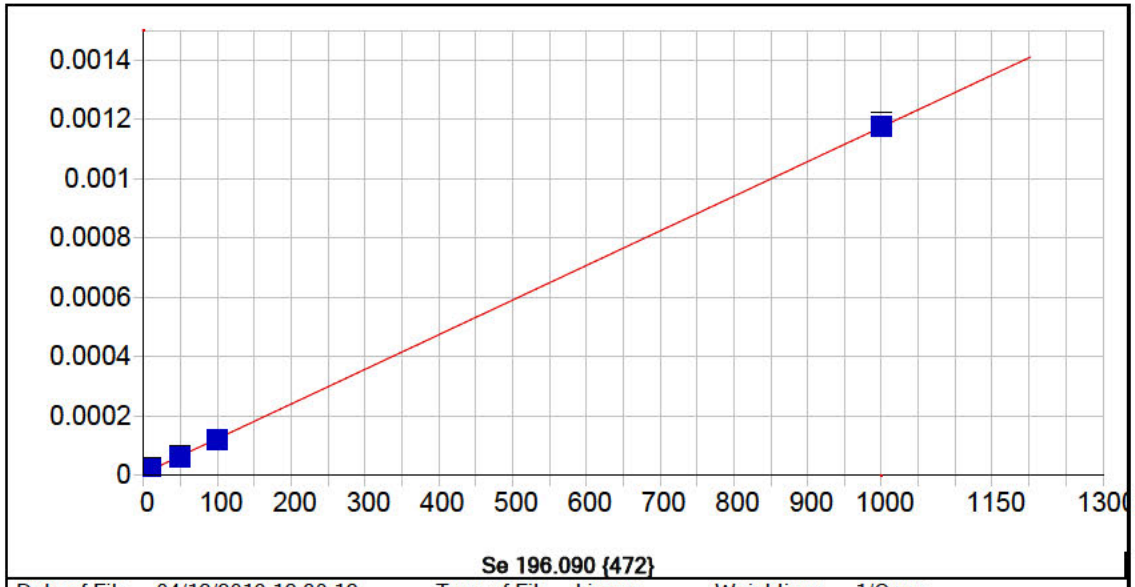



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999893 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.579773 | | |
| Predicted MQL: | 8.599243 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00385 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1024.5 | 24.5 | 2.45 | .00289 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.721 | 1.72 | 8.61 | .00006 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.974 | 2.97 | 29.7 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.61 | 1.61 | 1.61 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7418 | 1.74 | 34.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.4 | -32.6 | -.326 | .02809 | .000 | 1 |

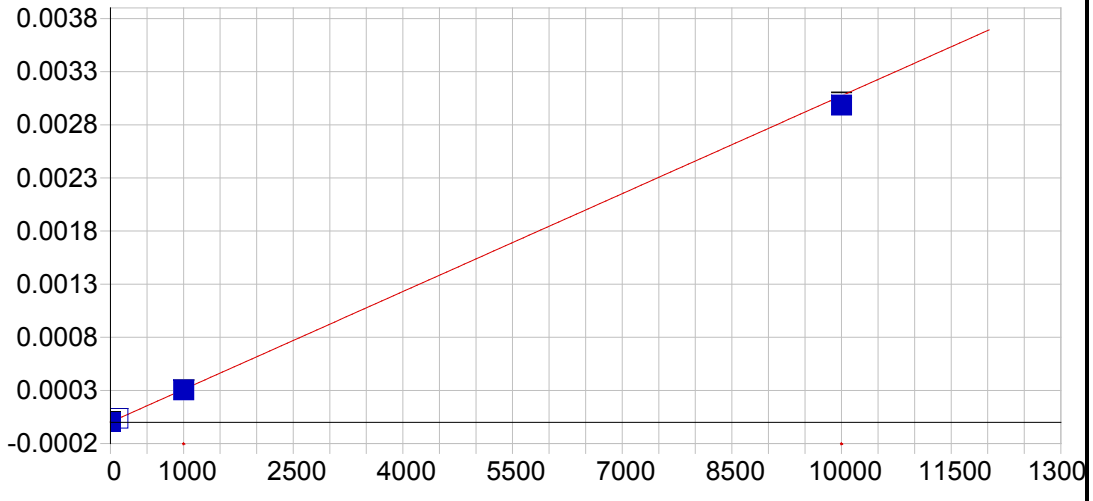



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999018 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.530040 | | |
| Predicted MQL: | 15.100132 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00354 | -.004 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.484 | -2.52 | -5.03 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.3 | 2.28 | .228 | .00118 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.441 | 4.44 | 44.4 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.794 | -4.21 | -4.21 | .00012 | .000 | 1 |

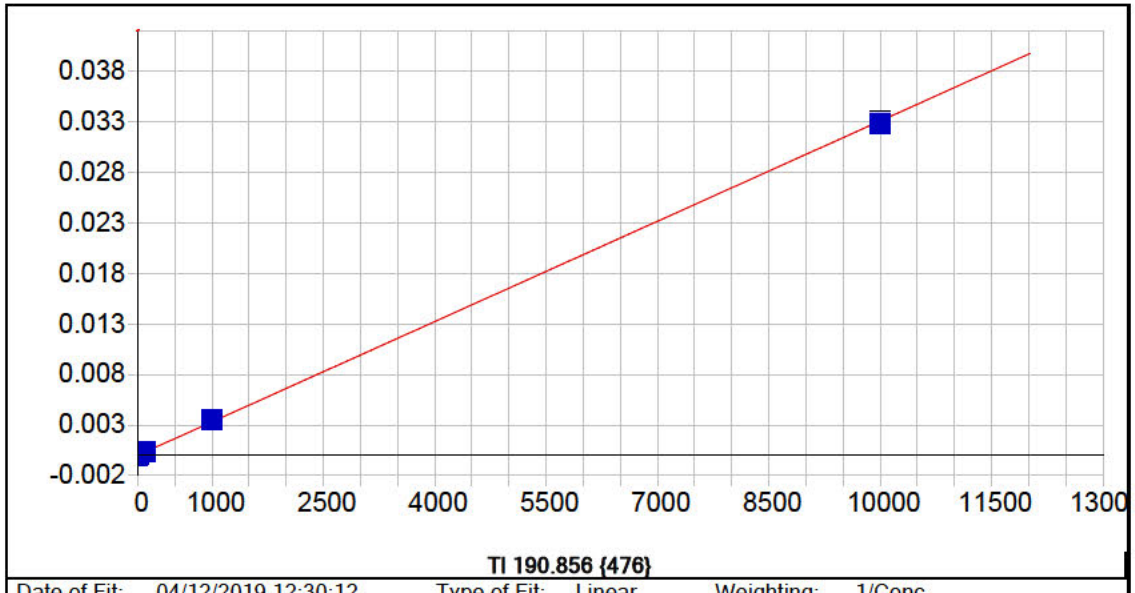



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999905 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.155478 | | |
| Predicted MQL: | 77.184928 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01194 | -.012 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.34 | -17.7 | -1.77 | .00030 | .000 | 1 |
| CalStd10=10 | 10000. | 9706.8 | -293. | -2.93 | .00299 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.37 | 13.4 | 13.4 | .00004 | .000 | 1 |

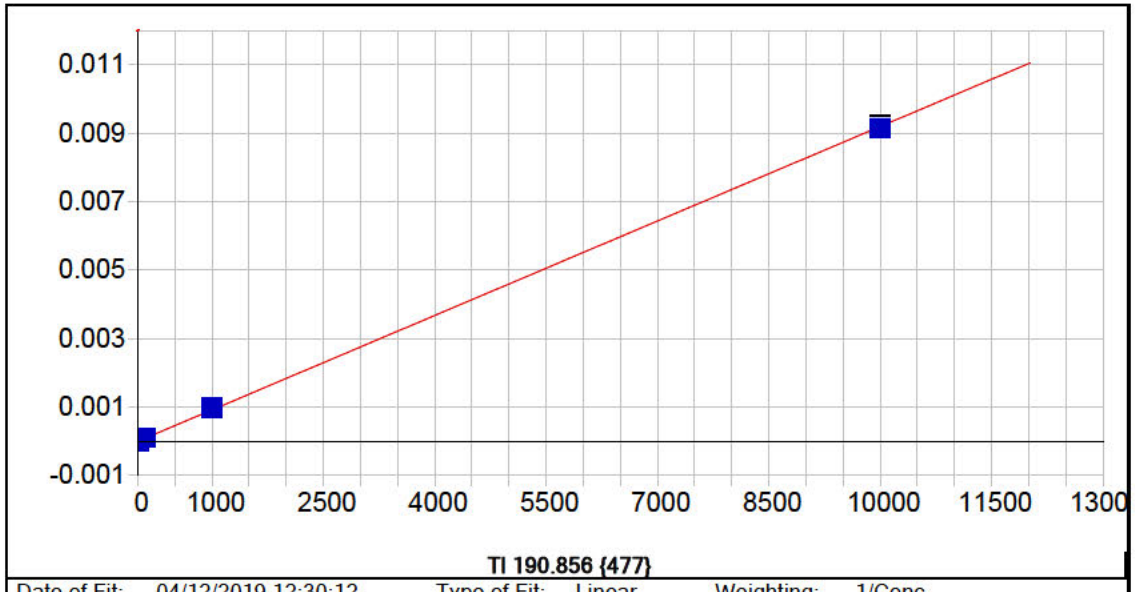



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999705 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.323578 | | |
| Predicted MQL: | 7.745262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00356 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.8 | 67.8 | 6.78 | .00354 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.89 | 9.89 | 9.89 | .00036 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.977 | 1.98 | 19.8 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9920.3 | -79.7 | -.797 | .03293 | .000 | 1 |

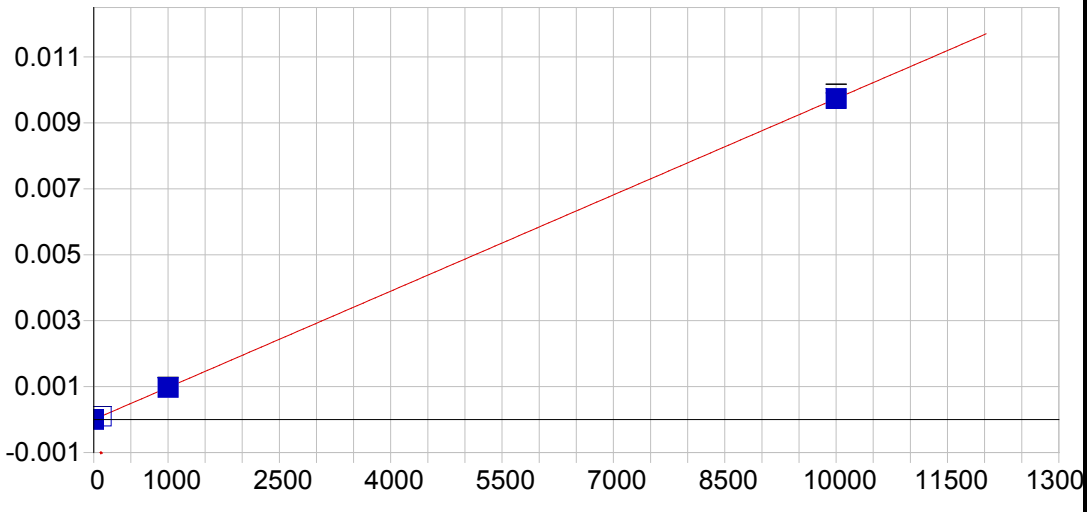



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999828 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.817160 | | |
| Predicted MQL: | 19.390533 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00108 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.9 | 52.9 | 5.29 | .00097 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7966 | -.203 | -2.03 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .00914 | .000 | 1 |

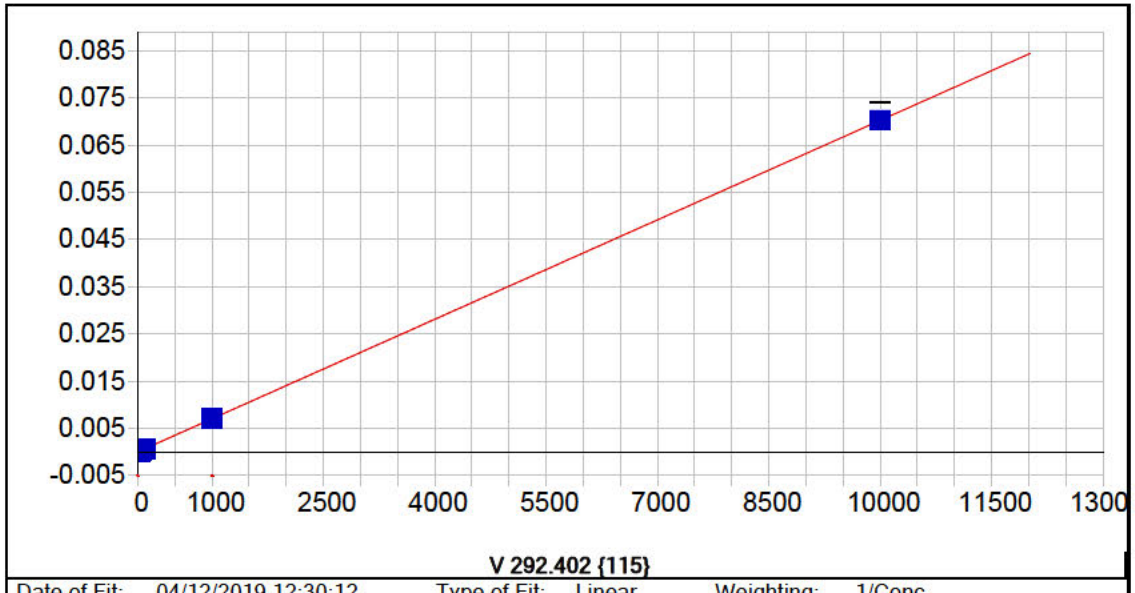



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.979888 | | |
| Predicted MQL: | 19.932959 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00253 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.69 | -5.31 | -.531 | .00097 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.27 | .023 | .00974 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.04 | 3.04 | 3.04 | .00010 | .000 | 1 |

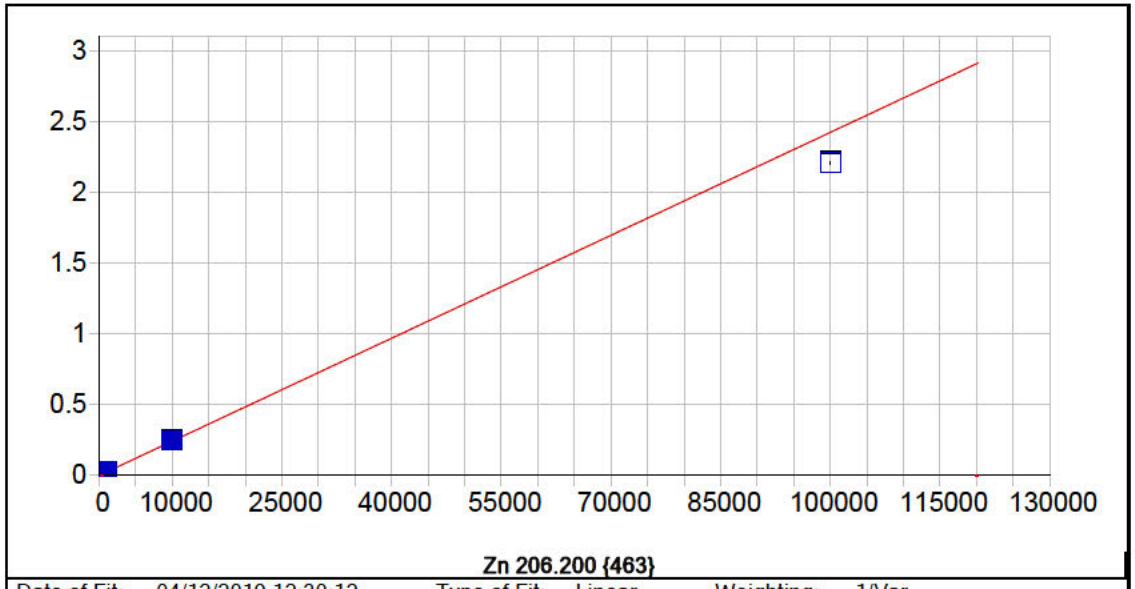



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.564743 | | |
| Predicted MQL: | 1.882477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.192 | -1.81 | -3.62 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.16 | .416 | .00705 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.266 | -.734 | -3.67 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.279 | .279 | 2.79 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.303 | -.697 | -.697 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 9998.8 | -1.20 | -.012 | .07046 | .002 | 1 |

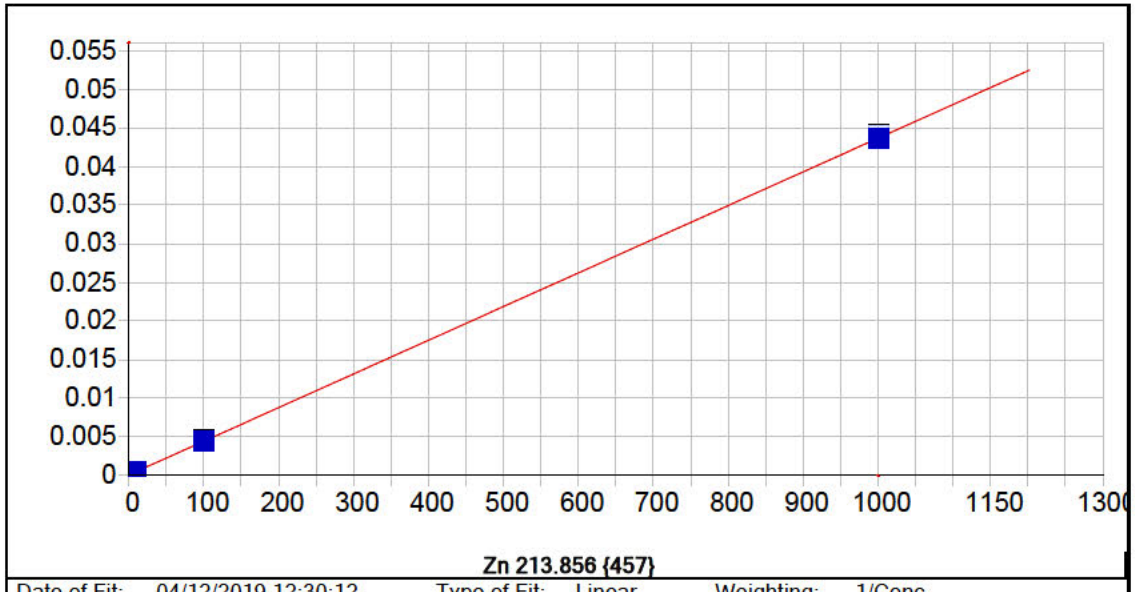



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000041 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997616 | Status: | OK. |
| Std Error of Est: | 0.000150 | | |
| Predicted MDL: | 0.362951 | | |
| Predicted MQL: | 1.209837 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10196. | 196. | 1.96 | .24704 | .002 | 1 |
| Blank | .00000 | -.53103 | -.531 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1057.2 | 57.2 | 5.72 | .02565 | .000 | 1 |
| CalStd12=10 | 100000. | 91151. | -8850. | -8.85 | 2.2081 | .007 | 1 |
| CalStd5=10 | 10.000 | 9.9077 | -.092 | -.923 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.31 | 5.31 | 5.31 | .00259 | .000 | 1 |

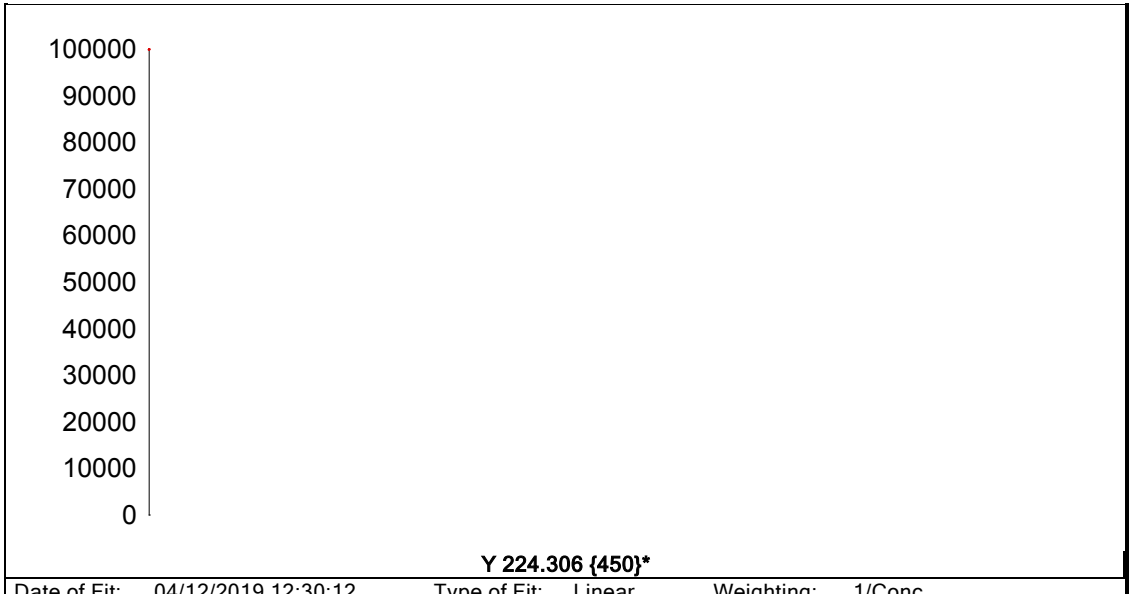



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000072 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.176452 | | |
| Predicted MQL: | 0.588174 | | |

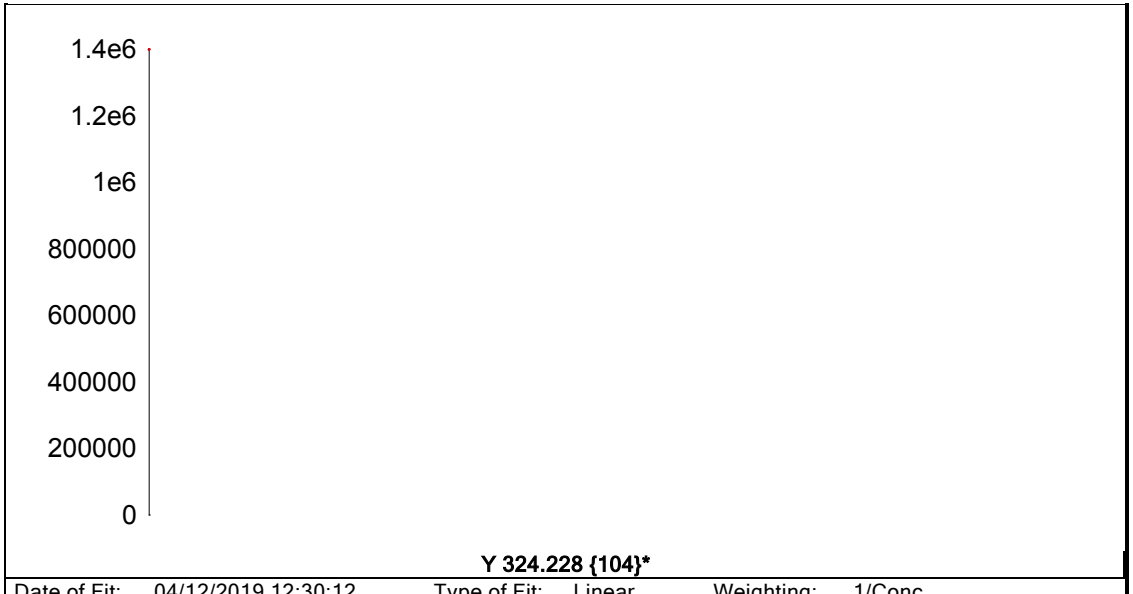
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.97 | -1.03 | -.103 | .04402 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.156 | .156 | 1.56 | .00052 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.87 | .871 | .871 | .00451 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

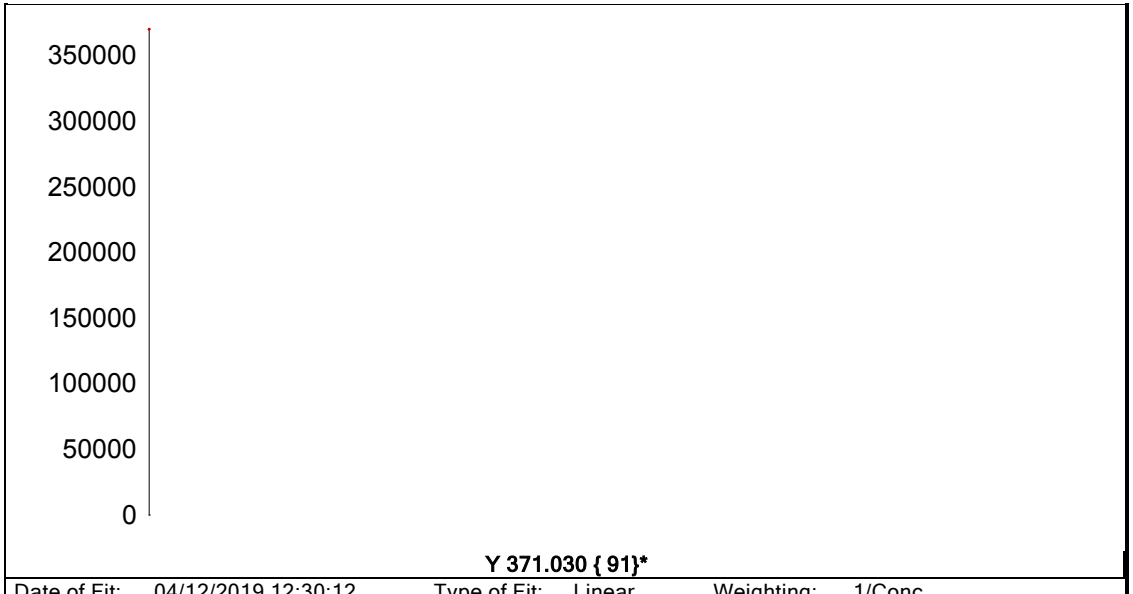
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 90406. | 120. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

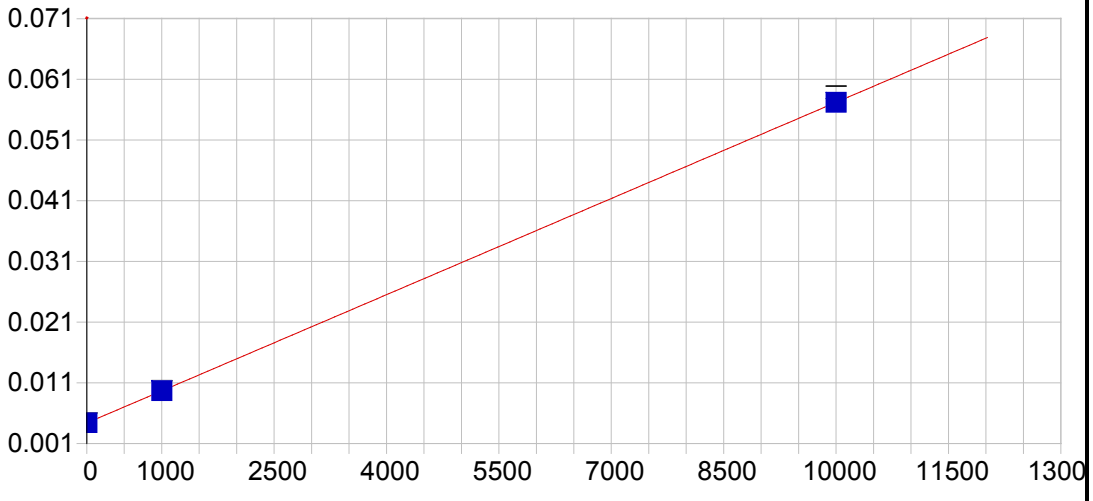
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1279400. | 28800. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 342950. | 3000. | 1 |

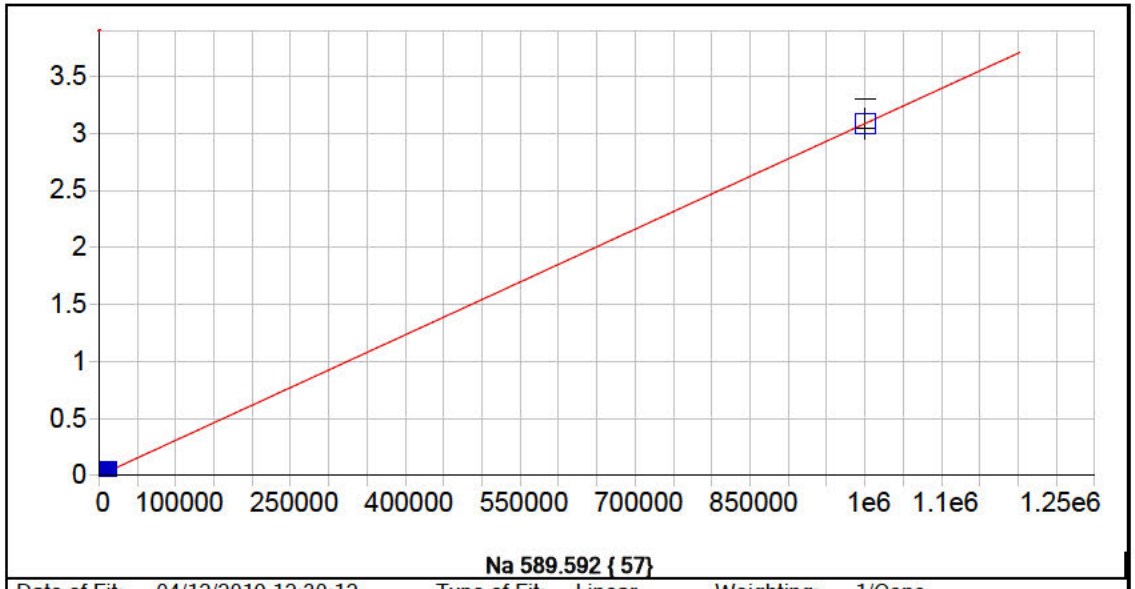



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004390 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 8.191976 | | |
| Predicted MQL: | 27.306587 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00217 | -.002 | .000 | .00439 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.4 | 2.41 | .241 | .00969 | .000 | 1 |
| CalStd10=10 | 10000. | 9997.6 | -2.41 | -.024 | .05721 | .001 | 1 |

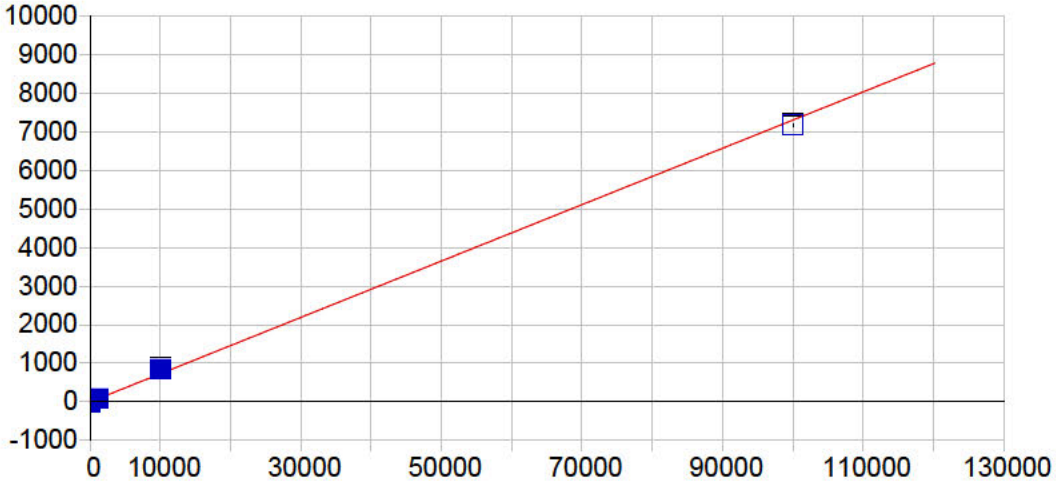



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 9.323428 | | |
| Predicted MQL: | 31.078092 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02539 | .025 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.31 | -23.7 | -2.37 | .00306 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.6 | -17.4 | -.174 | .03084 | .001 | 1 |
| CalibStd15= | 1000000. | 1000000. | 41.1 | .004 | 3.0844 | .129 | 1 |

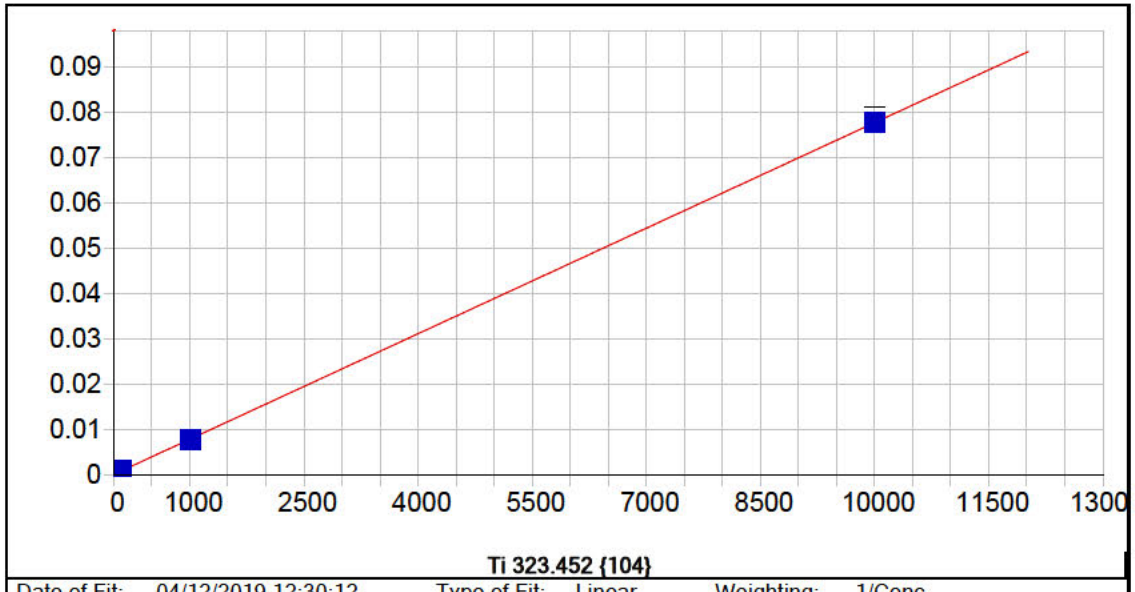



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.092998 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.072976 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998832 | Status: | OK. |
| Std Error of Est: | 1.671194 | | |
| Predicted MDL: | 19.062042 | | |
| Predicted MQL: | 63.540140 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.22814 | -.228 | .000 | .07635 | .463 | 1 |
| CalStd9=100 | 1000.0 | 1094.8 | 94.8 | 9.48 | 85.745 | 1.71 | 1 |
| CalStd10=10 | 10000. | 11501. | 1500. | 15.0 | 875.94 | 7.94 | 1 |
| CalibStd15= | 100000. | 98322. | -1680. | -1.68 | 7175.2 | 32.9 | 1 |

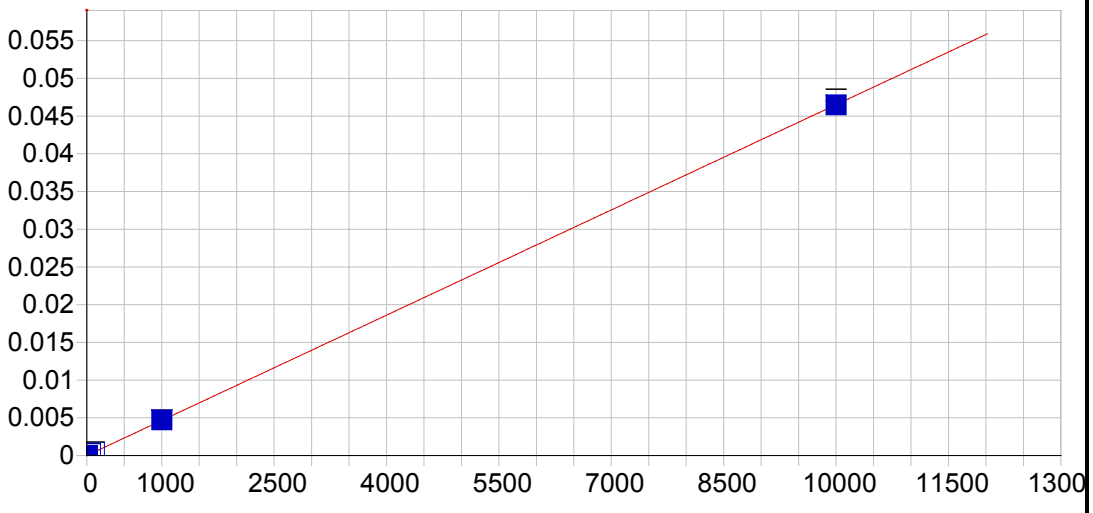



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000253 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.317547 | | |
| Predicted MQL: | 4.391824 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | .00025 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.697 | 2.70 | 27.0 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.74 | 1.74 | 1.74 | .00104 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.76 | -10.2 | -1.02 | .00792 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 4.82 | .048 | .07783 | .001 | 1 |
| CalStd7=50 | 50.000 | 50.460 | .460 | .921 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5203 | .520 | 10.4 | .00030 | .000 | 1 |

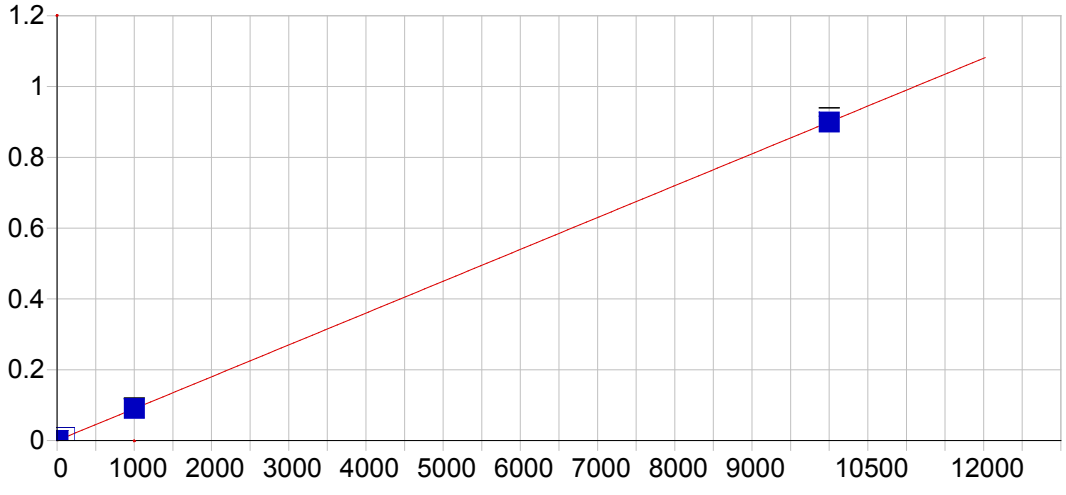



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.513558 | | |
| Predicted MQL: | 5.045195 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00009 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.669 | .669 | 6.69 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.12 | 1.12 | 1.12 | .00047 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | .00471 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.2 | -11.8 | -.118 | .04648 | .001 | 1 |
| CalStd7=50 | 50.000 | 49.425 | -.575 | -1.15 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5304 | -.470 | -9.39 | .00002 | .000 | 1 |

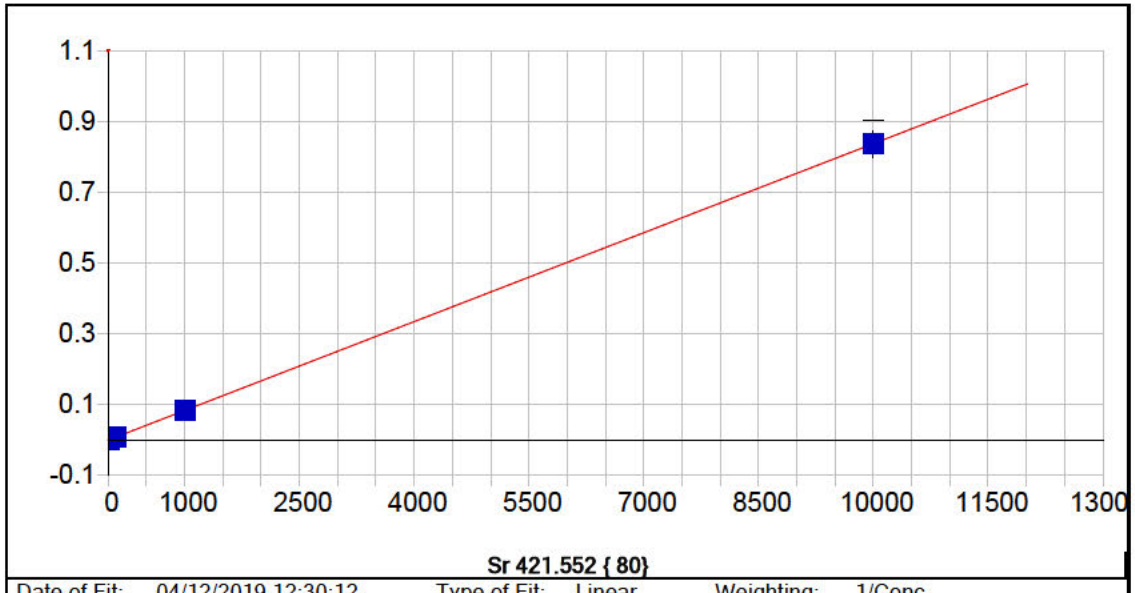



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.170987 | | |
| Predicted MQL: | 0.569955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00003 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .92247 | -.078 | -7.75 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9516 | -.048 | -.969 | .00051 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.411 | .411 | 4.11 | .00100 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.99 | .993 | .993 | .00915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.7 | 3.66 | .366 | .09041 | .001 | 1 |
| CalStd10=10 | 10000. | 9995.1 | -4.94 | -.049 | .89974 | .012 | 1 |

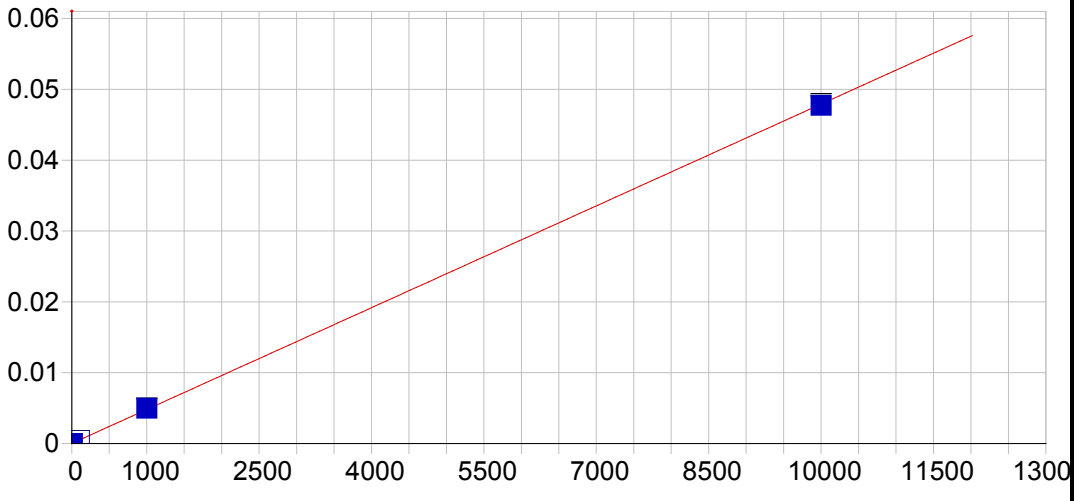



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000084 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.184340 | | |
| Predicted MQL: | 0.614467 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00001 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .81806 | -.182 | -18.2 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1857 | .186 | 3.71 | .00044 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.122 | 1.12 | 11.2 | .00094 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.11 | 2.11 | 2.11 | .00856 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.57 | -.428 | -.043 | .08369 | .001 | 1 |
| CalStd10=10 | 10000. | 9997.2 | -2.81 | -.028 | .83696 | .037 | 1 |

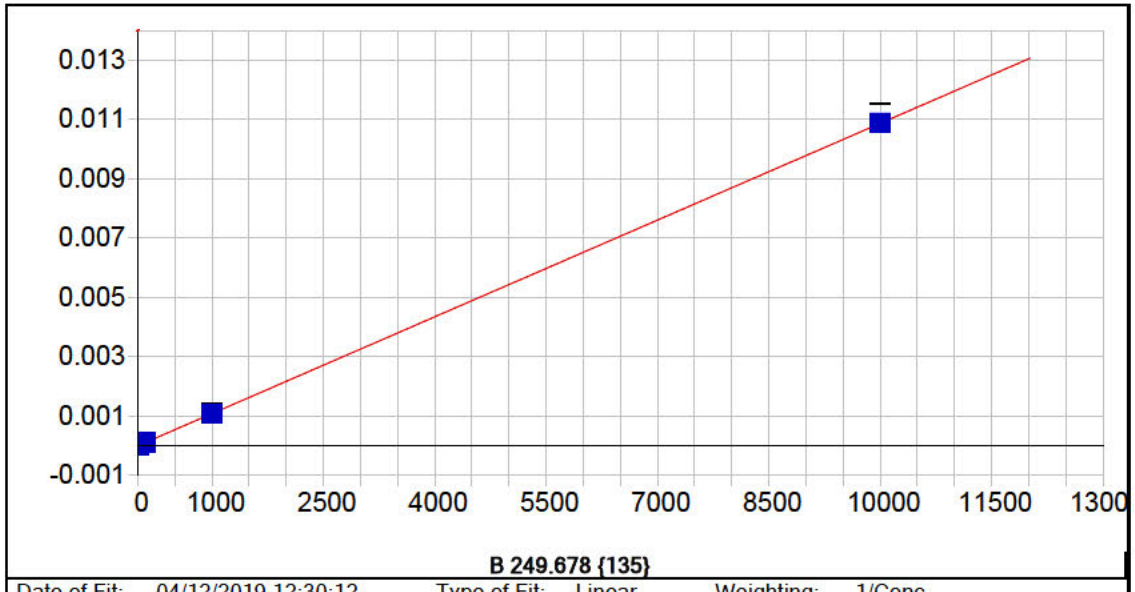



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999932 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.392712 | | |
| Predicted MQL: | 4.642373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00137 | -.001 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9962.8 | -37.2 | -.372 | .04774 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.7 | 35.7 | 3.57 | .00498 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.48 | .482 | .482 | .00050 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.006 | 1.01 | 10.1 | .00007 | .000 | 1 |

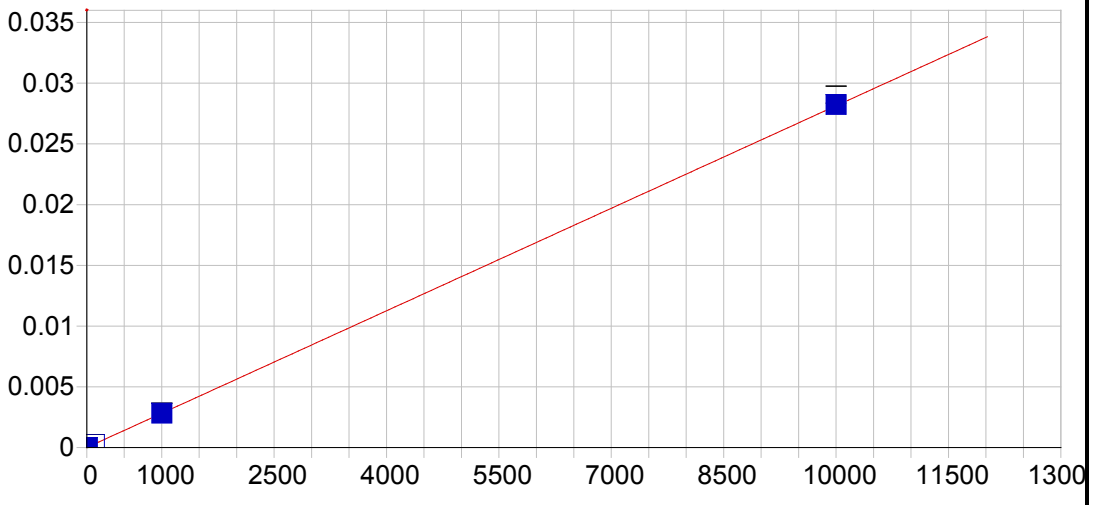



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.807993 | | |
| Predicted MQL: | 6.026642 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00158 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.865 | -.135 | -.135 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.651 | 1.65 | 16.5 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.32 | -5.68 | -.568 | .00109 | .000 | 1 |
| CalStd10=10 | 10000. | 10004. | 4.17 | .042 | .01092 | .000 | 1 |

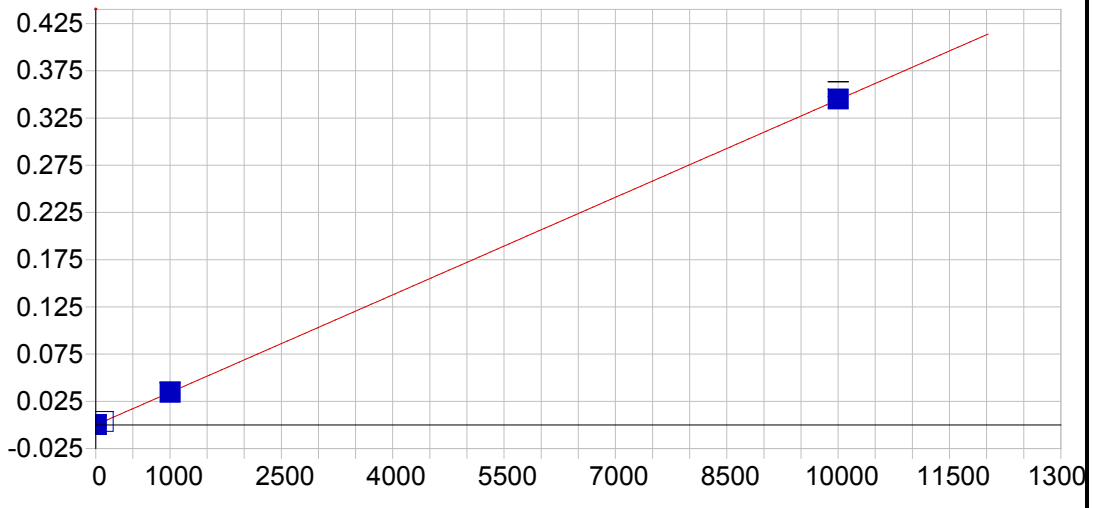



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.680433 | | |
| Predicted MQL: | 2.268110 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01088 | -.011 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.427 | -1.57 | -1.57 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.097 | .097 | .966 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.31 | .131 | .00282 | .000 | 1 |
| CalStd10=10 | 10000. | 10031. | 30.9 | .309 | .02824 | .001 | 1 |

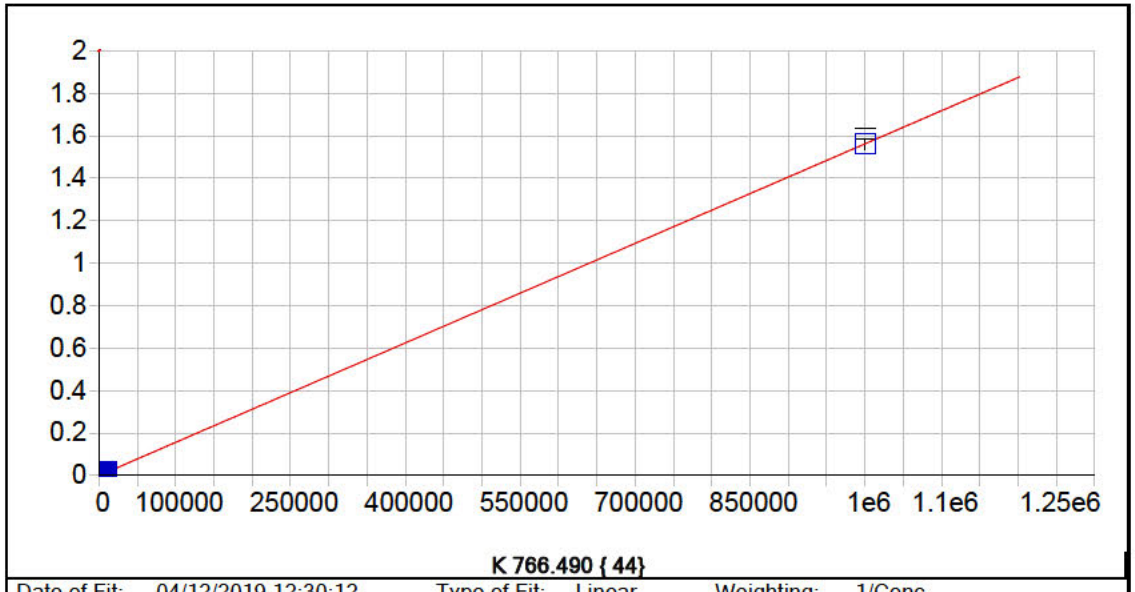



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 1.018434 | | |
| Predicted MQL: | 3.394779 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24804 | -.248 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.273 | .273 | 2.73 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.67 | .671 | .671 | .00347 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.33 | -3.67 | -.367 | .03431 | .000 | 1 |
| CalStd10=10 | 10000. | 10018. | 18.4 | .184 | .34500 | .008 | 1 |

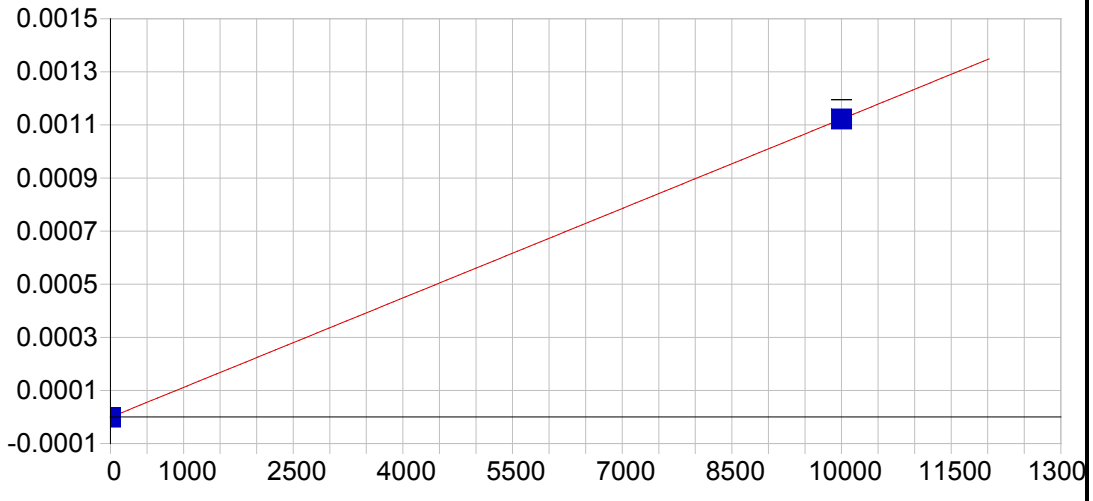



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 27.773860 | | |
| Predicted MQL: | 92.579535 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01771 | .018 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 978.29 | -21.7 | -2.17 | .00159 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.2 | .402 | .01573 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -18.5 | -.002 | 1.5615 | .025 | 1 |

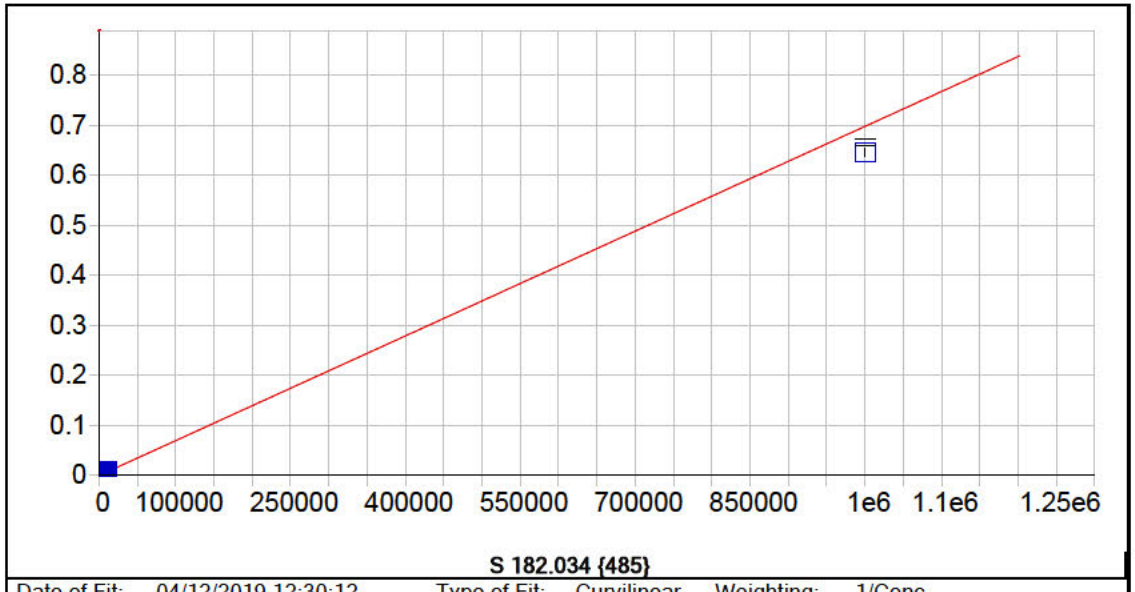



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.557307 | | |
| Predicted MQL: | 15.191024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00112 | .000 | 1 |

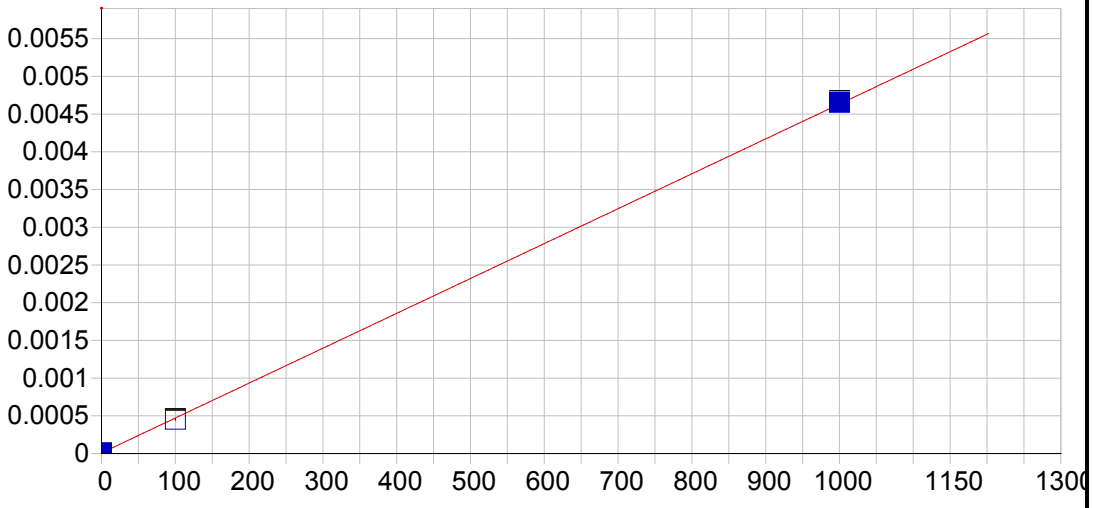



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.132317 | | |
| Predicted MQL: | 20.441056 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00127 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.51 | -1.49 | -.149 | .00071 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.0 | -6.04 | -.060 | .00700 | .000 | 1 |
| CalibStd15= | 1000000. | 925340. | -74700. | -7.47 | .64607 | .007 | 1 |

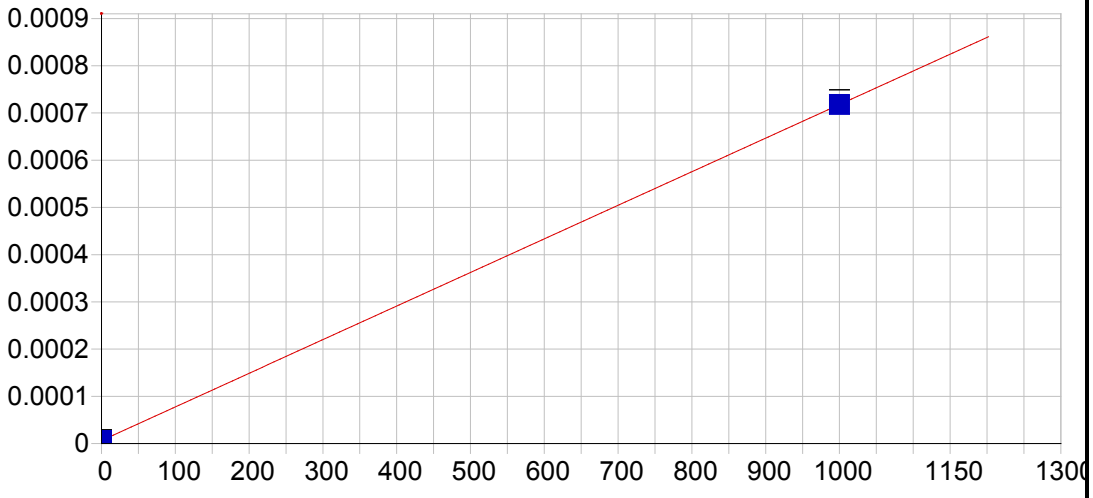



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999910 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.117100 | | |
| Predicted MQL: | 3.723667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00381 | .004 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.765 | -4.24 | -4.24 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.24 | .424 | .00465 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.843516 | | |
| Predicted MQL: | 72.811721 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00072 | .000 | 1 |

Sample Name: Blank Acquired: 04/03/2019 14:05:25 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.000** | **-.000** | **-.000** | **.009** | **-.000** | **.000** | **.000** | **.022** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .003 | .000 |
| %RSD | 24.8 | 6.66 | 10.8 | 538. | 45.7 | 2350. | .636 | 6.42 | 25.7 | 7.14 | 11.4 | 27.9 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **199.** | **7.28** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 3. | 1.90 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 24.5 | 155. | 59.7 | 86.6 | 77.4 | 1.39 | 26.1 | 1.89 | 73.0 | 24.9 | 51.8 | 4.55 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 84.5 | 173. | 43.7 | 1730. | 20.7 | 68.6 | 40.4 | 78.4 | 875. | 37.3 | 278. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 571. | 429. | 109. | 20.8 | 7.53 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90406.** | **1279400.** | **342950.** |
| Stddev | 120. | 28809. | 2998. |
| %RSD | .13307 | 2.2518 | .87414 |

Sample Name: CalStd2=0.5 Acquired: 04/03/2019 14:11:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 55.7 | 76.6 | 17.0 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **90922.** | **1301600.** |
| Stddev | 436. | 1985. |
| %RSD | .47910 | .15254 |

Sample Name: CalStd3=1 Acquired: 04/03/2019 14:17:55 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.4 | 31.8 | 5.58 | 18.1 | 1.18 | 20.2 | 45.3 | 28.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91336.** | **1305800.** | **337010.** |
| Stddev | 382. | 3154. | 3855. |
| %RSD | .41843 | .24150 | 1.1440 |

Sample Name: CalStd4=5 Acquired: 04/03/2019 14:24:11 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.3** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 4.1 | .000 | .000 | .000 | .000 |
| %RSD | 3.10 | 1.34 | 1.95 | 2.35 | 5.59 | 10.4 | 6.47 | 39.5 | 1.37 | 9.35 | 2.31 | 9.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 16.0 | 28.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91987.** | **1303700.** | **333570.** |
| Stddev | 432. | 1881. | 9363. |
| %RSD | .46942 | .14428 | 2.8070 |

Sample Name: CalStd5=10 Acquired: 04/03/2019 14:30:26 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .000 | .000 | .000 | .000 | .000 | .001 | .000 | .001 | .000 | .000 | .000 | 204. |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3. |
| %RSD | 2.33 | 4.01 | 43.7 | 2350. | 3.80 | .489 | .588 | 1.41 | 2.86 | 3.57 | 6.49 | 1.28 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 16.0 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| Stddev | 2.7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 17.1 | 1.51 | 3.02 | 7.48 | 1.36 | 18.4 | 15.0 | 14.9 | 13.9 | 13.4 | 23.8 | 2.83 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | .000 | .001 |
| Stddev | .000 | .000 |
| %RSD | 1.44 | 1.24 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 91123. | 1299600. | 332850. |
| Stddev | 264. | 10600. | 2007. |
| %RSD | .28932 | .81569 | .60289 |

Sample Name: CalStd6=20 Acquired: 04/03/2019 14:36:43 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **212.** | **18.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 3. | 2.8 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.23 | 1.24 | 15.2 | 1.47 | 1.85 | 5.06 | 5.09 | 2.74 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90653.** | **1313200.** | **339920.** |
| Stddev | 69. | 24223. | 5797. |
| %RSD | .07648 | 1.8446 | 1.7053 |

Sample Name: CalStd7=50 Acquired: 04/03/2019 14:42:54 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.002** | **.003** | **.001** | **.001** | **.000** | **235.** | **29.7** | **.000** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1. | 2.7 | .000 | .000 |
| %RSD | 3.96 | 8.74 | 4.48 | .384 | .244 | .749 | .190 | 2.61 | .414 | 9.06 | .777 | 1.56 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.76 | .992 | 3.52 | 7.93 | .901 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90317.** | **1297000.** | **335950.** |
| Stddev | 200. | 7789. | 4440. |
| %RSD | .22163 | .60054 | 1.3215 |

Sample Name: CalStd8=100 Acquired: 04/03/2019 14:49:03 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.001** | **.013** | **.005** | **.000** | **.020** | **.003** | **.006** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.26 | 1.51 | 5.03 | 1.19 | 1.36 | 3.00 | 2.24 | 2.59 | 2.43 | .787 | .588 | 1.30 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **284.** | **54.2** | **.003** | **.001** | **.001** | **.001** | **.002** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 5. | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.83 | .968 | 1.45 | 1.60 | 5.44 | 2.28 | 2.26 | 1.42 | .802 | 1.17 | .757 | 2.09 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.003** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.24 | 2.34 | 1.42 | 7.13 | 1.65 | 4.80 | 2.48 | 1.14 | .870 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90096.** | **1281700.** | **333110.** |
| Stddev | 318. | 34678. | 9032. |
| %RSD | .35306 | 2.7055 | 2.7113 |

Sample Name: CalStd9=1000 Acquired: 04/03/2019 14:55:12 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.001** | **.001** | **.001** | **.014** | **.049** | **.054** | **.003** | **.000** | **.166** | **.034** | **.062** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .244 | 1.88 | .693 | 1.69 | .225 | 1.03 | .572 | 1.32 | 1.49 | 1.20 | .116 | .126 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.030** | **.002** | **.017** | **.002** | **1080.** | **460.** | **.000** | **.000** | **.001** | **.000** | **.027** | **.009** |
| Stddev | .000 | .000 | .000 | .000 | 12. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .281 | .654 | .256 | .580 | 1.07 | 1.25 | .811 | 1.38 | 1.26 | 7.07 | .594 | .537 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.012** | **.007** | **.017** | **.017** | **.002** | **.004** | **.003** | **.003** | **.001** | **.000** | **.004** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.07 | .135 | .075 | .350 | .296 | .696 | .329 | .362 | .370 | 1.17 | 1.22 | .533 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.026** | **.044** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .731 | .555 | .244 | .137 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89178.** | **1290700.** | **340890.** |
| Stddev | 85. | 1862. | 1611. |
| %RSD | .09528 | .14429 | .47248 |

Sample Name: CalStd10=10000 Acquired: 04/03/2019 15:00:51 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.405** | **.003** | **.286** | **.021** | **.165** | **.021** | **8960.** | **4460.** | **.004** | **.003** |
| Stddev | .000 | .000 | .011 | .000 | .002 | .000 | .001 | .000 | 93. | 59. | .000 | .000 |
| %RSD | 2.04 | .615 | 2.62 | 1.25 | .602 | 2.29 | .722 | 2.23 | 1.03 | 1.33 | 2.22 | 1.19 |

| Elem | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.012** | **.000** | **.252** | **.087** | **.034** | **.072** | **.159** | **.165** | **.016** | **.028** | **.028** | **.003** |
| Stddev | .000 | .000 | .007 | .002 | .001 | .000 | .001 | .001 | .000 | .000 | .000 | .000 |
| %RSD | 1.30 | 2.26 | 2.95 | 2.24 | 1.58 | .659 | .669 | .638 | .645 | .681 | .810 | .813 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.033** | **.010** | **.070** | **.247** |
| Stddev | .000 | .000 | .002 | .002 |
| %RSD | .535 | 1.35 | 2.18 | .649 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87946.** | **1248500.** | **338940.** |
| Stddev | 455. | 36835. | 3085. |
| %RSD | .51701 | 2.9504 | .91020 |

Sample Name: CalStd12=100K  Acquired: 04/03/2019 15:07:24  Type: Cal
Method: DOD Calibration Updated 060614(v3294)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.47** | **84400.** | **43000.** | **.322** | **.158** | **2.21** |
| Stddev | .00 | 667. | 510. | .007 | .000 | .01 |
| %RSD | .246 | .791 | 1.18 | 2.32 | .298 | .337 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87399.** | **1271700.** | **338840.** |
| Stddev | 369. | 4886. | 4117. |
| %RSD | .42252 | .38418 | 1.2150 |

Sample Name: CalStd13=100000 Acquired: 04/03/2019 15:13:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.110** | **.032** | **.040** | **.030** | **.115** | **.004** |
| Stddev | .002 | .000 | .001 | .000 | .001 | .000 |
| %RSD | 1.39 | 1.48 | 1.38 | 1.58 | 1.30 | 1.57 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85755.** | **1246700.** | **334390.** |
| Stddev | 316. | 3104. | 5912. |
| %RSD | .36868 | .24898 | 1.7680 |

Sample Name: CalStd14=500000 Acquired: 04/03/2019 15:20:06 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.579** | **.159** | **.142** | **.535** | **.019** |
| Stddev | .009 | .002 | .001 | .006 | .000 |
| %RSD | 1.49 | .997 | .916 | 1.04 | 1.11 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **79215.** | **323820.** |
| Stddev | 268. | 2683. |
| %RSD | .33828 | .82857 |

Sample Name: CalibStd15=1000k Acquired: 04/03/2019 15:26:47 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.313** | **.268** | **.037** |
| Stddev | .01 | .001 | .001 | .000 |
| %RSD | 1.24 | .448 | .290 | .450 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **71185.** | **304600.** |
| Stddev | 647. | 2218. |
| %RSD | .90824 | .72828 |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.6** | **11400.** | **1990.** | **1990.** | **1900.** | **48.6** | **46.7** | **9890.** | **48.0** | **56.9** | **508.** | **196.** |
| Stddev | 1.5 | 79. | 13. | 13. | 12. | 1.0 | 1.7 | 44. | .3 | .5 | 4. | 3. |
| %RSD | 3.19 | .690 | .646 | .664 | .631 | 2.08 | 3.62 | .441 | .562 | .855 | .747 | 1.49 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **243.** | **252.** | **5140.** | **10000.** | **513.** | **506.** | **508.** | **501.** | **503.** | **491.** | **478.** | **501.** |
| Stddev | 6. | 13. | 24. | 99. | 9. | 3. | 3. | 3. | 4. | 7. | 2. | 5. |
| %RSD | 2.39 | 4.97 | .474 | .983 | 1.79 | .644 | .651 | .505 | .705 | 1.51 | .505 | .924 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **502.** | **1990.** | **2030.** | **469.** | **493.** | **510.** | **483.** |
| Stddev | 5. | 19. | 14. | 9. | 10. | 2. | 3. |
| %RSD | .954 | .957 | .666 | 1.90 | 2.09 | .466 | .699 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88846.** | **1266900.** | **348410.** |
| Stddev | 316. | 32909. | 1933. |
| %RSD | .35620 | 2.5976 | .55489 |

Sample Name: ICVLL Acquired: 04/03/2019 15:52:57 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **30.1** | **1160.** | **1180.** | **65.1** | **28.4** | **11.4** | **1470.** | **14.7** | **15.1** | **29.5** | **30.0** | **26.0** |
| Stddev | .9 | 6. | 19. | 4.8 | .2 | .2 | 35. | .3 | .2 | .2 | 1.3 | 4.5 |
| %RSD | 3.10 | .499 | 1.59 | 7.44 | .632 | 1.53 | 2.39 | 1.76 | 1.45 | .698 | 4.18 | 17.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **43.1** | **884.** | **1420.** | **32.2** | **29.7** | **29.3** | **32.4** | **62.6** | **65.9** | **61.9** | **29.2** | **29.0** |
| Stddev | 5.0 | 16. | 22. | .5 | .2 | .3 | 1.9 | 1.0 | 2.5 | 2.3 | .8 | .1 |
| %RSD | 11.7 | 1.77 | 1.56 | 1.56 | .655 | .944 | 5.70 | 1.63 | 3.83 | 3.69 | 2.70 | .380 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 30.0 | | | | | | | | | | | |
| Range | 20.0% | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88382.** | **1277700.** | **345540.** |
| Stddev | 413. | 5455. | 2447. |
| %RSD | .46689 | .42698 | .70812 |

Sample Name: icb Acquired: 04/03/2019 16:05:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.053** | **-1.45** | **2.96** | **-.150** | **.025** | **-27.7** | **.130** | **.033** | **.457** | **.931** | **8.55** | **1.49** |
| Stddev | .378 | .53 | 3.68 | .279 | .037 | .7 | .174 | .055 | .223 | .186 | 1.89 | 1.10 |
| %RSD | 716. | 36.5 | 124. | 186. | 144. | 2.46 | 134. | 167. | 48.9 | 20.0 | 22.1 | 73.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.732** | **-.076** | **-.001** | **.334** | **1.42** | **-.014** | **3.11** | **1.07** | **-.550** | **-.468** |
| Stddev | .058 | .119 | .297 | .563 | 2.84 | 2.48 | 2.26 | 1.50 | .340 | .099 |
| %RSD | 7.91 | 158. | 26900. | 168. | 200. | 17500. | 72.4 | 140. | 61.7 | 21.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89871.** | **1294600.** | **342360.** |
| Stddev | 216. | 5657. | 8297. |
| %RSD | .24065 | .43698 | 2.4236 |

Sample Name: MRL/LLOQ  Acquired: 04/03/2019 16:11:32  Type: QC
Method: DOD Calibration Updated 060614(v3294)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **11.4** | **386.** | **20.2** | **8.91** | **3.70** | **462.** | **4.91** | **4.83** | **9.86** | **10.2** | **9.30** | **282.** |
| Stddev | .5 | 2. | 2.5 | .62 | .05 | 15. | .15 | .08 | .48 | .5 | 9.28 | 3. |
| %RSD | 4.55 | .561 | 12.4 | 7.00 | 1.38 | 3.24 | 3.05 | 1.70 | 4.83 | 4.69 | 99.8 | .993 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **462.** | **9.94** | **9.85** | **9.86** | **10.7** | **21.7** | **20.7** | **21.1** | **9.29** | **9.96** |
| Stddev | 5. | .12 | .29 | .36 | 1.2 | .6 | 3.3 | 1.6 | .38 | .20 |
| %RSD | .973 | 1.22 | 3.00 | 3.62 | 11.4 | 2.56 | 15.9 | 7.39 | 4.12 | 1.99 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89155.** | **1289400.** | **342840.** |
| Stddev | 389. | 2710. | 4343. |
| %RSD | .43646 | .21015 | 1.2669 |

Sample Name: ICSA Acquired: 04/03/2019 16:17:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.504** | **547000.** | **-.250** | **-.747** | **-.035** | **530000.** | **1.23** | **-.075** | **.295** | **-.966** | **.002** |
| Stddev | .913 | 25100. | 9.22 | .784 | .170 | 8010. | 1.16 | .222 | .484 | 1.88 | 5.37 |
| %RSD | 181. | 4.58 | 3690. | 105. | 492. | 1.51 | 94.3 | 298. | 164. | 194. | 299000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **540000.** | **519000.** | **-4.02** | **-.349** | **-.210** | **1.31** | **-2.11** | **3.97** | **-4.38** | **10200.** | **-.325** |
| Stddev | 8910. | 7340. | .31 | .897 | 1.51 | 5.62 | 1.03 | 7.59 | 3.62 | 147. | 1.09 |
| %RSD | 1.65 | 1.41 | 7.81 | 257. | 719. | 428. | 49.0 | 191. | 82.7 | 1.45 | 336. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **79719.** | **1164100.** | **326960.** |
| Stddev | 256. | 8532. | 6010. |
| %RSD | .32061 | .73292 | 1.8383 |

Sample Name: ICSAB  Acquired: 04/03/2019 16:24:29  Type: QC
Method: DOD Calibration Updated 060614(v3294)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **446.** | **535000.** | F **658.** | **571.** | **490.** | **471.** | **477.** | **522000.** | **516.** | **480.** | **482.** |
| Stddev | 3. | 15900. | 11. | 11. | 1. | 5. | 1. | 3840. | 1. | 1. | 4. |
| %RSD | .697 | 2.97 | 1.66 | 1.86 | .247 | 1.13 | .225 | .735 | .253 | .237 | .817 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 500. | | | | | | | | |
| Range | | | 20.0% | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **496.** | **516.** | **538000.** | **510000.** | **511.** | **496.** | **501.** | **464.** | **469.** | **449.** | **425.** |
| Stddev | 2. | 11. | 2870. | 4040. | 3. | 1. | 4. | 1. | 2. | 36. | 4. |
| %RSD | .380 | 2.06 | .534 | .792 | .606 | .223 | .836 | .219 | .364 | 8.08 | 1.01 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **513.** | **494.** | **477.** | **495.** | **504.** | **493.** | **498.** |
| Stddev | 3. | 3. | 5. | 5. | 2. | 4. | 2. | 2. |
| %RSD | .558 | .515 | .954 | .985 | .462 | .835 | .312 | .426 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **80242.** | **1169100.** | **327370.** |
| Stddev | 148. | 8653. | 2108. |
| %RSD | .18400 | .74012 | .64380 |

Sample Name: ccv1 Acquired: 04/04/2019 04:39:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **463.** | **5060.** | **4510.** | **4920.** | **455.** | **4630.** | **522.** | **4730.** | **5490.** | **4790.** | **4660.** | **4640.** |
| Stddev | 2. | 92. | 21. | 83. | 7. | 33. | . | 18. | 3. | 57. | 87. | 66. |
| %RSD | .364 | 1.82 | .459 | 1.69 | 1.43 | .714 | .073 | .373 | .060 | 1.19 | 1.86 | 1.43 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4590.** | **4630.** | **4650.** | **5180.** | **4820.** | **4530.** | **4670.** | **4900.** |
| Stddev | 91. | 11. | 4. | 8. | 18. | 28. | 17. | 94. | 3. |
| %RSD | 1.78 | .246 | .094 | .177 | .352 | .585 | .370 | 2.01 | .062 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **81769.** | **1234400.** | **365360.** |
| Stddev | 69. | 2104. | 2147. |
| %RSD | .08446 | .17041 | .58772 |

Sample Name: ccv2 Acquired: 04/04/2019 04:44:48 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3933 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.6** | **513.** | **472.** | **469.** | **48.7** | **47.1** | **476.** | **49.5** | **460.** | **499.** | **476.** | **523.** |
| Stddev | .6 | 3. | 7. | 1. | .4 | 1.1 | 5. | .3 | 2. | 3. | 6. | 9. |
| %RSD | 1.12 | .508 | 1.45 | .217 | .743 | 2.42 | 1.08 | .592 | .343 | .633 | 1.34 | 1.76 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | **477.** | **494.** | **456.** | **456.** | **470.** | **478.** | **473.** | **468.** | **518.** | **511.** | **500.** |
| Stddev | 2. | 3. | 3. | 3. | 2. | 2. | 1. | 5. | 2. | 1. | 4. | 4. |
| %RSD | .410 | .716 | .558 | .556 | .330 | .360 | .157 | 1.13 | .469 | .191 | .793 | .730 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **477.** | **461.** | **476.** | **493.** | **451.** |
| Stddev | 2. | 9. | 2. | 2. | 1. |
| %RSD | .446 | 1.96 | .427 | .342 | .239 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 04:44:48 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **83742.** | **1264300.** | **370720.** |
| Stddev | 342. | 4637. | 1605. |
| %RSD | .40888 | .36673 | .43281 |

Sample Name: ccb Acquired: 04/04/2019 04:50:33 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.578** | **-3.03** | **2.97** | **.790** | **.392** | **-26.2** | **.136** | **.049** | **.640** | **1.82** | **5.19** | **-3.08** |
| Stddev | 1.09 | 1.01 | 2.65 | .186 | .035 | .7 | .148 | .052 | .366 | .39 | 1.06 | .70 |
| %RSD | 188. | 33.2 | 89.1 | 23.5 | 8.80 | 2.67 | 109. | 108. | 57.2 | 21.1 | 20.4 | 22.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.48** | **.459** | **1.36** | **.508** | **1.58** | **1.24** | **-2.29** | **1.18** | **.218** | **.017** |
| Stddev | .04 | .162 | .32 | .882 | 1.89 | .45 | 3.26 | .79 | .173 | .017 |
| %RSD | 2.96 | 35.3 | 23.6 | 174. | 120. | 36.2 | 143. | 67.0 | 79.0 | 102. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **83763.** | **1266800.** | **370640.** |
| Stddev | 62. | 8709. | 3283. |
| %RSD | .07384 | .68746 | .88563 |

Sample Name: lcss71263 Acquired: 04/04/2019 05:50:03 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **104.** | **730.** | **2020.** | **1900.** | **166.** | **144.** | **.297** | **18300.** | **.111** | **7.41** | **1.92** | **121.** |
| Stddev | 1. | 5. | 8. | 13. | 1. | 2. | .044 | 73. | .125 | .18 | .20 | 1. |
| %RSD | 1.35 | .665 | .412 | .684 | .521 | 1.48 | 14.8 | .402 | 113. | 2.41 | 10.4 | .871 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **73.3** | **104.** | **9060.** | **6060.** | **2100.** | **2240.** | **2.55** | **28.8** | **17.9** | **2.32** | **7.24** | **3.93** |
| Stddev | 2.0 | 8. | 80. | 108. | 9. | 9. | .45 | .5 | 1.2 | 2.27 | 4.92 | 1.66 |
| %RSD | 2.72 | 8.03 | .878 | 1.78 | .436 | .405 | 17.5 | 1.57 | 6.60 | 97.8 | 67.9 | 42.1 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.745** | **104.** |
| Stddev | .224 | 1. |
| %RSD | 30.0 | .541 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82636.** | **1246600.** | **360100.** |
| Stddev | 248. | 3743. | 808. |
| %RSD | .30017 | .30026 | .22448 |

Sample Name: mbs71263 Acquired: 04/04/2019 05:56:39 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.4** | **2910.** | **11.6** | **478.** | **428.** | **.205** | **30700.** | **-.331** | **.546** | **3.05** | **78.2** | **71.9** |
| Stddev | 1.0 | 28. | 4.1 | 2. | 6. | .037 | 106. | .241 | .138 | .65 | 1.7 | 2.7 |
| %RSD | 1.41 | .958 | 35.6 | .384 | 1.47 | 18.0 | .346 | 73.0 | 25.2 | 21.2 | 2.18 | 3.71 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **114.** | **23100.** | **6640.** | **444.** | **2.10** | **22.0** | **43.2** | **4.20** | **8.08** | **1.95** | **5.19** | **164.** |
| Stddev | 4. | 109. | 117. | 1. | .22 | .2 | 3.5 | 2.68 | 2.45 | 2.49 | .21 | . |
| %RSD | 3.62 | .473 | 1.77 | .256 | 10.6 | .759 | 8.15 | 63.9 | 30.3 | 128. | 4.03 | .183 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **81504.** | **1234700.** | **365110.** |
| Stddev | 334. | 3358. | 3767. |
| %RSD | .40942 | .27195 | 1.0318 |

Sample Name: ccv1 Acquired: 04/04/2019 06:03:07 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **5070.** | **4500.** | **4930.** | **459.** | **4600.** | **524.** | **4750.** | **5510.** | **4810.** | **4730.** | **4600.** |
| Stddev | 3. | 66. | 30. | 78. | 8. | 32. | 1. | 38. | 17. | 46. | 34. | 99. |
| %RSD | .602 | 1.29 | .654 | 1.59 | 1.71 | .704 | .226 | .799 | .315 | .954 | .725 | 2.16 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4580.** | **4640.** | **4650.** | **5200.** | **4860.** | **4520.** | **4660.** | **4900.** |
| Stddev | 69. | 4. | 7. | 5. | 27. | 43. | 8. | 85. | 21. |
| %RSD | 1.34 | .087 | .160 | .114 | .512 | .885 | .184 | 1.83 | .425 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **81499.** | **1229200.** | **368350.** |
| Stddev | 363. | 9479. | 4130. |
| %RSD | .44492 | .77109 | 1.1211 |

Sample Name: ccv2 Acquired: 04/04/2019 06:08:36 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3933 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.8** | **521.** | **482.** | **473.** | **48.9** | **49.1** | **483.** | **49.9** | **460.** | **505.** | **474.** | **531.** |
| Stddev | .3 | 4. | 4. | 1. | .2 | 1.2 | 12. | .2 | 2. | 5. | 11. | 7. |
| %RSD | .574 | .690 | .860 | .271 | .497 | 2.37 | 2.40 | .452 | .347 | .934 | 2.25 | 1.28 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **454.** | **482.** | **498.** | **459.** | **458.** | **472.** | **481.** | **475.** | **475.** | **532.** | **520.** | **514.** |
| Stddev | 3. | 3. | 2. | 1. | 1. | 2. | 2. | 4. | 2. | 2. | 4. | 5. |
| %RSD | .612 | .623 | .470 | .221 | .168 | .392 | .488 | .772 | .428 | .416 | .796 | .924 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **481.** | **471.** | **479.** | **492.** | **452.** |
| Stddev | 3. | 9. | 4. | 1. | 1. |
| %RSD | .721 | 1.90 | .833 | .287 | .156 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 06:08:36 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **82184.** | **1256900.** | **369220.** |
| Stddev | 137. | 7735. | 7698. |
| %RSD | .16609 | .61539 | 2.0849 |

Sample Name: ccb Acquired: 04/04/2019 06:14:22 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.346** | **-3.45** | **4.07** | **.222** | **.456** | **-25.2** | **-.280** | **.266** | **.910** | **1.30** | **6.53** | **-2.32** |
| Stddev | .806 | .48 | 3.03 | .271 | .009 | 1.6 | .154 | .103 | .147 | .44 | 3.95 | .98 |
| %RSD | 233. | 13.8 | 74.5 | 122. | 1.99 | 6.17 | 54.8 | 38.7 | 16.1 | 33.7 | 60.4 | 42.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.27** | **.684** | **1.52** | **.832** | **4.39** | **2.65** | **5.61** | **3.80** | **.252** | **-.029** |
| Stddev | .04 | .124 | .33 | .652 | 1.60 | 1.69 | 2.99 | 2.30 | .593 | .070 |
| %RSD | 2.89 | 18.1 | 21.6 | 78.5 | 36.5 | 63.6 | 53.2 | 60.5 | 235. | 242. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **82191.** | **1260300.** | **371370.** |
| Stddev | 362. | 7855. | 5730. |
| %RSD | .44036 | .62331 | 1.5430 |

Sample Name: 254597 Acquired: 04/04/2019 06:20:39 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.180** | **245000.** | **221.** | **2630.** | **17.3** | **7240.** | **1.28** | **4.60** | **796.** | **481.** | **473.** |
| Stddev | .688 | 2850. | 3. | 24. | .1 | 82. | .55 | .24 | 2. | 4. | 7. |
| %RSD | 382. | 1.16 | 1.29 | .914 | .716 | 1.13 | 42.9 | 5.13 | .221 | .877 | 1.38 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **550.** | **484000.** | **15900.** | **75000.** | **11.2** | **279.** | **1780.** | **-7.26** | **12.6** | **76.2** | **821.** |
| Stddev | 7. | 4990. | 119. | 987. | .9 | 1. | 23. | 2.29 | 7.8 | 2.9 | 8. |
| %RSD | 1.33 | 1.03 | .746 | 1.32 | 8.48 | .264 | 1.29 | 31.6 | 61.4 | 3.86 | .963 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **858.** | **1090.** | **976.** |
| Stddev | 5. | 3. | 1. |
| %RSD | .572 | .279 | .149 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79716.** | **1207200.** | **363080.** |
| Stddev | 429. | 8898. | 1418. |
| %RSD | .53840 | .73702 | .39061 |

Sample Name: 254598 Acquired: 04/04/2019 06:27:10 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.136** | **274000.** | **115.** | **1420.** | **12.3** | **8450.** | **-2.33** | **1.77** | **318.** | **516.** | **233.** |
| Stddev | .715 | 1930. | 5. | 8. | .1 | 88. | .37 | .19 | 1. | 5. | 6. |
| %RSD | 525. | .703 | 4.16 | .542 | .540 | 1.04 | 15.9 | 10.6 | .389 | .939 | 2.36 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **291.** | **576000.** | **21000.** | **22300.** | **6.50** | **294.** | **1280.** | **537.** | **-13.4** | **-1.44** | **61.8** |
| Stddev | 8. | 5070. | 184. | 271. | .36 | 2. | 11. | 4. | 5.7 | .54 | 3.2 |
| %RSD | 2.76 | .879 | .876 | 1.22 | 5.54 | .509 | .816 | .743 | 42.2 | 37.8 | 5.22 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **855.** | **894.** | **849.** | **762.** |
| Stddev | 12. | 5. | 1. | 1. |
| %RSD | 1.43 | .556 | .117 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79731.** | **1217200.** | **364140.** |
| Stddev | 155. | 4910. | 4328. |
| %RSD | .19502 | .40333 | 1.1885 |

Sample Name: 254599 Acquired: 04/04/2019 06:33:45 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.571** | **204000.** | **273.** | **1250.** | **10.1** | **58500.** | **1.77** | **6.27** | **123.** | **436.** | **387.** |
| Stddev | .265 | 2940. | 4. | 17. | .1 | 569. | .40 | .13 | . | 3. | 8. |
| %RSD | 46.5 | 1.44 | 1.58 | 1.33 | 1.40 | .972 | 22.6 | 2.07 | .160 | .776 | 2.02 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **455.** | **313000.** | **29100.** | **8330.** | **10.7** | **233.** | **1120.** | **751.** | **-5.63** | **5.84** | **30.7** |
| Stddev | 4. | 826. | 414. | 110. | .4 | 2. | 10. | 2. | 3.57 | 6.60 | 2.3 |
| %RSD | .829 | .264 | 1.42 | 1.32 | 3.41 | .892 | .881 | .316 | 63.3 | 113. | 7.37 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **671.** | **704.** | **1100.** |
| Stddev | 13. | 5. | 1. |
| %RSD | 1.94 | .643 | .134 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79659.** | **1206100.** | **368700.** |
| Stddev | 425. | 7878. | 965. |
| %RSD | .53343 | .65317 | .26160 |

Sample Name: 254600 Acquired: 04/04/2019 06:40:10 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.050** | **238000.** | **457.** | **1520.** | **12.6** | **76100.** | **.283** | **5.35** | **169.** | **443.** | **331.** |
| Stddev | .632 | 2260. | 6. | 14. | .1 | 935. | .292 | .21 | 1. | 4. | 8. |
| %RSD | 1250. | .951 | 1.32 | .897 | .778 | 1.23 | 103. | 3.89 | .494 | .790 | 2.36 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **398.** | **374000.** | **33600.** | **14800.** | **11.0** | **291.** | **1040.** | **621.** | **-6.57** | **7.95** | **39.8** |
| Stddev | 2. | 2160. | 285. | 176. | .6 | 1. | 16. | 3. | 3.86 | 4.78 | 2.9 |
| %RSD | .402 | .577 | .848 | 1.19 | 5.82 | .418 | 1.54 | .502 | 58.7 | 60.2 | 7.33 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **714.** | **750.** | **887.** | **805.** |
| Stddev | 8. | 3. | 3. | 2. |
| %RSD | 1.10 | .336 | .359 | .216 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79663.** | **1205000.** | **363130.** |
| Stddev | 493. | 5051. | 1655. |
| %RSD | .61913 | .41921 | .45574 |

Sample Name: 1dup254600 Acquired: 04/04/2019 06:46:44 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.393** | **152000.** | **202.** | **1380.** | **11.4** | **60300.** | **-.847** | **4.52** | **137.** | **295.** | **309.** |
| Stddev | .269 | 1170. | 3. | 14. | .1 | 555. | .319 | .08 | 2. | 2. | 9. |
| %RSD | 68.4 | .772 | 1.66 | .995 | 1.07 | .921 | 37.6 | 1.79 | 1.71 | .826 | 2.92 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **355.** | **240000.** | **26400.** | **13000.** | **5.37** | **229.** | **756.** | **547.** | **-1.58** | **4.55** | **23.7** |
| Stddev | 8. | 2770. | 336. | 71. | .44 | 4. | 24. | 9. | 2.97 | 6.82 | 1.9 |
| %RSD | 2.14 | 1.15 | 1.27 | .548 | 8.13 | 1.88 | 3.16 | 1.72 | 188. | 150. | 7.97 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **480.** | **485.** | **659.** | **594.** |
| Stddev | 5. | 3. | 13. | 10. |
| %RSD | .981 | .546 | 1.90 | 1.72 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86940.** | **1270600.** | **377540.** |
| Stddev | 1134. | 5237. | 4578. |
| %RSD | 1.3041 | .41215 | 1.2126 |

Sample Name: 2dup254600 Acquired: 04/04/2019 06:53:11 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.154** | **99800.** | **79.2** | **1310.** | **11.6** | **68600.** | **1.21** | **4.05** | **130.** | **182.** | **290.** |
| Stddev | .560 | 921. | 2.9 | 14. | .1 | 462. | .25 | .09 | 1. | 2. | 6. |
| %RSD | 363. | .923 | 3.66 | 1.06 | .477 | .674 | 20.7 | 2.17 | .870 | .878 | 1.95 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **319.** | **123000.** | **24300.** | **13300.** | **2.80** | **199.** | **643.** | **571.** | **-2.73** | **5.41** | **15.2** |
| Stddev | 6. | 1440. | 149. | 90. | .31 | 2. | 9. | 3. | 2.91 | 6.55 | 1.8 |
| %RSD | 1.87 | 1.17 | .612 | .679 | 10.9 | .897 | 1.41 | .587 | 107. | 121. | 12.1 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **294.** | **293.** | **527.** | **477.** |
| Stddev | 6. | 1. | 4. | 3. |
| %RSD | 2.10 | .259 | .683 | .605 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86029.** | **1268900.** | **367130.** |
| Stddev | 240. | 3901. | 1442. |
| %RSD | .27889 | .30745 | .39286 |

Sample Name: 254601 Acquired: 04/04/2019 06:59:43 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.575** | **368000.** | **315.** | **4770.** | **8.97** | **203000.** | **7.13** | **11.1** | **147.** | **638.** | **1430.** |
| Stddev | .407 | 2830. | 8. | 30. | .09 | 1960. | .13 | .2 | 1. | 6. | 13. |
| %RSD | 70.7 | .769 | 2.69 | .636 | .971 | .963 | 1.85 | 1.57 | .833 | .962 | .939 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **310000.** | **28200.** | **207000.** | **153.** | **295.** | **1700.** | **5.27** | **22.0** | **117.** | **1110.** | **2380.** |
| Stddev | 2840. | 178. | 2780. | 1. | 2. | 8. | 4.91 | 2.3 | 2. | 15. | 6. |
| %RSD | .915 | .632 | 1.34 | .329 | .561 | .470 | 93.3 | 10.2 | 1.98 | 1.39 | .233 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84821.** | **1208900.** | **352080.** |
| Stddev | 309. | 9869. | 3276. |
| %RSD | .36413 | .81638 | .93039 |

Sample Name: I254601 Acquired: 04/04/2019 07:06:13 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.782** | **82600.** | **75.6** | **1120.** | **2.21** | **49500.** | **1.82** | **2.61** | **36.7** | **149.** | **353.** | **369.** |
| Stddev | 1.09 | 611. | 3.4 | 7. | .05 | 488. | .21 | .21 | .3 | 1. | 2. | 6. |
| %RSD | 139. | .739 | 4.44 | .592 | 2.22 | .986 | 11.6 | 7.94 | .686 | .804 | .455 | 1.70 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71500.** | **7200.** | **51400.** | **35.9** | **76.6** | **405.** | **412.** | **2.86** | **2.49** | **29.9** | **264.** | **261.** |
| Stddev | 555. | 71. | 453. | .4 | .6 | 3. | 2. | 2.27 | 1.00 | .9 | 6. | . |
| %RSD | .776 | .983 | .881 | 1.08 | .755 | .731 | .394 | 79.2 | 39.9 | 3.03 | 2.30 | .183 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **604.** | **552.** |
| Stddev | 3. | 1. |
| %RSD | .426 | .122 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91382.** | **1303800.** | **360990.** |
| Stddev | 289. | 1719. | 3360. |
| %RSD | .31648 | .13186 | .93066 |

Sample Name: 1dup254601 Acquired: 04/04/2019 07:12:48 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.29** | **328000.** | **245.** | **4810.** | **7.94** | **189000.** | **-1.43** | **7.42** | **104.** | **564.** | **1330.** |
| Stddev | .63 | 2020. | 100. | 43. | .09 | 1510. | 16.9 | 3.88 | 69. | 4. | 12. |
| %RSD | 19.1 | .616 | 40.9 | .895 | 1.16 | .797 | 1180. | 52.4 | 66.2 | .673 | .891 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **302000.** | **26800.** | **185000.** | **109.** | **203.** | **1000.** | **6.98** | **7.13** | **74.1** | **1010.** | **1650.** |
| Stddev | 2150. | 185. | 1950. | 71. | 134. | 1160. | 5.72 | 27.6 | 42.4 | 7. | 1100. |
| %RSD | .713 | .691 | 1.05 | 65.2 | 66.2 | 116. | 82.0 | 387. | 57.2 | .708 | 66.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117310.** | **1246000.** | **343690.** |
| Stddev | 55403. | 8209. | 2928. |
| %RSD | 47.227 | .65887 | .85181 |

Sample Name: 2dup254601 Acquired: 04/04/2019 07:19:11 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.42** | **369000.** | **292.** | **4890.** | **8.49** | **200000.** | **1.05** | **8.42** | **123.** | **616.** | **1380.** |
| Stddev | 1.06 | 752. | 55. | 12. | .09 | 3650. | 12.4 | 2.40 | 48. | 5. | 11. |
| %RSD | 24.1 | .204 | 18.9 | .250 | 1.08 | 1.83 | 1180. | 28.5 | 39.5 | .750 | .776 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **333000.** | **29400.** | **189000.** | **127.** | **237.** | **1030.** | **5.43** | **20.3** | **80.3** | **1100.** | **1920.** |
| Stddev | 4790. | 355. | 3190. | 50. | 95. | 920. | 4.28 | 15.9 | 22.0 | 21. | 766. |
| %RSD | 1.44 | 1.21 | 1.69 | 39.3 | 40.2 | 89.4 | 78.7 | 78.6 | 27.4 | 1.88 | 40.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1253500.** | **337270.** |
| Stddev | ----- | 7737. | 2933. |
| %RSD | ----- | .61720 | .86965 |

Sample Name: ccv1 Acquired: 04/04/2019 07:25:40 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **438.** | **4590.** | **4830.** | **4780.** | **462.** | **5040.** | **452.** | **4590.** | **4660.** | **4880.** | **5450.** | **5120.** |
| Stddev | 3. | 152. | 22. | 27. | 3. | 41. | 1. | 23. | 9. | 39. | 342. | 52. |
| %RSD | .671 | 3.31 | .446 | .559 | .548 | .815 | .172 | .503 | .196 | .791 | 6.28 | 1.01 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4720.** | **4610.** | **4770.** | **4640.** | F **4370.** | **4520.** | **4750.** | **4590.** | **4990.** |
| Stddev | 10. | 8. | 5. | 13. | 9. | 34. | 6. | 38. | 7. |
| %RSD | .218 | .164 | .111 | .286 | .196 | .744 | .125 | .824 | .145 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | | | |
| Range | | | | | -10.4% | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **95083.** | **1315200.** | **332750.** |
| Stddev | 86. | 6008. | 1561. |
| %RSD | .09051 | .45680 | .46922 |

Sample Name: ccv2 Acquired: 04/04/2019 07:31:22 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.6** | F **444.** | **454.** | **475.** | **454.** | **489.** | **49.4** | **50.6** | F **438.** | **48.9** | **47.9** | **481.** |
| Stddev | .3 | 2. | 3. | 6. | 1. | 11. | .2 | 2.3 | 7. | .2 | .2 | 1. |
| %RSD | .739 | .394 | .761 | 1.29 | .213 | 2.18 | .340 | 4.64 | 1.68 | .313 | .488 | .136 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 500. | | | | | | | 500. | | | |
| Range | | -10.4% | | | | | | | -10.4% | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **445.** | **490.** | **466.** | **474.** | **451.** | **470.** | **457.** | **459.** | **483.** | **474.** | **474.** | **452.** |
| Stddev | 1. | 9. | 8. | 2. | 2. | 3. | 1. | 1. | 1. | 1. | 4. | 3. |
| %RSD | .245 | 1.85 | 1.66 | .354 | .467 | .537 | .151 | .284 | .137 | .149 | .871 | .616 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | | | | |
| Range | -10.4% | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | F **434.** | F **439.** | **455.** | **503.** | **460.** | **451.** | **498.** | **476.** |
| Stddev | 4. | 3. | 4. | 1. | 13. | 2. | 2. | 1. |
| %RSD | .849 | .598 | .775 | .203 | 2.91 | .369 | .313 | .189 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | 500. | | | | | | |
| Range | -10.4% | -10.4% | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 07:31:22 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **97277.** | **1347400.** | **331030.** |
| Stddev | 391. | 2852. | 3368. |
| %RSD | .40236 | .21168 | 1.0174 |

Sample Name: ccb Acquired: 04/04/2019 07:37:08 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.707** | **-3.96** | **3.53** | **.371** | **-.073** | **-26.8** | **.082** | **.059** | **.810** | **1.34** | **4.82** | **3.83** |
| Stddev | .470 | .50 | 2.72 | .365 | .021 | 3.0 | .155 | .098 | .184 | .52 | 9.12 | 1.71 |
| %RSD | 66.6 | 12.7 | 77.1 | 98.2 | 28.7 | 11.1 | 191. | 165. | 22.7 | 38.9 | 189. | 44.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.02** | **.475** | **1.24** | **.979** | **1.51** | **2.14** | **3.09** | **1.08** | **-.013** | **-.255** |
| Stddev | .03 | .091 | .28 | .215 | 1.11 | 1.01 | 3.85 | 1.73 | .390 | .129 |
| %RSD | 1.54 | 19.1 | 22.8 | 21.9 | 73.7 | 47.1 | 125. | 160. | 2920. | 50.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96748.** | **1342000.** | **326890.** |
| Stddev | 166. | 7035. | 2621. |
| %RSD | .17208 | .52423 | .80188 |

Sample Name: mss254601 Acquired: 04/04/2019 07:43:25 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.75** | **322000.** | **17800.** | **4800.** | **7.54** | **194000.** | **6.82** | **92.2** | **138.** | **540.** | **1290.** |
| Stddev | .52 | 1410. | 249. | 22. | .06 | 1260. | .54 | .8 | 2. | 7. | 10. |
| %RSD | 7.66 | .438 | 1.40 | .451 | .821 | .648 | 7.90 | .901 | 1.19 | 1.29 | .760 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **306000.** | **28800.** | **194000.** | **142.** | **264.** | **1440.** | **5.45** | **23.9** | **89.6** | **992.** | **975.** |
| Stddev | 1970. | 205. | 1550. | 1. | 4. | 26. | 2.58 | 4.0 | 3.6 | 4. | 4. |
| %RSD | .644 | .712 | .796 | .938 | 1.59 | 1.80 | 47.4 | 16.7 | 4.02 | .361 | .359 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **2140.** |
| Stddev | 30. |
| %RSD | 1.38 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90916.** | **1244500.** | **318820.** |
| Stddev | 720. | 1764. | 3154. |
| %RSD | .79201 | .14171 | .98927 |

Sample Name: msds254601 Acquired: 04/04/2019 07:49:42 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7.57** | **378000.** | **18000.** | **5190.** | **8.19** | **203000.** | **7.46** | **92.0** | **145.** | **616.** | **1350.** |
| Stddev | 1.08 | 2950. | 40. | 51. | .02 | 974. | .53 | .3 | 1. | 3. | 13. |
| %RSD | 14.2 | .780 | .221 | .975 | .232 | .479 | 7.07 | .318 | .401 | .525 | .924 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **338000.** | **30400.** | **205000.** | **153.** | **284.** | **1410.** | **3.71** | **28.7** | **94.7** | **1130.** | **2260.** |
| Stddev | 1570. | 154. | 1570. | 1. | 1. | 14. | 5.44 | 3.3 | 3.4 | 16. | 2. |
| %RSD | .464 | .507 | .767 | .381 | .394 | .960 | 147. | 11.4 | 3.60 | 1.37 | .087 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89766.** | **1238100.** | **315510.** |
| Stddev | 187. | 4931. | 3699. |
| %RSD | .20803 | .39826 | 1.1725 |

Sample Name: pdss254601 Acquired: 04/04/2019 07:55:57 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.23** | **328000.** | **13700.** | **5040.** | **7.60** | **193000.** | **-2.30** | **69.9** | **102.** | **562.** | **1290.** |
| Stddev | 1.20 | 1300. | 9120. | 36. | .04 | 1310. | 17.1 | 45.5 | 68. | 6. | 21. |
| %RSD | 19.3 | .397 | 66.4 | .723 | .461 | .680 | 745. | 65.1 | 66.4 | 1.04 | 1.59 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **316000.** | **27900.** | **200000.** | **106.** | **197.** | **919.** | **6.00** | **3.52** | **71.2** | **1030.** | **1600.** |
| Stddev | 2440. | 276. | 1490. | 70. | 131. | ---- | 6.94 | 29.8 | 40.1 | 13. | 1060. |
| %RSD | .774 | .987 | .745 | 65.5 | 66.7 | 122. | 116. | 847. | 56.3 | 1.22 | 66.7 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1240000.** | **318280.** |
| Stddev | ----- | 5525. | 2496. |
| %RSD | ----- | .44554 | .78418 |

Sample Name: 254602 Acquired: 04/04/2019 08:02:21 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.07** | **337000.** | **257.** | **3700.** | **7.10** | **164000.** | **3.27** | **5.74** | **111.** | **554.** | **1100.** |
| Stddev | .49 | 2940. | 9. | 27. | .06 | 2720. | .28 | .19 | . | 2. | 13. |
| %RSD | 12.1 | .871 | 3.33 | .729 | .803 | 1.66 | 8.69 | 3.23 | .297 | .404 | 1.20 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **281000.** | **23600.** | **166000.** | **113.** | **299.** | **970.** | **3.36** | **22.0** | **78.9** | **1050.** | **1350.** |
| Stddev | 3670. | 199. | 1850. | 1. | 1. | 13. | 2.38 | 7.4 | 4.4 | 15. | 3. |
| %RSD | 1.31 | .842 | 1.11 | 1.02 | .366 | 1.34 | 70.7 | 33.6 | 5.60 | 1.40 | .229 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89761.** | **1239700.** | **319600.** |
| Stddev | 141. | 4985. | 1568. |
| %RSD | .15741 | .40216 | .49065 |

Sample Name: I254602 Acquired: 04/04/2019 08:08:32 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.716** | **86000.** | **57.1** | **647.** | **950.** | **1.43** | **43300.** | **-.656** | **1.29** | **21.4** | **117.** | **311.** |
| Stddev | .797 | 4680. | 2.5 | 11. | 56. | .07 | 2480. | .119 | .28 | .3 | 7. | 14. |
| %RSD | 111. | 5.44 | 4.32 | 1.71 | 5.92 | 4.64 | 5.72 | 18.1 | 21.5 | 1.47 | 6.17 | 4.65 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294.** | **66700.** | **6420.** | **45400.** | **20.8** | **58.6** | **224.** | **1.42** | **.304** | **17.1** | **278.** | **219.** |
| Stddev | 16. | 3910. | 353. | 2360. | .1 | 1.4 | 5. | 4.62 | 3.59 | 1.7 | 15. | 13. |
| %RSD | 5.51 | 5.86 | 5.50 | 5.19 | .541 | 2.45 | 2.17 | 326. | 1180. | 9.98 | 5.49 | 5.76 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **252.** |
| Stddev | 4. |
| %RSD | 1.39 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **94757.** | **1315000.** | **331450.** |
| Stddev | 195. | 8212. | 1451. |
| %RSD | .20595 | .62446 | .43788 |

Sample Name: 1dup254602 Acquired: 04/04/2019 08:15:07 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.49** | **358000.** | **280.** | **3710.** | **7.55** | **162000.** | **3.45** | **6.03** | **109.** | **562.** | **1080.** |
| Stddev | .18 | 4200. | 7. | 36. | .09 | 2050. | .28 | .18 | 1. | 3. | 11. |
| %RSD | 5.20 | 1.17 | 2.39 | .956 | 1.22 | 1.27 | 8.26 | 2.97 | .871 | .465 | 1.03 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **285000.** | **22900.** | **167000.** | **117.** | **285.** | **943.** | **4.61** | **21.4** | **81.8** | **1080.** | **1370.** |
| Stddev | 3090. | 395. | 2100. | 2. | 2. | 11. | 1.06 | 6.3 | 3.3 | 11. | 3. |
| %RSD | 1.08 | 1.73 | 1.25 | 1.74 | .631 | 1.17 | 23.0 | 29.3 | 3.99 | 1.02 | .237 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88592.** | **1225600.** | **321950.** |
| Stddev | 404. | 5462. | 1774. |
| %RSD | .45572 | .44567 | .55086 |

Sample Name: 2dup254602 Acquired: 04/04/2019 08:21:19 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.98** | **396000.** | **283.** | **3870.** | **8.35** | **167000.** | **3.76** | **6.28** | **113.** | **598.** | **1120.** |
| Stddev | 1.18 | 5490. | 11. | 54. | .06 | 2770. | .52 | .30 | 1. | 2. | 9. |
| %RSD | 29.7 | 1.39 | 4.01 | 1.40 | .697 | 1.66 | 13.8 | 4.83 | .537 | .328 | .815 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **297000.** | **24600.** | **173000.** | **117.** | **302.** | **1050.** | **2.16** | **19.2** | **88.5** | **1100.** | **1440.** |
| Stddev | 4380. | 271. | 1630. | 1. | 2. | 14. | 2.80 | 8.5 | 1.5 | 19. | 6. |
| %RSD | 1.48 | 1.10 | .944 | .688 | .573 | 1.28 | 130. | 44.4 | 1.73 | 1.76 | .389 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87850.** | **1223100.** | **324810.** |
| Stddev | 264. | 4755. | 3338. |
| %RSD | .30083 | .38873 | 1.0277 |

Sample Name: mss254602 Acquired: 04/04/2019 08:27:38 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.16** | **345000.** | **18400.** | **3670.** | **7.46** | **169000.** | **3.13** | **82.9** | **106.** | **517.** | **1070.** |
| Stddev | .66 | 2780. | 46. | 20. | .04 | 1950. | .68 | .3 | 1. | 2. | 21. |
| %RSD | 20.9 | .806 | .251 | .551 | .560 | 1.15 | 21.7 | .391 | .727 | .403 | 1.92 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **255000.** | **21800.** | **185000.** | **114.** | **278.** | **964.** | **1.09** | **25.2** | **89.6** | **969.** | **960.** |
| Stddev | 2200. | 171. | 3340. | 1. | 1. | 9. | 3.27 | 5.0 | 4.1 | 7. | 3. |
| %RSD | .861 | .785 | 1.81 | .604 | .391 | .964 | 301. | 19.7 | 4.63 | .722 | .323 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1350.** |
| Stddev | 1. |
| %RSD | .111 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87407.** | **1225300.** | **325760.** |
| Stddev | 192. | 4592. | 2079. |
| %RSD | .21946 | .37480 | .63829 |

Sample Name: msds254602 Acquired: 04/04/2019 08:33:59 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.81** | **381000.** | **18300.** | **3600.** | **7.97** | **161000.** | **3.38** | **81.9** | **112.** | **592.** | **1100.** |
| Stddev | .83 | 2740. | 30. | 24. | .08 | 1770. | .55 | .4 | . | 4. | 8. |
| %RSD | 29.7 | .718 | .164 | .672 | 1.05 | 1.10 | 16.4 | .452 | .296 | .657 | .697 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **308000.** | **22100.** | **187000.** | **120.** | **292.** | **998.** | **2.38** | **21.2** | **96.8** | **1080.** | **1410.** |
| Stddev | 2470. | 191. | 2450. | 1. | 1. | 14. | 1.66 | 2.8 | 1.7 | 6. | 7. |
| %RSD | .801 | .865 | 1.31 | .738 | .448 | 1.39 | 69.6 | 13.0 | 1.74 | .522 | .495 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87112.** | **1224100.** | **328850.** |
| Stddev | 337. | 4805. | 1931. |
| %RSD | .38705 | .39251 | .58720 |

Sample Name: pdss254602 Acquired: 04/04/2019 08:40:38 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.52** | **362000.** | **18900.** | **3580.** | **7.74** | **160000.** | **2.16** | **81.5** | **106.** | **573.** | **1080.** |
| Stddev | .78 | 6120. | 1520. | 66. | .05 | 2850. | 2.43 | 6.0 | 8. | 1. | 14. |
| %RSD | 31.1 | 1.69 | 8.05 | 1.83 | .617 | 1.78 | 112. | 7.36 | 7.91 | .216 | 1.27 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **277000.** | **22300.** | **186000.** | **112.** | **274.** | **936.** | **3.06** | **17.9** | **93.2** | **1070.** | **1330.** |
| Stddev | 3830. | 386. | 3380. | 8. | 24. | 173. | 3.39 | 5.8 | 7.6 | 21. | 99. |
| %RSD | 1.38 | 1.73 | 1.82 | 6.75 | 8.60 | 18.5 | 111. | 32.2 | 8.15 | 2.00 | 7.49 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1220800.** | **334910.** |
| Stddev | ----- | 1730. | 2293. |
| %RSD | ----- | .14170 | .68469 |

Sample Name: ccv1 Acquired: 04/04/2019 08:47:01 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **463.** | **5140.** | **4820.** | **4710.** | **480.** | **4990.** | **492.** | **4780.** | **5060.** | **4840.** | **5510.** | **5080.** |
| Stddev | 1. | 242. | 9. | 12. | 2. | 35. | 2. | 17. | 15. | 68. | 443. | 70. |
| %RSD | .243 | 4.70 | .190 | .243 | .347 | .703 | .311 | .355 | .298 | 1.41 | 8.04 | 1.38 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5110.** | **4690.** | **4820.** | **4770.** | **4780.** | **4720.** | **4760.** | **4830.** | **5070.** |
| Stddev | 46. | 11. | 4. | 12. | 20. | 9. | 14. | 11. | 7. |
| %RSD | .890 | .237 | .077 | .241 | .418 | .185 | .295 | .223 | .144 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89116.** | **1265700.** | **336920.** |
| Stddev | 336. | 3877. | 3862. |
| %RSD | .37670 | .30629 | 1.1462 |

Sample Name: ccv2 Acquired: 04/04/2019 08:52:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.8** | **484.** | **474.** | **484.** | **471.** | **480.** | **50.8** | **51.6** | **468.** | **50.5** | **52.2** | **482.** |
| Stddev | .7 | 1. | 4. | 13. | 1. | 5. | .2 | 1.7 | 4. | .1 | .1 | 1. |
| %RSD | 1.44 | .235 | .777 | 2.70 | .181 | 1.04 | .332 | 3.38 | .845 | .174 | .267 | .258 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **489.** | **500.** | **502.** | **486.** | **474.** | **495.** | **466.** | **469.** | **490.** | **489.** | **489.** | **467.** |
| Stddev | 2. | 5. | 5. | 5. | 1. | 2. | 1. | 2. | 2. | . | 2. | 2. |
| %RSD | .478 | .998 | 1.06 | 1.02 | .253 | .317 | .233 | .325 | .344 | .047 | .379 | .503 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **480.** | **493.** | **507.** | **481.** | **478.** | **512.** | **476.** |
| Stddev | 1. | 4. | 5. | 2. | 10. | 4. | 2. | 1. |
| %RSD | .250 | .764 | 1.07 | .413 | 2.15 | .777 | .394 | .162 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 08:52:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91329.** | **1294800.** | **339790.** |
| Stddev | 223. | 2754. | 2086. |
| %RSD | .24391 | .21267 | .61404 |

Sample Name: ccb Acquired: 04/04/2019 08:58:21 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.326** | **-3.03** | **3.97** | **.644** | **.074** | **-26.2** | **.022** | **.131** | **.875** | **1.05** | **7.10** | **2.64** |
| Stddev | .865 | .32 | 2.81 | .263 | .018 | 2.5 | .369 | .179 | .304 | .57 | 1.78 | 1.35 |
| %RSD | 265. | 10.4 | 70.8 | 40.9 | 24.4 | 9.49 | 1650. | 137. | 34.8 | 54.4 | 25.1 | 51.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.79** | **.858** | **.974** | **.237** | **3.77** | **2.31** | **-.124** | **1.58** | **.024** | **-.156** |
| Stddev | .04 | .132 | .282 | .503 | 3.58 | 2.39 | 3.38 | 2.02 | .170 | .168 |
| %RSD | 2.15 | 15.4 | 29.0 | 212. | 94.9 | 104. | 2720. | 128. | 704. | 108. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91913.** | **1299200.** | **340580.** |
| Stddev | 297. | 8301. | 1983. |
| %RSD | .32322 | .63894 | .58225 |

Sample Name: 254603 Acquired: 04/04/2019 09:04:39 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **10.7** | **833000.** | **487.** | **8670.** | **19.6** | **641000.** | **9.87** | **10.9** | **274.** | **1030.** | **982.** |
| Stddev | .7 | 15500. | 13. | 214. | .1 | 7920. | 1.38 | .2 | 3. | 12. | 7. |
| %RSD | 6.92 | 1.86 | 2.70 | 2.46 | .504 | 1.24 | 14.0 | 1.41 | 1.22 | 1.12 | .692 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1640.** | **674000.** | **54300.** | **232000.** | **98.1** | **533.** | **507.** | **2250.** | **.034** | **29.9** | **139.** |
| Stddev | 6. | 7660. | 531. | 2910. | 1.1 | 7. | 7. | 89. | 3.69 | 8.6 | 3. |
| %RSD | .339 | 1.14 | .978 | 1.26 | 1.13 | 1.24 | 1.29 | 3.95 | 11000. | 28.8 | 1.95 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1700.** | **3040.** |
| Stddev | 25. | 34. |
| %RSD | 1.46 | 1.12 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83337.** | **1155600.** | **316420.** |
| Stddev | 716. | 1736. | 2085. |
| %RSD | .85918 | .15019 | .65894 |

Sample Name: 254604 Acquired: 04/04/2019 09:11:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.04** | **690000.** | **380.** | **4380.** | **19.6** | **251000.** | **-3.97** | **5.92** | **227.** | **887.** | **863.** |
| Stddev | .56 | 11300. | 37. | 37. | .1 | 1030. | 20.0 | .54 | 68. | 4. | 7. |
| %RSD | 11.0 | 1.64 | 9.81 | .838 | .332 | .411 | 503. | 9.09 | 30.0 | .478 | .797 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **888.** | **774000.** | **48200.** | **103000.** | **60.9** | **448.** | **434.** | **724.** | **950.** | **-8.61** | **26.9** |
| Stddev | 14. | 4150. | 99. | 586. | 16.6 | 134. | 119. | 912. | 291. | 14.1 | 12.7 |
| %RSD | 1.56 | .536 | .206 | .571 | 27.2 | 29.8 | 27.4 | 126. | 30.7 | 163. | 47.2 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **96.0** | **1490.** | **1790.** |
| Stddev | 9.6 | 12. | 526. |
| %RSD | 9.98 | .801 | 29.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1195300.** | **325880.** |
| Stddev | ----- | 4256. | 4592. |
| %RSD | ----- | .35608 | 1.4091 |

Sample Name: 254605 Acquired: 04/04/2019 09:18:20 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **61.5** | **343000.** | **869.** | **543.** | **28200.** | **18.3** | **151000.** | **-3.33** | **13.2** | **337.** |
| Stddev | .9 | 3930. | 418. | 343. | 456. | .1 | 1660. | 32.2 | 6.3 | 207. |
| %RSD | 1.53 | 1.15 | 48.2 | 63.2 | 1.62 | .816 | 1.10 | 967. | 47.6 | 61.5 |

| Elem | Cr2677 | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **777.** | **7410.** | **574000.** | **49900.** | **1110000.** | **208.** | **402.** | **297.** | **22000.** | **39.8** |
| Stddev | 8. | 50. | 5640. | 404. | 11700. | 132. | 269. | 243. | 15300. | 8.2 |
| %RSD | 1.02 | .672 | .982 | .809 | 1.05 | 63.6 | 67.0 | 81.7 | 69.8 | 20.7 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **110.** | **451.** | **2130.** | **3100.** |
| Stddev | 265. | 319. | 20. | 2050. |
| %RSD | 241. | 70.8 | .951 | 66.1 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1175300.** | **315120.** |
| Stddev | ----- | 2633. | 2925. |
| %RSD | ----- | .22406 | .92837 |

Sample Name: 254606 Acquired: 04/04/2019 09:25:05 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **26.3** | **267000.** | **689.** | **588.** | **19800.** | **16.8** | **121000.** | **8.58** | **10.8** | **362.** | **603.** |
| Stddev | .3 | 2590. | 4. | 11. | 337. | .1 | 1990. | 1.08 | .2 | 2. | 7. |
| %RSD | 1.23 | .971 | .511 | 1.80 | 1.70 | .348 | 1.64 | 12.5 | 1.61 | .588 | 1.12 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6870.** | **549000.** | **41800.** | **791000.** | **158.** | **463.** | **376.** | **10500.** | **-3.69** | **120.** | **402.** |
| Stddev | 47. | 6420. | 323. | 8370. | . | 2. | 1. | 29. | 3.15 | 7. | 5. |
| %RSD | .682 | 1.17 | .773 | 1.06 | .297 | .393 | .384 | .276 | 85.4 | 6.08 | 1.37 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1590.** | **4270.** |
| Stddev | 20. | 13. |
| %RSD | 1.23 | .313 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84594.** | **1198300.** | **319830.** |
| Stddev | 253. | 4676. | 3620. |
| %RSD | .29848 | .39023 | 1.1318 |

Sample Name: 254959 Acquired: 04/04/2019 09:31:56 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.46** | **344000.** | **227.** | **2250.** | **16.5** | **27500.** | **.706** | **3.34** | **248.** | **561.** | **479.** |
| Stddev | .46 | 1940. | 9. | 20. | .1 | 244. | .649 | .35 | 1. | 2. | 4. |
| %RSD | 13.4 | .564 | 3.82 | .905 | .493 | .889 | 92.0 | 10.5 | .515 | .433 | .913 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **498.** | **555000.** | **33700.** | **26900.** | **22.0** | **354.** | **1330.** | **-10.8** | **15.3** | **52.8** | **906.** |
| Stddev | 6. | 5130. | 66. | 138. | .6 | 1. | 14. | 3.5 | 6.3 | 1.1 | 10. |
| %RSD | 1.11 | .925 | .195 | .516 | 2.68 | .368 | 1.03 | 32.7 | 40.9 | 2.08 | 1.13 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **909.** | **1270.** |
| Stddev | 3. | 6. |
| %RSD | .345 | .491 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89019.** | **1245100.** | **330510.** |
| Stddev | 334. | 4338. | 3250. |
| %RSD | .37511 | .34840 | .98334 |

Sample Name: 254961 Acquired: 04/04/2019 09:38:27 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.79** | **392000.** | **229.** | **2050.** | **13.2** | **16800.** | **-1.15** | **1.62** | **198.** | **652.** | **329.** |
| Stddev | 1.25 | 3330. | 11. | 26. | .1 | 110. | .34 | .29 | 1. | 5. | 7. |
| %RSD | 69.7 | .849 | 4.97 | 1.25 | .587 | .659 | 29.7 | 17.8 | .356 | .690 | 1.98 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **354.** | **679000.** | **39500.** | **18200.** | **21.2** | **440.** | **426.** | **844.** | **554.** | **-16.1** | **9.03** |
| Stddev | 12. | 2690. | 115. | 65. | .6 | 2. | 2. | 20. | 6. | 2.7 | 2.55 |
| %RSD | 3.40 | .397 | .292 | .358 | 2.72 | .457 | .385 | 2.31 | 1.02 | 16.5 | 28.2 |

| Elem | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **59.4** | **1000.** | **1040.** | **963.** |
| Stddev | 3.1 | 11. | 4. | 2. |
| %RSD | 5.19 | 1.10 | .414 | .167 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88640.** | **1247600.** | **330330.** |
| Stddev | 258. | 4888. | 3816. |
| %RSD | .29105 | .39176 | 1.1552 |

Sample Name: 254962 Acquired: 04/04/2019 09:45:03 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.67** | **191000.** | **337.** | **1370.** | **6.09** | **61200.** | **6.99** | **11.1** | **99.9** | **657.** | **1180.** |
| Stddev | .66 | 2250. | 11. | 14. | .05 | 996. | .47 | .2 | .7 | 1. | 9. |
| %RSD | 17.9 | 1.18 | 3.33 | .991 | .804 | 1.63 | 6.75 | 1.74 | .722 | .195 | .740 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **426000.** | **30200.** | **13300.** | **21.9** | **347.** | **2110.** | **4.43** | **12.1** | **42.8** | **805.** | **822.** |
| Stddev | 4570. | 488. | 181. | .3 | 1. | 1. | 3.53 | 1.6 | 2.6 | 14. | 2. |
| %RSD | 1.07 | 1.61 | 1.36 | 1.56 | .378 | .066 | 79.7 | 13.1 | 6.17 | 1.74 | .200 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **2780.** |
| Stddev | 16. |
| %RSD | .560 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88233.** | **1251000.** | **332940.** |
| Stddev | 156. | 2791. | 1613. |
| %RSD | .17710 | .22311 | .48446 |

Sample Name: 254963 Acquired: 04/04/2019 09:51:38 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.36** | **193000.** | **337.** | **4450.** | **6.35** | **59800.** | **5.89** | **9.99** | **95.0** | **509.** | **808.** |
| Stddev | .60 | 2030. | 5. | 46. | .08 | 646. | .27 | .19 | .6 | 1. | 9. |
| %RSD | 25.3 | 1.05 | 1.51 | 1.04 | 1.28 | 1.08 | 4.63 | 1.91 | .626 | .275 | 1.07 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **832.** | **394000.** | **34000.** | **8960.** | **15.4** | **480.** | **468.** | **2200.** | **-4.99** | **5.94** | **37.3** |
| Stddev | 16. | 4160. | 290. | 104. | .8 | . | 2. | 16. | .94 | 4.85 | 1.5 |
| %RSD | 1.95 | 1.05 | .854 | 1.16 | 5.12 | .086 | .519 | .713 | 18.9 | 81.6 | 4.01 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **608.** | **618.** | **3090.** |
| Stddev | 9. | 1. | 12. |
| %RSD | 1.50 | .091 | .375 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87186.** | **1238700.** | **329390.** |
| Stddev | 314. | 3950. | 3370. |
| %RSD | .36071 | .31893 | 1.0231 |

Sample Name: 254966 Acquired: 04/04/2019 09:58:00 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.19** | **259000.** | **858.** | **819.** | **2700.** | **13.1** | **31900.** | **2.20** | **8.27** | **237.** | **414.** |
| Stddev | .51 | 725. | 12. | 17. | 16. | .1 | 244. | .03 | .16 | 1. | 4. |
| %RSD | 15.9 | .279 | 1.36 | 2.11 | .577 | .570 | .763 | 1.23 | 1.93 | .452 | .960 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **508.** | **529.** | **422000.** | **35200.** | **19100.** | **15.6** | **433.** | **420.** | **1200.** | **949.** | **-7.96** |
| Stddev | 4. | 12. | 2780. | 225. | 97. | .6 | 2. | 1. | 14. | 1. | 5.41 |
| %RSD | .818 | 2.33 | .659 | .640 | .509 | 3.81 | .375 | .301 | 1.20 | .113 | 67.9 |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **18.6** | **42.5** | **811.** | **824.** | **1360.** |
| Stddev | 5.5 | 1.3 | 7. | 5. | 2. |
| %RSD | 29.8 | 3.16 | .885 | .618 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87683.** | **1255200.** | **337640.** |
| Stddev | 252. | 5124. | 3475. |
| %RSD | .28747 | .40820 | 1.0293 |

Sample Name: 254968 Acquired: 04/04/2019 10:04:34 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.26** | **437000.** | **1160.** | **1100.** | **3490.** | **19.8** | **337000.** | **3.25** | **9.55** | **227.** | **628.** |
| Stddev | .80 | 2820. | 8. | 15. | 27. | .1 | 3170. | .82 | .16 | 1. | 3. |
| %RSD | 18.7 | .645 | .713 | 1.39 | .770 | .469 | .942 | 25.2 | 1.66 | .362 | .415 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **696.** | **726.** | **539000.** | **108000.** | **24500.** | **18.4** | **339.** | **1120.** | **911.** | **-12.8** | **21.2** |
| Stddev | 10. | 10. | 4120. | 988. | 182. | 1.5 | 2. | 20. | 3. | 1.6 | 2.7 |
| %RSD | 1.40 | 1.33 | .765 | .911 | .742 | 7.90 | .695 | 1.75 | .315 | 12.7 | 12.5 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **51.4** | **1460.** | **3410.** |
| Stddev | 5.5 | 20. | 8. |
| %RSD | 10.7 | 1.38 | .235 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83783.** | **1189200.** | **326380.** |
| Stddev | 157. | 2468. | 3365. |
| %RSD | .18762 | .20756 | 1.0309 |

Sample Name: ccv1 Acquired: 04/04/2019 10:10:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **5100.** | **4810.** | **4710.** | **480.** | **5020.** | **495.** | **4830.** | **5110.** | **4900.** | **5510.** | **5100.** |
| Stddev | 3. | 120. | 22. | 15. | 3. | 17. | 2. | 22. | 20. | 14. | 331. | 27. |
| %RSD | .538 | 2.36 | .461 | .327 | .652 | .334 | .372 | .450 | .398 | .290 | 6.00 | .525 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4710.** | **4830.** | **4770.** | **4810.** | **4710.** | **4760.** | **4820.** | **5090.** |
| Stddev | 10. | 11. | 1. | 22. | 21. | 40. | 11. | 23. | 7. |
| %RSD | .202 | .227 | .012 | .457 | .435 | .855 | .230 | .478 | .147 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89772.** | **1276400.** | **341380.** |
| Stddev | 406. | 5001. | 1002. |
| %RSD | .45219 | .39180 | .29353 |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **482.** | **471.** | **477.** | **469.** | **473.** | **50.5** | **50.6** | **468.** | **50.2** | **52.1** | **481.** |
| Stddev | 1.1 | 3. | 4. | 6. | 2. | 5. | .2 | .6 | 7. | .3 | .2 | 1. |
| %RSD | 2.22 | .520 | .848 | 1.17 | .509 | 1.14 | .380 | 1.19 | 1.45 | .696 | .370 | .119 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **498.** | **504.** | **480.** | **470.** | **490.** | **466.** | **467.** | **489.** | **489.** | **487.** | **464.** |
| Stddev | 1. | 5. | 13. | 5. | 2. | 1. | 1. | 2. | . | 1. | 7. | 2. |
| %RSD | .283 | 1.08 | 2.48 | 1.14 | .357 | .168 | .247 | .454 | .080 | .277 | 1.39 | .350 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **476.** | **483.** | **502.** | **481.** | **473.** | **510.** | **476.** |
| Stddev | 3. | 4. | 2. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .674 | .810 | .400 | .669 | 1.09 | .476 | .331 | .142 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **92064.** | **1309300.** | **342930.** |
| Stddev | 461. | 1761. | 2615. |
| %RSD | .50117 | .13449 | .76242 |

Sample Name: ccb Acquired: 04/04/2019 10:22:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.248** | **-4.89** | **3.19** | **-.017** | **-.003** | **-27.9** | **-.103** | **.187** | **.409** | **.743** | **10.4** | **7.05** |
| Stddev | .682 | .63 | 2.44 | .334 | .037 | 2.0 | .145 | .127 | .182 | .658 | 2.0 | 7.33 |
| %RSD | 274. | 12.8 | 76.3 | 1930. | 1270. | 7.19 | 142. | 67.7 | 44.5 | 88.5 | 19.2 | 104. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **2.86** | **-3.04** | **.019** | **.965** | **.147** | **1.96** | **.817** | **1.11** | **2.01** | **-.455** | **-.487** |
| Stddev | 2.58 | .05 | .096 | .059 | .354 | 2.80 | 1.36 | 2.92 | .83 | .133 | .098 |
| %RSD | 90.1 | 1.71 | 494. | 6.12 | 241. | 142. | 167. | 262. | 41.4 | 29.3 | 20.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91996.** | **1307100.** | **343800.** |
| Stddev | 263. | 10823. | 3238. |
| %RSD | .28579 | .82800 | .94175 |

Sample Name: 254969 Acquired: 04/04/2019 10:28:36 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.71** | **443000.** | **651.** | **581.** | **2600.** | **14.5** | **121000.** | **-.278** | **4.07** | **134.** | **635.** |
| Stddev | .30 | 6170. | 13. | 17. | 25. | .1 | 2130. | .798 | .24 | 1. | 2. |
| %RSD | 11.1 | 1.39 | 1.92 | 2.91 | .977 | .605 | 1.76 | 287. | 5.93 | .593 | .372 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1050.** | **533000.** | **49900.** | **9380.** | **17.4** | **308.** | **573.** | **562.** | **-14.2** | **26.2** | **46.7** |
| Stddev | 12. | 8050. | 700. | 167. | .4 | 2. | 20. | 4. | 2.8 | 5.2 | 2.6 |
| %RSD | 1.16 | 1.51 | 1.40 | 1.78 | 2.49 | .616 | 3.56 | .743 | 19.8 | 20.0 | 5.62 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1030.** | **3380.** |
| Stddev | 14. | 2. |
| %RSD | 1.37 | .066 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88216.** | **1228900.** | **329410.** |
| Stddev | 360. | 5188. | 506. |
| %RSD | .40838 | .42218 | .15358 |

Sample Name: 255833 Acquired: 04/04/2019 10:34:46 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **31.6** | **300000.** | **1120.** | **1110.** | **10400.** | **16.5** | **436000.** | **16.0** | **21.0** | **243.** | **688.** |
| Stddev | .3 | 1650. | 14. | 3. | 153. | .1 | 2110. | .6 | .3 | 1. | 5. |
| %RSD | .982 | .550 | 1.23 | .225 | 1.47 | .874 | .485 | 3.85 | 1.48 | .516 | .763 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8600.** | **437000.** | **156000.** | **796000.** | **176.** | **486.** | **397.** | **5470.** | **17.8** | **123.** | **381.** |
| Stddev | 51. | 1200. | 342. | 7210. | 1. | . | 1. | 40. | 4.1 | 10. | 6. |
| %RSD | .595 | .274 | .219 | .906 | .434 | .061 | .268 | .727 | 22.9 | 8.00 | 1.53 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1720.** | **14800.** |
| Stddev | 13. | 7. |
| %RSD | .730 | .044 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82712.** | **1169100.** | **319910.** |
| Stddev | 333. | 4037. | 2082. |
| %RSD | .40241 | .34527 | .65079 |

Sample Name: 255853 Acquired: 04/04/2019 10:41:29 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.17** | **200000.** | **537.** | **513.** | **3780.** | **10.3** | **269000.** | **6.32** | **9.55** | **156.** | **503.** |
| Stddev | 1.08 | 1670. | 6. | 14. | 37. | .1 | 2360. | .12 | .13 | 1. | 7. |
| %RSD | 26.0 | .837 | 1.02 | 2.80 | .966 | .722 | .876 | 1.89 | 1.36 | .376 | 1.31 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1930.** | **370000.** | **116000.** | **245000.** | **64.7** | **315.** | **2280.** | **1.85** | **30.4** | **121.** | **950.** |
| Stddev | 22. | 2760. | 935. | 3020. | .3 | 1. | 21. | 2.32 | 6.5 | 5. | 6. |
| %RSD | 1.11 | .745 | .808 | 1.23 | .389 | .356 | .914 | 125. | 21.2 | 4.18 | .669 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **947.** | **3700.** |
| Stddev | 5. | 3. |
| %RSD | .475 | .081 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85398.** | **1211200.** | **322220.** |
| Stddev | 271. | 3109. | 4205. |
| %RSD | .31780 | .25666 | 1.3051 |

Sample Name: 255854 Acquired: 04/04/2019 10:47:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **13.3** | **132000.** | **252.** | **35500.** | **10.6** | **25800.** | **11.7** | **11.7** | **238.** | **390.** | **4760.** |
| Stddev | .5 | 624. | 16. | 684. | .1 | 50. | 4.5 | 1.1 | 27. | 2. | 36. |
| %RSD | 3.69 | .472 | 6.21 | 1.93 | .858 | .195 | 38.0 | 9.24 | 11.4 | .561 | .760 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **298000.** | **10400.** | **576000.** | **175.** | **250.** | **29900.** | **202.** | **85.8** | **287.** | **906.** | **855.** |
| Stddev | 1040. | 80. | 4670. | 23. | 39. | 3930. | 25. | 36.9 | 39. | 9. | 4. |
| %RSD | .351 | .771 | .811 | 13.1 | 15.4 | 13.1 | 12.6 | 43.0 | 13.7 | 1.02 | .437 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **3470.** |
| Stddev | 466. |
| %RSD | 13.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1249100.** | **329150.** |
| Stddev | ----- | 3425. | 3473. |
| %RSD | ----- | .27421 | 1.0552 |

Sample Name: ccv1 Acquired: 04/04/2019 11:33:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **5040.** | **4890.** | **4820.** | **488.** | **5100.** | **491.** | **4790.** | **5060.** | **4900.** | **5450.** | **5170.** |
| Stddev | . | 106. | 15. | 66. | 7. | 75. | 1. | 23. | 5. | 28. | 275. | 133. |
| %RSD | .056 | 2.10 | .314 | 1.37 | 1.50 | 1.47 | .152 | .488 | .092 | .569 | 5.05 | 2.57 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5130.** | **4750.** | **4860.** | **4810.** | **4790.** | **4760.** | **4810.** | **4880.** | **5100.** |
| Stddev | 65. | 10. | 10. | 20. | 8. | 9. | 3. | 42. | 7. |
| %RSD | 1.26 | .214 | .196 | .406 | .164 | .192 | .056 | .859 | .134 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **90115.** | **1280100.** | **334390.** |
| Stddev | 121. | 2059. | 3748. |
| %RSD | .13480 | .16083 | 1.1208 |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.0** | **480.** | **473.** | **478.** | **468.** | **482.** | **50.8** | **53.1** | **467.** | **50.0** | **52.0** | **482.** |
| Stddev | .5 | 3. | 3. | 6. | 2. | 11. | .1 | 1.1 | 7. | .5 | .3 | 1. |
| %RSD | 1.06 | .664 | .616 | 1.22 | .415 | 2.18 | .150 | 2.05 | 1.42 | 1.03 | .632 | .153 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **500.** | **496.** | **487.** | **472.** | **492.** | **467.** | **468.** | **489.** | **487.** | **487.** | **466.** |
| Stddev | 2. | 4. | 14. | 3. | 1. | 1. | 1. | 1. | 1. | 1. | 3. | 1. |
| %RSD | .452 | .754 | 2.82 | .604 | .238 | .201 | .188 | .306 | .299 | .261 | .656 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **476.** | **475.** | **479.** | **502.** | **476.** | **473.** | **507.** | **477.** |
| Stddev | 3. | 4. | 4. | 2. | 6. | 2. | 1. | . |
| %RSD | .588 | .740 | .925 | .444 | 1.33 | .435 | .226 | .063 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91823.** | **1304900.** | **338310.** |
| Stddev | 357. | 1653. | 4392. |
| %RSD | .38883 | .12669 | 1.2981 |

Sample Name: ccb Acquired: 04/04/2019 11:45:23 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.054** | **-4.09** | **3.65** | **.052** | **.032** | **-28.1** | **.052** | **.114** | **.361** | **.112** | **6.03** | **2.36** |
| Stddev | .584 | .58 | 4.18 | .248 | .038 | 1.8 | .108 | .202 | .165 | .303 | 3.43 | 2.66 |
| %RSD | 1090. | 14.1 | 114. | 475. | 117. | 6.34 | 208. | 177. | 45.8 | 270. | 57.0 | 113. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.92** | **.214** | **1.01** | **.617** | **2.01** | **2.30** | **.100** | **.277** | **-.515** | **-.387** |
| Stddev | .03 | .124 | .23 | .291 | 1.83 | .26 | 5.47 | 1.78 | .562 | .188 |
| %RSD | 1.03 | 58.3 | 23.0 | 47.1 | 91.1 | 11.2 | 5480. | 642. | 109. | 48.4 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91848.** | **1306000.** | **339770.** |
| Stddev | 153. | 5702. | 2161. |
| %RSD | .16675 | .43662 | .63611 |

Sample Name: Blank Acquired: 04/05/2019 07:16:20 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.074** | **-.000** | **-.692** | **20.6** | **-.000** | **13.5** | **536.** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .387 | .000 | .293 | 3.1 | .000 | .9 | 259. | .000 | .000 |
| %RSD | 15.4 | 22.2 | 67.4 | 526. | 389. | 42.3 | 15.2 | 1.77 | 6.64 | 48.3 | 416. | 13.6 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **149.** | **9.89** | **.000** | **.000** | **15.1** | **-.000** | **529.** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | 2. | 3.07 | .000 | .000 | 4.2 | .000 | 19. | .000 |
| %RSD | 301. | 79.4 | 68.5 | 536. | 1.08 | 31.0 | 5.15 | 32.0 | 27.7 | 5700. | 3.62 | 72.4 |

| Elem | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.72** | **.067** | **-.210** | **-.000** | **.000** | **1.11** | **-.000** | **.713** | **.000** | **-.000** | **-.000** | **4.49** |
| Stddev | .96 | .586 | .211 | .000 | .000 | .78 | .000 | .128 | .000 | .000 | .000 | 1.86 |
| %RSD | 56.0 | 877. | 101. | 55.8 | 83.0 | 70.2 | 76.1 | 17.9 | 72.6 | 482. | 179. | 41.5 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **6.27** |
| Stddev | .000 | .62 |
| %RSD | 34.4 | 9.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103200.** | **937860.** | **308380.** |
| Stddev | 284. | 1522. | 2853. |
| %RSD | .27556 | .16233 | .92503 |

Sample Name: CalStd2=0.5 Acquired: 04/05/2019 07:22:42 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.72 | 7.54 | 14.5 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **104240.** | **953120.** |
| Stddev | 35. | 9528. |
| %RSD | .03386 | .99971 |

Sample Name: CalStd3=1 Acquired: 04/05/2019 07:28:55 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **1.19** | **43.9** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .47 | .4 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 20.9 | 39.0 | .833 | 2.37 | 11.6 | 17.2 | 33.9 | 28.6 | 107. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104960.** | **968740.** | **315020.** |
| Stddev | 121. | 7828. | 3478. |
| %RSD | .11502 | .80801 | 1.1040 |

Sample Name: CalStd4=5 Acquired: 04/05/2019 07:35:30 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.30** | **120.** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **11.7** | **.000** | **3.63** | **.000** |
| Stddev | .20 | 5. | .000 | .000 | .000 | .000 | .000 | .000 | 2.5 | .000 | .22 | .000 |
| %RSD | 4.72 | 4.43 | 1.81 | 3.13 | 1.08 | 3.48 | 3.33 | 3.97 | 21.4 | .680 | 6.06 | 7.40 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **4.34** | **1.34** |
| Stddev | .52 | .59 |
| %RSD | 12.0 | 43.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105180.** | **975070.** | **320520.** |
| Stddev | 171. | 5139. | 3305. |
| %RSD | .16242 | .52705 | 1.0313 |

Sample Name: CalStd5=10 Acquired: 04/05/2019 07:41:46 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.29** | **.000** | **10.3** | **231.** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .40 | .000 | .4 | 2. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 8.37 | 3.30 | 31.2 | 49.2 | 3.45 | .784 | 1.19 | 1.00 | 1.57 | 1.75 | 3.62 | 7.69 |

| Elem | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158.** | **13.2** | **.000** | **8.77** | **.000** | **.000** | **5.71** | **.000** | **2.24** | **.000** | **.000** | **106.** |
| Stddev | 3. | 3.3 | .000 | .28 | .000 | .000 | .51 | .000 | .50 | .000 | .000 | 5. |
| %RSD | 2.16 | 25.3 | 1.13 | 3.17 | 1.04 | 10.2 | 8.99 | 18.5 | 22.2 | 14.1 | 9.44 | 5.14 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **51.5** |
| Stddev | .000 | .4 |
| %RSD | 2.70 | .835 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105510.** | **984030.** | **322290.** |
| Stddev | 212. | 3604. | 3058. |
| %RSD | .20096 | .36623 | .94898 |

Sample Name: CalStd6=20 Acquired: 04/05/2019 07:48:03 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **19.2** | **417.** | **171.** | **19.3** | **.000** | **16.0** | **4.79** | **205.** |
| Stddev | .3 | 4. | 2. | 2.6 | .000 | .3 | .72 | 5. |
| %RSD | 1.53 | 1.06 | .995 | 13.3 | .644 | 1.57 | 15.0 | 2.56 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105800.** | **984500.** |
| Stddev | 273. | 4802. |
| %RSD | .25795 | .48776 |

Sample Name: CalStd7=50 Acquired: 04/05/2019 07:54:13 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Ba4554 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2045 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.04** | **.000** | **1020.** | **.002** | **.003** | **.001** | **.001** | **.000** | **200.** | **35.5** | **.001** | **41.6** |
| Stddev | .15 | .000 | 12. | .000 | .000 | .000 | .000 | .000 | 4. | 1.8 | .000 | .8 |
| %RSD | 2.17 | 10.1 | 1.17 | .348 | .247 | .393 | .614 | .279 | 2.16 | 5.14 | .156 | 1.83 |

| Elem | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.000** | **502.** |
| Stddev | .000 | .000 | .000 | 5. |
| %RSD | .971 | 4.45 | 13.0 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106000.** | **988570.** | **322530.** |
| Stddev | 277. | 2989. | 2206. |
| %RSD | .26097 | .30234 | .68401 |

Sample Name: CalStd8=100 Acquired: 04/05/2019 08:00:22 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **13.1** | **.000** | **96.7** | **1970.** | **.010** | **15400.** | **.003** | **.006** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .6 | 21. | .000 | 155. | .000 | .000 | .000 |
| %RSD | .948 | 1.44 | 4.04 | 3.64 | .583 | 1.09 | .606 | 1.01 | .231 | .387 | .188 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **247.** | **60.0** | **5640.** | **.002** | **82.2** | **207.** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 4. | 2.4 | 26. | .000 | .9 | 1. | .000 | .000 |
| %RSD | .952 | .263 | 1.31 | 1.59 | 4.05 | .465 | .888 | 1.05 | .349 | .268 | 2.52 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **41.3** | **20.6** | **.000** | **.000** | **.000** | **985.** | **.002** | **450.** |
| Stddev | 1.0 | .2 | .000 | .000 | .000 | 6. | .000 | 1. |
| %RSD | 2.46 | .812 | 3.52 | 22.9 | 2.01 | .630 | .987 | .177 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106590.** | **991390.** | **322150.** |
| Stddev | 86. | 4912. | 2445. |
| %RSD | .08039 | .49550 | .75900 |

Sample Name: CalStd9=1000 Acquired: 04/05/2019 08:06:31 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.002** | **135.** | **.001** | **975.** | **19800.** | **.102** | **139.** | **129000.** | **.035** |
| Stddev | .000 | .000 | 1. | .000 | 3. | 168. | .000 | 3. | 1220. | .000 |
| %RSD | .266 | .955 | .495 | 1.48 | .352 | .848 | .209 | 1.89 | .950 | .122 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.064** | **.020** | **.003** | **.019** | **.004** | **1140.** | **537.** | **.001** | **.000** | **472.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 12. | 9. | .000 | .000 | 4. |
| %RSD | .275 | .406 | .383 | .053 | .080 | 1.03 | 1.64 | .481 | 1.24 | .915 |

| Elem | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **50800.** | **.017** | **1520.** | **842.** | **2080.** | **.019** | **.002** | **399.** | **.003** |
| Stddev | .000 | 263. | .000 | 14. | 1. | 9. | .000 | .000 | 1. | .000 |
| %RSD | 5.43 | .518 | .212 | .938 | .085 | .424 | .186 | .580 | .219 | .682 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **206.** | **.001** | **.000** | **.003** | **10000.** | **.021** | **4460.** |
| Stddev | 1. | .000 | .000 | .000 | 35. | .000 | 12. |
| %RSD | .454 | .273 | 1.72 | .076 | .352 | .569 | .273 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **1000500.** | **324740.** |
| Stddev | 335. | 4893. | 1702. |
| %RSD | .31296 | .48909 | .52398 |

Sample Name: CalStd10=10000 Acquired: 04/05/2019 08:12:10 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4554 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.015** | **.009** | **190000.** | **1260.** | **.198** | **.028** | **.184** | **.037** | **9910.** | **5160.** |
| Stddev | .000 | .000 | 1730. | 6. | .000 | .000 | .000 | .000 | 131. | 80. |
| %RSD | .880 | .297 | .910 | .442 | .164 | .501 | .137 | .395 | 1.32 | 1.55 |

| Elem | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.004** | **4590.** | **.000** | **454000.** | **.159** | **14900.** | **8060.** | **19500.** | **.181** |
| Stddev | .000 | .000 | 41. | .000 | 4540. | .001 | 123. | 8. | 43. | .000 |
| %RSD | .665 | .665 | .883 | 1.08 | 1.00 | .545 | .822 | .098 | .221 | .034 |

| Elem | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.018** | **.025** | **1980.** | **.003** | **.028** | **96200.** | **.203** |
| Stddev | .000 | .000 | 3. | .000 | .000 | 220. | .001 |
| %RSD | .158 | .285 | .135 | .524 | .117 | .228 | .298 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104810.** | **976730.** | **325360.** |
| Stddev | 168. | 3799. | 1969. |
| %RSD | .15989 | .38894 | .60521 |

Sample Name: CalStd12=100K  Acquired: 04/05/2019 08:18:42  Type: Cal

Method: DOD Calibration Updated 060614(v3295)  Mode: IR  Corr. Factor: 1.000000

User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1

Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.60** | **94200.** | **50100.** | **140000.** | **.174** | **1.79** |
| Stddev | .00 | 1180. | 501. | 1150. | .000 | .00 |
| %RSD | .051 | 1.26 | 1.00 | .825 | .163 | .167 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105470.** | **986270.** |
| Stddev | 86. | 3826. |
| %RSD | .08111 | .38792 |

Sample Name: CalStd13=100000 Acquired: 04/05/2019 08:25:00 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.146** | **12100.** | **.048** | **.034** | **42900.** | **.004** |
| Stddev | .002 | 72. | .000 | .000 | 397. | .000 |
| %RSD | 1.36 | .597 | .383 | 1.00 | .926 | .924 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103450.** | **986050.** | **323600.** |
| Stddev | 134. | 4009. | 1860. |
| %RSD | .12942 | .40654 | .57480 |

Sample Name: CalStd14=500000 Acquired: 04/05/2019 08:31:24 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.751** | **57100.** | **.159** | **190000.** | **.022** |
| Stddev | .018 | 269. | .002 | 522. | .000 |
| %RSD | 2.36 | .471 | .981 | .275 | 1.06 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **95857.** | **308780.** |
| Stddev | 187. | 2213. |
| %RSD | .19559 | .71663 |

Sample Name: CalibStd15=1000k Acquired: 04/05/2019 08:38:16 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.53** | **105000.** | **.299** | **.043** |
| Stddev | .02 | 304. | .002 | .000 |
| %RSD | 1.41 | .288 | .713 | .685 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **86218.** | **287800.** |
| Stddev | 176. | 1560. |
| %RSD | .20456 | .54215 |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.2** | **11800.** | **1950.** | **1920.** | **2020.** | **46.5** | **9870.** | **47.2** | **504.** | **192.** | **251.** | **256.** |
| Stddev | .9 | 133. | 10. | 10. | 6. | .2 | 71. | .1 | 1. | 2. | 2. | 4. |
| %RSD | 2.09 | 1.13 | .534 | .506 | .288 | .504 | .720 | .199 | .199 | 1.12 | .940 | 1.68 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4860.** | **10300.** | **500.** | **511.** | **508.** | **494.** | **470.** | **478.** | **496.** | **500.** | **1930.** | **2000.** |
| Stddev | 19. | 132. | 4. | 2. | 1. | 1. | 5. | 2. | 2. | 2. | 13. | 7. |
| %RSD | .390 | 1.28 | .717 | .332 | .287 | .208 | 1.10 | .491 | .466 | .346 | .695 | .361 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **495.** | **527.** | **482.** |
| Stddev | 1. | 3. | 1. |
| %RSD | .133 | .543 | .107 |
| Check ? | None | None | None |
| Value | | | |
| Range | | | |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107870.** | **1017900.** | **330150.** |
| Stddev | 155. | 5761. | 2766. |
| %RSD | .14372 | .56599 | .83786 |

Sample Name: ICVLL Acquired: 04/05/2019 09:04:20 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.4** | **1170.** | **1180.** | **62.4** | **29.1** | **10.9** | **1400.** | **14.4** | **14.7** | **29.0** | **29.1** | **28.0** |
| Stddev | 1.0 | 5. | 11. | 3.0 | .4 | .0 | 6. | .3 | .1 | .4 | .9 | 4.4 |
| %RSD | 3.30 | .450 | .913 | 4.76 | 1.21 | .388 | .465 | 1.74 | .834 | 1.45 | 3.13 | 15.7 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **27.9** | **880.** | **1440.** | **32.3** | **29.0** | **29.5** | **31.9** | **62.8** | **65.7** | **59.6** | **29.2** | **28.8** |
| Stddev | 3.1 | 3. | 5. | .3 | .3 | .4 | 1.3 | 3.2 | 4.7 | 1.6 | .5 | .2 |
| %RSD | 11.0 | .322 | .347 | .943 | 1.09 | 1.41 | 4.20 | 5.09 | 7.16 | 2.72 | 1.72 | .524 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107650.** | **1025000.** | **332350.** |
| Stddev | 64. | 4162. | 4275. |
| %RSD | .05979 | .40602 | 1.2863 |

Sample Name: icb Acquired: 04/05/2019 09:10:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.683** | **-1.64** | **-.338** | **.229** | **-.074** | **-9.72** | **.077** | **-.062** | **-.284** | **-.761** | **-3.27** | **-12.2** |
| Stddev | .756 | 1.07 | 2.47 | .448 | .038 | .73 | .092 | .174 | .152 | .371 | 6.43 | 2.3 |
| %RSD | 111. | 65.0 | 730. | 196. | 51.7 | 7.54 | 119. | 281. | 53.6 | 48.8 | 197. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.32** | **.151** | **-.858** | **.305** | **.273** | **-3.89** | **2.65** | **1.53** | **-.291** | **-.741** |
| Stddev | .04 | .090 | .552 | .430 | 6.90 | 1.68 | 5.63 | 2.28 | .164 | .047 |
| %RSD | .515 | 59.5 | 64.4 | 141. | 2530. | 43.2 | 213. | 149. | 56.5 | 6.40 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108740.** | **1038400.** | **330070.** |
| Stddev | 216. | 7591. | 1142. |
| %RSD | .19875 | .73105 | .34597 |

Sample Name: ICSA Acquired: 04/05/2019 09:29:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.535** | **529000.** | **-.502** | **.000** | **-.473** | **514000.** | **.010** | **-.699** | **-.372** | **-2.79** | **-1.73** |
| Stddev | .822 | 8170. | 9.70 | .506 | .058 | 3140. | 1.26 | .271 | .155 | .85 | 6.83 |
| %RSD | 154. | 1.54 | 1930. | 239000. | 12.3 | .611 | 12500. | 38.8 | 41.7 | 30.3 | 395. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481000.** | **494000.** | **-2.73** | **-1.91** | **-.450** | **1.02** | **.001** | **.002** | **-.087** | **8970.** | **6.35** |
| Stddev | 5460. | 5380. | .27 | .59 | .782 | 2.41 | 6.42 | 10.9 | .964 | 17. | .83 |
| %RSD | 1.14 | 1.09 | 9.71 | 30.9 | 174. | 237. | 697000. | 465000. | 1100. | .188 | 13.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96186.** | **927730.** | **313820.** |
| Stddev | 132. | 2680. | 2397. |
| %RSD | .13760 | .28885 | .76366 |

Sample Name: ICSAB Acquired: 04/05/2019 09:35:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **444.** | **544000.** | **568.** | **476.** | **450.** | **480.** | **502000.** | **493.** | **461.** | **485.** | **444.** |
| Stddev | 3. | 7240. | 14. | 2. | 2. | 3. | 2570. | 1. | 1. | 3. | 6. |
| %RSD | .643 | 1.33 | 2.37 | .449 | .528 | .601 | .512 | .160 | .153 | .701 | 1.38 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **526.** | **506000.** | **508000.** | **512.** | **477.** | **493.** | **445.** | **451.** | **879.** | **412.** | **459.** |
| Stddev | 8. | 3160. | 2730. | 2. | . | 1. | 3. | 2. | 18. | 4. | 11. |
| %RSD | 1.56 | .625 | .537 | .465 | .034 | .294 | .657 | .426 | 2.08 | .850 | 2.45 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **488.** | **468.** | **476.** | **507.** | **564.** | **510.** | **499.** |
| Stddev | 12. | 5. | 3. | 3. | 5. | 1. | 1. |
| %RSD | 2.35 | 1.09 | .672 | .620 | .889 | .123 | .141 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: MRL/LLOQ  Acquired: 04/05/2019 09:22:55  Type: QC
Method: DOD Calibration Updated 060614(v3295)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.0** | **397.** | **17.5** | **9.52** | **3.49** | **445.** | **4.73** | **4.81** | **9.30** | **9.42** | **8.80** | **286.** |
| Stddev | .7 | 1. | 3.1 | .16 | .05 | 4. | .16 | .19 | .36 | .59 | 3.61 | 1. |
| %RSD | 6.87 | .277 | 17.9 | 1.68 | 1.46 | .988 | 3.28 | 3.84 | 3.83 | 6.28 | 41.1 | .369 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **9.15** | **9.36** | **9.97** | **12.6** | **18.8** | **21.9** | **20.8** | **8.88** | **9.86** |
| Stddev | 2. | .05 | .31 | .39 | 1.7 | 2.3 | 3.4 | 1.9 | .17 | .06 |
| %RSD | .442 | .509 | 3.30 | 3.91 | 13.3 | 12.2 | 15.7 | 9.04 | 1.90 | .574 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108050.** | **1039400.** | **331930.** |
| Stddev | 301. | 5126. | 2002. |
| %RSD | .27862 | .49316 | .60315 |

Sample Name: ccv1 Acquired: 04/05/2019 13:33:11 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | F **4400.** | **4700.** | F **4320.** | **454.** | **4520.** | F **439.** | **4590.** | **4610.** | **4650.** | **4630.** | **4810.** |
| Stddev | 1. | 19. | 9. | 8. | 1. | 15. | 1. | 18. | 2. | 21. | 198. | 38. |
| %RSD | .236 | .429 | .192 | .191 | .316 | .324 | .235 | .396 | .041 | .448 | 4.27 | .792 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | 5000. | | | 500. | | | | | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4890.** | F **4360.** | F **4450.** | F **4400.** | F **4240.** | F **4390.** | **4490.** | **4530.** | **5190.** |
| Stddev | 1. | 10. | 9. | 11. | 16. | 38. | . | 7. | 15. |
| %RSD | .018 | .225 | .209 | .251 | .378 | .874 | .008 | .157 | .282 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106050.** | **951470.** | **322420.** |
| Stddev | 205. | 2766. | 204. |
| %RSD | .19359 | .29075 | .06324 |

Sample Name: ccv2 Acquired: 04/05/2019 13:38:42 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.9** | F **418.** | **462.** | F **428.** | F **445.** | **47.8** | F **414.** | **45.4** | **46.9** | F **430.** | F **437.** | **481.** |
| Stddev | .5 | 2. | 4. | 1. | 3. | .2 | 3. | .2 | .4 | 1. | 2. | 10. |
| %RSD | .979 | .358 | .830 | .127 | .757 | .330 | .700 | .453 | .954 | .161 | .358 | 2.09 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | F **439.** | F **436.** | **467.** | F **443.** | **462.** | F **445.** | **453.** | F **429.** | F **425.** | **456.** | F **436.** |
| Stddev | 5. | 2. | 1. | 1. | 1. | 1. | 1. | 3. | 3. | 3. | 3. | 5. |
| %RSD | 1.04 | .505 | .133 | .319 | .119 | .155 | .286 | .579 | .726 | .673 | .593 | 1.19 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **477.** | **461.** | **523.** | F **441.** |
| Stddev | 3. | 1. | 1. | 1. |
| %RSD | .692 | .231 | .168 | .226 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 13:38:42 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108110.** | **985100.** | **327740.** |
| Stddev | 232. | 2472. | 2254. |
| %RSD | .21478 | .25089 | .68759 |

Sample Name: ccb Acquired: 04/05/2019 13:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.122** | **-5.33** | **1.02** | **.307** | **.206** | **-12.1** | **-.086** | **.005** | **.066** | **.070** | **12.7** | **-7.27** |
| Stddev | .213 | 1.40 | 1.99 | .236 | .029 | .3 | .115 | .136 | .150 | .387 | 3.0 | 4.65 |
| %RSD | 175. | 26.3 | 196. | 77.0 | 13.9 | 2.65 | 133. | 2540. | 229. | 551. | 24.0 | 63.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.50** | **-9.02** | **.418** | **-.153** | **.296** | **2.14** | **-2.93** | **5.44** | **1.09** | **.210** | **-.654** |
| Stddev | 2.08 | .04 | .040 | .299 | .539 | 1.86 | 1.89 | 4.51 | .31 | .212 | .097 |
| %RSD | 27.7 | .388 | 9.46 | 195. | 182. | 86.7 | 64.4 | 82.8 | 28.6 | 101. | 14.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107880.** | **981870.** | **330400.** |
| Stddev | 119. | 2941. | 1399. |
| %RSD | .10990 | .29950 | .42351 |

Sample Name: 254600 Acquired: 04/05/2019 14:22:23 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.03** | **54700.** | **52.3** | **706.** | **801.** | **1.92** | **33200.** | **.073** | **1.43** | **22.1** | **94.9** | **251.** |
| Stddev | .34 | 1870. | 2.9 | 1. | 24. | .08 | 857. | .176 | .09 | .4 | 1.1 | 7. |
| %RSD | 32.5 | 3.42 | 5.64 | .140 | 2.94 | 4.27 | 2.58 | 240. | 5.97 | 1.92 | 1.11 | 2.67 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **228.** | **49500.** | **5220.** | **36100.** | **23.5** | **46.8** | **266.** | **-2.53** | **.402** | **17.6** | **176.** | **421.** |
| Stddev | 11. | 1560. | 138. | 800. | 1.0 | .4 | 3. | 1.37 | 1.89 | 2.1 | 1. | 2. |
| %RSD | 4.80 | 3.16 | 2.64 | 2.21 | 4.06 | .956 | .948 | 54.1 | 469. | 12.2 | .620 | .553 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **358.** |
| Stddev | 1. |
| %RSD | .266 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108640.** | **977340.** | **334030.** |
| Stddev | 107. | 1272. | 1324. |
| %RSD | .09843 | .13014 | .39631 |

Sample Name: 1dup254600 Acquired: 04/05/2019 14:29:01 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.509** | **48800.** | **43.6** | **696.** | **755.** | **1.72** | **28200.** | **.678** | **1.21** | **20.4** | **86.1** | **217.** |
| Stddev | .402 | 432. | 4.0 | 4. | 3. | .07 | 150. | .173 | .10 | .3 | .7 | 3. |
| %RSD | 78.9 | .886 | 9.09 | .542 | .416 | 4.17 | .532 | 25.6 | 8.35 | 1.57 | .783 | 1.27 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **202.** | **43200.** | **4480.** | **30900.** | **22.4** | **42.9** | **262.** | **-2.79** | **-2.01** | **14.9** | **161.** | **332.** |
| Stddev | 7. | 201. | 97. | 82. | .7 | .6 | 4. | .57 | 5.10 | 1.0 | 1. | 1. |
| %RSD | 3.66 | .466 | 2.16 | .264 | 3.15 | 1.36 | 1.51 | 20.6 | 254. | 6.90 | .400 | .166 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108140.** | **982050.** | **331950.** |
| Stddev | 55. | 1317. | 3130. |
| %RSD | .05090 | .13414 | .94288 |

Sample Name: 2dup254600 Acquired: 04/05/2019 14:35:40 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.839** | **49800.** | **43.1** | **540.** | **677.** | **1.56** | **26900.** | **-.639** | **1.01** | **16.5** | **76.7** | **205.** |
| Stddev | .748 | 1800. | 3.0 | 2. | 28. | .05 | 885. | .266 | .09 | .2 | 2.1 | 7. |
| %RSD | 89.3 | 3.62 | 6.91 | .344 | 4.06 | 2.94 | 3.29 | 41.6 | 9.06 | 1.05 | 2.78 | 3.31 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **189.** | **42100.** | **4470.** | **29600.** | **18.7** | **35.9** | **200.** | **-1.55** | **-6.39** | **13.4** | **144.** | **271.** |
| Stddev | 15. | 1650. | 139. | 982. | .7 | .2 | 3. | 3.25 | 4.81 | 1.7 | 4. | 1. |
| %RSD | 8.05 | 3.91 | 3.10 | 3.32 | 3.64 | .555 | 1.52 | 210. | 75.2 | 12.5 | 3.00 | .546 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108030.** | **975270.** | **331830.** |
| Stddev | 443. | 3504. | 2525. |
| %RSD | .41030 | .35927 | .76099 |

Sample Name: 254601 Acquired: 04/05/2019 14:42:18 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.950** | **28700.** | **1720.** | **1700.** | **379.** | **423.** | **1.12** | **16800.** | **.306** | **9.91** | **11.7** | **47.3** |
| Stddev | .485 | 747. | 6. | 22. | 2. | 10. | .02 | 312. | .174 | .12 | .4 | .5 |
| %RSD | 51.1 | 2.61 | .357 | 1.30 | .421 | 2.28 | 1.97 | 1.85 | 57.1 | 1.19 | 3.42 | 1.12 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **133.** | **116.** | **24500.** | **2750.** | **20100.** | **12.2** | **25.0** | **146.** | **-1.05** | **3.26** | **10.1** | **90.6** |
| Stddev | 7. | 5. | 482. | 94. | 423. | .1 | .5 | 1. | 1.48 | 5.70 | 2.4 | .7 |
| %RSD | 5.24 | 4.21 | 1.97 | 3.41 | 2.10 | .548 | 1.89 | .611 | 141. | 175. | 23.6 | .799 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **191.** |
| Stddev | 1. |
| %RSD | .288 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108100.** | **971120.** | **332070.** |
| Stddev | 469. | 3227. | 1702. |
| %RSD | .43412 | .33233 | .51259 |

Sample Name: I254601 Acquired: 04/05/2019 14:48:57 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.721** | **26900.** | **1460.** | **1450.** | **350.** | **374.** | **1.00** | **14200.** | **.615** | **8.37** | **10.6** | **45.1** |
| Stddev | .368 | 389. | 3. | 15. | 1. | 2. | .03 | 90. | .220 | .24 | .2 | 1.1 |
| %RSD | 51.0 | 1.45 | .191 | 1.02 | .281 | .641 | 2.59 | .634 | 35.8 | 2.91 | 1.75 | 2.33 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **117.** | **98.3** | **21900.** | **2370.** | **17000.** | **11.7** | **22.4** | **126.** | **-3.41** | **-3.26** | **8.91** | **85.0** |
| Stddev | 2. | 4.3 | 98. | 144. | 52. | .8 | .5 | 2. | 1.48 | 4.21 | 1.69 | .5 |
| %RSD | 1.74 | 4.42 | .449 | 6.10 | .308 | 7.18 | 2.44 | 1.57 | 43.5 | 129. | 19.0 | .587 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **175.** |
| Stddev | . |
| %RSD | .188 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108200.** | **989290.** | **332630.** |
| Stddev | 98. | 4175. | 3767. |
| %RSD | .09095 | .42200 | 1.1325 |

Sample Name: ccv1 Acquired: 04/05/2019 14:55:24 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4250.** | **4720.** | F **4320.** | F **446.** | F **4370.** | F **436.** | **4510.** | **4570.** | **4610.** | F **4400.** | **4720.** |
| Stddev | 3. | 61. | 26. | 18. | 3. | 39. | 1. | 30. | 6. | 8. | 69. | 109. |
| %RSD | .702 | 1.42 | .561 | .406 | .693 | .891 | .280 | .673 | .134 | .176 | 1.56 | 2.31 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4730.** | F **4280.** | F **4360.** | F **4400.** | F **4290.** | F **4440.** | **4500.** | F **4440.** | **5170.** |
| Stddev | 48. | 7. | 13. | 13. | 42. | 19. | 10. | 18. | 11. |
| %RSD | 1.01 | .163 | .293 | .303 | .988 | .420 | .229 | .416 | .203 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **104450.** | **947500.** | **326290.** |
| Stddev | 265. | 4724. | 3224. |
| %RSD | .25334 | .49859 | .98798 |

Sample Name: ccv2 Acquired: 04/05/2019 15:00:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.3** | F **423.** | **457.** | F **424.** | F **446.** | **47.2** | F **414.** | **45.2** | **46.9** | F **435.** | F **434.** | **482.** |
| Stddev | .5 | 2. | 4. | 2. | 4. | .3 | 3. | .2 | .3 | 1. | 3. | 6. |
| %RSD | 1.11 | .419 | .979 | .438 | .914 | .690 | .676 | .530 | .570 | .308 | .576 | 1.16 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **452.** | F **434.** | F **430.** | **463.** | F **439.** | **456.** | F **444.** | **456.** | F **424.** | F **433.** | **451.** | F **436.** |
| Stddev | 9. | 4. | 1. | 2. | 1. | 2. | . | 4. | 1. | 6. | 2. | 6. |
| %RSD | 2.06 | .905 | .291 | .326 | .176 | .367 | .069 | .939 | .259 | 1.38 | .514 | 1.44 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **477.** | **454.** | **512.** | F **436.** |
| Stddev | 1. | 2. | 2. | 1. |
| %RSD | .125 | .338 | .335 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 15:00:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107100.** | **982050.** | **330030.** |
| Stddev | 215. | 2942. | 2824. |
| %RSD | .20083 | .29962 | .85573 |

Sample Name: ccb Acquired: 04/05/2019 15:06:36 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.130** | **-4.61** | **3.11** | **.733** | **.184** | **-11.7** | **.140** | **.016** | **-.171** | **.333** | **-2.49** | **-8.16** |
| Stddev | .536 | .78 | 2.42 | .513 | .033 | .7 | .233 | .081 | .288 | .393 | 4.35 | 1.72 |
| %RSD | 411. | 16.8 | 77.9 | 70.0 | 17.9 | 5.78 | 166. | 508. | 168. | 118. | 175. | 21.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.98** | **.487** | **-.460** | **.194** | **2.27** | **-2.01** | **1.79** | **1.73** | **.283** | **-.647** |
| Stddev | .02 | .073 | .570 | .333 | 1.38 | 1.98 | 3.06 | 2.07 | .553 | .124 |
| %RSD | .188 | 15.1 | 124. | 172. | 60.7 | 98.8 | 171. | 120. | 195. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106910.** | **975640.** | **328850.** |
| Stddev | 168. | 7301. | 1794. |
| %RSD | .15704 | .74835 | .54561 |

Sample Name: 1dup254601 Acquired: 04/05/2019 15:12:52 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.712** | **33300.** | **26.0** | **286.** | **379.** | **1.03** | **16600.** | **-.739** | **.424** | **9.42** | **48.0** | **134.** |
| Stddev | .334 | 1800. | 6.5 | 2. | 20. | .06 | 978. | .380 | .071 | .19 | 1.9 | 3. |
| %RSD | 46.8 | 5.40 | 25.2 | .807 | 5.25 | 5.93 | 5.91 | 51.5 | 16.8 | 2.06 | 3.85 | 2.53 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **118.** | **26000.** | **2600.** | **19100.** | **10.2** | **27.6** | **104.** | **-1.21** | **-1.49** | **11.0** | **97.1** | **114.** |
| Stddev | 9. | 1500. | 195. | 1130. | .7 | .3 | 2. | 1.94 | 6.92 | 1.2 | 3.6 | 1. |
| %RSD | 7.27 | 5.77 | 7.49 | 5.88 | 6.69 | 1.14 | 2.04 | 160. | 463. | 11.1 | 3.73 | .443 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108070.** | **977250.** | **331020.** |
| Stddev | 179. | 6437. | 2059. |
| %RSD | .16569 | .65867 | .62199 |

Sample Name: 2dup254601 Acquired: 04/05/2019 15:19:22 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.501** | **40600.** | **33.2** | **397.** | **433.** | **1.31** | **18600.** | **-.014** | **.543** | **12.3** | **64.8** | **149.** |
| Stddev | .654 | 494. | 5.7 | 2. | 5. | .03 | 155. | .239 | .130 | .1 | 1.2 | 6. |
| %RSD | 130. | 1.22 | 17.1 | .377 | 1.06 | 1.99 | .834 | 1750. | 24.0 | 1.20 | 1.78 | 4.27 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **128.** | **30600.** | **2910.** | **21300.** | **13.5** | **35.1** | **141.** | **-2.91** | **3.59** | **13.4** | **129.** | **160.** |
| Stddev | 4. | 309. | 52. | 234. | 1.2 | .7 | 3. | 2.06 | 4.58 | 2.2 | 1. | . |
| %RSD | 3.39 | 1.01 | 1.79 | 1.10 | 8.80 | 1.93 | 1.80 | 70.8 | 127. | 16.6 | .467 | .085 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107630.** | **984550.** | **334100.** |
| Stddev | 168. | 3381. | 2444. |
| %RSD | .15569 | .34341 | .73158 |

Sample Name: mss254601 Acquired: 04/05/2019 15:26:01 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.05** | **32600.** | **1760.** | **1760.** | **383.** | **493.** | **1.13** | **19500.** | **-.342** | **10.1** | **12.0** | **48.0** |
| Stddev | 1.30 | 1530. | 17. | 18. | 2. | 24. | .08 | 963. | .257 | .2 | .2 | 1.2 |
| %RSD | 123. | 4.71 | .988 | 1.05 | .624 | 4.91 | 6.80 | 4.93 | 75.1 | 2.42 | 1.91 | 2.39 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **156.** | **137.** | **28100.** | **3160.** | **23500.** | **13.1** | **25.2** | **146.** | **-2.72** | **.173** | **10.1** | **94.6** |
| Stddev | 8. | 9. | 1420. | 134. | 1220. | .7 | .2 | 3. | 4.24 | 4.53 | 2.1 | 2.8 |
| %RSD | 5.02 | 6.73 | 5.05 | 4.23 | 5.20 | 5.04 | .743 | 1.87 | 156. | 2620. | 20.8 | 2.97 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **192.** |
| Stddev | 1. |
| %RSD | .373 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107600.** | **970880.** | **332120.** |
| Stddev | 382. | 2680. | 3748. |
| %RSD | .35478 | .27608 | 1.1285 |

Sample Name: msds254601 Acquired: 04/05/2019 15:32:42 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.03** | **31600.** | **1430.** | **1430.** | **335.** | **451.** | **.997** | **17300.** | **-.516** | **8.10** | **10.1** | **44.8** |
| Stddev | 1.06 | 1700. | 12. | 21. | 2. | 24. | .082 | 970. | .265 | .21 | .2 | 1.5 |
| %RSD | 103. | 5.40 | .866 | 1.45 | .582 | 5.25 | 8.27 | 5.60 | 51.5 | 2.58 | 2.41 | 3.26 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **137.** | **127.** | **26500.** | **2800.** | **20700.** | **10.9** | **22.0** | **123.** | **.259** | **.045** | **8.33** | **86.0** |
| Stddev | 7. | 5. | 1610. | 119. | 1090. | 1.0 | .4 | 2. | 1.71 | 3.18 | 1.14 | 3.5 |
| %RSD | 5.47 | 4.27 | 6.09 | 4.26 | 5.29 | 9.55 | 1.72 | 1.93 | 658. | 7010. | 13.7 | 4.09 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **167.** |
| Stddev | . |
| %RSD | .170 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107880.** | **985770.** | **336270.** |
| Stddev | 359. | 3014. | 1773. |
| %RSD | .33289 | .30575 | .52714 |

Sample Name: pdss254601 Acquired: 04/05/2019 15:39:16 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.918** | **27300.** | **1450.** | **1460.** | **318.** | **436.** | **.954** | **16300.** | **-.663** | **8.43** | **9.19** | **39.7** |
| Stddev | .780 | 1900. | 14. | 17. | 3. | 28. | .009 | 912. | .412 | .07 | .55 | 2.4 |
| %RSD | 85.0 | 6.96 | .970 | 1.15 | .865 | 6.30 | .929 | 5.60 | 62.1 | .885 | 6.00 | 5.94 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **131.** | **116.** | **24500.** | **2630.** | **19700.** | **9.67** | **20.1** | **121.** | **-2.40** | **1.65** | **8.71** | **78.0** |
| Stddev | 9. | 4. | 1540. | 122. | 1170. | .88 | .6 | 2. | 2.74 | 3.50 | .79 | 3.0 |
| %RSD | 6.74 | 3.42 | 6.30 | 4.63 | 5.95 | 9.05 | 3.02 | 1.35 | 114. | 213. | 9.11 | 3.84 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **154.** |
| Stddev | 1. |
| %RSD | .713 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107970.** | **984040.** | **333210.** |
| Stddev | 266. | 3836. | 1565. |
| %RSD | .24607 | .38984 | .46979 |

Sample Name: 254602 Acquired: 04/05/2019 15:45:44 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.33** | **40100.** | **31.9** | **314.** | **462.** | **1.18** | **20200.** | **-1.60** | **.377** | **9.85** | **55.5** | **161.** |
| Stddev | .46 | 2110. | 6.0 | 6. | 24. | .09 | 1080. | .51 | .152 | .36 | 4.4 | 6. |
| %RSD | 34.5 | 5.27 | 18.7 | 1.84 | 5.21 | 7.60 | 5.34 | 31.5 | 40.4 | 3.61 | 7.93 | 3.55 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **148.** | **32000.** | **3150.** | **23300.** | **10.1** | **29.7** | **115.** | **-.428** | **-1.18** | **11.5** | **113.** | **125.** |
| Stddev | 16. | 1840. | 204. | 1220. | .5 | .7 | 2. | 1.04 | 2.83 | .5 | 7. | 2. |
| %RSD | 10.8 | 5.74 | 6.47 | 5.25 | 5.07 | 2.29 | 1.80 | 244. | 240. | 4.53 | 6.23 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107840.** | **977500.** | **334620.** |
| Stddev | 332. | 6275. | 1066. |
| %RSD | .30760 | .64197 | .31853 |

Sample Name: I254602 Acquired: 04/05/2019 15:52:25 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.333** | **8420.** | **10.8** | **90.9** | **.468** | **4110.** | **.183** | **-.010** | **2.88** | **13.8** | **39.6** | **31.4** |
| Stddev | .535 | 42. | 2.7 | .2 | .039 | 21. | .051 | .126 | .19 | .9 | 2.8 | 3.1 |
| %RSD | 161. | .494 | 25.1 | .181 | 8.34 | .506 | 28.2 | 1280. | 6.51 | 6.73 | 6.94 | 10.0 |

| Elem | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6390.** | **610.** | **4840.** | **1.76** | **8.91** | **35.4** | **-1.89** | **-.304** | **3.37** | **28.1** | **37.1** |
| Stddev | 15. | 2. | 17. | .48 | .31 | 2.0 | 3.00 | .886 | 1.93 | .3 | .2 |
| %RSD | .237 | .306 | .354 | 27.6 | 3.47 | 5.67 | 159. | 291. | 57.2 | .906 | .612 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108290.** | **989910.** | **333350.** |
| Stddev | 131. | 4069. | 954. |
| %RSD | .12067 | .41106 | .28616 |

Sample Name: 1dup254602 Acquired: 04/05/2019 15:58:41 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.381** | **20400.** | **17.2** | **210.** | **226.** | **.800** | **9630.** | **.336** | **.207** | **6.50** | **33.1** | **79.2** |
| Stddev | .596 | 347. | 1.6 | 1. | 1. | .006 | 46. | .049 | .082 | .24 | .6 | 4.5 |
| %RSD | 156. | 1.70 | 9.28 | .600 | .491 | .695 | .478 | 14.7 | 39.4 | 3.70 | 1.81 | 5.67 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **70.7** | **15700.** | **1390.** | **11200.** | **6.76** | **18.9** | **77.1** | **-3.98** | **-1.25** | **6.85** | **67.8** | **86.6** |
| Stddev | 7.2 | 99. | 5. | 81. | .78 | .2 | .9 | .84 | 5.79 | 1.86 | .7 | .3 |
| %RSD | 10.2 | .631 | .330 | .719 | 11.6 | 1.01 | 1.15 | 21.2 | 461. | 27.2 | 1.10 | .304 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107520.** | **977290.** | **332350.** |
| Stddev | 476. | 5059. | 3571. |
| %RSD | .44261 | .51770 | 1.0746 |

Sample Name: 2dup254602 Acquired: 04/05/2019 16:05:08 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.949** | **38600.** | **26.2** | **246.** | **409.** | **1.06** | **17000.** | **-1.89** | **.277** | **7.32** | **45.3** | **134.** |
| Stddev | .639 | 3440. | 5.9 | 11. | 32. | .08 | 1320. | .39 | .145 | .27 | 3.7 | 10. |
| %RSD | 67.3 | 8.92 | 22.5 | 4.39 | 7.90 | 7.81 | 7.79 | 20.8 | 52.2 | 3.72 | 8.16 | 7.49 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **124.** | **28400.** | **2760.** | **1980.** | **19900.** | **7.62** | **22.0** | **93.1** | **-1.31** | **1.72** | **10.0** | **92.5** |
| Stddev | 7. | 2410. | 200. | 138. | 1590. | .77 | .8 | 3.0 | .46 | 4.87 | 1.2 | 5.8 |
| %RSD | 5.41 | 8.50 | 7.22 | 6.95 | 8.00 | 10.1 | 3.82 | 3.20 | 35.4 | 283. | 11.9 | 6.28 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **96.9** |
| Stddev | 3.4 |
| %RSD | 3.53 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108000.** | **984090.** | **333650.** |
| Stddev | 264. | 4113. | 1113. |
| %RSD | .24413 | .41799 | .33359 |

Sample Name: mss254602 Acquired: 04/05/2019 16:11:40 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.594** | **17800.** | **1150.** | **1150.** | **193.** | **208.** | **.729** | **9260.** | **.159** | **6.63** | **5.96** | **27.5** |
| Stddev | 1.24 | 213. | 4. | 7. | 2. | 3. | .023 | 33. | .073 | .15 | .21 | .9 |
| %RSD | 210. | 1.20 | .380 | .622 | .791 | 1.25 | 3.15 | .351 | 45.7 | 2.25 | 3.56 | 3.44 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **76.5** | **62.9** | **12900.** | **1240.** | **11400.** | **6.48** | **17.3** | **71.5** | **-1.22** | **.717** | **8.29** | **55.9** |
| Stddev | 2.4 | 5.3 | 50. | 2. | 70. | .91 | .4 | 2.1 | 2.98 | 3.23 | .85 | .6 |
| %RSD | 3.14 | 8.37 | .386 | .147 | .614 | 14.0 | 2.44 | 2.99 | 244. | 451. | 10.3 | 1.03 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **78.0** |
| Stddev | .3 |
| %RSD | .379 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107560.** | **985190.** | **338230.** |
| Stddev | 462. | 5357. | 1624. |
| %RSD | .42995 | .54373 | .47999 |

Sample Name: ccv1 Acquired: 04/05/2019 16:18:09 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **451.** | F **4240.** | **4760.** | F **4310.** | F **445.** | F **4340.** | F **434.** | **4510.** | **4540.** | **4610.** | F **4370.** | **4640.** |
| Stddev | 1. | 39. | 10. | 11. | 2. | 34. | 1. | 18. | 6. | 7. | 55. | 54. |
| %RSD | .258 | .918 | .218 | .254 | .511 | .791 | .236 | .406 | .134 | .151 | 1.26 | 1.16 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4680.** | F **4230.** | F **4300.** | F **4400.** | F **4280.** | F **4390.** | **4500.** | F **4400.** | **5160.** |
| Stddev | 32. | 5. | 8. | 6. | 21. | 8. | 7. | 11. | 22. |
| %RSD | .688 | .123 | .179 | .144 | .478 | .185 | .165 | .248 | .420 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103770.** | **939240.** | **326610.** |
| Stddev | 124. | 4473. | 1359. |
| %RSD | .11914 | .47622 | .41604 |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.1** | F **415.** | **451.** | F **420.** | F **441.** | **47.4** | F **411.** | **45.0** | **46.5** | F **427.** | F **429.** | **482.** |
| Stddev | .6 | 2. | 5. | 1. | 4. | .5 | 3. | .2 | .2 | 1. | 5. | 5. |
| %RSD | 1.25 | .387 | 1.01 | .146 | .818 | 1.11 | .668 | .533 | .423 | .295 | 1.25 | 1.08 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **439.** | F **435.** | F **427.** | **463.** | F **435.** | **453.** | F **443.** | **449.** | F **422.** | F **422.** | **450.** | F **431.** |
| Stddev | 9. | 7. | 2. | 4. | 1. | 1. | 1. | 2. | 3. | 3. | 1. | 2. |
| %RSD | 1.98 | 1.58 | .509 | .950 | .309 | .280 | .244 | .555 | .650 | .680 | .286 | .502 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | 500. | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | -10.4% | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **475.** | **454.** | **519.** | F **434.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .487 | .285 | .274 | .292 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106990.** | **971930.** | **329900.** |
| Stddev | 184. | 5915. | 2052. |
| %RSD | .17156 | .60859 | .62192 |

Sample Name: ccb Acquired: 04/05/2019 16:29:21 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.075** | **-4.59** | **1.94** | **.754** | **.251** | **-11.3** | **.065** | **.022** | **.442** | **-.079** | **-.921** | **-6.78** |
| Stddev | .507 | .84 | 3.21 | .588 | .031 | .6 | .020 | .100 | .175 | .918 | 7.17 | 2.50 |
| %RSD | 679. | 18.2 | 165. | 77.9 | 12.3 | 5.08 | 30.5 | 450. | 39.7 | 1160. | 779. | 36.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.68** | **.751** | **.192** | **.715** | **2.42** | **-1.31** | **4.54** | **2.11** | **.126** | **-.465** |
| Stddev | .04 | .076 | .233 | .510 | 1.74 | 1.14 | 5.33 | 1.66 | .476 | .059 |
| %RSD | .511 | 10.1 | 121. | 71.3 | 72.1 | 86.9 | 118. | 78.8 | 379. | 12.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106770.** | **978400.** | **330270.** |
| Stddev | 178. | 4473. | 914. |
| %RSD | .16707 | .45717 | .27662 |

Sample Name: msds254602 Acquired: 04/05/2019 16:35:38 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.810** | **33400.** | **1480.** | **1470.** | **246.** | **349.** | **1.11** | **15000.** | **-1.11** | **8.37** | **8.26** | **49.1** |
| Stddev | .946 | 665. | 100. | 84. | 19. | 7. | .05 | 325. | .25 | .52 | .64 | 1.6 |
| %RSD | 117. | 1.99 | 6.75 | 5.71 | 7.84 | 1.90 | 4.74 | 2.17 | 22.7 | 6.25 | 7.79 | 3.32 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **123.** | **108.** | **27000.** | **2300.** | **1920.** | **19500.** | **9.07** | **22.7** | **89.4** | **-.261** | **.278** | **10.4** |
| Stddev | 4. | 5. | 559. | 99. | 65. | 359. | 1.27 | 1.7 | 8.2 | 2.54 | 2.38 | 2.2 |
| %RSD | 3.57 | 4.51 | 2.07 | 4.33 | 3.36 | 1.84 | 14.0 | 7.68 | 9.12 | 974. | 858. | 21.1 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **96.4** | **101.** |
| Stddev | 3.4 | 9. |
| %RSD | 3.52 | 8.72 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107790.** | **985310.** | **334100.** |
| Stddev | 226. | 6386. | 794. |
| %RSD | .21011 | .64811 | .23777 |

Sample Name: pdss254602 Acquired: 04/05/2019 16:42:08 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.05** | **34700.** | **710.** | **100.** | **382.** | **.785** | **16200.** | **-4.00** | **3.96** | **2.65** | **31.4** | **126.** |
| Stddev | .53 | 4280. | 188. | 31. | 43. | .135 | 1950. | .35 | 1.13 | 1.12 | 6.6 | 11. |
| %RSD | 51.1 | 12.3 | 26.5 | 30.9 | 11.3 | 17.2 | 12.0 | 8.67 | 28.6 | 42.2 | 21.2 | 8.96 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **113.** | **27100.** | **2500.** | **1430.** | **20800.** | **2.58** | **8.68** | **38.7** | **-2.01** | **-.049** | **7.05** | **69.6** |
| Stddev | 16. | 3450. | 296. | 265. | 2400. | 1.08 | 3.03 | 10.6 | 3.08 | 4.81 | 1.98 | 13.0 |
| %RSD | 14.0 | 12.7 | 11.9 | 18.5 | 11.5 | 41.7 | 34.8 | 27.5 | 153. | 9760. | 28.2 | 18.7 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **35.4** |
| Stddev | 12.3 |
| %RSD | 34.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107850.** | **982410.** | **335740.** |
| Stddev | 293. | 3554. | 3538. |
| %RSD | .27177 | .36171 | 1.0538 |

Sample Name: 254603 Acquired: 04/05/2019 16:48:42 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.724** | **64800.** | **33.7** | **254.** | **745.** | **1.57** | **53900.** | **-7.14** | **.399** | **8.32** | **51.2** | **161.** |
| Stddev | .193 | 7160. | 7.2 | 46. | 75. | .26 | 5490. | .70 | .159 | 1.44 | 8.9 | 16. |
| %RSD | 26.6 | 11.1 | 21.4 | 18.0 | 10.1 | 16.6 | 10.2 | 9.81 | 39.9 | 17.4 | 17.5 | 9.91 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **148.** | **56000.** | **5100.** | **22200.** | **2.07** | **20.3** | **90.3** | **.624** | **3.08** | **10.7** | **95.7** | **97.0** |
| Stddev | 16. | 5900. | 601. | 2200. | .25 | 1.8 | 15.2 | 1.18 | 3.77 | 1.6 | 15.6 | 17.8 |
| %RSD | 10.5 | 10.5 | 11.8 | 9.92 | 12.1 | 8.74 | 16.8 | 189. | 122. | 15.2 | 16.3 | 18.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107300.** | **970510.** | **334930.** |
| Stddev | 174. | 4639. | 2976. |
| %RSD | .16173 | .47799 | .88847 |

Sample Name: 254604 Acquired: 04/05/2019 16:55:23 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.442** | **47400.** | **26.2** | **179.** | **330.** | **1.65** | **17900.** | **-4.79** | **.205** | **10.9** | **49.1** | **76.7** |
| Stddev | .365 | 3630. | 4.2 | 19. | 22. | .10 | 1100. | .30 | .036 | 1.3 | 4.7 | 5.2 |
| %RSD | 82.6 | 7.67 | 16.0 | 10.3 | 6.63 | 6.32 | 6.15 | 6.30 | 17.6 | 12.2 | 9.56 | 6.75 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **65.7** | **55100.** | **3890.** | **8050.** | **.937** | **23.8** | **56.4** | **-.711** | **3.76** | **10.4** | **89.6** | **87.7** |
| Stddev | 9.1 | 3640. | 273. | 517. | .559 | 2.6 | 5.0 | 3.08 | 4.32 | 1.3 | 6.6 | 9.9 |
| %RSD | 13.8 | 6.62 | 7.00 | 6.42 | 59.7 | 11.0 | 8.92 | 433. | 115. | 12.6 | 7.35 | 11.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107930.** | **978880.** | **332770.** |
| Stddev | 181. | 1434. | 2985. |
| %RSD | .16755 | .14653 | .89702 |

Sample Name: 254605 Acquired: 04/05/2019 17:01:53 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.15** | **19600.** | **65.6** | **1750.** | **1.46** | **9220.** | **-.527** | **.794** | **24.5** | **35.9** | **516.** |
| Stddev | .33 | 466. | 4.0 | 39. | .08 | 202. | .125 | .160 | .2 | 3.2 | 11. |
| %RSD | 15.2 | 2.38 | 6.15 | 2.20 | 5.30 | 2.19 | 23.7 | 20.1 | .942 | 8.99 | 2.12 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **482.** | **33900.** | **3410.** | **107000.** | **17.6** | **22.6** | **1580.** | **2.86** | **-9.68** | **29.5** | **120.** |
| Stddev | 19. | 692. | 91. | 1770. | .7 | .3 | 12. | .81 | 6.36 | 2.6 | 4. |
| %RSD | 3.84 | 2.05 | 2.68 | 1.65 | 4.23 | 1.36 | .764 | 28.1 | 65.7 | 8.91 | 3.73 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **225.** |
| Stddev | 2. |
| %RSD | .977 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106840.** | **970300.** | **330670.** |
| Stddev | 271. | 5654. | 1213. |
| %RSD | .25336 | .58274 | .36668 |

Sample Name: 254606 Acquired: 04/05/2019 17:08:30 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.02** | **17100.** | **41.3** | **999.** | **1400.** | **1.46** | **8210.** | **-1.35** | **.418** | **19.8** | **31.4** | **530.** |
| Stddev | .20 | 441. | 2.9 | 27. | 34. | .08 | 245. | .07 | .186 | 1.0 | 2.6 | 13. |
| %RSD | 10.1 | 2.58 | 7.08 | 2.75 | 2.41 | 5.22 | 2.99 | 4.93 | 44.4 | 5.07 | 8.30 | 2.52 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **497.** | **36000.** | **3160.** | **73700.** | **9.89** | **20.8** | **548.** | **528.** | **-2.38** | **-3.85** | **21.8** | **97.5** |
| Stddev | 12. | 924. | 116. | 2190. | .70 | .5 | 23. | 16. | 2.91 | 6.82 | 1.4 | 5.0 |
| %RSD | 2.46 | 2.57 | 3.67 | 2.97 | 7.11 | 2.43 | 4.15 | 3.01 | 122. | 177. | 6.21 | 5.09 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **233.** |
| Stddev | 7. |
| %RSD | 3.02 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **978790.** | **333240.** |
| Stddev | 476. | 2196. | 2019. |
| %RSD | .44481 | .22431 | .60584 |

Sample Name: 255833 Acquired: 04/05/2019 17:15:10 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-3.68** | **24200.** | **63.9** | **412.** | **900.** | **1.40** | **37100.** | **-3.10** | **.865** | **10.2** | **34.5** | **824.** |
| Stddev | .35 | 1400. | 7.5 | 46. | 51. | .11 | 2390. | .08 | .113 | 1.3 | 5.8 | 50. |
| %RSD | 9.53 | 5.78 | 11.8 | 11.0 | 5.63 | 7.91 | 6.46 | 2.70 | 13.1 | 13.0 | 17.0 | 6.10 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **779.** | **36400.** | **14400.** | **93200.** | **8.33** | **16.1** | **220.** | **-1.01** | **-12.5** | **15.4** | **108.** | **819.** |
| Stddev | 42. | 2360. | 822. | 5680. | 1.57 | 2.4 | 26. | 3.68 | 2.4 | 4.2 | 13. | 86. |
| %RSD | 5.33 | 6.49 | 5.70 | 6.09 | 18.9 | 15.0 | 11.9 | 365. | 19.5 | 27.5 | 12.1 | 10.4 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **688.** |
| Stddev | 70. |
| %RSD | 10.2 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106800.** | **965740.** | **330780.** |
| Stddev | 416. | 2065. | 2989. |
| %RSD | .38938 | .21381 | .90351 |

Sample Name: 255853 Acquired: 04/05/2019 17:21:47 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.08** | **13100.** | **25.6** | **150.** | **271.** | **.888** | **18600.** | **-1.92** | **.314** | **6.05** | **26.0** | **161.** |
| Stddev | .57 | 795. | 2.2 | 12. | 15. | .037 | 1030. | .16 | .074 | .80 | 3.1 | 8. |
| %RSD | 52.6 | 6.07 | 8.65 | 8.18 | 5.57 | 4.14 | 5.53 | 8.10 | 23.4 | 13.3 | 11.9 | 5.13 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **141.** | **24000.** | **8680.** | **19800.** | **2.13** | **14.0** | **89.4** | **-2.14** | **-1.22** | **8.83** | **55.4** | **162.** |
| Stddev | 10. | 1410. | 547. | 1190. | .56 | 1.8 | 6.8 | 1.89 | 2.94 | 1.03 | 4.8 | 15. |
| %RSD | 6.87 | 5.86 | 6.31 | 6.03 | 26.5 | 12.6 | 7.62 | 88.6 | 240. | 11.6 | 8.61 | 9.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107160.** | **979370.** | **334040.** |
| Stddev | 244. | 13779. | 1564. |
| %RSD | .22739 | 1.4070 | .46810 |

Sample Name: 255854 Acquired: 04/05/2019 17:28:29 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.12** | **9110.** | **17.4** | **2620.** | **1.07** | **2010.** | **1920.** | **-.309** | **.449** | **13.0** | **23.3** | **377.** |
| Stddev | .54 | 49. | 2.1 | 28. | .05 | 9. | 28. | .372 | .149 | 1.1 | 1.1 | 9. |
| %RSD | 48.1 | .542 | 12.0 | 1.09 | 4.26 | .423 | 1.44 | 120. | 33.1 | 8.70 | 4.89 | 2.33 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **355.** | **19800.** | **1010.** | **50700.** | **9.98** | **13.6** | **1660.** | **9.52** | **-6.19** | **14.5** | **60.5** | **184.** |
| Stddev | 4. | 171. | 32. | 371. | 1.29 | 1.6 | 123. | 1.48 | 6.17 | 2.7 | 1.8 | 16. |
| %RSD | 1.14 | .866 | 3.20 | .733 | 12.9 | 11.9 | 7.46 | 15.5 | 99.7 | 18.8 | 2.94 | 8.63 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107130.** | **984090.** | **333560.** |
| Stddev | 199. | 10009. | 2933. |
| %RSD | .18616 | 1.0171 | .87937 |

Sample Name: ccv1 Acquired: 04/05/2019 17:41:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4220.** | **4720.** | F **4310.** | F **442.** | F **4320.** | F **434.** | F **4480.** | **4530.** | **4610.** | F **4340.** | **4570.** |
| Stddev | 2. | 20. | 32. | 38. | 2. | 24. | 1. | 17. | 11. | 24. | 22. | 98. |
| %RSD | .410 | .478 | .678 | .881 | .390 | .562 | .196 | .375 | .250 | .509 | .500 | 2.14 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | 5000. | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | F **4210.** | F **4280.** | F **4410.** | F **4290.** | F **4410.** | **4480.** | F **4390.** | **5120.** |
| Stddev | 22. | 8. | 10. | 23. | 15. | 35. | 7. | 7. | 19. |
| %RSD | .482 | .195 | .228 | .517 | .346 | .791 | .166 | .150 | .377 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103460.** | **944250.** | **326940.** |
| Stddev | 307. | 4172. | 3016. |
| %RSD | .29717 | .44187 | .92240 |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.7** | F **415.** | **452.** | F **416.** | F **443.** | **47.0** | F **412.** | F **44.8** | **46.6** | F **428.** | F **425.** | **480.** |
| Stddev | .5 | 2. | 6. | 1. | 4. | .2 | 4. | .1 | .1 | 1. | 3. | 7. |
| %RSD | 1.08 | .528 | 1.34 | .335 | 1.01 | .423 | 1.00 | .249 | .176 | .202 | .616 | 1.38 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | 50.0 | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **430.** | F **423.** | **459.** | F **433.** | **451.** | F **442.** | **454.** | F **420.** | F **419.** | **449.** | F **430.** |
| Stddev | 5. | 4. | 1. | 2. | 2. | 1. | 1. | 3. | 6. | 4. | 3. | 5. |
| %RSD | 1.17 | .915 | .346 | .410 | .455 | .306 | .283 | .623 | 1.48 | .862 | .638 | 1.06 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **479.** | **451.** | **517.** | F **432.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .474 | .245 | .123 | .336 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106480.** | **975080.** | **330590.** |
| Stddev | 231. | 2674. | 1330. |
| %RSD | .21722 | .27427 | .40242 |

Sample Name: ccb Acquired: 04/05/2019 17:52:19 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.231** | **-4.42** | **.050** | **.634** | **.230** | **-11.1** | **.118** | **-.015** | **.588** | **.278** | **10.9** | **-1.60** |
| Stddev | .385 | .79 | 4.45 | .114 | .033 | .6 | .113 | .128 | .231 | .393 | 3.6 | 2.25 |
| %RSD | 167. | 17.8 | 8970. | 17.9 | 14.2 | 5.43 | 96.0 | 860. | 39.3 | 141. | 32.9 | 140. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-4.76** | **-8.58** | **.900** | **.377** | **.625** | **1.78** | **-.347** | **6.21** | **2.81** | **.297** | **-.404** |
| Stddev | 2.00 | .01 | .100 | .648 | .080 | 1.52 | 2.20 | 2.20 | 1.17 | .640 | .092 |
| %RSD | 42.0 | .076 | 11.1 | 172. | 12.8 | 85.7 | 634. | 35.4 | 41.8 | 216. | 22.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

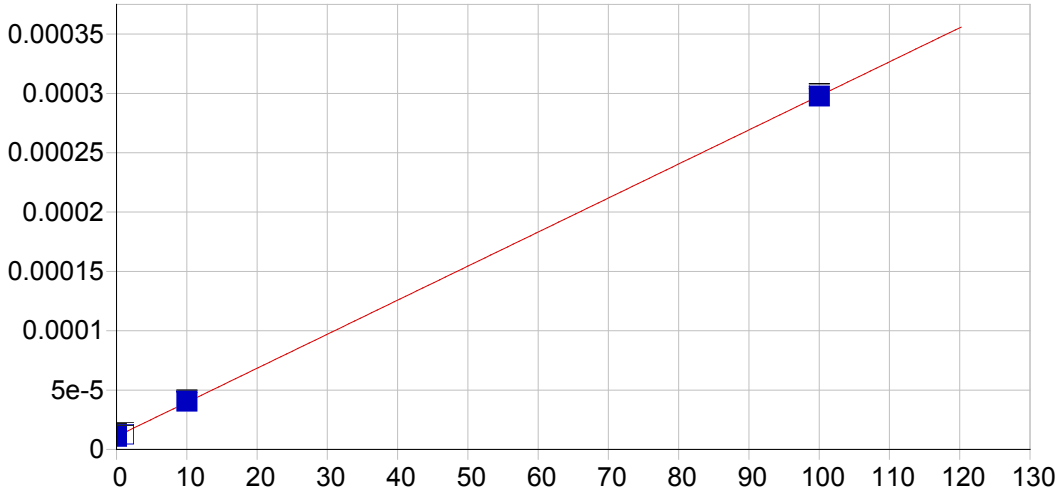
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106430.** | **969110.** | **331350.** |
| Stddev | 189. | 3923. | 2094. |
| %RSD | .17758 | .40476 | .63183 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 07:35:12 | 04/25/2019 14:53:40 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.999954 | 0.000001 | 0.822832 | 2.742774 |
| Ag 338.289 {100} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.980894 | 0.000002 | 15.767845 | 52.559482 |
| Al 167.079 {501} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | None | 0.000048 | 0.000003 | 0.000000 | 1.000000 | 0.999973 | 0.000015 | 0.694996 | 2.316654 |
| Al 308.215 {109} | 04/30/2019 07:35:12 | 04/25/2019 15:18:47 | Linear | 1/Var | 0.000064 | 0.000000 | 0.000000 | 1.000000 | 0.999486 | 0.000053 | 33.040346 | 110.13448 |
| Al 396.152 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Curvili | 1/Conc | -0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000013 | 14.129430 | 47.098102 |
| As 193.759 {474} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Var | 0.375405 | 0.071062 | 0.000000 | 1.000000 | 0.999963 | 0.192102 | 8.588519 | 28.628395 |
| As 197.262 {471} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000000 | 6.803803 | 22.679343 |
| Ba 233.527 {445} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | 0.000005 | 0.000010 | 0.000000 | 1.000000 | 0.999261 | 0.000000 | 0.428082 | 1.426940 |
| Ba 455.403 { 74} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.000084 | 0.000048 | 0.000000 | 1.000000 | 0.999717 | 0.000004 | 0.389849 | 1.299496 |
| Ba 493.409 { 68} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.010565 | 0.000056 | 0.000000 | 1.000000 | 0.999858 | 0.000044 | 0.862235 | 2.874118 |
| Be 313.042 {108} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | -0.000194 | 0.000053 | 0.000000 | 1.000000 | 0.999552 | 0.000001 | 0.054875 | 0.182918 |
| Be 234.861 {144} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999772 | 0.000001 | 1.381937 | 4.606456 |
| Ca 315.887 {107} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.999863 | 0.000027 | 13.419758 | 44.732526 |
| Ca 317.933 {106} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Conc | 0.002896 | 0.000001 | 0.000000 | 1.000000 | 0.999979 | 0.000007 | 7.121370 | 23.737901 |
| Ca 393.366 { 86} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Var | 0.008316 | 0.000189 | 0.000000 | 1.000000 | 0.993161 | 0.004503 | 0.069970 | 0.233235 |
| Ca 396.847 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.002113 | 0.000118 | 0.000000 | 1.000000 | 0.998973 | 0.000252 | 0.106441 | 0.354802 |
| Cd 226.502 {449} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | -0.000005 | 0.000024 | 0.000000 | 1.000000 | 0.999379 | 0.000001 | 0.255705 | 0.852348 |
| Cd 228.802 {447} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000027 | 0.000045 | 0.000000 | 1.000000 | 0.999287 | 0.000002 | 0.169120 | 0.563732 |
| Co 228.616 {447} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000018 | 0.000019 | 0.000000 | 1.000000 | 0.999731 | 0.000002 | 0.442257 | 1.474190 |
| Co 238.892 {141} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999866 | 0.000002 | 0.864546 | 2.881820 |
| Cr 205.560 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000035 | 0.000014 | 0.000000 | 1.000000 | 0.999421 | 0.000042 | 0.335552 | 1.118506 |
| Cr 267.716 {126} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999861 | 0.000000 | 0.912557 | 3.041856 |
| Cu 224.700 {450} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000001 | 0.000007 | 0.000000 | 1.000000 | 0.999500 | 0.000012 | 0.405039 | 1.350129 |
| Cu 324.754 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 33.017871 | 0.489284 | 0.000000 | 1.000000 | 0.999678 | 0.477535 | 5.094250 | 16.980834 |
| Cu 327.396 {103} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 7.173693 | 0.369486 | 0.000000 | 1.000000 | 0.999651 | 0.260832 | 8.764951 | 29.216503 |
| Fe 234.349 {144} | 04/30/2019 07:35:12 | 04/25/2019 15:18:48 | Curvili | 1/Var | 0.000023 | 0.000000 | 0.000000 | 1.000000 | 0.999897 | 0.000009 | 1.861044 | 6.203479 |
| Fe 239.562 {140} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000008 | 0.000000 | 0.000000 | 1.000000 | 0.999563 | 0.000037 | 15.403775 | 51.345917 |
| Fe 259.940 {129} | 04/30/2019 07:35:12 | 04/25/2019 15:25:25 | Curvili | 1/Var | 0.000022 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000059 | 4.566900 | 15.223000 |
| Mg 202.582 {466} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000047 | 0.000002 | 0.000000 | 1.000000 | 0.999043 | 0.000420 | 2.477678 | 8.258926 |
| Mg 279.079 {121} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Full Fit | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.060000 | 0.999990 | 0.000000 | 147.69344 | 492.31149 |
| Mg 280.270 {120} | 04/30/2019 07:35:12 | 04/25/2019 15:06:00 | Linear | 1/Var | 0.000654 | 0.000026 | 0.000000 | 1.000000 | 0.998379 | 0.000995 | 0.047667 | 0.158891 |
| Mn 257.610 {131} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000012 | 0.000000 | 1.000000 | 0.997882 | 0.000027 | 0.096882 | 0.322939 |
| Mn 259.373 {130} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999885 | 0.000023 | 1.375255 | 4.584185 |
| Mo 202.030 {466} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Conc | 0.000011 | 0.000008 | 0.000000 | 1.000000 | 0.999547 | 0.000001 | 0.524568 | 1.748560 |
| Mo 203.844 {465} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Var | 0.000024 | 0.000006 | 0.000000 | 1.000000 | 0.999595 | 0.000024 | 0.838770 | 2.795900 |
| Mo 204.598 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000005 | 0.000000 | 1.000000 | 0.999729 | 0.000027 | 1.023425 | 3.411418 |
| Ni 221.647 {452} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000014 | 0.000010 | 0.000000 | 1.000000 | 0.999767 | 0.000010 | 0.757594 | 2.525313 |
| Ni 231.604 {445} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000019 | 0.000011 | 0.000000 | 1.000000 | 0.999677 | 0.000001 | 0.722935 | 2.409785 |
| Pb 216.999 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999384 | 0.000030 | 5.694743 | 18.982477 |
| Pb 220.353 {453} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000024 | 0.000003 | 0.000000 | 1.000000 | 0.999296 | 0.000000 | 2.803616 | 9.345385 |
| Pb 220.353 {153} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999643 | 0.000001 | 6.828097 | 22.760324 |
| Sb 206.833 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999857 | 0.000000 | 2.461614 | 8.205380 |
| Sb 217.581 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999808 | 0.000000 | 2.712923 | 9.043077 |
| Se 196.090 {472} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999420 | 0.000000 | 4.728254 | 15.760848 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Curvili | 1/Conc | 0.000004 | 0.000000 | 0.000000 | 1.000000 | 0.999959 | 0.000000 | 30.145855 | 100.48618 |
| Tl 190.856 {476} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999490 | 0.000001 | 2.684770 | 8.949234 |
| Tl 190.856 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999617 | 0.000000 | 5.300411 | 17.668036 |
| V 290.882 {116} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999967 | 0.000000 | 7.314456 | 24.381519 |
| V 292.402 {115} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999871 | 0.000001 | 0.605824 | 2.019414 |
| Zn 206.200 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000054 | 0.000016 | 0.000000 | 1.000000 | 0.999282 | 0.000096 | 0.398552 | 1.328506 |
| Zn 213.856 {457} | 04/30/2019 07:35:12 | 04/25/2019 14:59:26 | Linear | 1/Conc | 0.000028 | 0.000027 | 0.000000 | 1.000000 | 0.999114 | 0.000005 | 0.216001 | 0.720004 |
| Y 224.306 {450}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.004511 | 0.000005 | 0.000000 | 1.000000 | 0.999901 | 0.000012 | 10.149500 | 33.831667 |
| Na 589.592 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 0.000063 | 0.000004 | 0.000000 | 1.000000 | 0.999928 | 0.000070 | 7.898158 | 26.327192 |
| Si 251.611 {134} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 1.892880 | 0.047065 | 0.000000 | 1.000000 | 0.998966 | 1.013831 | 26.768890 | 89.229632 |
| Ti 323.452 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000227 | 0.000007 | 0.000000 | 1.000000 | 0.999909 | 0.000001 | 1.541505 | 5.138349 |
| Ti 334.941 {101} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000001 | 0.000004 | 0.000000 | 1.000000 | 0.999918 | 0.000000 | 2.063215 | 6.877382 |
| Sr 407.771 { 83} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000065 | 0.000094 | 0.000000 | 1.000000 | 0.999881 | 0.000006 | 0.175276 | 0.584252 |
| Sr 421.552 { 80} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000009 | 0.000134 | 0.000000 | 1.000000 | 0.999886 | 0.000008 | 0.123225 | 0.410752 |
| Sn 189.989 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999812 | 0.000001 | 1.724449 | 5.748164 |
| B 249.678 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999966 | 0.000000 | 1.368619 | 4.562062 |
| B 249.773 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999668 | 0.000010 | 0.779432 | 2.598107 |
| Li 670.784 { 50} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Var | -0.000045 | 0.000025 | 0.000000 | 1.000000 | 0.999733 | 0.000101 | 1.571556 | 5.238519 |
| K 766.490 { 44} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | -0.000035 | 0.000001 | 0.000000 | 1.000000 | 0.999837 | 0.000023 | 56.288107 | 187.62702 |
| P 213.618 {457} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 230.31583 | 767.71945 |
| S 182.034 {485} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Curvili | 1/Conc | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.218644 | 20.728815 |
| Hg 184.950 {482} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000010 | 0.000000 | 0.000000 | 1.000000 | 0.362902 | 0.000019 | 9.166603 | 30.555344 |
| Ce 404.076 { 83} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000034 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 23.369364 | 77.897881 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

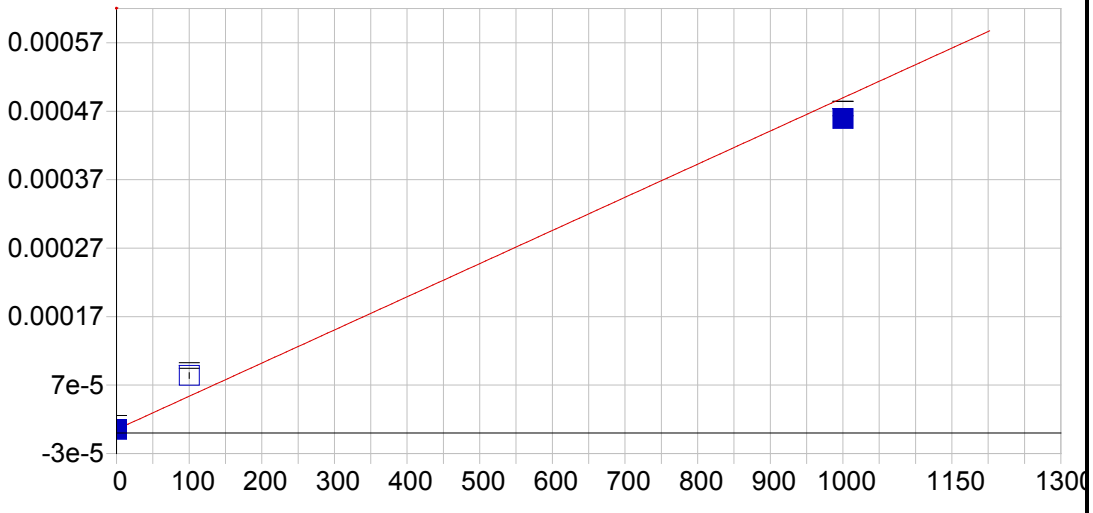



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999954 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.822832 | | |
| Predicted MQL: | 2.742774 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02532 | -.025 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.284 | .284 | 2.84 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.893 | -.107 | -.107 | .00030 | .000 | 1 |
| CalStd3=1 | 1.0000 | .61988 | -.380 | -38.0 | .00001 | .000 | 1 |

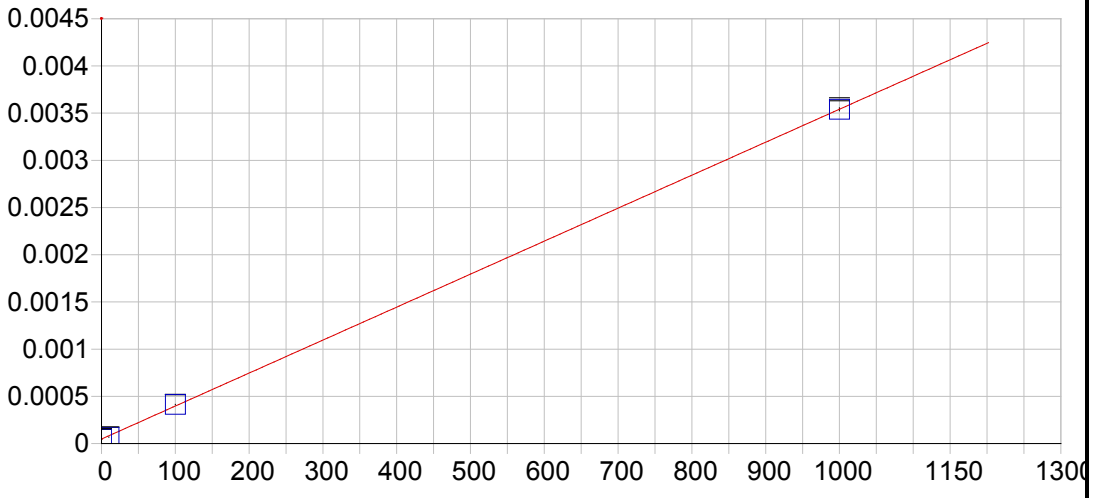



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.980894 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 15.767845 | | |
| Predicted MQL: | 52.559482 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05642 | -.056 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 162.69 | 62.7 | 62.7 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 937.32 | -62.7 | -6.27 | .00046 | .000 | 1 |

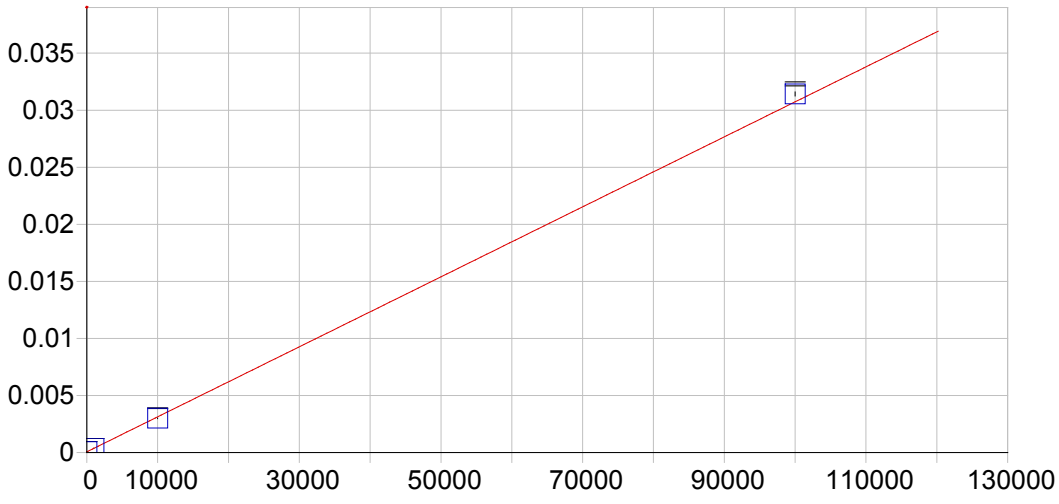



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000048 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.694996 | | |
| Predicted MQL: | 2.316654 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11178 | .112 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.59 | -.405 | -.041 | .00354 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.8255 | -4.17 | -41.7 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.47 | 4.47 | 4.47 | .00041 | .000 | 1 |

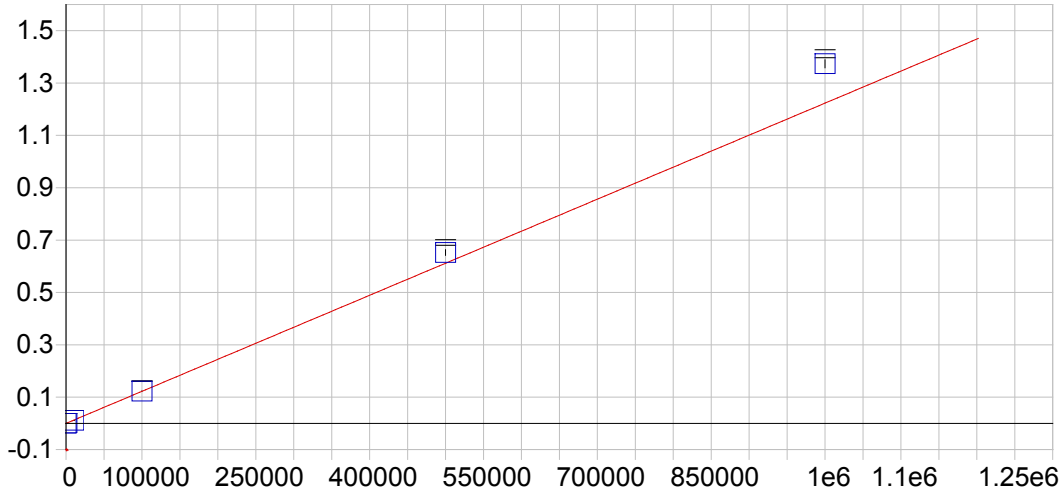



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999486 | Status: | OK. |
| Std Error of Est: | 0.000053 | | |
| Predicted MDL: | 33.040346 | | |
| Predicted MQL: | 110.134487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 18.536 | 18.5 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9574.4 | -426. | -4.26 | .00300 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1032.2 | 32.2 | 3.22 | .00038 | .000 | 1 |
| CalStd13=10 | 100000. | 102250. | 2250. | 2.25 | .03142 | .000 | 1 |

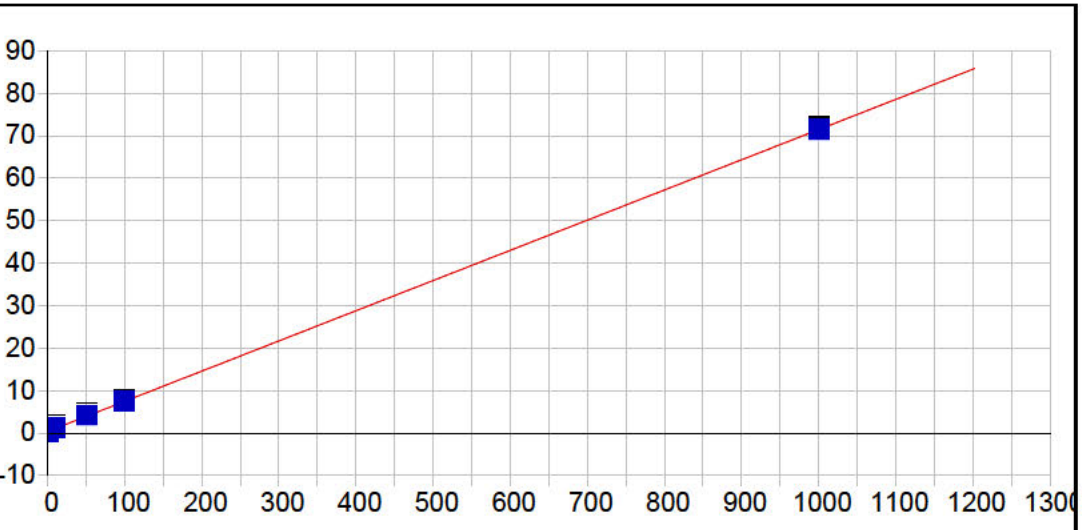



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 14.129430 | | |
| Predicted MQL: | 47.098102 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .08096 | .081 | .000 | -.00001 | .000 | 1 |
| CalStd14=50 | 500000. | 533420. | 33400. | 6.68 | .65252 | .011 | 1 |
| CalStd13=10 | 100000. | 100580. | 576. | .576 | .12302 | .001 | 1 |
| CalStd10=10 | 10000. | 9407.4 | -593. | -5.93 | .01149 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.59 | -17.4 | -1.74 | .00119 | .000 | 1 |
| CalibStd15= | 1000000. | 1122800. | 123000. | 12.3 | 1.3735 | .015 | 1 |

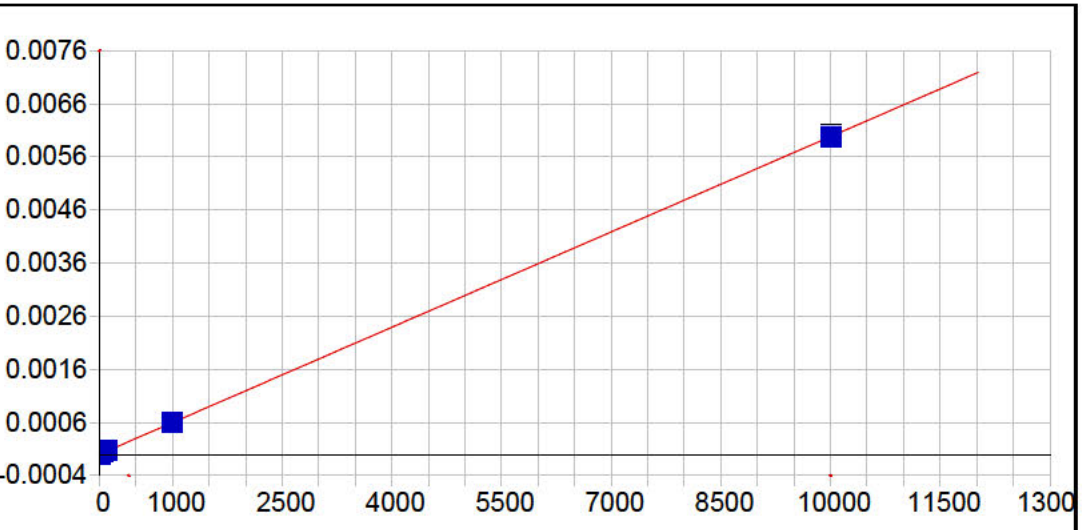



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.375405 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.071062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.192102 | | |
| Predicted MDL: | 8.588519 | | |
| Predicted MQL: | 28.628395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0421 | -2.04 | .000 | .23029 | .314 | 1 |
| CalStd9=100 | 1000.0 | 999.88 | -.124 | -.012 | 71.157 | .663 | 1 |
| CalStd7=50 | 50.000 | 53.852 | 3.85 | 7.70 | 4.1942 | .472 | 1 |
| CalStd5=10 | 10.000 | 13.221 | 3.22 | 32.2 | 1.3127 | .552 | 1 |
| CalStd8=100 | 100.00 | 99.480 | -.520 | -.520 | 7.4175 | .275 | 1 |

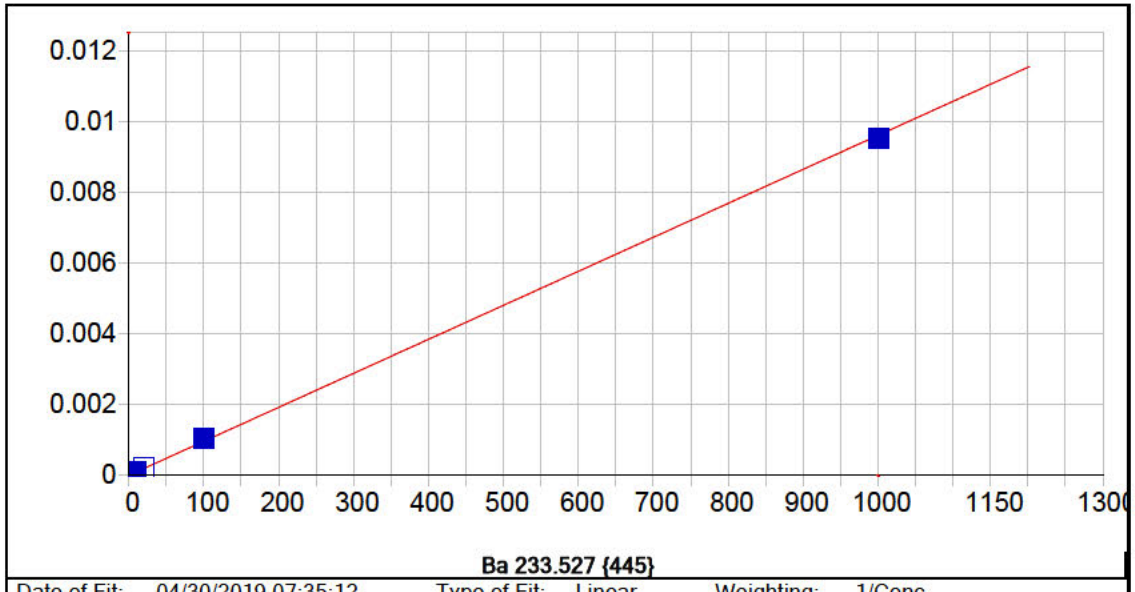



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.803803 | | |
| Predicted MQL: | 22.679343 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00245 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.79 | .279 | .00060 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.054 | 3.05 | 6.11 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.995 | .995 | 9.95 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.35 | 8.35 | 8.35 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.8 | -15.2 | -.152 | .00601 | .000 | 1 |

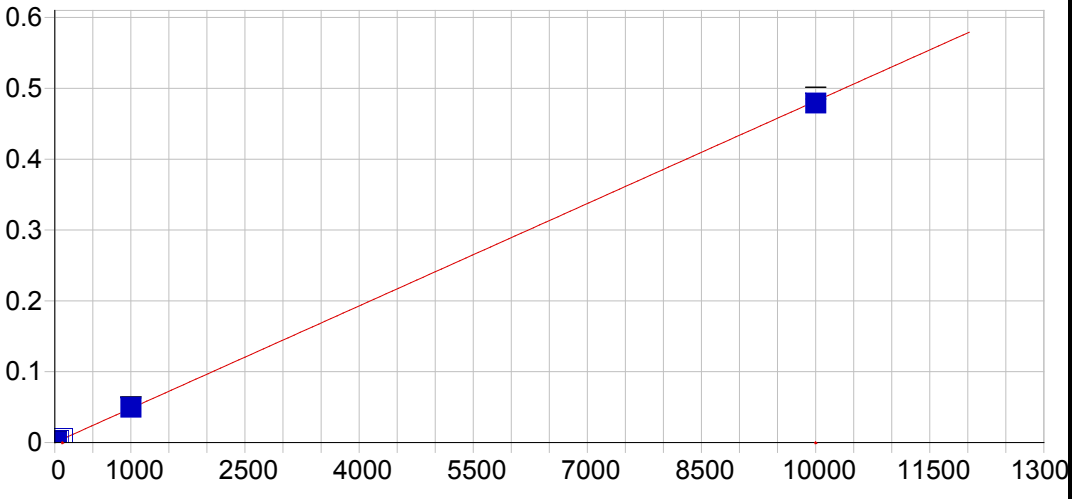



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999261 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.428082 | | |
| Predicted MQL: | 1.426940 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.539 | 1.54 | 7.69 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.89 | 8.89 | 8.89 | .00105 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7114 | -.289 | -5.77 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.33 | -10.7 | -1.07 | .00951 | .000 | 1 |
| CalStd3=1 | 1.0000 | .29840 | -.702 | -70.2 | .00001 | .000 | 1 |

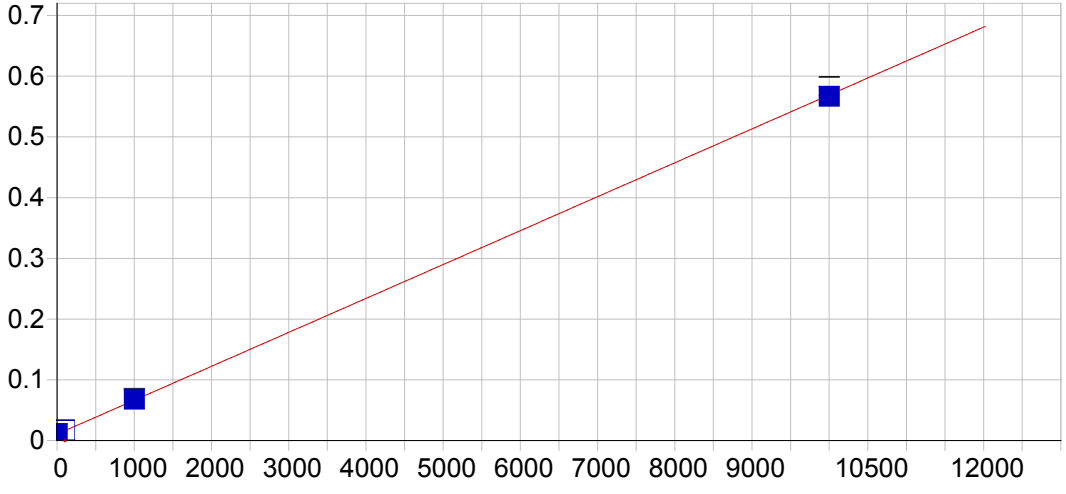



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000084 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999717 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.389849 | | |
| Predicted MQL: | 1.299496 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00085 | -.001 | .000 | .00008 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.867 | 7.87 | 15.7 | .00287 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.353 | 2.35 | 23.5 | .00068 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.728 | 3.73 | 18.6 | .00123 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.49 | 15.5 | 15.5 | .00565 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0913 | 1.09 | 21.8 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.8 | 28.8 | 2.88 | .04966 | .001 | 1 |
| CalStd3=1 | 1.0000 | .87587 | -.124 | -12.4 | .00013 | .000 | 1 |
| CalStd10=10 | 10000. | 9940.7 | -59.3 | -.593 | .47910 | .008 | 1 |

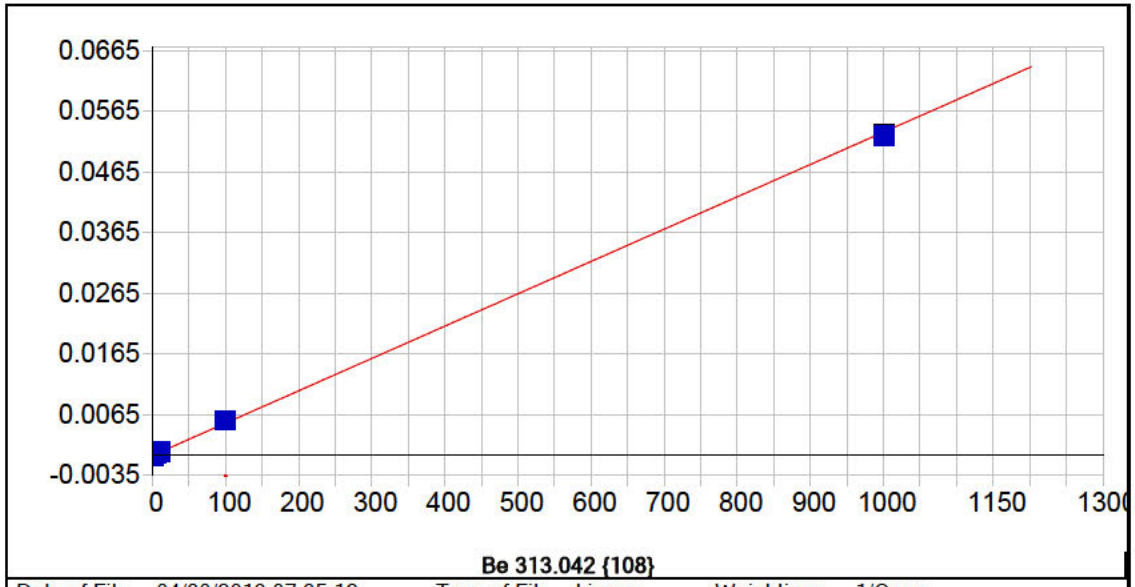



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010565 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999858 | Status: | OK. |
| Std Error of Est: | 0.000044 | | |
| Predicted MDL: | 0.862235 | | |
| Predicted MQL: | 2.874118 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01710 | -.017 | .000 | .01056 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.6 | 28.6 | 2.86 | .06802 | .001 | 1 |
| CalStd8=100 | 100.00 | 114.68 | 14.7 | 14.7 | .01697 | .000 | 1 |
| CalStd10=10 | 10000. | 9956.7 | -43.3 | -.433 | .56676 | .015 | 1 |

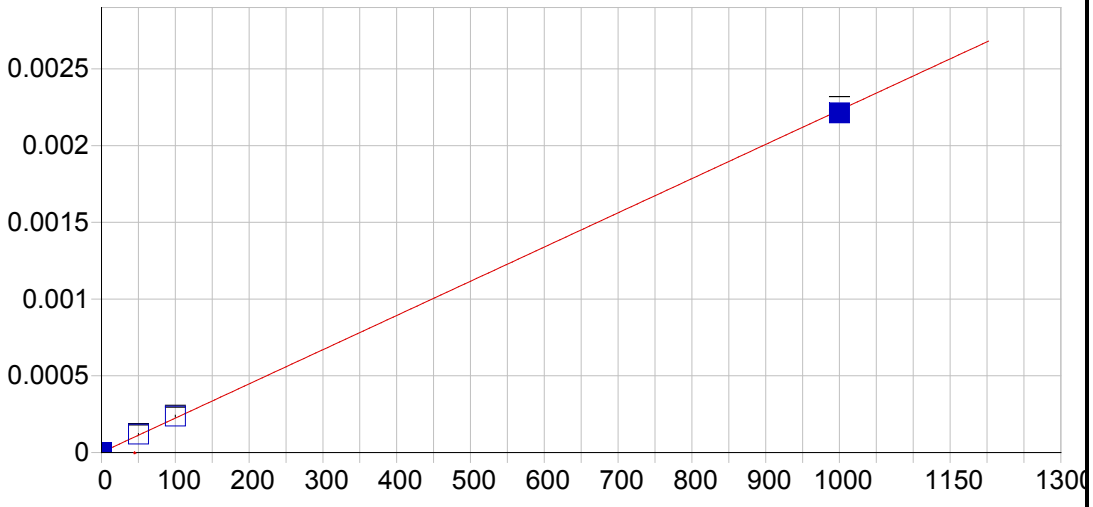



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000194 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000053 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999552 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.054875 | | |
| Predicted MQL: | 0.182918 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.427 | 1.43 | 14.3 | .00041 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.89 | 7.89 | 7.89 | .00555 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51828 | .018 | 3.66 | -.00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5599 | .560 | 11.2 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.00 | -10.0 | -1.00 | .05254 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1087 | .109 | 10.9 | -.00013 | .000 | 1 |

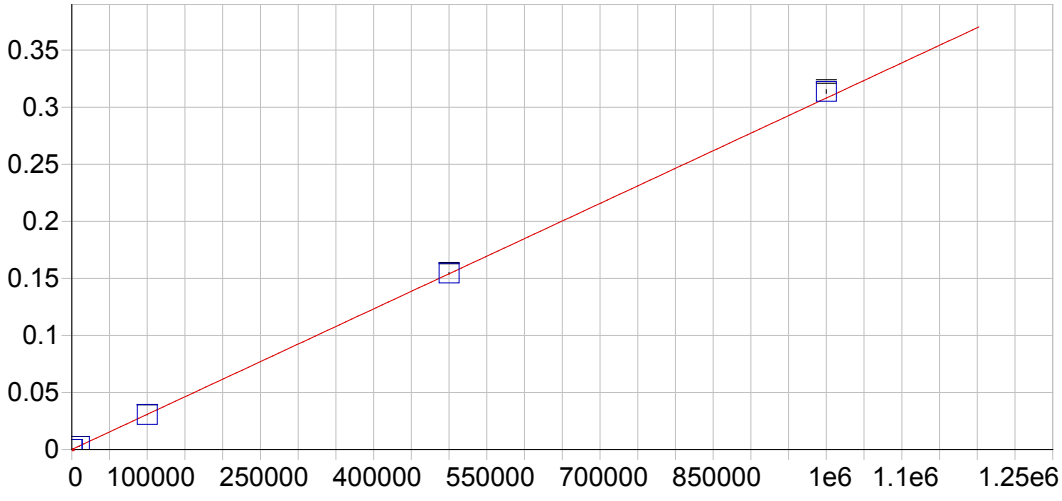



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999772 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.381937 | | |
| Predicted MQL: | 4.606456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00510 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.74 | -8.26 | -.826 | .00221 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.49 | 5.49 | 5.49 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.772 | 2.77 | 5.54 | .00012 | .000 | 1 |

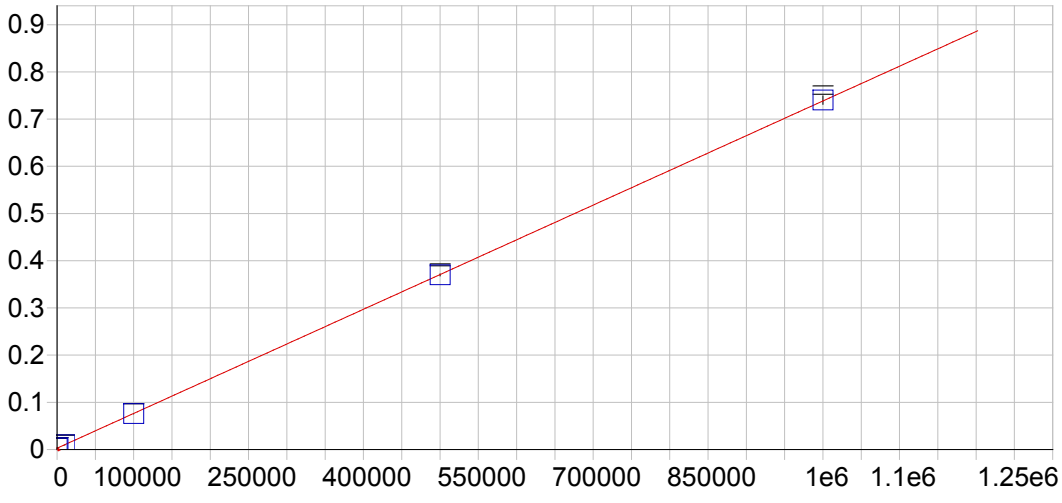



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999863 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 13.419758 | | |
| Predicted MQL: | 44.732526 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 6.6682 | 6.67 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9190.6 | -809. | -8.09 | .00287 | .000 | 1 |
| CalStd13=10 | 100000. | 99102. | -898. | -.898 | .03056 | .000 | 1 |
| CalStd14=50 | 500000. | 501690. | 1690. | .338 | .15456 | .001 | 1 |
| CalStd9=100 | 1000.0 | 977.60 | -22.4 | -2.24 | .00034 | .000 | 1 |
| CalibStd15= | 1000000. | 1018700. | 18700. | 1.87 | .31380 | .002 | 1 |

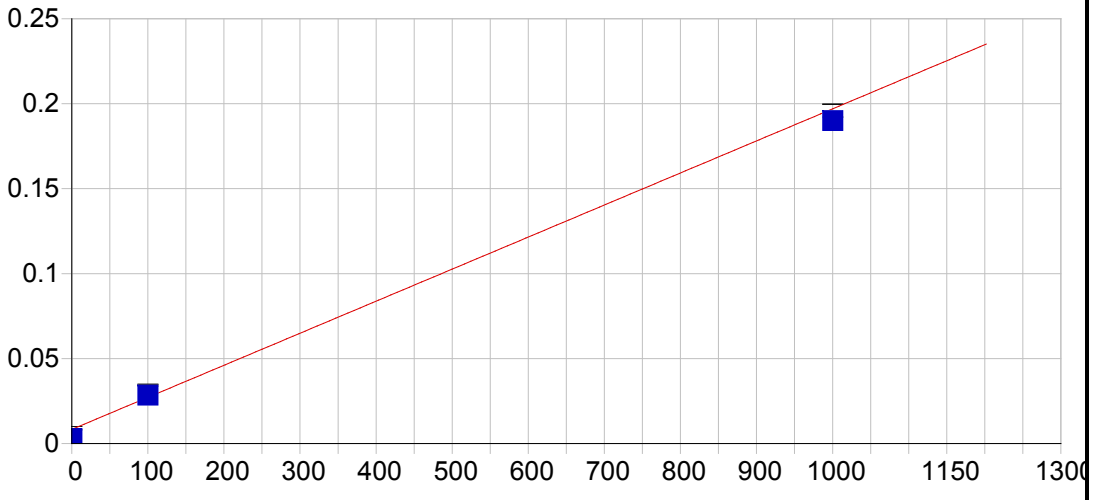



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002896 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 7.121370 | | |
| Predicted MQL: | 23.737901 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02795 | .028 | .000 | .00290 | .000 | 1 |
| CalStd10=10 | 10000. | 9280.9 | -719. | -7.19 | .00972 | .000 | 1 |
| CalStd13=10 | 100000. | 99250. | -750. | -.750 | .07590 | .000 | 1 |
| CalStd14=50 | 500000. | 499010. | -994. | -.199 | .36994 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | .00367 | .000 | 1 |
| CalibStd15= | 1000000. | 1002400. | 2410. | .241 | .74021 | .009 | 1 |

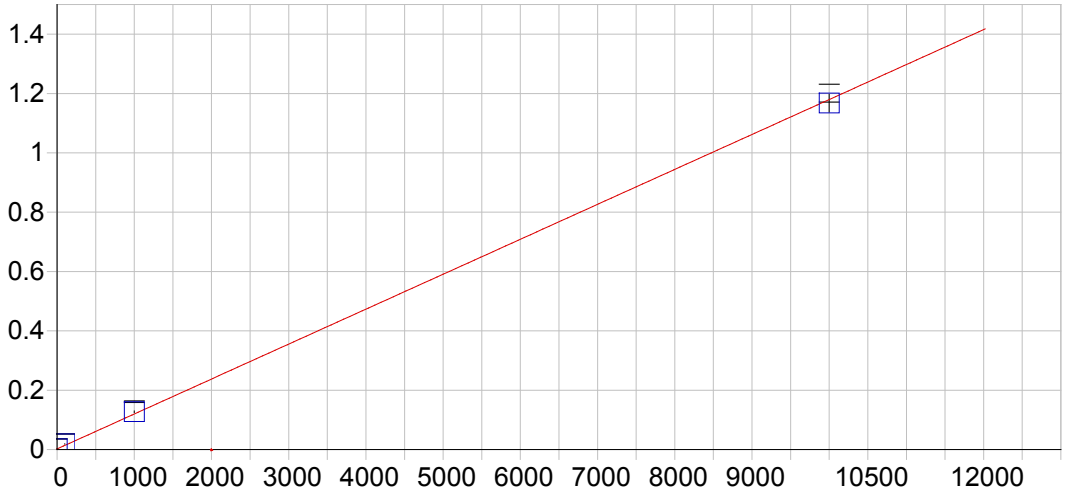



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008316 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000189 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.993161 | Status: | OK. |
| Std Error of Est: | 0.004503 | | |
| Predicted MDL: | 0.069970 | | |
| Predicted MQL: | 0.233235 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -27.096 | -27.1 | .000 | .00320 | .001 | 1 |
| CalStd9=100 | 1000.0 | 963.08 | -36.9 | -3.69 | .19001 | .004 | 1 |
| CalStd8=100 | 100.00 | 106.78 | 6.78 | 6.78 | .02846 | .001 | 1 |

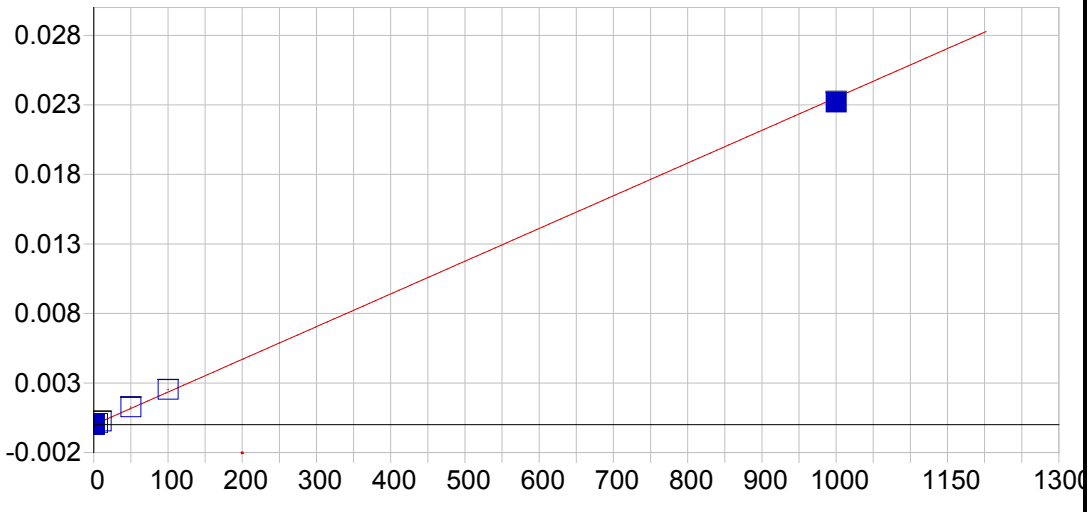



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000118 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998973 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.106441 | | |
| Predicted MQL: | 0.354802 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04744 | -.047 | .000 | .00211 | .001 | 1 |
| CalStd10=10 | 10000. | 9895.5 | -104. | -1.04 | 1.1675 | .030 | 1 |
| CalStd8=100 | 100.00 | 142.26 | 42.3 | 42.3 | .01887 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1062.2 | 62.2 | 6.22 | .12721 | .003 | 1 |

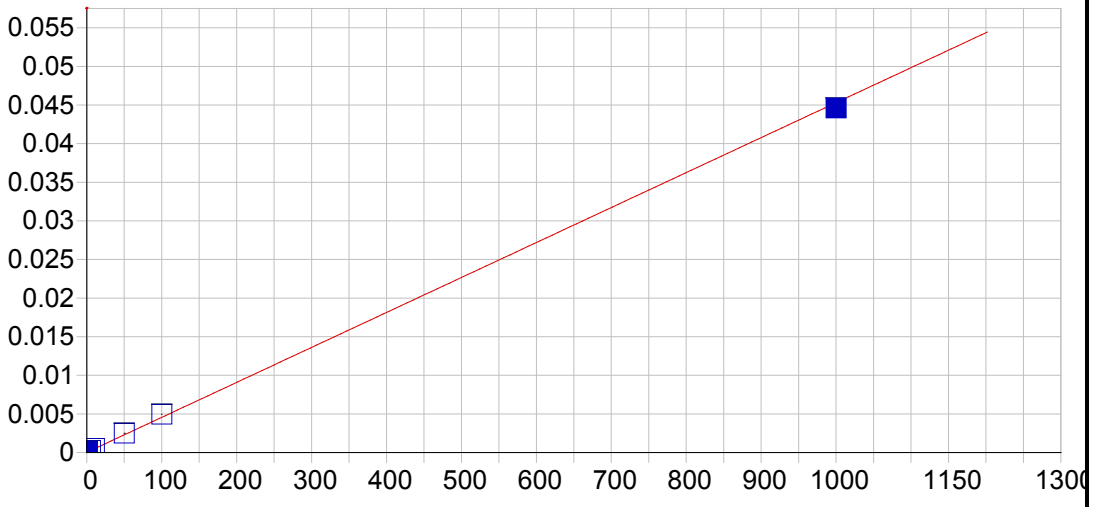



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999379 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.255705 | | |
| Predicted MQL: | 0.852348 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.346 | 4.35 | 8.69 | .00127 | .000 | 1 |
| CalStd3=1 | 1.0000 | .77315 | -.227 | -22.7 | .00001 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47928 | -.021 | -4.14 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3884 | .388 | 7.77 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.91 | 7.91 | 7.91 | .00253 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.325 | 1.32 | 13.2 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.28 | -13.7 | -1.37 | .02320 | .000 | 1 |

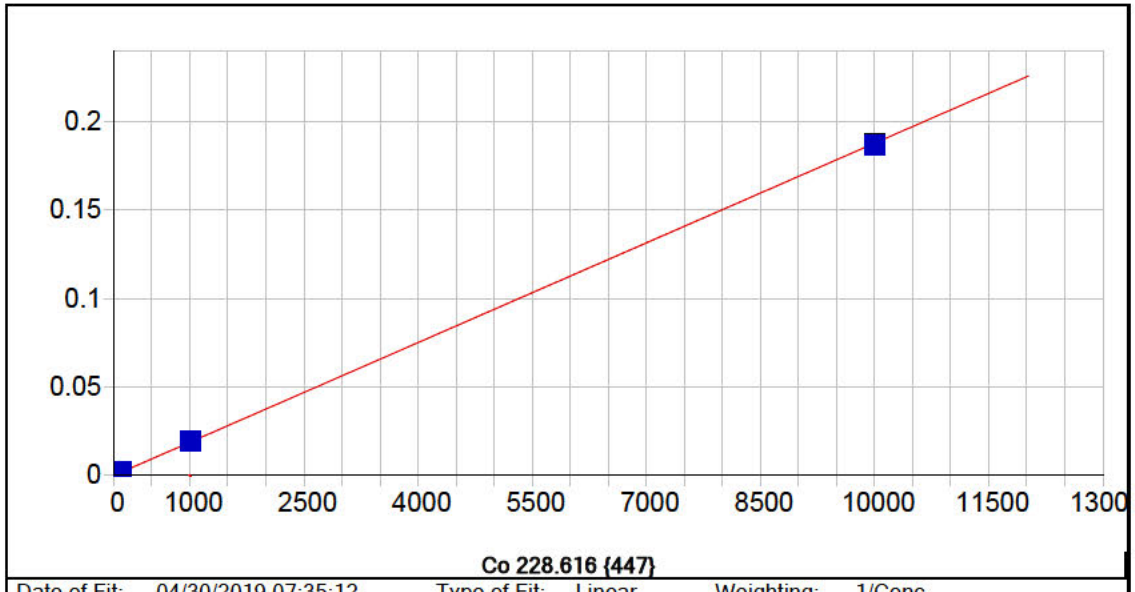



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000045 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999287 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.169120 | | |
| Predicted MQL: | 0.563732 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00029 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.464 | 4.46 | 8.93 | .00249 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1513 | .151 | 15.1 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51061 | .011 | 2.12 | .00005 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4890 | .489 | 9.78 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.75 | 8.75 | 8.75 | .00495 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.401 | 1.40 | 14.0 | .00054 | .000 | 1 |
| CalStd9=100 | 1000.0 | 984.73 | -15.3 | -1.53 | .04461 | .000 | 1 |

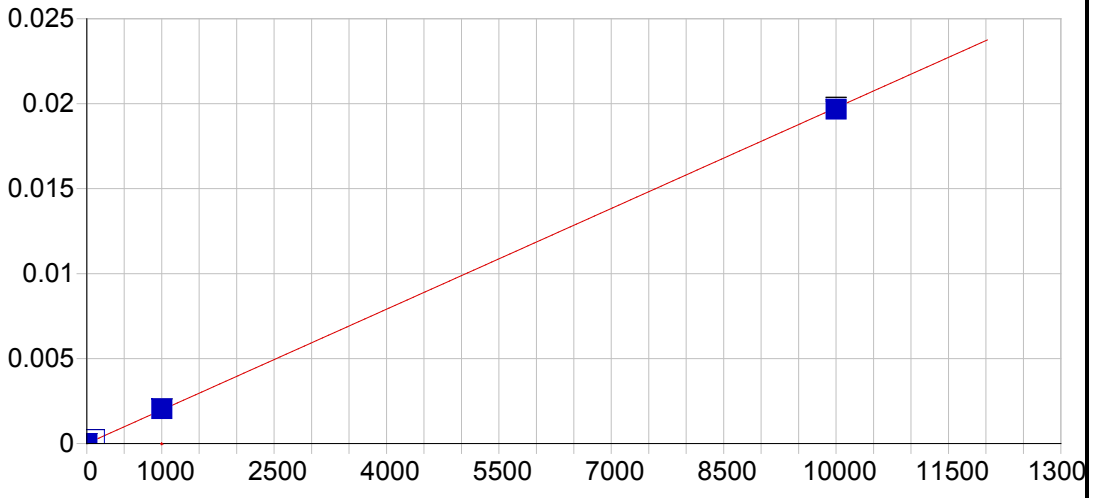



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999731 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.442257 | | |
| Predicted MQL: | 1.474190 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00037 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.716 | 7.72 | 15.4 | .00110 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.787 | 1.79 | 17.9 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1251 | .125 | 2.50 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.67 | 13.7 | 13.7 | .00215 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.2 | 46.2 | 4.62 | .01968 | .000 | 1 |
| CalStd3=1 | 1.0000 | .83709 | -.163 | -16.3 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9930.7 | -69.3 | -.693 | .18683 | .000 | 1 |

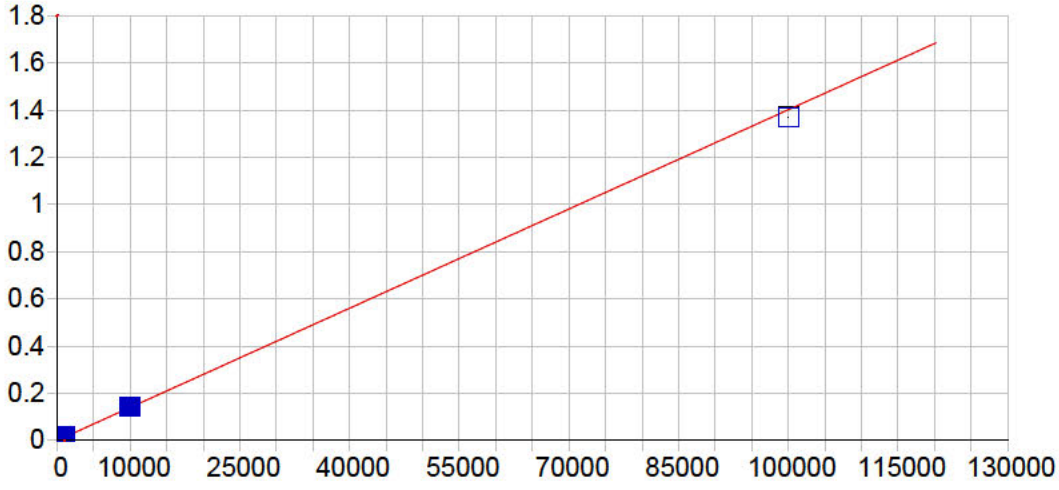



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.864546 | | |
| Predicted MQL: | 2.881820 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01598 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.8 | 31.8 | 3.18 | .00204 | .000 | 1 |
| CalStd10=10 | 10000. | 9954.9 | -45.1 | -.451 | .01968 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.25 | 13.2 | 13.2 | .00023 | .000 | 1 |

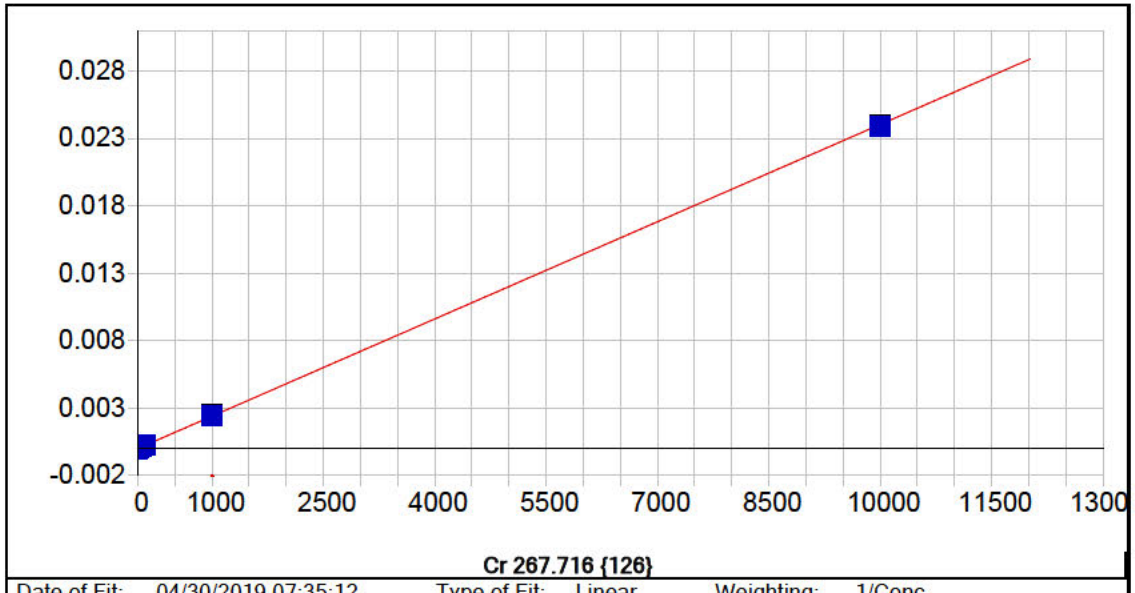



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999421 | Status: | OK. |
| Std Error of Est: | 0.000042 | | |
| Predicted MDL: | 0.335552 | | |
| Predicted MQL: | 1.118506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0602 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6903 | -.310 | -3.10 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.126 | 5.13 | 10.3 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .01472 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.14 | 12.1 | 12.1 | .00161 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.4882 | -1.51 | -30.2 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.4295 | -2.43 | -243. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10145. | 145. | 1.45 | .14224 | .000 | 1 |
| CalStd12=10 | 100000. | 97703. | -2300. | -2.30 | 1.3695 | .001 | 1 |

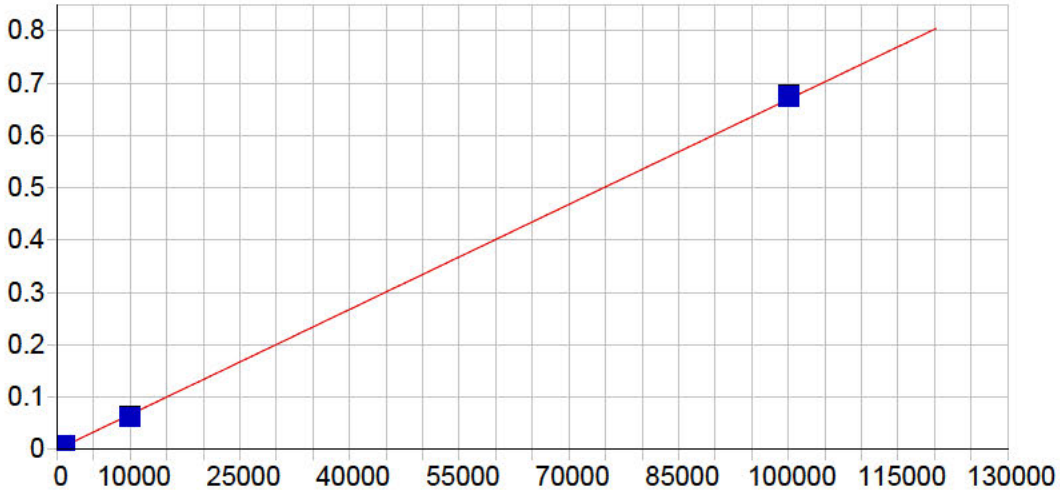



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999861 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.912557 | | |
| Predicted MQL: | 3.041856 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00250 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.625 | 1.62 | 16.2 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.661 | 5.66 | 11.3 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.8 | 27.8 | 2.78 | .00247 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.79 | 10.8 | 10.8 | .00026 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4635 | .464 | 9.27 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9953.6 | -46.4 | -.464 | .02392 | .000 | 1 |

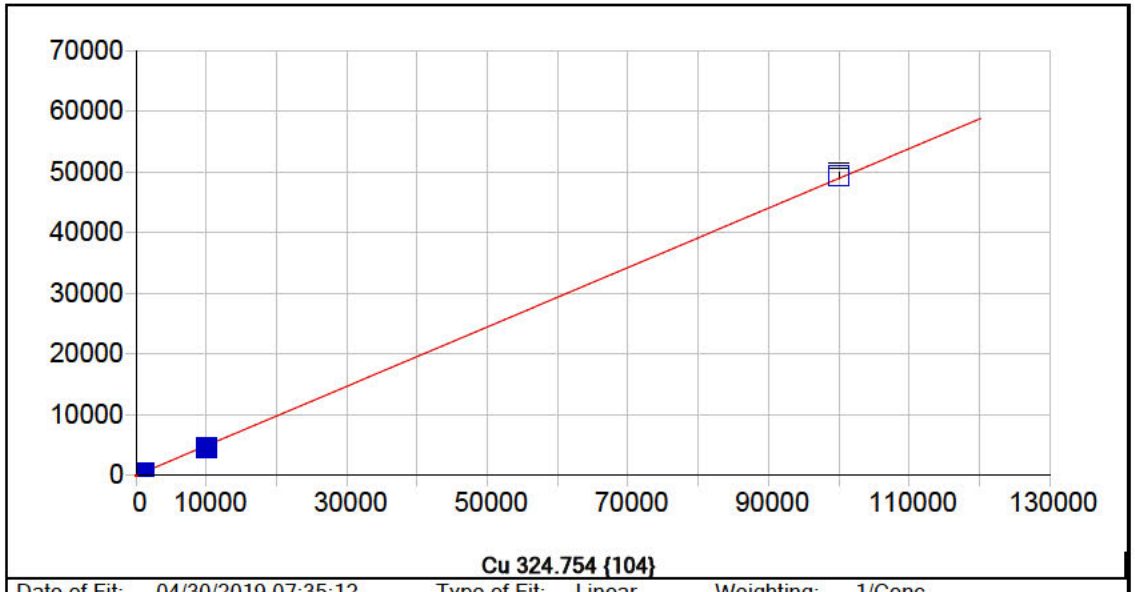



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999500 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.405039 | | |
| Predicted MQL: | 1.350129 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03939 | .039 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 918.89 | -81.1 | -8.11 | .00615 | .000 | 1 |
| CalStd7=50 | 50.000 | 19.069 | -30.9 | -61.9 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 61.174 | -38.8 | -38.8 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.5977 | -16.4 | -82.0 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 870. | .870 | .67468 | .002 | 1 |
| CalStd10=10 | 10000. | 9297.1 | -703. | -7.03 | .06219 | .000 | 1 |

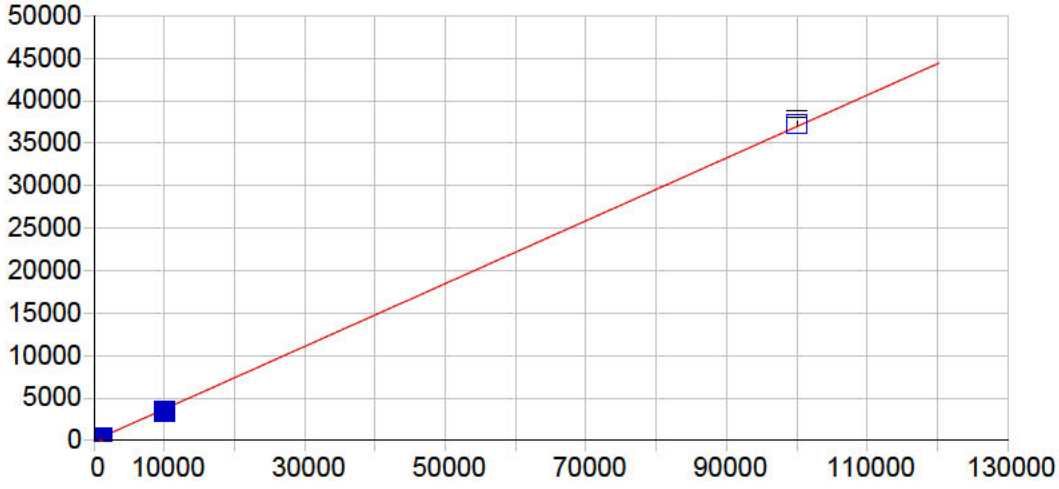



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 33.017871 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.489284 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999678 | Status: | OK. |
| Std Error of Est: | 0.477535 | | |
| Predicted MDL: | 5.094250 | | |
| Predicted MQL: | 16.980834 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00010 | .000 | .000 | 33.018 | 1.43 | 1 |
| CalStd9=100 | 1000.0 | 954.48 | -45.5 | -4.55 | 499.99 | 4.60 | 1 |
| CalStd8=100 | 100.00 | 104.55 | 4.55 | 4.55 | 84.172 | 3.15 | 1 |
| CalStd10=10 | 10000. | 9210.6 | -789. | -7.89 | 4539.2 | 11.3 | 1 |
| CalStd12=10 | 100000. | 100830. | 828. | .828 | 49367. | 482. | 1 |
| CalStd5=10 | 10.000 | 10.385 | .385 | 3.85 | 38.099 | 3.67 | 1 |
| CalStd6=20 | 20.000 | 19.595 | -.405 | -2.02 | 42.605 | 2.32 | 1 |
| CalStd7=50 | 50.000 | 52.112 | 2.11 | 4.22 | 58.516 | 2.71 | 1 |

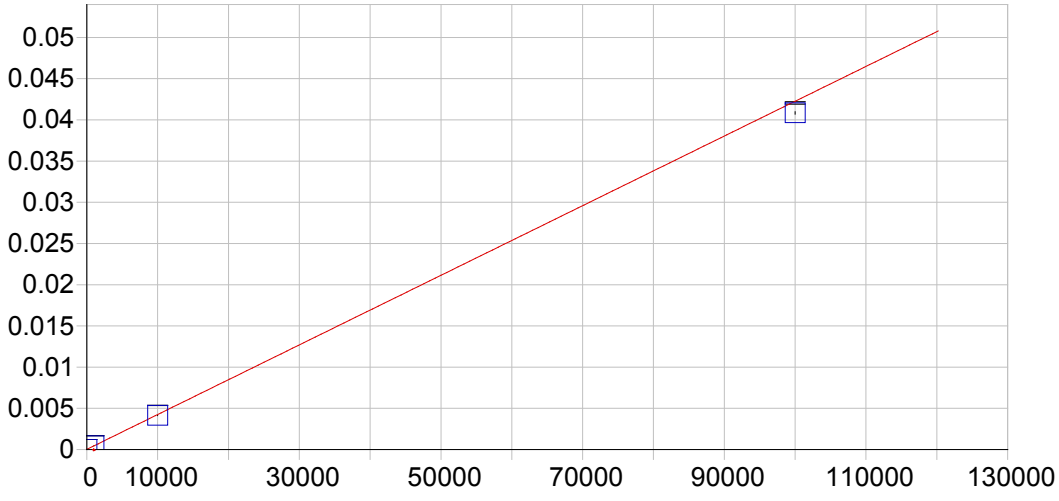



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.173693 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.369486 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.260832 | | |
| Predicted MDL: | 8.764951 | | |
| Predicted MQL: | 29.216503 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00834 | -.008 | .000 | 7.1706 | 3.37 | 1 |
| CalStd6=20 | 20.000 | 25.978 | 5.98 | 29.9 | 16.768 | 2.04 | 1 |
| CalStd7=50 | 50.000 | 57.126 | 7.13 | 14.3 | 28.270 | 2.66 | 1 |
| CalStd8=100 | 100.00 | 105.13 | 5.13 | 5.13 | 45.997 | 2.22 | 1 |
| CalStd9=100 | 1000.0 | 944.70 | -55.3 | -5.53 | 356.01 | 6.32 | 1 |
| CalStd10=10 | 10000. | 9232.8 | -767. | -7.67 | 3418.5 | 12.0 | 1 |
| CalStd12=10 | 100000. | 100790. | 795. | .795 | 37249. | 345. | 1 |
| CalStd4=5 | 5.0000 | 8.2407 | 3.24 | 64.8 | 10.217 | 3.74 | 1 |
| CalStd5=10 | 10.000 | 16.519 | 6.52 | 65.2 | 13.275 | 1.78 | 1 |

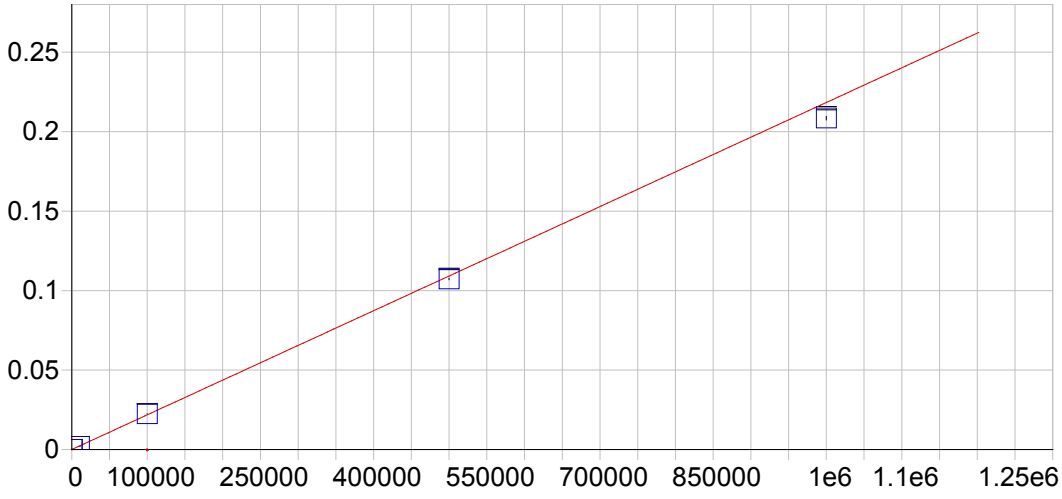



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999897 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 1.861044 | | |
| Predicted MQL: | 6.203479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.4961 | -2.50 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9752.5 | -247. | -2.47 | .00414 | .000 | 1 |
| CalStd13=10 | 100000. | 96647. | -3350. | -3.35 | .04085 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.9 | 18.9 | 1.89 | .00045 | .000 | 1 |

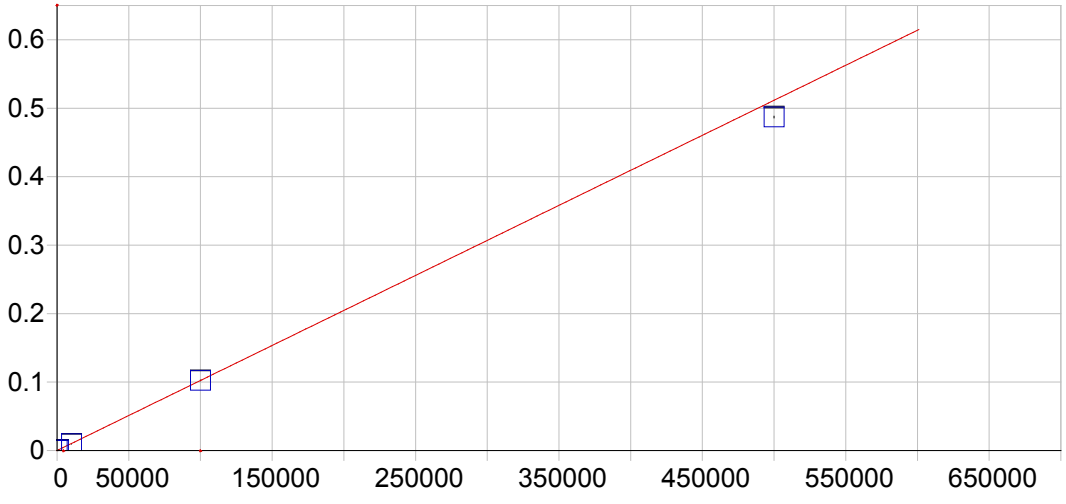



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999563 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 15.403775 | | |
| Predicted MQL: | 51.345917 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.5196 | 1.52 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9675.2 | -325. | -3.25 | .00212 | .000 | 1 |
| CalStd13=10 | 100000. | 102700. | 2700. | 2.70 | .02243 | .000 | 1 |
| CalStd14=50 | 500000. | 491290. | -8710. | -1.74 | .10728 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.68 | -5.32 | -.532 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 954920. | -45100. | -4.51 | .20851 | .001 | 1 |

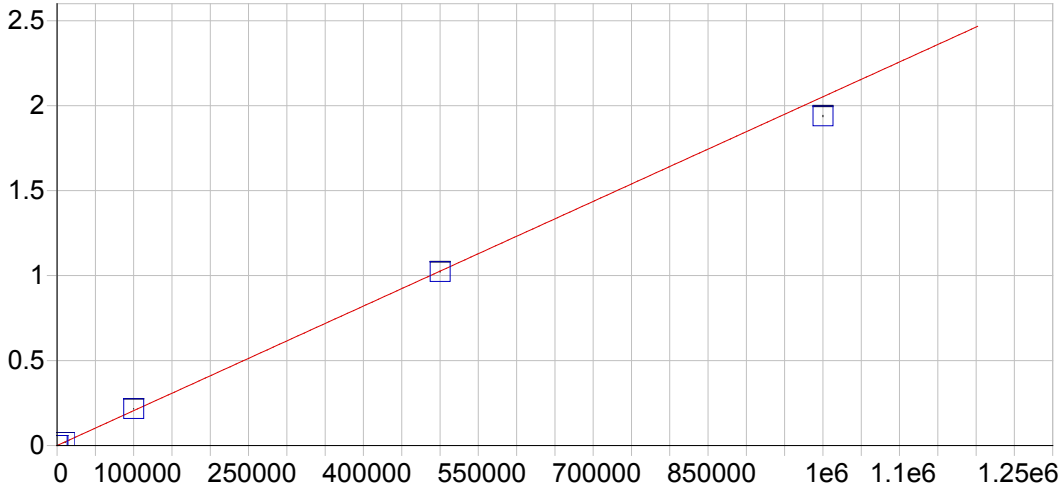



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000059 | | |
| Predicted MDL: | 4.566900 | | |
| Predicted MQL: | 15.223000 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.5760 | 7.58 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9527.6 | -472. | -4.72 | .00977 | .000 | 1 |
| CalStd13=10 | 100000. | 99992. | -8.04 | -.008 | .10232 | .000 | 1 |
| CalStd14=50 | 500000. | 476030. | -24000. | -4.79 | .48705 | .001 | 1 |
| CalStd9=100 | 1000.0 | 993.99 | -6.01 | -.601 | .00104 | .000 | 1 |

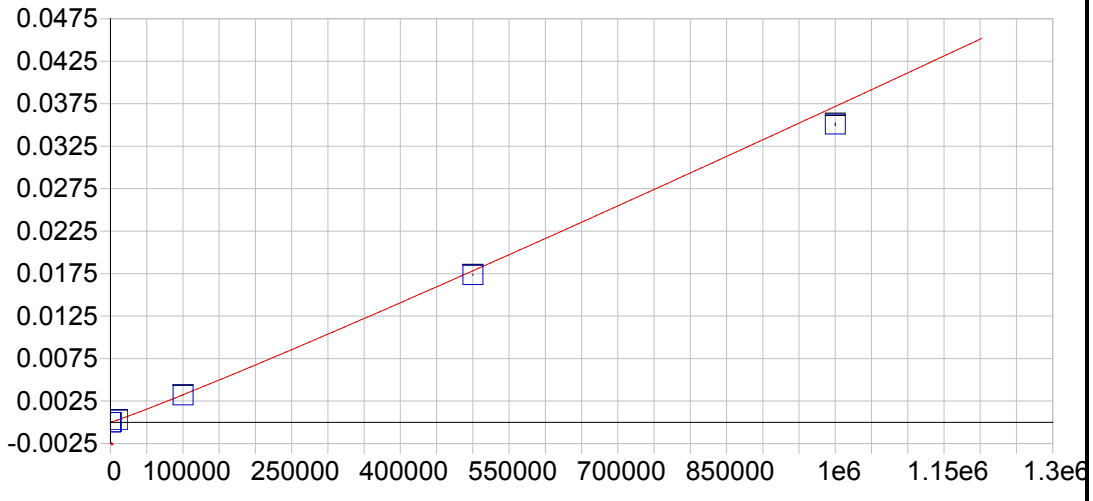



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999043 | Status: | OK. |
| Std Error of Est: | 0.000420 | | |
| Predicted MDL: | 2.477678 | | |
| Predicted MQL: | 8.258926 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0145 | -6.01 | .000 | .00003 | .000 | 1 |
| CalStd13=10 | 100000. | 105360. | 5360. | 5.36 | .21626 | .000 | 1 |
| CalStd10=10 | 10000. | 9732.7 | -267. | -2.67 | .02002 | .000 | 1 |
| CalStd14=50 | 500000. | 498460. | -1540. | -.308 | 1.0229 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1068.9 | 68.9 | 6.89 | .00224 | .000 | 1 |
| CalibStd15= | 1000000. | 944880. | -55100. | -5.51 | 1.9390 | .004 | 1 |

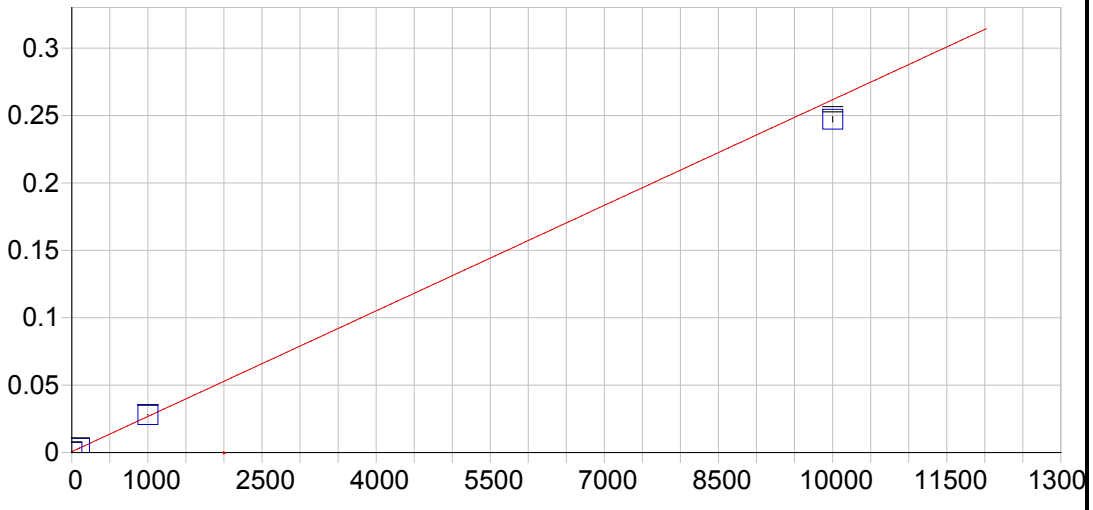



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.060000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 147.693448 | | |
| Predicted MQL: | 492.311494 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 98928. | -1070. | -1.07 | .00320 | .000 | 1 |
| CalStd10=10 | 10000. | 10132. | 132. | 1.32 | .00028 | .000 | 1 |
| CalStd14=50 | 500000. | 487770. | -12200. | -2.45 | .01737 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1213.7 | 214. | 21.4 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 946580. | -53400. | -5.34 | .03508 | .000 | 1 |

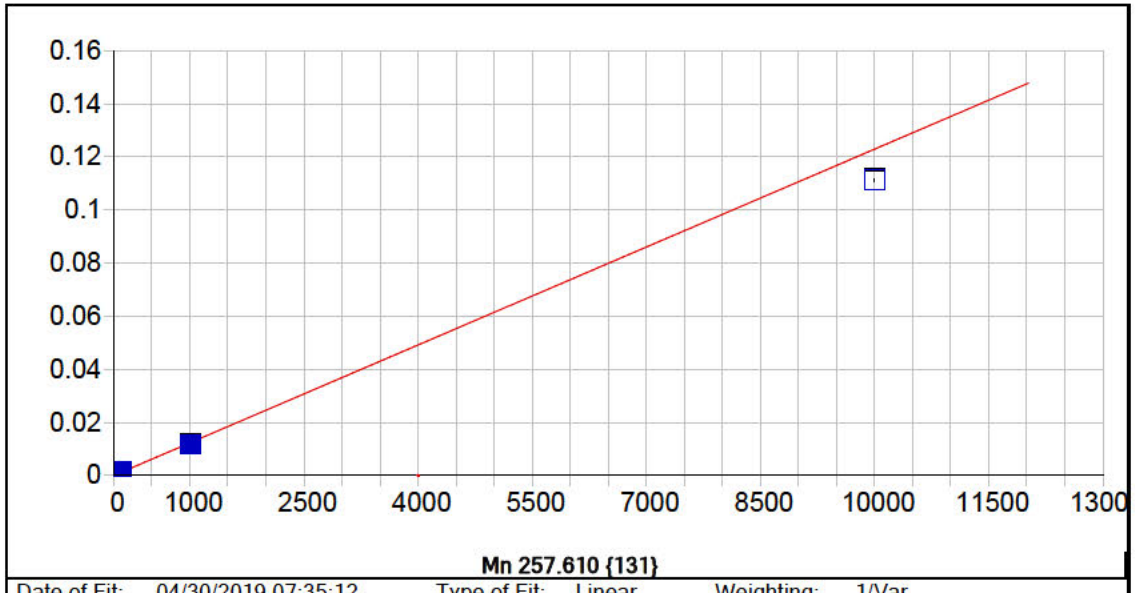



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000654 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998379 | Status: | OK. |
| Std Error of Est: | 0.000995 | | |
| Predicted MDL: | 0.047667 | | |
| Predicted MQL: | 0.158891 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -12.179 | -12.2 | .000 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | .02796 | .000 | 1 |
| CalStd10=10 | 10000. | 9444.6 | -555. | -5.55 | .24717 | .002 | 1 |
| CalStd8=100 | 100.00 | 101.19 | 1.19 | 1.19 | .00330 | .000 | 1 |

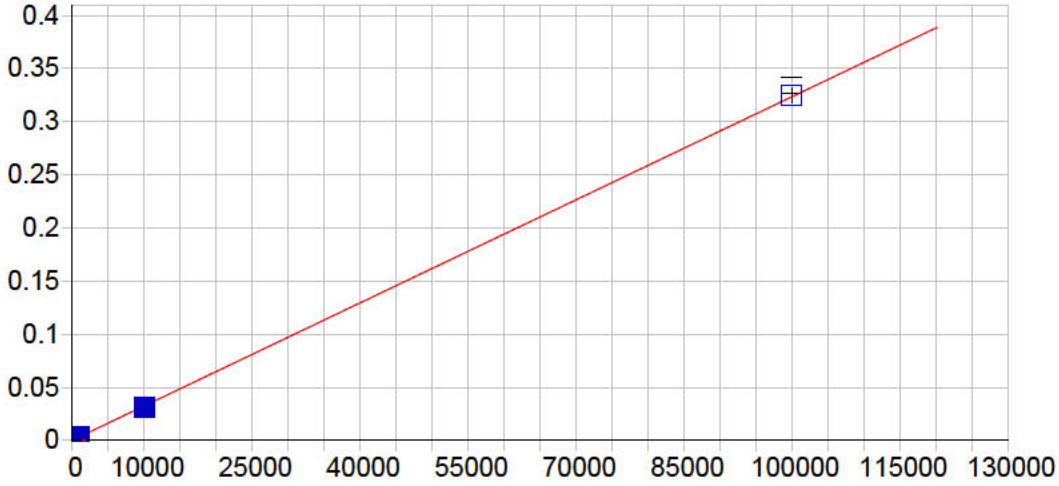



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997882 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.096882 | | |
| Predicted MQL: | 0.322939 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.92411 | -.924 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.263 | .263 | 2.63 | .00014 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.961 | 1.96 | 3.92 | .00065 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.442 | .442 | 2.21 | .00027 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.50 | 4.50 | 4.50 | .00130 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3851 | -.615 | -12.3 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 949.24 | -50.8 | -5.08 | .01168 | .000 | 1 |
| CalStd10=10 | 10000. | 9052.8 | -947. | -9.47 | .11130 | .001 | 1 |

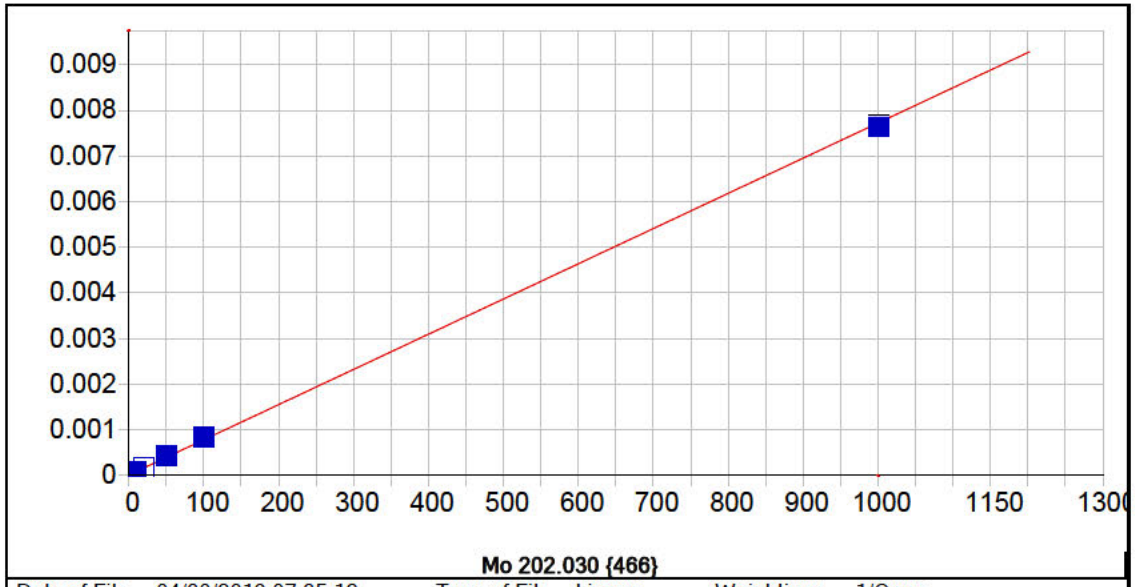



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999885 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 1.375255 | | |
| Predicted MQL: | 4.584185 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06489 | .065 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9525.8 | -474. | -4.74 | .03086 | .000 | 1 |
| CalStd9=100 | 1000.0 | 977.56 | -22.4 | -2.24 | .00317 | .000 | 1 |
| CalStd12=10 | 100000. | 100500. | 497. | .497 | .32506 | .007 | 1 |

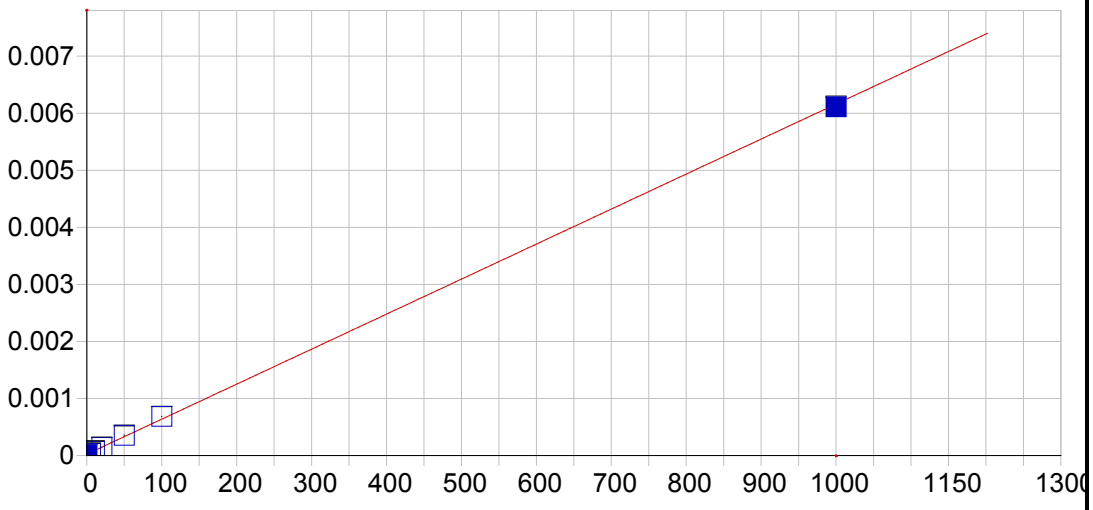



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999547 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.524568 | | |
| Predicted MQL: | 1.748560 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00040 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.505 | 3.51 | 7.01 | .00042 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.174 | 1.17 | 5.87 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.280 | .280 | 2.80 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.28 | 7.28 | 7.28 | .00084 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3136 | -.686 | -13.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.45 | -11.5 | -1.15 | .00766 | .000 | 1 |

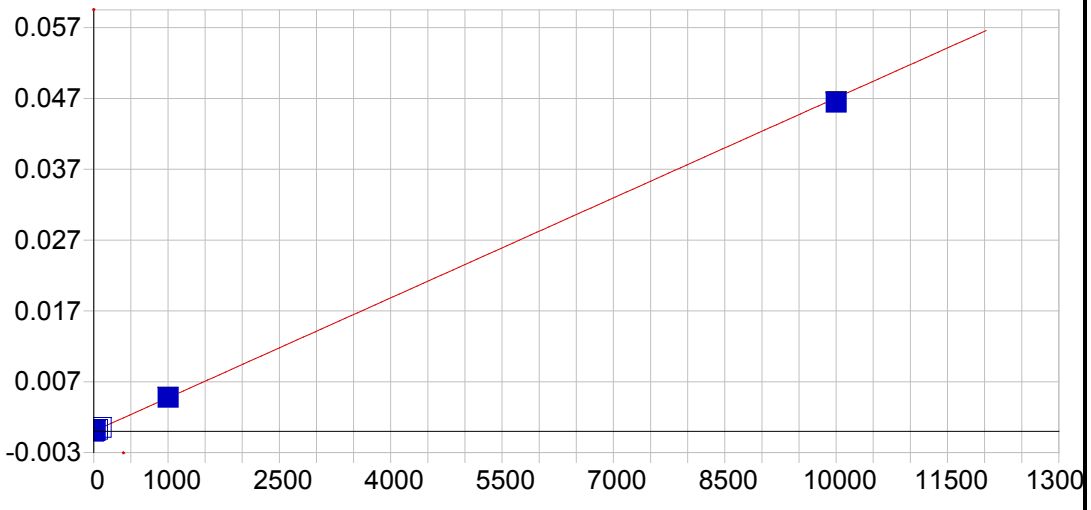



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999595 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.838770 | | |
| Predicted MQL: | 2.795900 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.4204 | -1.42 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.296 | 3.30 | 6.59 | .00035 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.552 | -.448 | -2.24 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8284 | -1.17 | -11.7 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.66 | 7.66 | 7.66 | .00068 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.3642 | -2.64 | -52.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.72 | -8.28 | -.828 | .00611 | .000 | 1 |

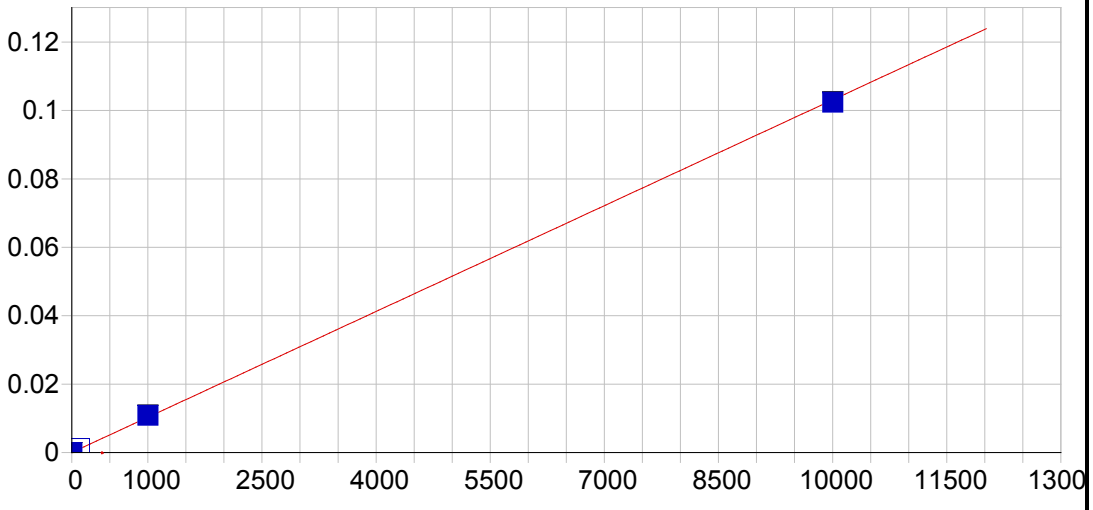



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999729 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 1.023425 | | |
| Predicted MQL: | 3.411418 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.3778 | -3.38 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.136 | 2.14 | 4.27 | .00026 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.942 | -1.06 | -5.29 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.2045 | -1.80 | -18.0 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00052 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.2638 | -2.74 | -54.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.7 | 12.7 | 1.27 | .00478 | .000 | 1 |
| CalStd10=10 | 10000. | 9869.0 | -131. | -1.31 | .04646 | .000 | 1 |

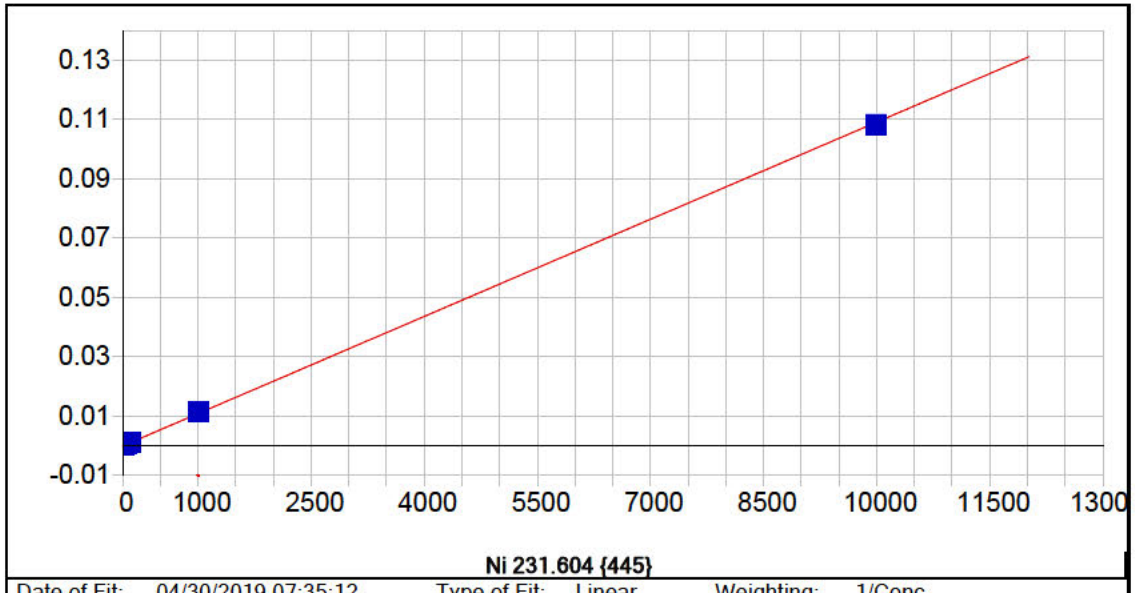



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999767 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.757594 | | |
| Predicted MQL: | 2.525313 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01826 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9932.7 | -67.3 | -.673 | .10240 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.57 | 13.6 | 13.6 | .00118 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1053.7 | 53.7 | 5.37 | .01088 | .000 | 1 |

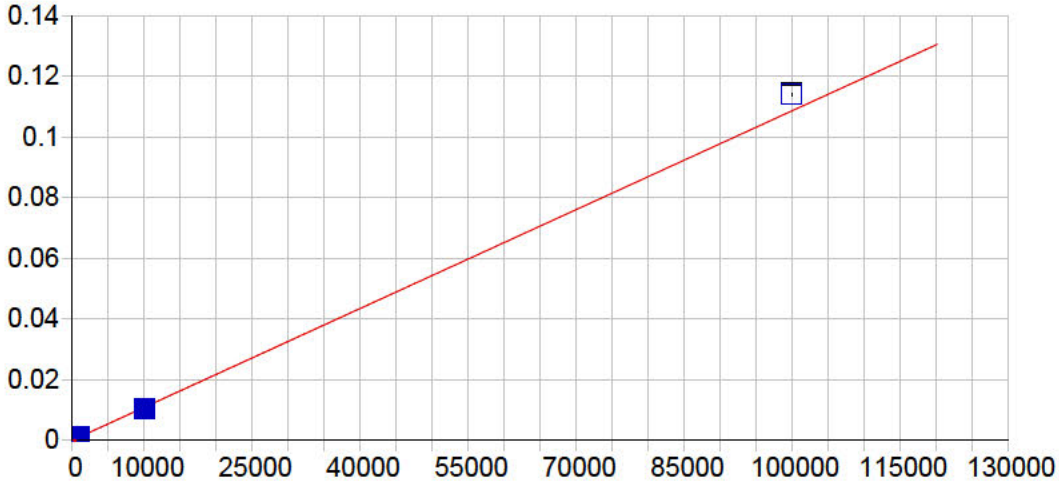



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999677 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.722935 | | |
| Predicted MQL: | 2.409785 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00112 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.719 | 7.72 | 15.4 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.803 | 1.80 | 18.0 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.32 | 14.3 | 14.3 | .00123 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8237 | .824 | 16.5 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.5 | 52.5 | 5.25 | .01147 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4324 | .432 | 43.2 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9922.5 | -77.5 | -.775 | .10848 | .000 | 1 |

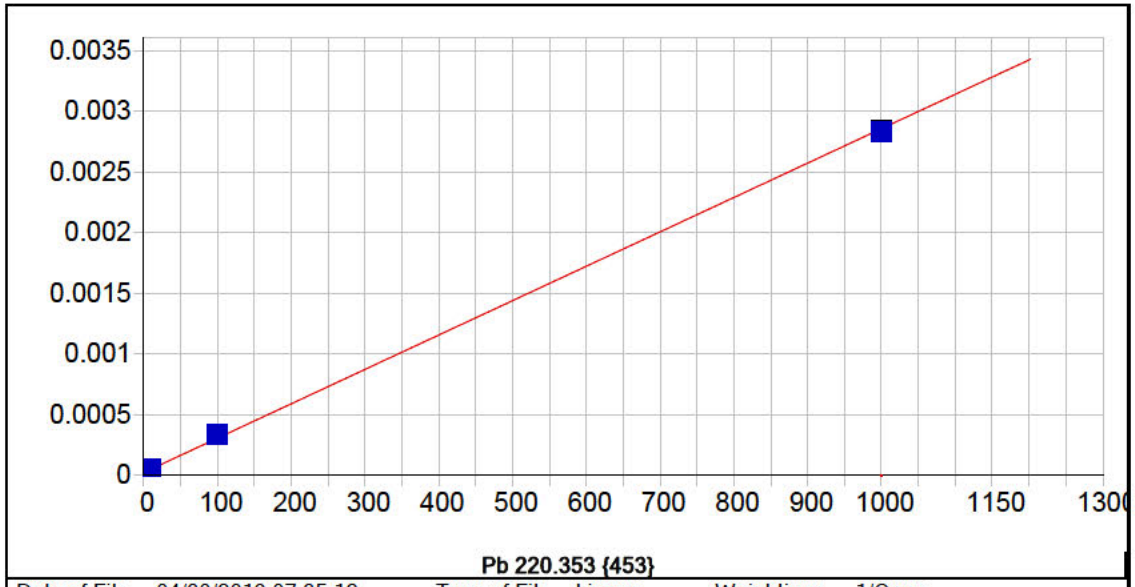



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999384 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 5.694743 | | |
| Predicted MQL: | 18.982477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.0158 | -7.02 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.85 | .585 | .00111 | .000 | 1 |
| CalStd10=10 | 10000. | 9530.5 | -470. | -4.70 | .01036 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.812 | -.188 | -.188 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.8172 | -5.18 | -51.8 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 105070. | 5070. | 5.07 | .11412 | .001 | 1 |

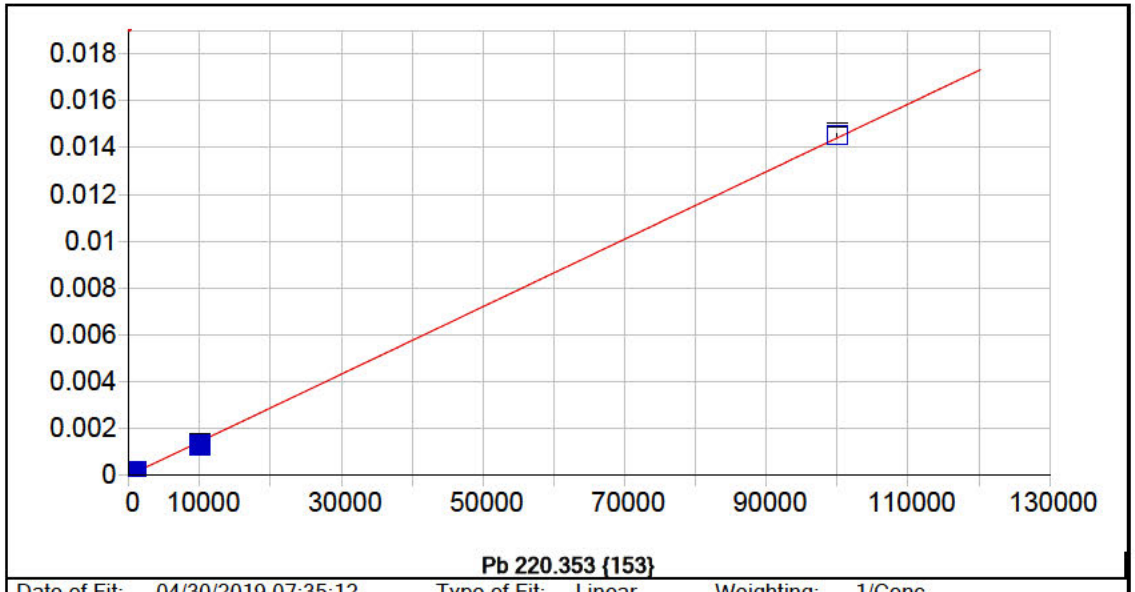



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999296 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.803616 | | |
| Predicted MQL: | 9.345385 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00071 | .001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.222 | .222 | 2.22 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.64 | 10.6 | 10.6 | .00034 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.6965 | -1.30 | -26.1 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.44 | -9.56 | -.956 | .00283 | .000 | 1 |

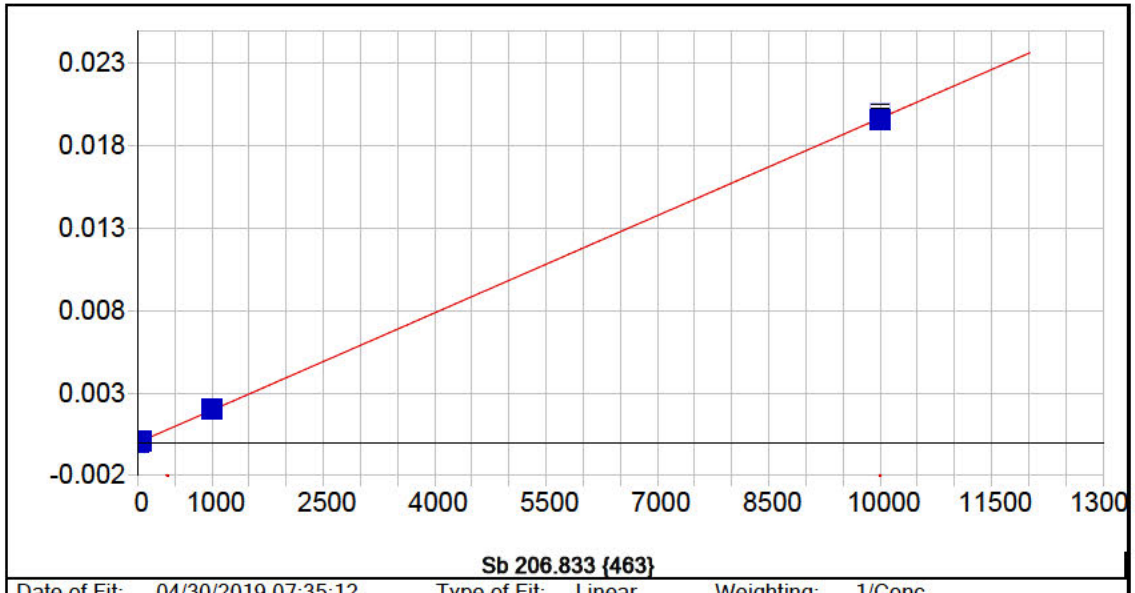



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999643 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 6.828097 | | |
| Predicted MQL: | 22.760324 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00570 | .006 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 968.50 | -31.5 | -3.15 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9159.4 | -841. | -8.41 | .00132 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.99 | 4.99 | 4.99 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 867. | .867 | .01454 | .000 | 1 |

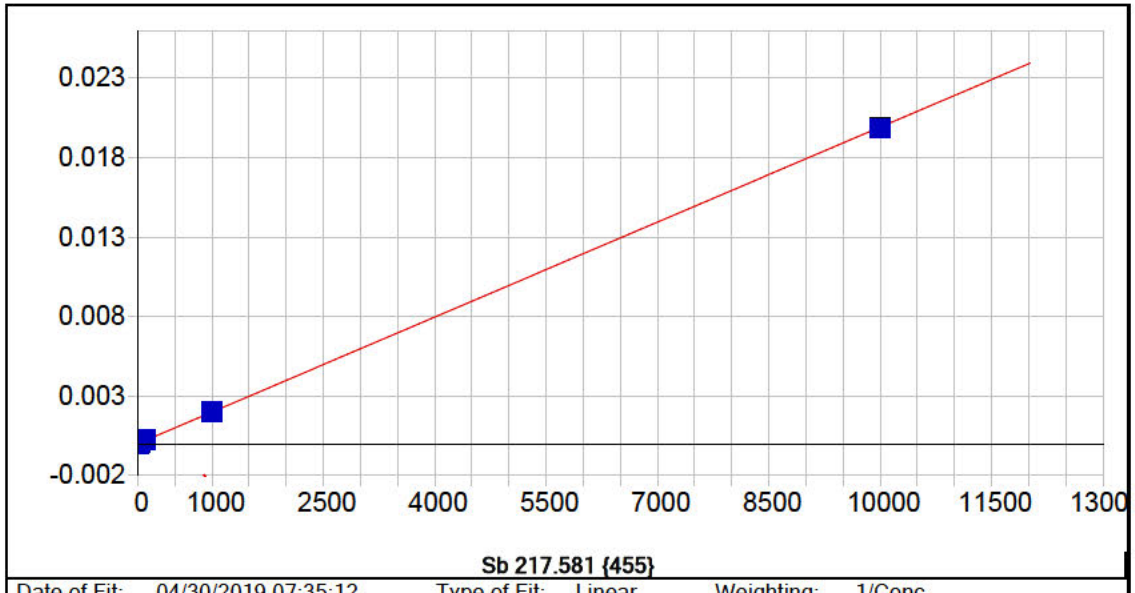



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999857 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.461614 | | |
| Predicted MQL: | 8.205380 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00540 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.0 | 23.0 | 2.30 | .00205 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.542 | 3.54 | 35.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.292 | 8.29 | 16.6 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9965.2 | -34.8 | -.348 | .01997 | .000 | 1 |

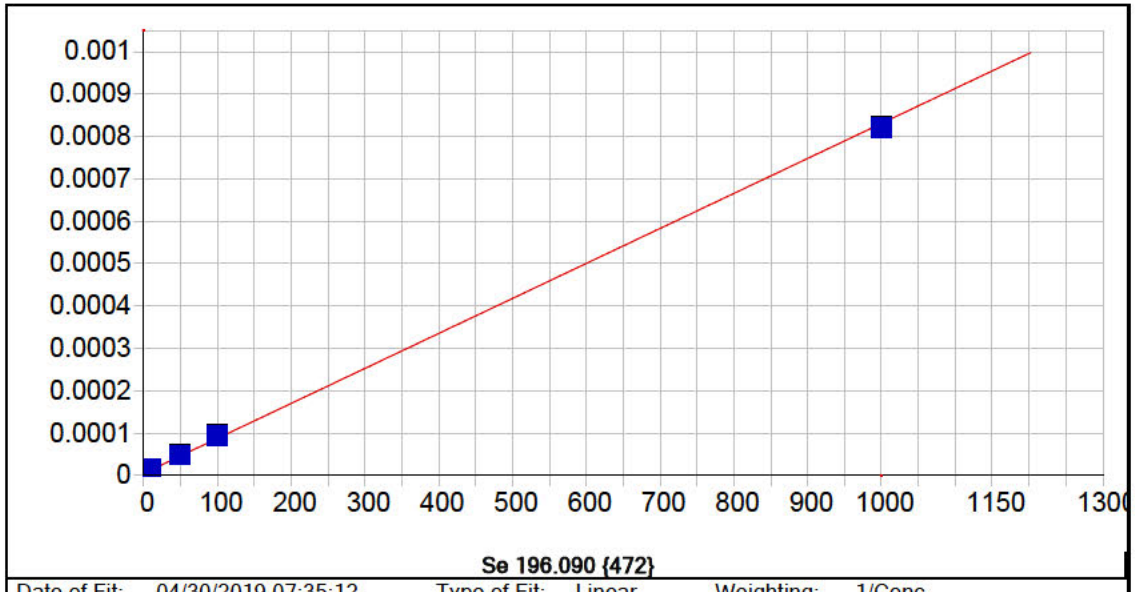



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999808 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.712923 | | |
| Predicted MQL: | 9.043077 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00477 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.3 | 21.3 | 2.13 | .00204 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.710 | 3.71 | 18.5 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.651 | 2.65 | 26.5 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.64 | 12.6 | 12.6 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7953 | 1.80 | 35.9 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.9 | -42.1 | -.421 | .01984 | .000 | 1 |

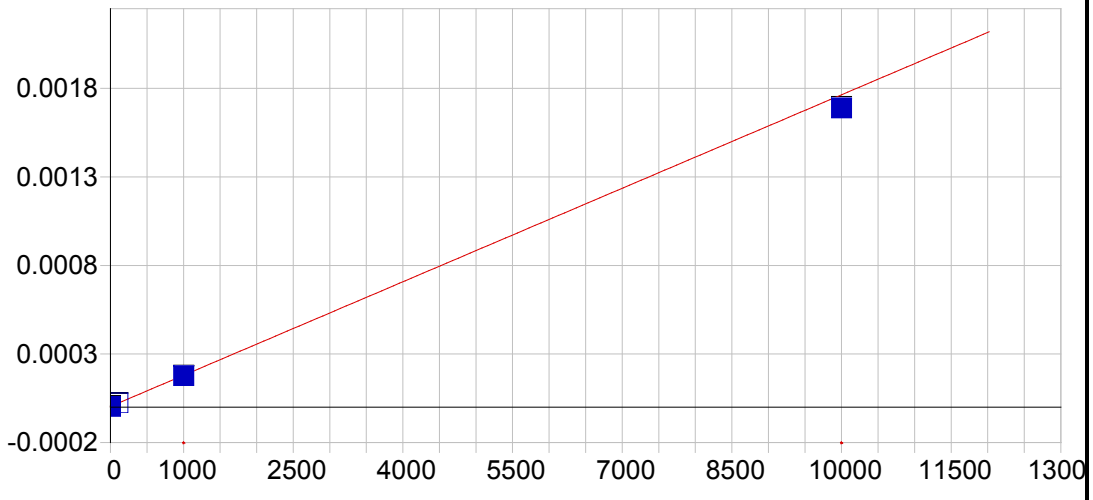



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999420 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.728254 | | |
| Predicted MQL: | 15.760848 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00343 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.462 | 2.46 | 4.92 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.89 | -12.1 | -1.21 | .00082 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.327 | 2.33 | 23.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.32 | 7.32 | 7.32 | .00009 | .000 | 1 |

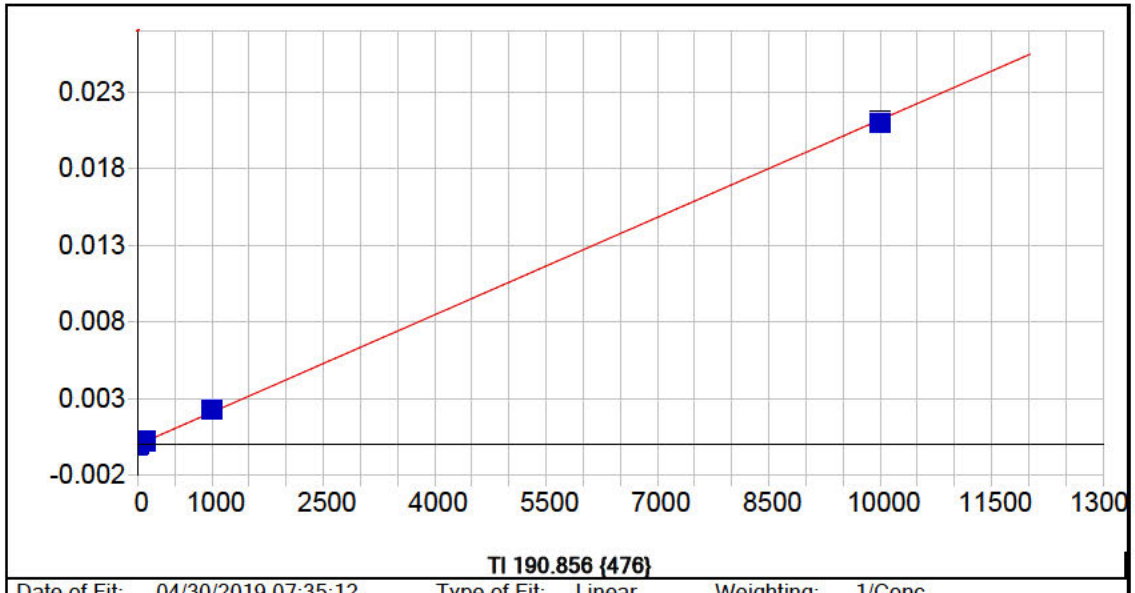



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 30.145855 | | |
| Predicted MQL: | 100.486183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00775 | -.008 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.17 | -13.8 | -1.38 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 9572.5 | -428. | -4.28 | .00169 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.65 | 8.65 | 8.65 | .00002 | .000 | 1 |

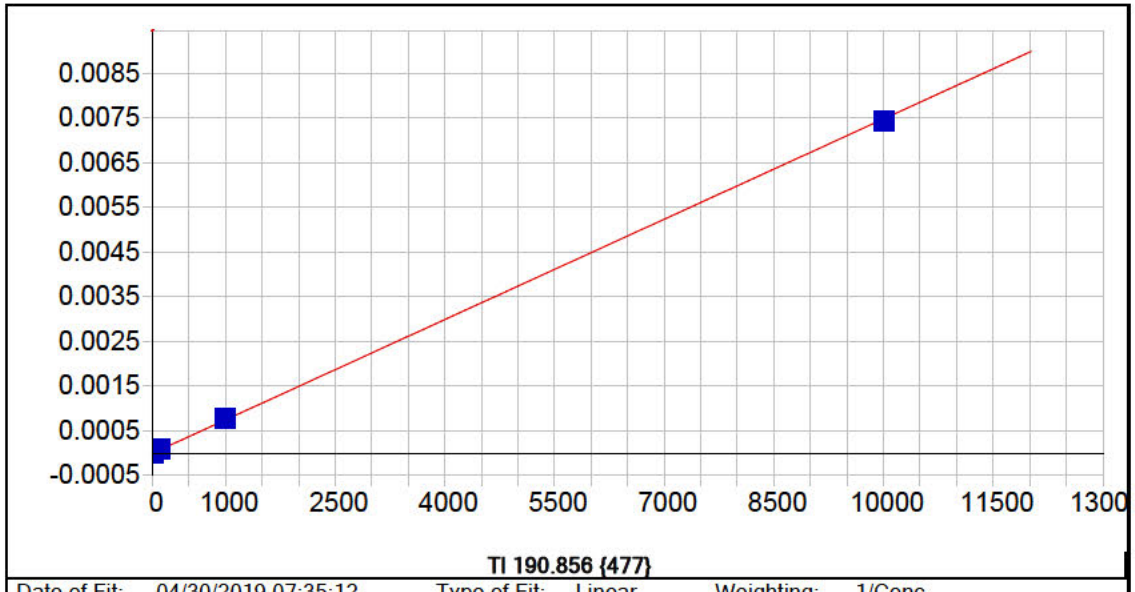



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999490 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.684770 | | |
| Predicted MQL: | 8.949234 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00515 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1077.8 | 77.8 | 7.78 | .00230 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.33 | 19.3 | 19.3 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.537 | 2.54 | 25.4 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9900.3 | -99.7 | -.997 | .02105 | .000 | 1 |

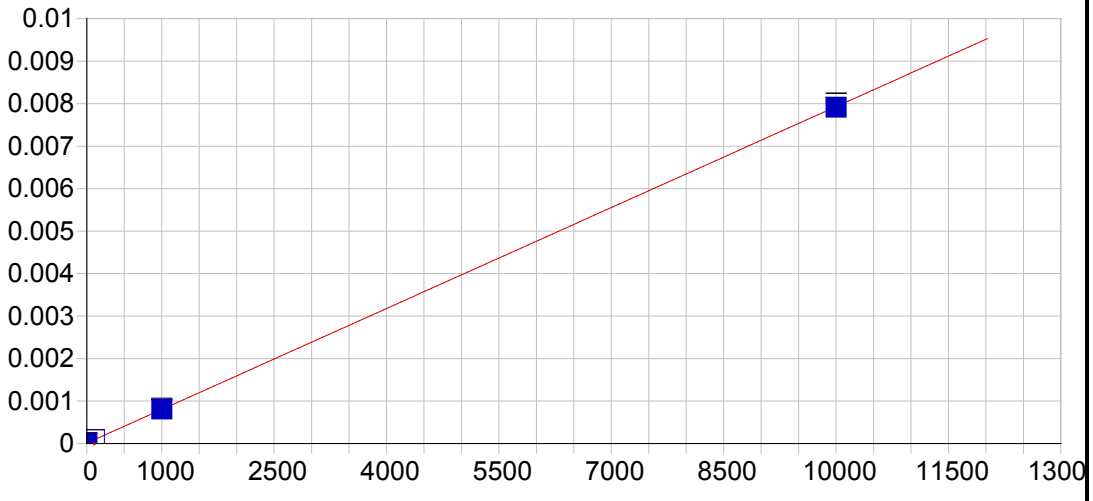



**Tl 190.856 {477}**

Date of Fit: 04/30/2019 07:35:12 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999617 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.300411 | | |
| Predicted MQL: | 17.668036 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00608 | -.006 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .00078 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.22 | 21.2 | 21.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.557 | 3.56 | 35.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9927.9 | -72.1 | -.721 | .00742 | .000 | 1 |

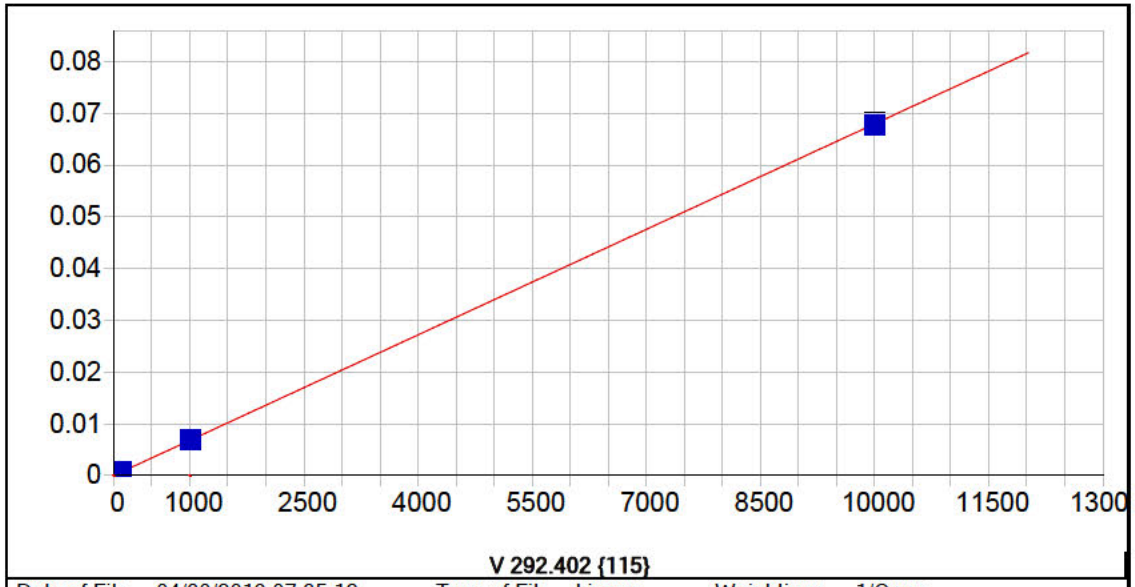



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.314456 | | |
| Predicted MQL: | 24.381519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00843 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.5 | 12.5 | 1.25 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.2 | -19.8 | -.198 | .00792 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.38 | 7.38 | 7.38 | .00009 | .000 | 1 |

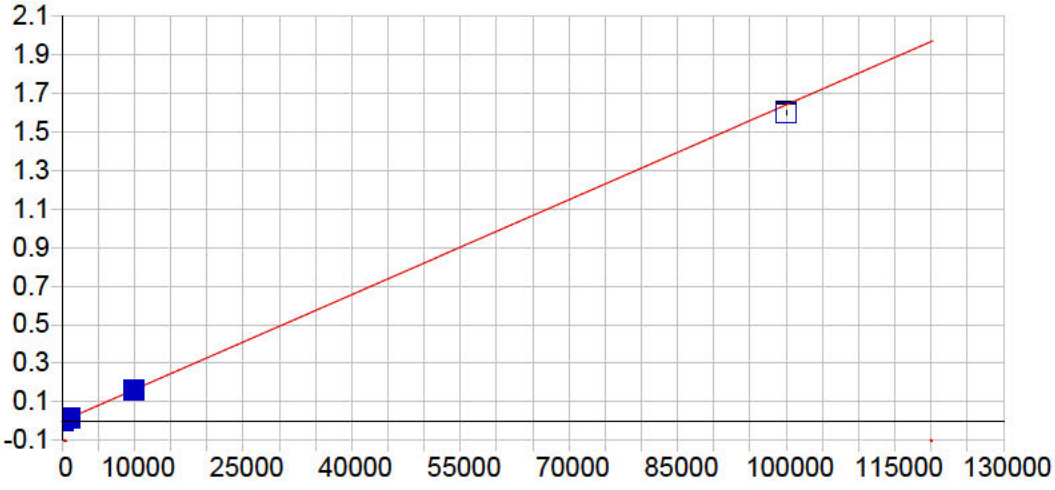



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.605824 | | |
| Predicted MQL: | 2.019414 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00569 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.727 | 5.73 | 11.5 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.2 | 15.2 | 1.52 | .00690 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.702 | 2.70 | 13.5 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.026 | 2.03 | 20.3 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.50 | 10.5 | 10.5 | .00075 | .000 | 1 |
| CalStd10=10 | 10000. | 9964.0 | -36.0 | -.360 | .06796 | .000 | 1 |

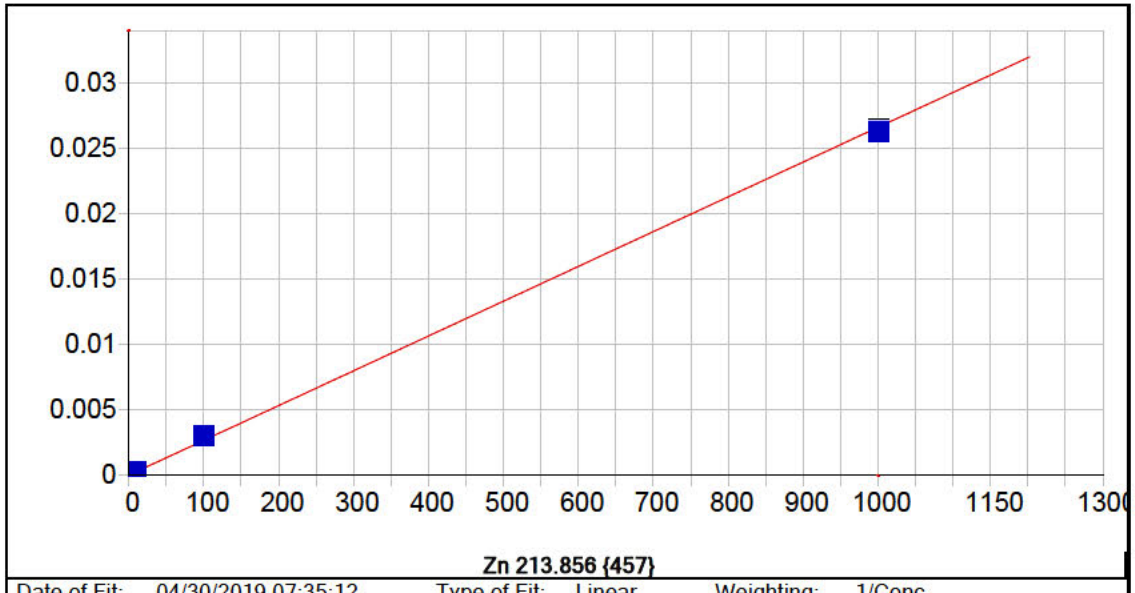



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999282 | Status: | OK. |
| Std Error of Est: | 0.000096 | | |
| Predicted MDL: | 0.398552 | | |
| Predicted MQL: | 1.328506 | | |

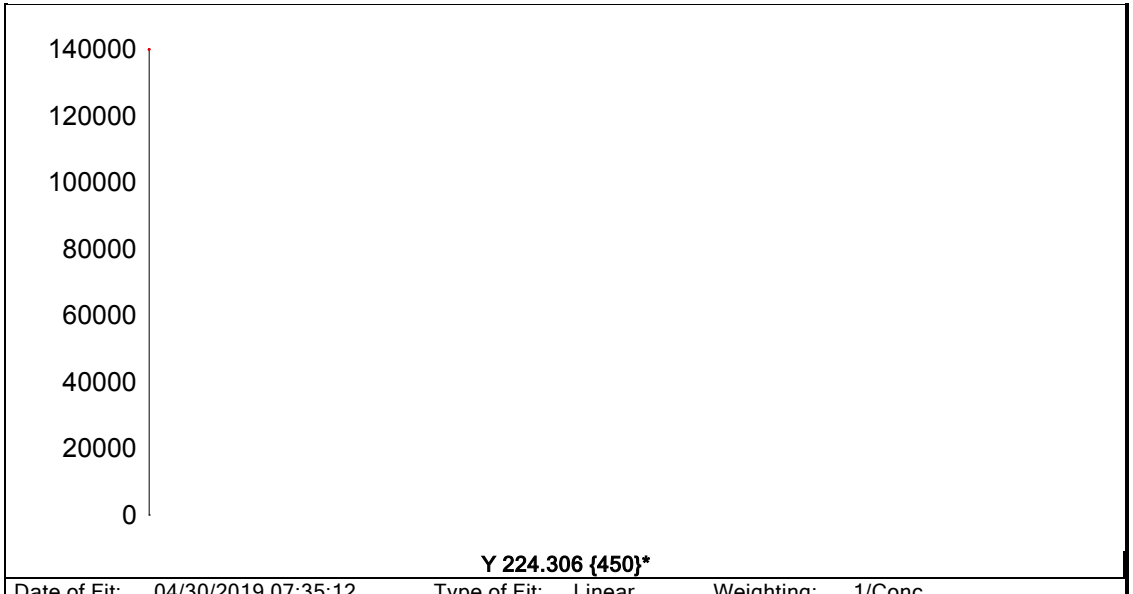
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9868.0 | -132. | -1.32 | .16176 | .000 | 1 |
| Blank | .00000 | -3.1327 | -3.13 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1043.8 | 43.8 | 4.38 | .01716 | .000 | 1 |
| CalStd12=10 | 100000. | 97507. | -2490. | -2.49 | 1.5980 | .008 | 1 |
| CalStd5=10 | 10.000 | 9.1726 | -.827 | -8.27 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.72 | 13.7 | 13.7 | .00192 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

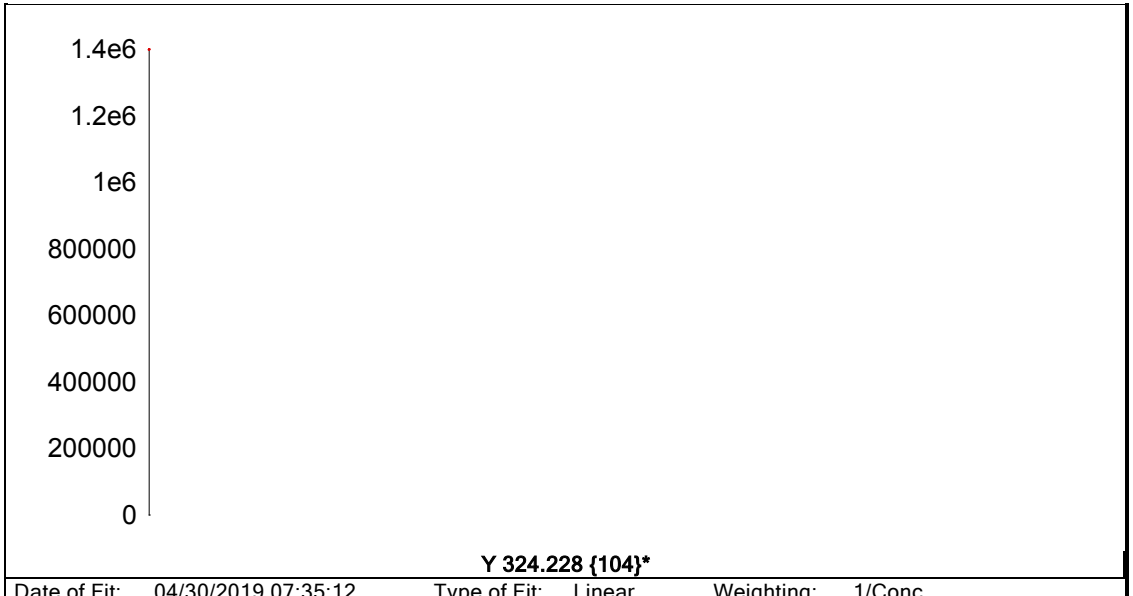
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999114 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.216001 | | |
| Predicted MQL: | 0.720004 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00274 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.00 | -14.0 | -1.40 | .02642 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.646 | 1.65 | 16.5 | .00034 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.36 | 12.4 | 12.4 | .00303 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

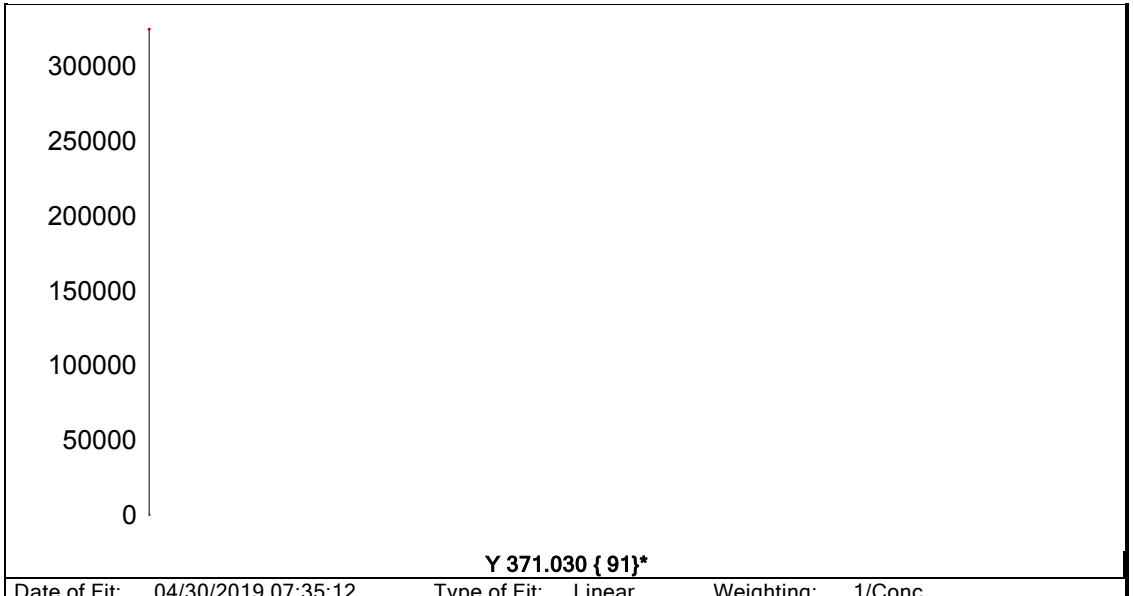
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 123870. | 355. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

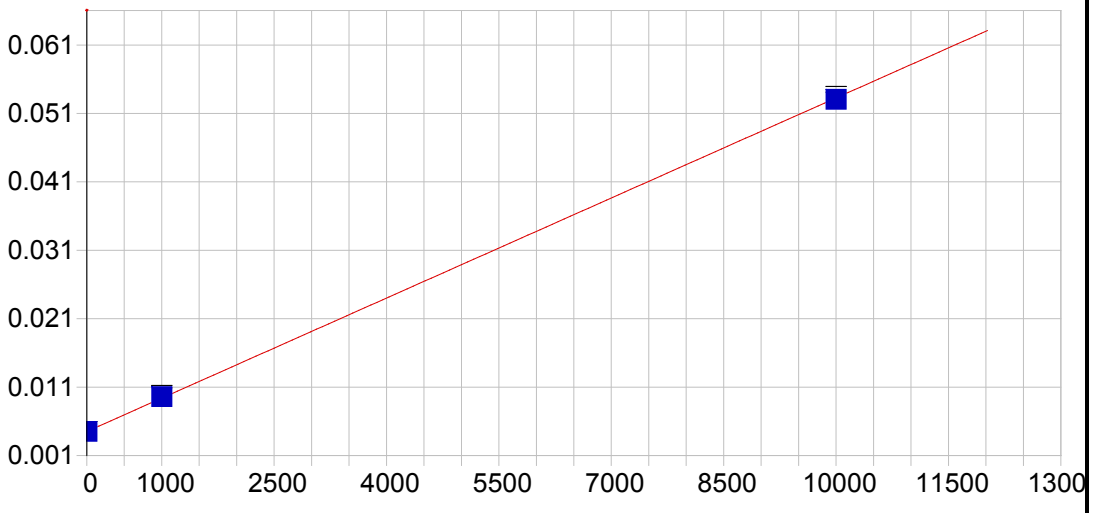
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1276800. | 7160. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 305680. | 3730. | 1 |

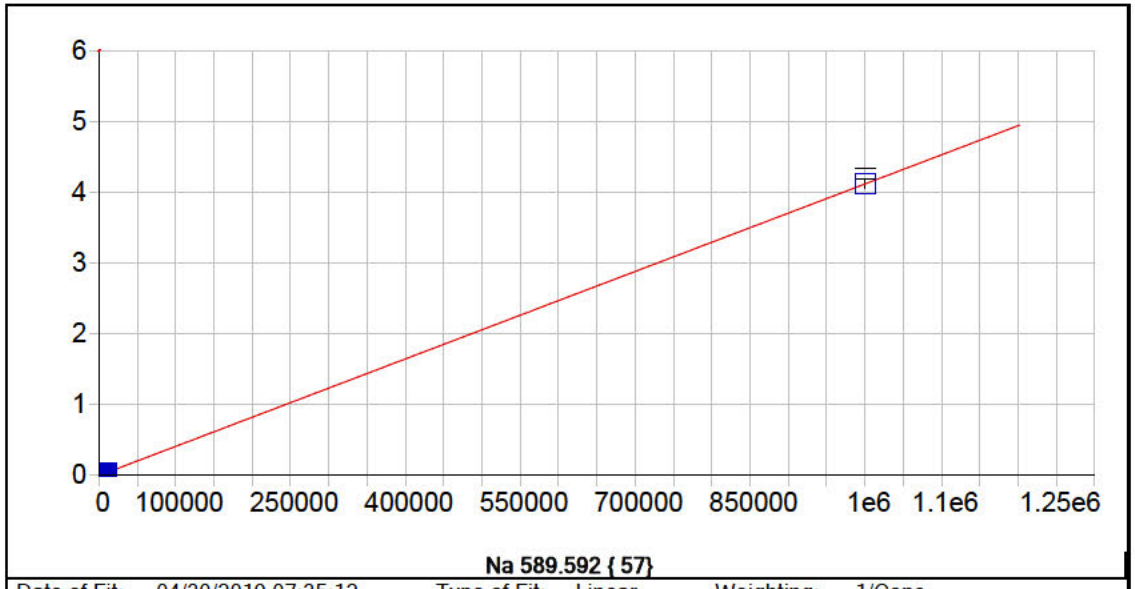



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004511 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999901 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 10.149500 | | |
| Predicted MQL: | 33.831667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04011 | -.040 | .000 | .00451 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.4 | -44.6 | -.446 | .05306 | .000 | 1 |

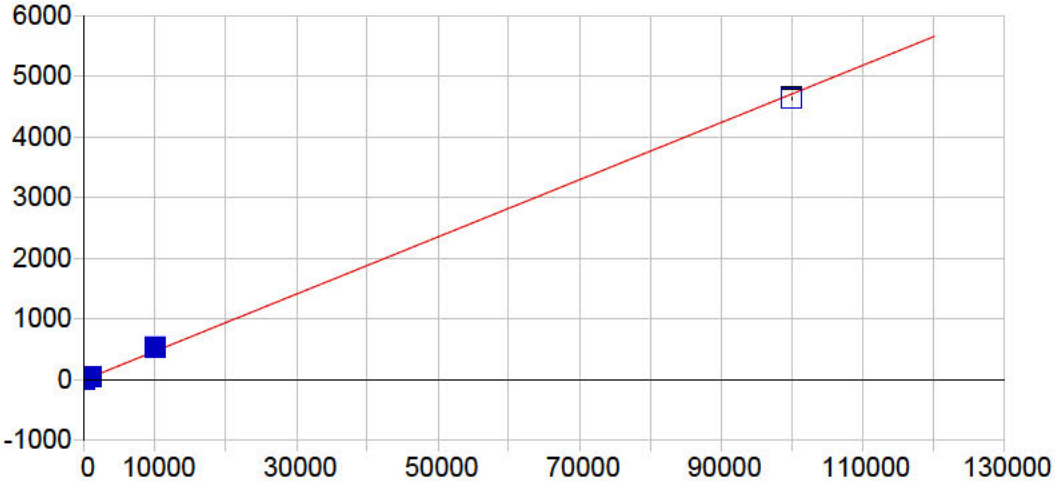



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000063 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000070 | | |
| Predicted MDL: | 7.898158 | | |
| Predicted MQL: | 26.327192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .20773 | .208 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 907.37 | -92.6 | -9.26 | .00380 | .000 | 1 |
| CalStd10=10 | 10000. | 8836.4 | -1160. | -11.6 | .03645 | .000 | 1 |
| CalibStd15= | 1000000. | 1001300. | 1260. | .126 | 4.1233 | .072 | 1 |

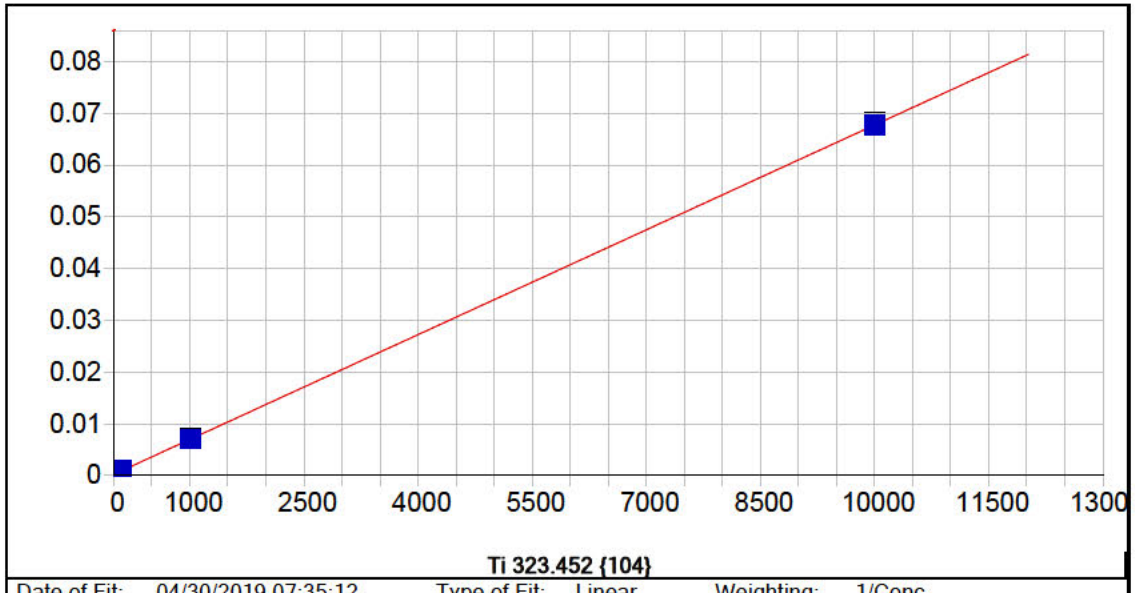



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.892880 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.047065 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998966 | Status: | OK. |
| Std Error of Est: | 1.013831 | | |
| Predicted MDL: | 26.768890 | | |
| Predicted MQL: | 89.229632 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14015 | -.140 | .000 | 1.8863 | 1.89 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | 53.186 | 2.01 | 1 |
| CalStd10=10 | 10000. | 11445. | 1440. | 14.4 | 564.11 | 2.99 | 1 |
| CalibStd15= | 100000. | 98471. | -1530. | -1.53 | 4636.4 | 23.5 | 1 |

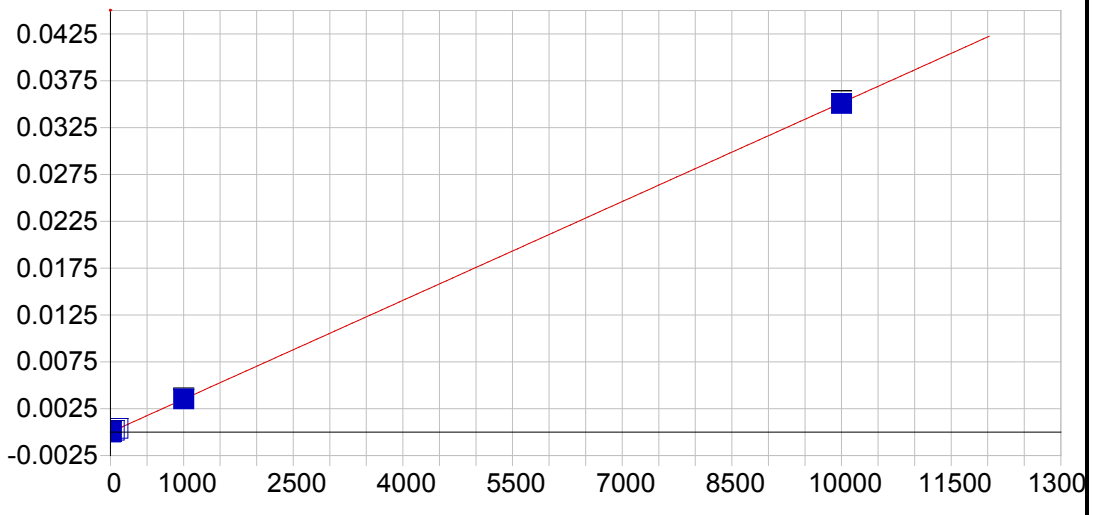



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000227 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999909 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.541505 | | |
| Predicted MQL: | 5.138349 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00014 | .000 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.045 | .045 | .452 | .00029 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.43 | 10.4 | 10.4 | .00097 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.6 | 5.59 | .559 | .00702 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.9 | -20.1 | -.201 | .06767 | .001 | 1 |
| CalStd7=50 | 50.000 | 55.300 | 5.30 | 10.6 | .00060 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.7697 | -1.23 | -24.6 | .00025 | .000 | 1 |

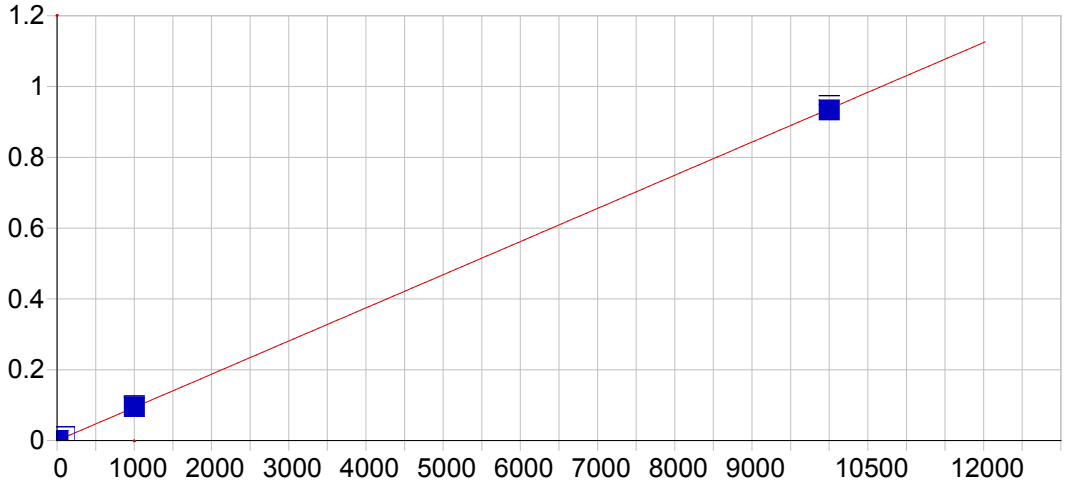



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.063215 | | |
| Predicted MQL: | 6.877382 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00260 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.391 | 1.39 | 13.9 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.61 | 9.61 | 9.61 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.7 | 7.67 | .767 | .00354 | .000 | 1 |
| CalStd10=10 | 10000. | 9975.9 | -24.1 | -.241 | .03508 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.539 | 4.54 | 9.08 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9434 | .943 | 18.9 | .00002 | .000 | 1 |

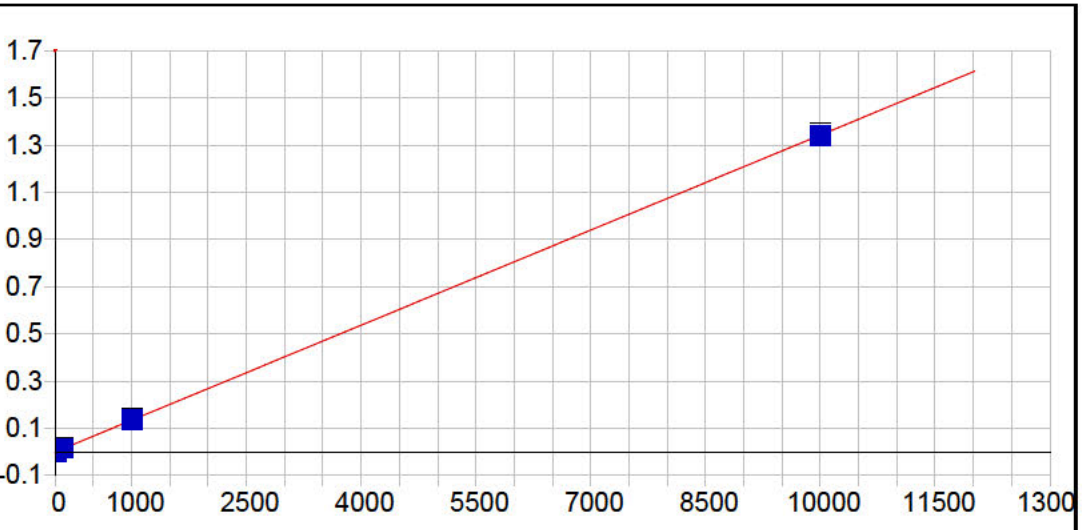



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000065 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000094 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999881 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.175276 | | |
| Predicted MQL: | 0.584252 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00059 | -.001 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0883 | .088 | 8.83 | .00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8487 | .849 | 17.0 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.913 | 1.91 | 19.1 | .00118 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.83 | 12.8 | 12.8 | .01063 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .09553 | .002 | 1 |
| CalStd10=10 | 10000. | 9965.5 | -34.5 | -.345 | .93387 | .012 | 1 |

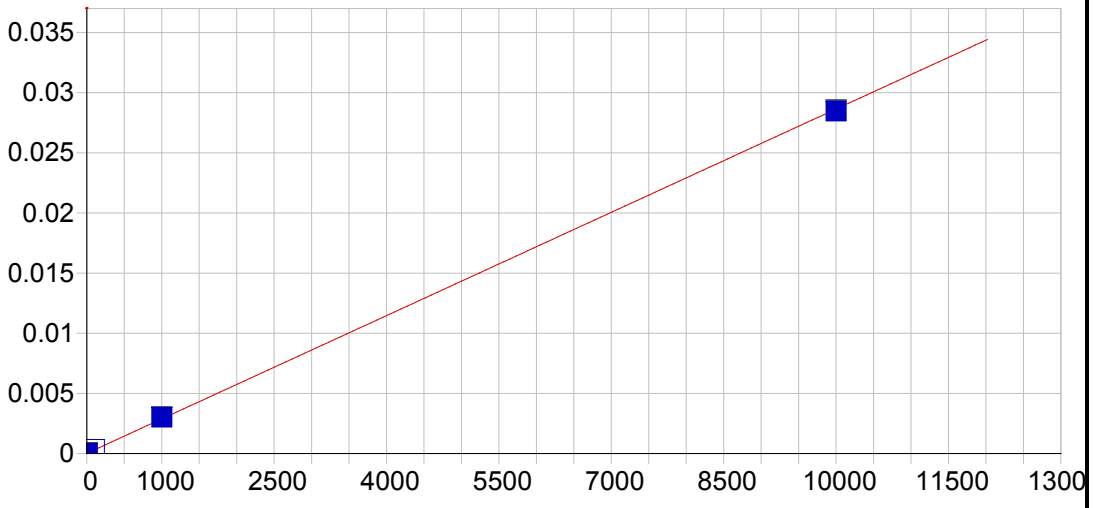



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999886 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.123225 | | |
| Predicted MQL: | 0.410752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00053 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0501 | .050 | 5.01 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7605 | .760 | 15.2 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00160 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.25 | 12.2 | 12.2 | .01508 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1020.8 | 20.8 | 2.08 | .13707 | .003 | 1 |
| CalStd10=10 | 10000. | 9964.3 | -35.7 | -.357 | 1.3379 | .014 | 1 |

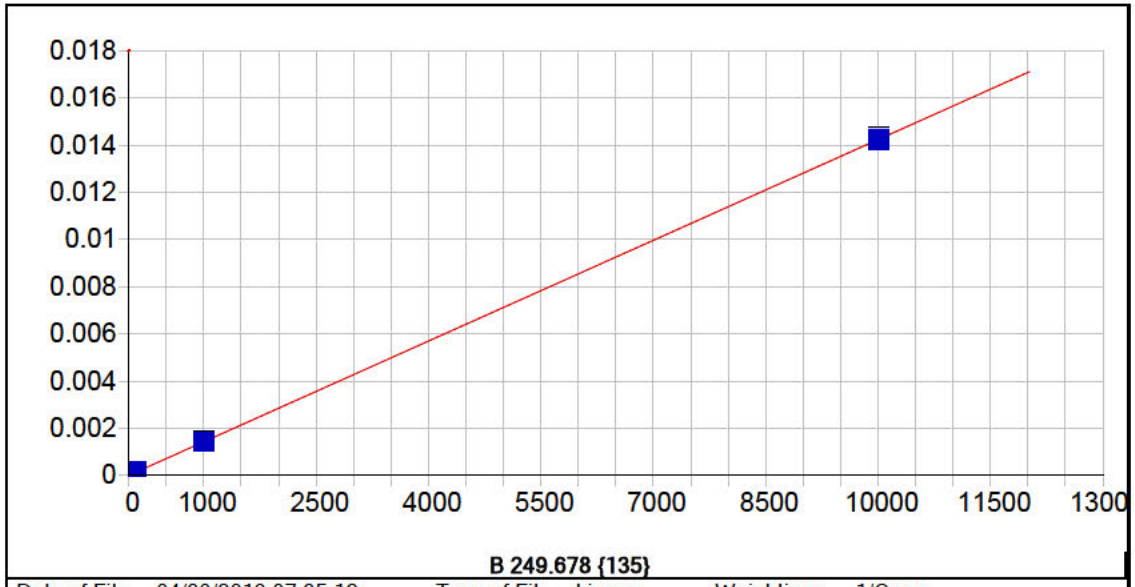



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999812 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.724449 | | |
| Predicted MQL: | 5.748164 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00202 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .02847 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1048.7 | 48.7 | 4.87 | .00302 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.88 | 11.9 | 11.9 | .00034 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.409 | .409 | 4.09 | .00005 | .000 | 1 |

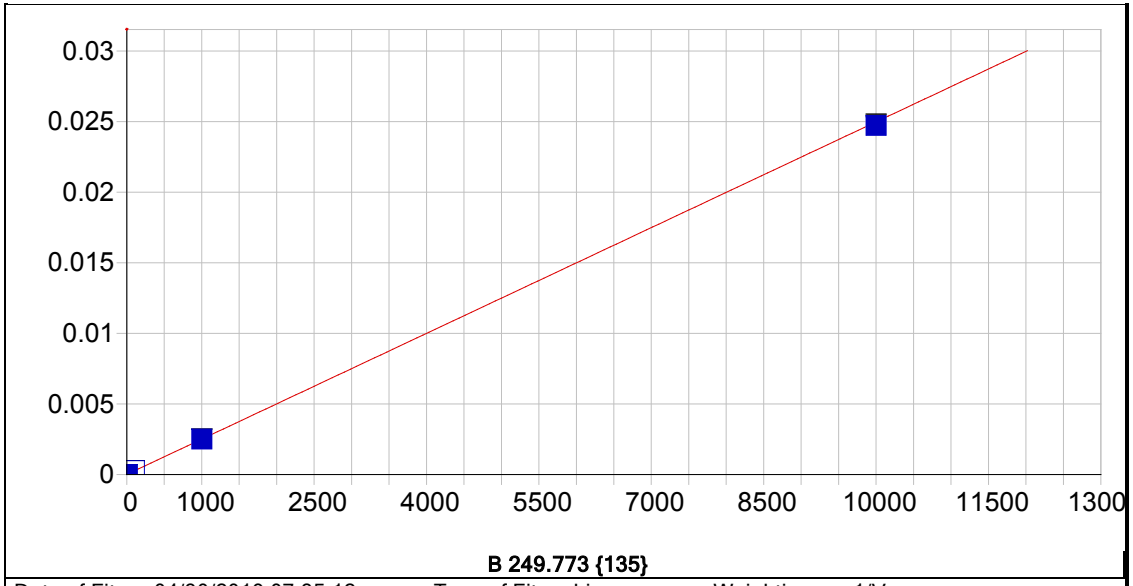



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.368619 | | |
| Predicted MQL: | 4.562062 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00180 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.85 | 4.85 | 4.85 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7549 | -2.25 | -22.5 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.58 | -4.42 | -.442 | .00143 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.81 | .018 | .01429 | .000 | 1 |

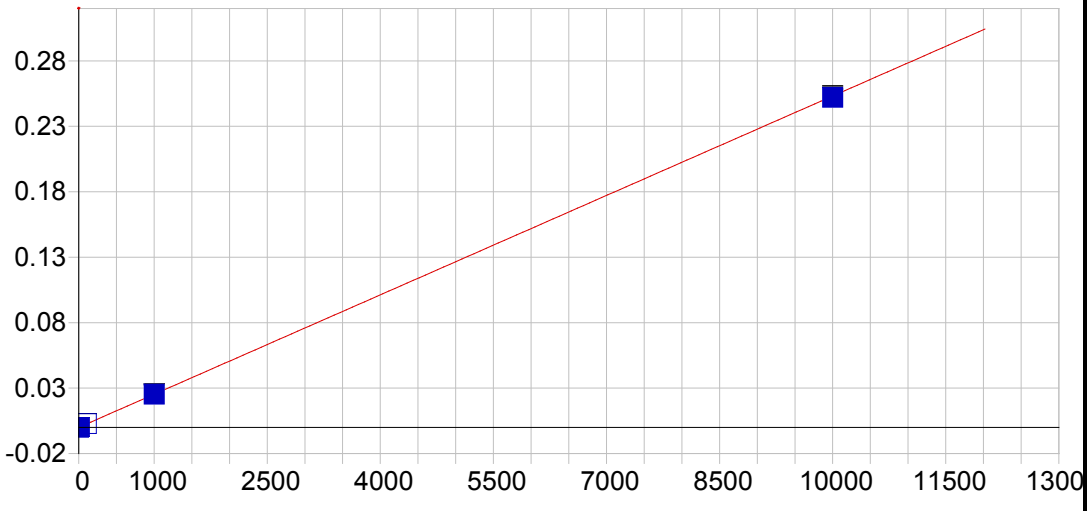



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999668 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.779432 | | |
| Predicted MQL: | 2.598107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.21304 | -.213 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.72 | 6.72 | 6.72 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3288 | -1.67 | -16.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .830 | .083 | .00251 | .000 | 1 |
| CalStd10=10 | 10000. | 9896.9 | -103. | -1.03 | .02473 | .000 | 1 |

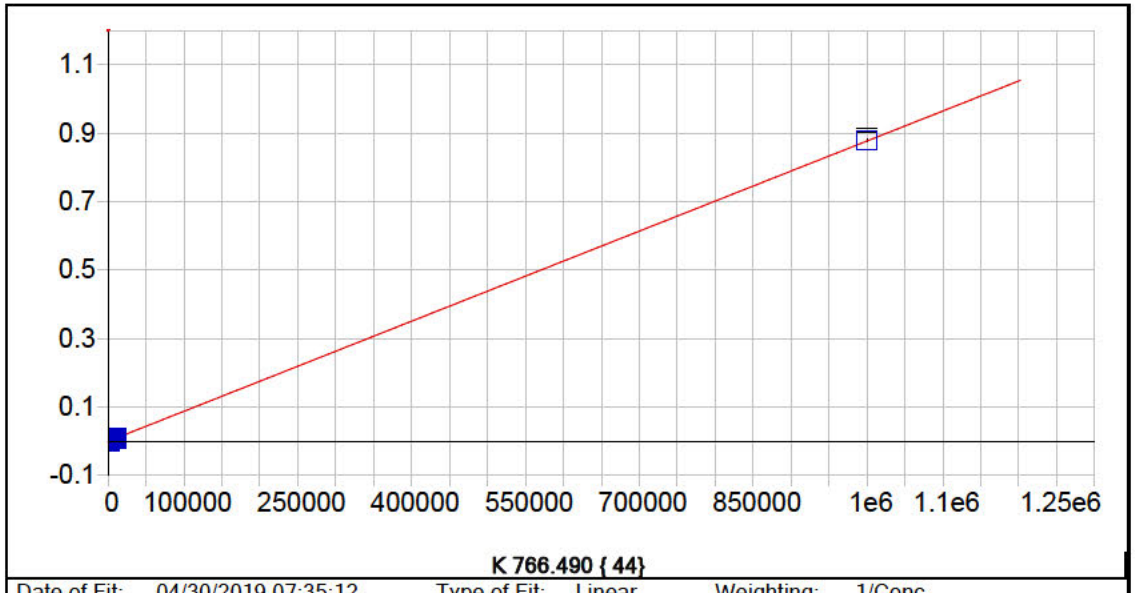



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000045 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000025 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999733 | Status: | OK. |
| Std Error of Est: | 0.000101 | | |
| Predicted MDL: | 1.571556 | | |
| Predicted MQL: | 5.238519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.3398 | -1.34 | .000 | -.00008 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.513 | .513 | 5.13 | .00022 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.42 | 11.4 | 11.4 | .00278 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.88 | .188 | .02532 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.6 | -44.4 | -.444 | .25201 | .001 | 1 |

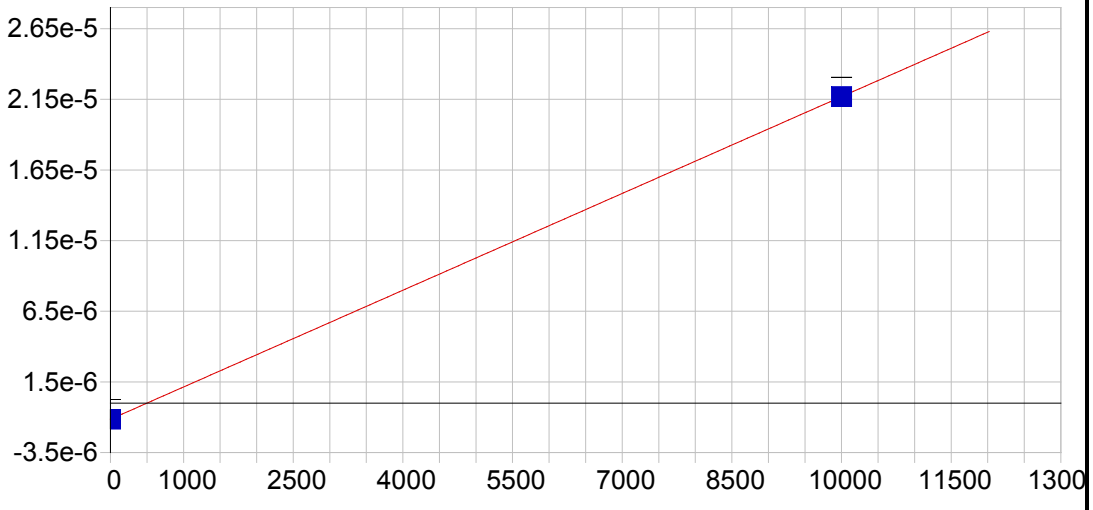



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999837 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 56.288107 | | |
| Predicted MQL: | 187.627024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33122 | .331 | .000 | -.00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 840.32 | -160. | -16.0 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 8265.7 | -1730. | -17.3 | .00721 | .000 | 1 |
| CalibStd15= | 1000000. | 1001900. | 1890. | .189 | .87886 | .004 | 1 |

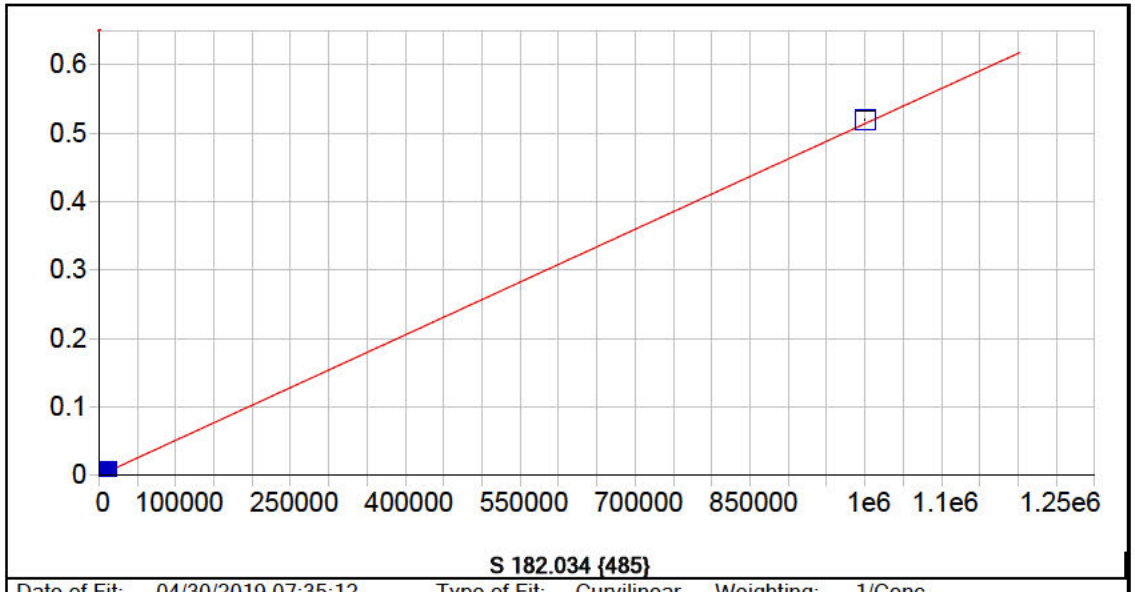



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 230.315837 | | |
| Predicted MQL: | 767.719457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00002 | .000 | 1 |

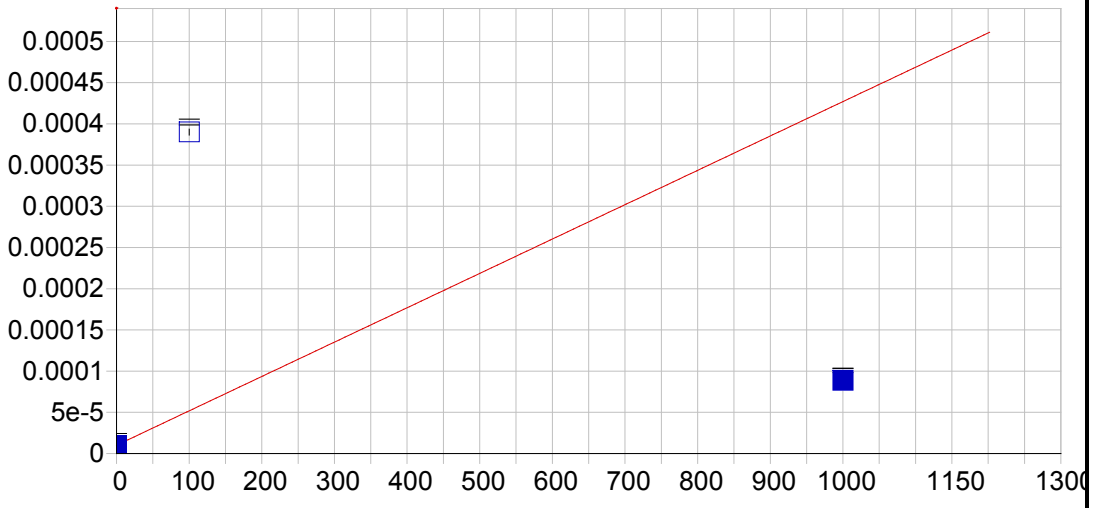



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.218644 | | |
| Predicted MQL: | 20.728815 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00108 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.81 | -1.19 | -.119 | .00053 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.22 | .022 | .00516 | .000 | 1 |
| CalibStd15= | 1000000. | 1010100. | 10100. | 1.01 | .51911 | .001 | 1 |

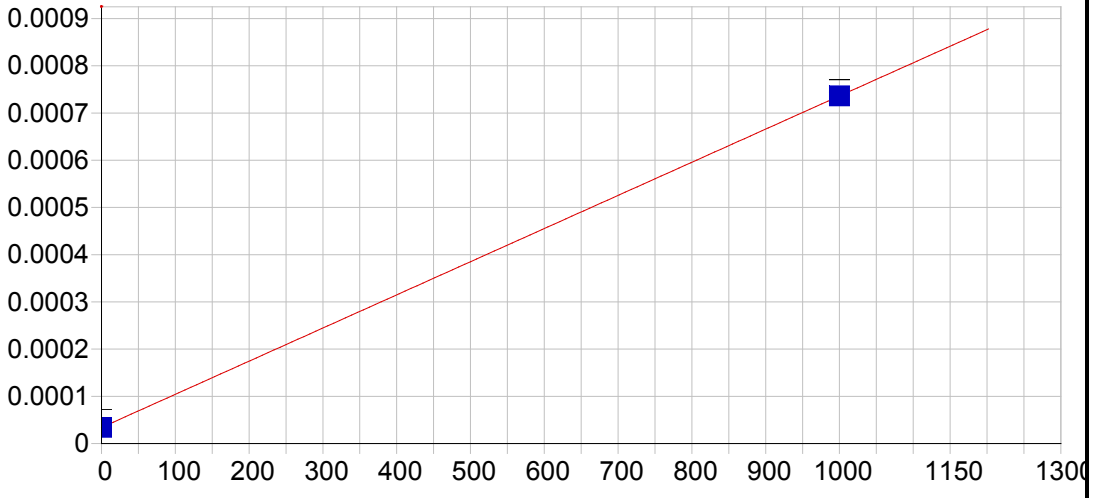



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.362902 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 9.166603 | | |
| Predicted MQL: | 30.555344 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.73038 | -.730 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 911.54 | 812. | 812. | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 188.46 | -812. | -81.2 | .00009 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000034 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.369364 | | |
| Predicted MQL: | 77.897881 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00074 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 14:03:58 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.230** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.002** | **-.000** |
| Stddev | .000 | .000 | .000 | .314 | .000 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 18.9 | 7.68 | 57.8 | 136. | 458. | 58.4 | 1.07 | .588 | 77.7 | 7.57 | 34.9 | 33.5 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **33.0** | **7.17** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.4 | 3.37 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 21.5 | 55.0 | 47.5 | 47.5 | 68.0 | 4.33 | 47.0 | 3.95 | 32.2 | 38.1 | 49.3 | 27.3 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 34.3 | 92.3 | 49.7 | 2550. | 24.5 | 41.6 | 63.8 | 41.4 | 136. | 158. | 86.4 | 102. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 109. | 56.3 | 87.0 | 298. | 18.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123870.** | **1276800.** | **305680.** |
| Stddev | 355. | 7164. | 3726. |
| %RSD | .28650 | .56110 | 1.2191 |

Sample Name: CalStd2=0.5 Acquired: 04/25/2019 14:10:16 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .668 | 62.9 | 9.43 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **123710.** | **1279800.** |
| Stddev | 209. | 2167. |
| %RSD | .16868 | .16933 |

Sample Name: CalStd3=1 Acquired: 04/25/2019 14:16:34 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 9.67 | 17.7 | 2.76 | 41.4 | 6.57 | 27.1 | 36.5 | 103. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123470.** | **1273400.** | **300220.** |
| Stddev | 53. | 3309. | 5495. |
| %RSD | .04317 | .25987 | 1.8302 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 14:22:49 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.2** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 | .000 | .000 | .000 | .000 |
| %RSD | 8.32 | 3.06 | .904 | 1.73 | 6.46 | 6.47 | 29.5 | 36.6 | 2.05 | 2.28 | 10.4 | 4.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 19.5 | 12.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123210.** | **1267300.** | **298290.** |
| Stddev | 373. | 1439. | 4038. |
| %RSD | .30293 | .11357 | 1.3536 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 14:29:06 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.31** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **38.1** |
| Stddev | .000 | .000 | .55 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 |
| %RSD | 2.48 | 3.01 | 42.1 | 79.9 | 2.14 | .865 | 3.01 | .408 | .925 | .511 | 3.45 | 9.62 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **13.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 1.8 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.4 | 1.24 | 4.97 | 4.78 | 7.94 | 39.2 | 11.2 | 19.0 | 14.1 | 5.87 | 7.98 | 1.98 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.49 | 1.23 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123880.** | **1263800.** | **303790.** |
| Stddev | 85. | 8427. | 637. |
| %RSD | .06830 | .66683 | .20965 |

Sample Name: CalStd6=20 Acquired: 04/25/2019 14:35:23 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **42.6** | **16.8** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 2.3 | 2.0 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.06 | 5.44 | 12.2 | .624 | 2.07 | 3.94 | 8.91 | 3.19 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123600.** | **1273700.** | **301630.** |
| Stddev | 282. | 5201. | 1616. |
| %RSD | .22814 | .40833 | .53569 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 14:41:33 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.19** | **.000** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **58.5** | **28.3** | **.001** | **.000** |
| Stddev | .47 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.7 | 2.7 | .000 | .000 |
| %RSD | 11.3 | 19.7 | 3.79 | .473 | .238 | .876 | .380 | 1.89 | 4.63 | 9.42 | .554 | .504 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.52 | .778 | 4.90 | 6.09 | .905 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123380.** | **1273500.** | **300440.** |
| Stddev | 162. | 7440. | 2083. |
| %RSD | .13145 | .58421 | .69323 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 14:47:43 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **7.42** | **.000** | **.001** | **.017** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .28 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .687 | .463 | 3.71 | 5.29 | .765 | 1.32 | .339 | 2.66 | 1.81 | .153 | .355 | .395 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **84.2** | **46.0** | **.003** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 3.1 | 2.2 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .406 | .536 | 1.38 | 3.74 | 4.83 | 3.33 | .267 | .613 | .586 | .331 | .217 | 1.95 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .757 | 1.45 | 4.80 | 14.5 | .894 | 8.43 | .752 | .514 | .525 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123670.** | **1275100.** | **300840.** |
| Stddev | 429. | 5306. | 2101. |
| %RSD | .34723 | .41608 | .69839 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 14:53:51 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **71.2** | **.001** | **.010** | **.068** | **.053** | **.002** | **.000** | **.127** | **.023** | **.045** |
| Stddev | .000 | .000 | .7 | .000 | .000 | .001 | .000 | .000 | .000 | .003 | .000 | .000 |
| %RSD | .462 | 3.29 | .931 | 1.02 | .320 | 1.86 | .491 | 1.88 | 3.18 | 2.06 | .235 | .114 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.020** | **.002** | **.015** | **.002** | **500.** | **356.** | **.000** | **.000** | **.001** | **.000** | **.028** | **.012** |
| Stddev | .000 | .000 | .000 | .000 | 5. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .360 | .687 | .219 | .940 | .919 | 1.77 | .511 | 1.63 | 1.28 | 7.93 | .626 | .471 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.011** | **.011** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.23 | .424 | .210 | .194 | .308 | .206 | .449 | .169 | .313 | .527 | .990 | .727 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.017** | **.026** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.99 | .522 | .341 | .238 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123980.** | **1278100.** | **301510.** |
| Stddev | 184. | 5989. | 3283. |
| %RSD | .14806 | .46862 | 1.0887 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 14:59:32 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.567** | **.003** | **1.17** | **.187** | **.020** | **.142** | **.024** | **4540.** | **3420.** | **.004** |
| Stddev | .000 | .000 | .015 | .000 | .03 | .000 | .000 | .000 | .000 | 11. | 12. | .000 |
| %RSD | .917 | .310 | 2.73 | 1.51 | 2.57 | .261 | .553 | .128 | .482 | .248 | .352 | .561 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.010** | **.000** | **.247** | **.111** | **.031** | **.046** | **.102** | **.108** | **.010** | **.020** | **.020** |
| Stddev | .000 | .000 | .000 | .002 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | 1.28 | .383 | .775 | .501 | 1.08 | .171 | .229 | .229 | .383 | .240 | .282 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.021** | **.008** | **.068** | **.162** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | .355 | .403 | 1.21 | .475 | .151 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122070.** | **1244700.** | **302730.** |
| Stddev | 320. | 4835. | 2234. |
| %RSD | .26239 | .38847 | .73796 |

Sample Name: CalStd12=100K Acquired: 04/25/2019 15:06:08 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **49400.** | **37200.** | **.325** | **.114** | **1.60** |
| Stddev | .00 | 482. | 345. | .007 | .001 | .01 |
| %RSD | .098 | .977 | .927 | 2.23 | .459 | .504 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122080.** | **1262900.** | **301480.** |
| Stddev | 124. | 4342. | 3702. |
| %RSD | .10195 | .34385 | 1.2280 |

Sample Name: CalStd13=100000 Acquired: 04/25/2019 15:12:26 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.123** | **.031** | **.041** | **.022** | **.102** | **.003** |
| Stddev | .001 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .556 | .380 | .356 | .284 | .472 | .626 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **120050.** | **1235100.** | **299990.** |
| Stddev | 297. | 1194. | 2475. |
| %RSD | .24707 | .09667 | .82495 |

Sample Name: CalStd14=500000 Acquired: 04/25/2019 15:18:52 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.653** | **.155** | **.107** | **.487** | **.017** |
| Stddev | .011 | .001 | .000 | .001 | .000 |
| %RSD | 1.63 | .344 | .422 | .250 | .295 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **111000.** | **283910.** |
| Stddev | 247. | 1484. |
| %RSD | .22280 | .52282 |

Sample Name: CalibStd15=1000k Acquired: 04/25/2019 15:25:30 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **.314** | **.209** | **.035** |
| Stddev | .01 | .002 | .001 | .000 |
| %RSD | 1.09 | .483 | .505 | .395 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **99304.** | **261110.** |
| Stddev | 236. | 668. |
| %RSD | .23784 | .25588 |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **44.4** | **10800.** | **2040.** | **2040.** | **2040.** | **48.4** | **49.3** | **8870.** | **47.6** | **54.4** | **514.** | **201.** |
| Stddev | .4 | 22. | 18. | 7. | 9. | .4 | .4 | 98. | .3 | .2 | 2. | 3. |
| %RSD | .974 | .200 | .900 | .335 | .444 | .752 | .837 | 1.10 | .591 | .351 | .352 | 1.26 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **235.** | **236.** | **4730.** | **10100.** | **475.** | **489.** | **500.** | **511.** | **511.** | **481.** | **480.** | **517.** |
| Stddev | 6. | 11. | 17. | 114. | 2. | 3. | 3. | 4. | 3. | 10. | 7. | 2. |
| %RSD | 2.66 | 4.47 | .348 | 1.13 | .484 | .670 | .646 | .794 | .514 | 2.17 | 1.52 | .384 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **509.** | **1990.** | **2070.** | **510.** | **506.** | **503.** | **488.** |
| Stddev | 3. | 14. | 13. | 6. | 2. | 2. | 2. |
| %RSD | .603 | .702 | .631 | 1.26 | .450 | .480 | .425 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124570.** | **1269300.** | **302840.** |
| Stddev | 137. | 5841. | 1865. |
| %RSD | .10971 | .46021 | .61576 |

Sample Name: ICVLL Acquired: 04/25/2019 15:51:21 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **31.5** | **1250.** | **1270.** | **60.9** | **31.7** | **12.7** | **1610.** | **15.8** | **16.2** | **32.1** | **33.7** | **29.5** |
| Stddev | .5 | 3. | 17. | 5.4 | .1 | .1 | 12. | .2 | .1 | .5 | .7 | 3.1 |
| %RSD | 1.67 | .229 | 1.37 | 8.83 | .471 | .605 | .728 | 1.37 | .436 | 1.62 | 2.08 | 10.4 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **33.6** | **1010.** | **1610.** | **33.1** | **31.8** | **33.4** | **34.4** | **71.5** | **70.5** | **64.5** | **33.7** | **33.8** |
| Stddev | 6.2 | 6. | 8. | .3 | .5 | .7 | .4 | 1.4 | 3.3 | 1.7 | .5 | .2 |
| %RSD | 18.3 | .626 | .512 | .777 | 1.46 | 2.09 | 1.27 | 1.98 | 4.71 | 2.56 | 1.48 | .605 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123990.** | **1259700.** | **301820.** |
| Stddev | 253. | 5434. | 2468. |
| %RSD | .20370 | .43134 | .81780 |

Sample Name: icb Acquired: 04/25/2019 16:03:40 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.715** | **-7.72** | **-4.05** | **-.358** | **-.042** | **-13.4** | **-.083** | **-.056** | **-.592** | **-.222** | **7.97** | **-11.1** |
| Stddev | .874 | .48 | 6.31 | .225 | .029 | .3 | .059 | .186 | .379 | 1.04 | 6.08 | 1.7 |
| %RSD | 122. | 6.17 | 156. | 62.7 | 69.0 | 1.95 | 71.5 | 331. | 64.0 | 469. | 76.3 | 15.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-21.1** | **-1.22** | **-1.40** | **-.444** | **.016** | **-.432** | **-.585** | **-2.33** | **-.039** | **-.561** |
| Stddev | .1 | .03 | .63 | .370 | 3.08 | 3.14 | 4.15 | 1.18 | .398 | .115 |
| %RSD | .504 | 2.51 | 45.4 | 83.3 | 19600. | 727. | 709. | 50.4 | 1020. | 20.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124930.** | **1269000.** | **303230.** |
| Stddev | 408. | 4214. | 1380. |
| %RSD | .32647 | .33204 | .45509 |

Sample Name: MRL/LLOQ Acquired: 04/25/2019 16:09:55 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.7** | **406.** | **19.7** | **9.12** | **4.06** | **500.** | **4.90** | **5.18** | **9.94** | **10.4** | **11.3** | F **17.3** |
| Stddev | .6 | 3. | 10.1 | .37 | .07 | 10. | .29 | .10 | .36 | .8 | 2.2 | 6.3 |
| %RSD | 5.79 | .620 | 51.3 | 4.11 | 1.67 | 2.02 | 5.84 | 1.94 | 3.67 | 8.08 | 19.1 | 36.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | 20.0 | | | | | | | | | | | 10.0 |
| Range | -30.0% | | | | | | | | | | | 30.0% |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **305.** | **503.** | **9.47** | **9.41** | **10.4** | **10.7** | **24.0** | **20.6** | **20.1** | **10.1** | **11.6** |
| Stddev | 4. | 3. | .10 | .26 | .6 | 1.3 | .7 | 2.1 | 3.2 | .4 | .2 |
| %RSD | 1.43 | .520 | 1.09 | 2.76 | 5.40 | 11.7 | 3.05 | 10.3 | 16.1 | 4.26 | 1.94 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124220.** | **1261900.** | **304400.** |
| Stddev | 277. | 7141. | 2207. |
| %RSD | .22331 | .56589 | .72497 |

Sample Name: ICSA Acquired: 04/25/2019 16:16:06 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.18** | **556000.** | **.263** | **.001** | **-.581** | **511000.** | **-.001** | **.702** | **-.214** | **-.735** | **.000** |
| Stddev | .31 | 15600. | 31.6 | 1.54 | .179 | 6610. | .823 | .252 | .486 | .723 | 8.05 |
| %RSD | 14.2 | 2.80 | 12000. | 278000. | 30.9 | 1.29 | 95700. | 35.9 | 228. | 98.4 | 4040000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **492000.** | **501000.** | **-4.13** | **-.177** | **-.556** | **-.253** | **-.729** | **.003** | **-.056** | **11600.** | **3.00** |
| Stddev | 6760. | 5120. | .18 | .743 | .868 | 3.49 | 1.90 | 4.84 | 4.32 | 92. | 2.06 |
| %RSD | 1.37 | 1.02 | 4.45 | 420. | 156. | 1380. | 260. | 169000. | 7720. | .794 | 68.6 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110890.** | **1136000.** | **286170.** |
| Stddev | 351. | 2934. | 807. |
| %RSD | .31660 | .25831 | .28184 |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **486.** | **496000.** | **794.** | **554.** | **477.** | **498.** | **486.** | **455000.** | **506.** | **470.** | **502.** |
| Stddev | 2. | 5510. | 14. | 12. | 2. | 5. | 6. | 4950. | 1. | 1. | 2. |
| %RSD | .321 | 1.11 | 1.72 | 2.15 | .316 | 1.05 | 1.31 | 1.09 | .160 | .261 | .495 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **395.** | **474.** | **440000.** | **446000.** | **463.** | **483.** | **503.** | **457.** | **464.** | **768.** | **413.** |
| Stddev | 1. | 3. | 3480. | 4830. | 2. | 2. | 2. | 3. | 2. | 24. | 4. |
| %RSD | .317 | .705 | .790 | 1.08 | .406 | .429 | .460 | .692 | .466 | 3.09 | .950 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **509.** | **475.** | **490.** | **520.** | **520.** | **472.** | **500.** |
| Stddev | 4. | 5. | 7. | 8. | 9. | 2. | 1. | 3. |
| %RSD | .847 | .902 | 1.50 | 1.63 | 1.75 | .405 | .146 | .563 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112550.** | **1144100.** | **287120.** |
| Stddev | 144. | 3899. | 1802. |
| %RSD | .12834 | .34078 | .62762 |

Sample Name: ICVII AG Acquired: 04/25/2019 16:34:46 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8.12** | **24.6** | **-.773** | **-.737** | **.014** | **23.1** | **-.147** | **-.025** | **-.302** | **.225** | **4.52** | **34.0** |
| Stddev | .25 | .7 | 2.73 | .196 | .053 | 2.8 | .118 | .131 | .304 | .567 | 5.15 | 1.6 |
| %RSD | 3.06 | 2.78 | 354. | 26.7 | 383. | 12.2 | 80.1 | 520. | 101. | 252. | 114. | 4.60 |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **10.3** | **-1.03** | **-.995** | **-.495** | **-.914** | **2.75** | **-.629** | **.199** | **-.366** | **-.220** |
| Stddev | .1 | .06 | .628 | .261 | 1.48 | 4.03 | 3.01 | 2.73 | .196 | .102 |
| %RSD | 1.40 | 5.68 | 63.1 | 52.7 | 161. | 146. | 478. | 1370. | 53.6 | 46.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125100.** | **1274900.** | **301160.** |
| Stddev | 157. | 6537. | 1966. |
| %RSD | .12570 | .51270 | .65290 |

Sample Name: 254601 Acquired: 04/25/2019 17:06:00 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.97** | **39800.** | **23.9** | **388.** | **496.** | **.967** | **17400.** | **.016** | **.947** | **12.4** | **57.9** | **125.** |
| Stddev | .40 | 2540. | 7.4 | 5. | 33. | .066 | 1290. | .201 | .112 | .5 | 1.0 | 5. |
| %RSD | 20.2 | 6.39 | 31.1 | 1.17 | 6.74 | 6.81 | 7.41 | 1260. | 11.8 | 4.44 | 1.71 | 4.19 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **140.** | **27700.** | **3390.** | **18700.** | **14.2** | **27.8** | **139.** | **.676** | **1.71** | **12.4** | **112.** | **100.** |
| Stddev | 16. | 1930. | 319. | 1310. | .8 | .3 | 4. | 2.14 | 1.66 | 1.1 | 8. | 2. |
| %RSD | 11.3 | 6.97 | 9.40 | 7.01 | 5.61 | 1.09 | 2.71 | 316. | 96.7 | 8.60 | 6.81 | 2.34 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **192.** |
| Stddev | 1. |
| %RSD | .650 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126100.** | **1281800.** | **307040.** |
| Stddev | 342. | 5285. | 2039. |
| %RSD | .27153 | .41233 | .66416 |

Sample Name: L254601 Acquired: 04/25/2019 17:12:38 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.805** | **13800.** | **12.1** | **117.** | **170.** | **.328** | **6010.** | **-.102** | **.058** | **3.72** | **20.4** | **44.8** |
| Stddev | .515 | 355. | 6.6 | 14. | 7. | .031 | 181. | .195 | .133 | .19 | .8 | 5.4 |
| %RSD | 64.0 | 2.58 | 54.6 | 12.3 | 4.33 | 9.30 | 3.01 | 190. | 229. | 4.96 | 4.01 | 12.0 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **51.5** | **9670.** | **980.** | **6490.** | **3.29** | **8.54** | **42.5** | **.438** | **.600** | **3.97** | **37.1** | **59.8** |
| Stddev | 7.3 | 314. | 31. | 222. | .35 | .80 | 5.4 | 1.56 | 6.66 | 2.07 | 1.4 | 7.8 |
| %RSD | 14.1 | 3.25 | 3.11 | 3.42 | 10.7 | 9.41 | 12.7 | 357. | 1110. | 52.1 | 3.86 | 13.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126760.** | **1284300.** | **308800.** |
| Stddev | 383. | 1508. | 2832. |
| %RSD | .30176 | .11739 | .91720 |

Sample Name: 1DUP254601 Acquired: 04/25/2019 17:19:03 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.89** | **41900.** | **43.0** | **479.** | **538.** | **.980** | **17400.** | **-.095** | **.863** | **14.0** | **65.0** | **124.** |
| Stddev | .60 | 374. | 9.5 | 8. | 8. | .028 | 229. | .353 | .248 | .4 | .6 | 6. |
| %RSD | 31.9 | .892 | 22.1 | 1.65 | 1.45 | 2.88 | 1.32 | 373. | 28.7 | 3.00 | .876 | 4.83 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **140.** | **28300.** | **3380.** | **18700.** | **12.9** | **29.9** | **175.** | **2.52** | **1.71** | **13.1** | **115.** | **116.** |
| Stddev | 9. | 340. | 101. | 226. | .4 | .9 | 3. | 1.62 | 6.24 | 1.0 | 10. | 1. |
| %RSD | 6.31 | 1.20 | 2.99 | 1.21 | 2.87 | 2.90 | 1.78 | 64.5 | 364. | 7.76 | 8.55 | .780 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **221.** |
| Stddev | 4. |
| %RSD | 2.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125580.** | **1276400.** | **308710.** |
| Stddev | 89. | 5742. | 1351. |
| %RSD | .07076 | .44981 | .43756 |

Sample Name: 2DUP254601 Acquired: 04/25/2019 17:25:41 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.05** | **41600.** | **42.0** | **441.** | **499.** | **1.01** | **17300.** | **.219** | **.969** | **14.0** | **65.3** | **126.** |
| Stddev | .71 | 282. | 2.4 | 5. | 5. | .07 | 93. | .077 | .040 | .3 | .9 | 4. |
| %RSD | 67.4 | .679 | 5.65 | 1.14 | .964 | 7.23 | .533 | 35.1 | 4.18 | 2.27 | 1.45 | 3.27 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **137.** | **28600.** | **3460.** | **18800.** | **12.9** | **30.4** | **158.** | **-.121** | **3.92** | **15.5** | **122.** | **117.** |
| Stddev | 9. | 138. | 116. | 164. | .8 | .6 | 5. | 2.40 | 3.43 | 1.4 | 2. | 1. |
| %RSD | 6.60 | .482 | 3.36 | .875 | 6.41 | 1.99 | 2.93 | 1980. | 87.5 | 9.19 | 1.58 | .446 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **214.** |
| Stddev | 4. |
| %RSD | 1.68 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125350.** | **1270400.** | **307280.** |
| Stddev | 411. | 4080. | 2040. |
| %RSD | .32795 | .32117 | .66398 |

Sample Name: MSS254601 Acquired: 04/25/2019 17:32:19 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.29** | **38400.** | **1740.** | **1710.** | **412.** | **484.** | **.913** | **17100.** | **.130** | **5.98** | **13.3** | **56.7** |
| Stddev | .20 | 1470. | 25. | 33. | 6. | 20. | .027 | 698. | .257 | .07 | .4 | 1.1 |
| %RSD | 15.2 | 3.83 | 1.45 | 1.94 | 1.53 | 4.04 | 2.95 | 4.08 | 198. | 1.11 | 3.33 | 1.85 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **118.** | **124.** | **26400.** | **3340.** | **19800.** | **11.1** | **26.8** | **152.** | **.887** | **2.10** | **15.7** | **111.** |
| Stddev | 6. | 6. | 1100. | 161. | 845. | .6 | .6 | 4. | 1.07 | 4.01 | 1.0 | 6. |
| %RSD | 4.69 | 4.50 | 4.18 | 4.82 | 4.27 | 5.05 | 2.18 | 2.31 | 121. | 190. | 6.20 | 5.80 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **103.** | **202.** |
| Stddev | 2. | 3. |
| %RSD | 1.52 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125820.** | **1275600.** | **308900.** |
| Stddev | 205. | 2352. | 2708. |
| %RSD | .16300 | .18435 | .87651 |

Sample Name: ccv1 Acquired: 04/25/2019 17:38:56 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | F **4470.** | **4880.** | **4830.** | **467.** | F **4330.** | **476.** | **4800.** | **4890.** | F **4350.** | **4700.** | **4940.** |
| Stddev | 2. | 42. | 14. | 52. | 4. | 30. | 1. | 27. | 4. | 68. | 75. | 32. |
| %RSD | .385 | .945 | .285 | 1.08 | .781 | .690 | .162 | .558 | .090 | 1.57 | 1.59 | .641 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | 5000. | | |
| Range | | -10.4% | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4560.** | **4800.** | **4800.** | **4560.** | **4840.** | **4700.** | **4800.** | **4830.** | **4830.** |
| Stddev | 44. | 12. | 7. | 20. | 10. | 22. | 13. | 37. | 11. |
| %RSD | .975 | .259 | .153 | .448 | .211 | .458 | .279 | .758 | .224 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121910.** | **1238600.** | **301220.** |
| Stddev | 202. | 4015. | 1038. |
| %RSD | .16563 | .32413 | .34475 |

Sample Name: ccv2 Acquired: 04/25/2019 17:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.7** | **466.** | **484.** | **491.** | **479.** | **506.** | **49.9** | **50.0** | **479.** | **48.8** | **50.9** | **499.** |
| Stddev | 1.4 | 1. | 10. | 9. | 1. | 6. | .3 | 2.5 | 5. | .4 | .2 | 3. |
| %RSD | 3.13 | .264 | 2.12 | 1.77 | .299 | 1.20 | .524 | 4.97 | 1.09 | .741 | .458 | .502 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **465.** | **470.** | **481.** | **470.** | **464.** | **480.** | **490.** | **503.** | **502.** | **479.** | **478.** |
| Stddev | 3. | 8. | 9. | 2. | 3. | 3. | 1. | 2. | 1. | 2. | 3. | 4. |
| %RSD | .607 | 1.69 | 1.90 | .449 | .590 | .566 | .266 | .484 | .283 | .387 | .692 | .793 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **500.** | **501.** | **495.** | **520.** | **492.** | **496.** | **500.** | **483.** |
| Stddev | 3. | 2. | 6. | 4. | 6. | 2. | 3. | 3. |
| %RSD | .535 | .410 | 1.19 | .833 | 1.27 | .471 | .581 | .569 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 17:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124530.** | **1269300.** | **302410.** |
| Stddev | 305. | 5088. | 723. |
| %RSD | .24473 | .40083 | .23913 |

Sample Name: ccb Acquired: 04/25/2019 17:50:12 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.471** | **-10.6** | **-9.99** | **-.640** | **.041** | **-14.8** | **-.083** | **-.035** | **-.102** | **-.231** | **10.1** | **-14.4** |
| Stddev | .823 | .7 | 3.35 | .329 | .034 | .7 | .137 | .096 | .352 | .409 | 11.8 | 3.2 |
| %RSD | 175. | 6.19 | 33.6 | 51.4 | 84.1 | 4.59 | 166. | 276. | 344. | 177. | 118. | 22.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-23.0** | **-.974** | **.353** | **.530** | **.942** | **1.48** | **1.33** | **1.04** | **.451** | **-.454** |
| Stddev | .1 | .077 | .511 | .571 | 1.87 | 1.65 | 5.25 | 1.20 | .405 | .170 |
| %RSD | .257 | 7.91 | 145. | 108. | 199. | 112. | 394. | 115. | 89.7 | 37.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124520.** | **1271800.** | **304200.** |
| Stddev | 141. | 1024. | 1425. |
| %RSD | .11326 | .08048 | .46828 |

Sample Name: MSDS254601 Acquired: 04/25/2019 17:56:28 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.69** | **44600.** | **1890.** | **1840.** | **475.** | **549.** | **1.08** | **18800.** | **.324** | **6.51** | **15.3** | **67.4** |
| Stddev | .60 | 946. | 12. | 18. | 4. | 11. | .06 | 328. | .169 | .08 | .8 | .5 |
| %RSD | 35.7 | 2.12 | .649 | .964 | .849 | 1.91 | 5.92 | 1.74 | 52.0 | 1.18 | 5.07 | .737 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **133.** | **139.** | **30300.** | **3650.** | **21900.** | **12.8** | **31.3** | **162.** | **1.94** | **2.83** | **16.2** | **128.** |
| Stddev | 1. | 5. | 600. | 148. | 378. | .5 | .4 | 2. | 1.91 | 2.46 | 2.9 | 6. |
| %RSD | .885 | 3.72 | 1.98 | 4.07 | 1.72 | 3.89 | 1.14 | .952 | 98.4 | 86.8 | 18.1 | 4.81 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **120.** | **226.** |
| Stddev | 2. | 2. |
| %RSD | 1.31 | .877 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125940.** | **1279400.** | **307050.** |
| Stddev | 296. | 4109. | 1023. |
| %RSD | .23518 | .32118 | .33310 |

Sample Name: PDSS254601 Acquired: 04/25/2019 18:03:07 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **87.8** | **47900.** | **4020.** | **4580.** | **95.1** | **100.** | **382000.** | **85.4** | **106.** | **937.** | **454.** |
| Stddev | .8 | 578. | 48. | 65. | .7 | 1. | 3170. | 1.5 | 2. | 16. | 3. |
| %RSD | .873 | 1.21 | 1.20 | 1.41 | .705 | 1.27 | .829 | 1.81 | 1.73 | 1.74 | .608 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **576.** | **593.** | **30700.** | **183000.** | **20000.** | **12.0** | **933.** | **935.** | **1090.** | **995.** | **3750.** |
| Stddev | 5. | 4. | 263. | 1750. | 172. | .2 | 15. | 14. | 23. | 11. | 24. |
| %RSD | .791 | .714 | .856 | .957 | .857 | 1.66 | 1.62 | 1.55 | 2.09 | 1.13 | .632 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **3450.** | **1150.** | **1130.** |
| Stddev | 51. | 26. | 17. |
| %RSD | 1.48 | 2.24 | 1.49 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **115360.** | **1176900.** | **294970.** |
| Stddev | 65. | 4825. | 2500. |
| %RSD | .05597 | .40997 | .84753 |

Sample Name: 254602 Acquired: 04/25/2019 18:09:30 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.07** | **-11.8** | **-2.76** | **-.743** | **1.63** | **-.876** | **-.116** | **-.223** | **-.583** | **.249** | **84.5** | **28.7** |
| Stddev | .14 | .4 | 18.8 | .138 | .03 | 3.08 | .105 | .027 | .101 | .524 | 6.3 | 5.1 |
| %RSD | 13.6 | 3.33 | 681. | 18.6 | 1.79 | 352. | 90.2 | 12.1 | 17.3 | 210. | 7.45 | 17.9 |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-11.9** | **-18.7** | **-.596** | **-1.16** | **-.548** | **-1.23** | **-.892** | **1.30** | **-3.46** | **-.393** | **-.387** |
| Stddev | .9 | 1.1 | .072 | .28 | .107 | .33 | .892 | 2.92 | 1.75 | .192 | .059 |
| %RSD | 7.53 | 5.81 | 12.1 | 24.0 | 19.4 | 27.2 | 100. | 225. | 50.5 | 48.8 | 15.2 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **249720.** | **2348900.** | **593610.** |
| Stddev | 387. | 10507. | 1266. |
| %RSD | .15498 | .44732 | .21327 |

Sample Name: L254602 Acquired: 04/25/2019 18:15:42 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.17** | **12200.** | **11.9** | **81.7** | **116.** | **.266** | **4550.** | **-.086** | **.034** | **2.81** | **16.4** | **32.9** |
| Stddev | .34 | 364. | 9.7 | 6.3 | 3. | .034 | 152. | .097 | .127 | .09 | .7 | 3.0 |
| %RSD | 28.9 | 2.97 | 81.7 | 7.69 | 2.66 | 12.9 | 3.33 | 112. | 372. | 3.07 | 4.31 | 9.11 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **40.0** | **7600.** | **719.** | **5050.** | **.714** | **7.80** | **26.7** | **2.61** | **1.96** | **4.01** | **31.2** | **32.2** |
| Stddev | 4.7 | 228. | 30. | 176. | .335 | 1.55 | 3.2 | 2.82 | 2.51 | 2.94 | 1.5 | 2.6 |
| %RSD | 11.8 | 3.00 | 4.22 | 3.48 | 46.9 | 19.9 | 12.0 | 108. | 128. | 73.1 | 4.82 | 8.09 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126140.** | **1278700.** | **306370.** |
| Stddev | 377. | 5692. | 2343. |
| %RSD | .29863 | .44511 | .76463 |

Sample Name: 1DUP254602 Acquired: 04/25/2019 18:22:06 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.21** | **40900.** | **32.0** | **266.** | **369.** | **.762** | **14200.** | **-.496** | **.350** | **8.37** | **52.7** | **95.3** |
| Stddev | .67 | 1980. | 5.9 | 10. | 19. | .062 | 670. | .265 | .162 | .46 | 2.5 | 4.4 |
| %RSD | 55.3 | 4.83 | 18.6 | 3.72 | 5.12 | 8.19 | 4.71 | 53.4 | 46.2 | 5.50 | 4.67 | 4.66 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **99.4** | **24400.** | **2790.** | **15600.** | **5.60** | **24.2** | **88.4** | **1.16** | **1.55** | **10.0** | **119.** | **99.8** |
| Stddev | 3.9 | 1170. | 124. | 741. | .92 | 1.7 | 2.8 | 3.51 | 5.16 | 2.0 | 14. | 4.0 |
| %RSD | 3.89 | 4.82 | 4.47 | 4.74 | 16.3 | 6.96 | 3.14 | 303. | 333. | 19.8 | 11.9 | 4.04 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **103.** |
| Stddev | 4. |
| %RSD | 3.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125820.** | **1272900.** | **304490.** |
| Stddev | 86. | 3278. | 2604. |
| %RSD | .06796 | .25750 | .85512 |

Sample Name: 2DUP254602 Acquired: 04/25/2019 18:28:36 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.754** | **43800.** | **34.2** | **299.** | **393.** | **.918** | **14700.** | **-.581** | **.484** | **9.02** | **57.9** | **107.** |
| Stddev | .539 | 811. | 23.2 | 10. | 9. | .059 | 389. | .172 | .140 | .55 | 2.5 | 3. |
| %RSD | 71.5 | 1.85 | 67.8 | 3.39 | 2.31 | 6.40 | 2.64 | 29.6 | 29.0 | 6.08 | 4.30 | 2.92 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **110.** | **25800.** | **2920.** | **16700.** | **6.79** | **26.9** | **105.** | **2.65** | **2.36** | **12.0** | **120.** | **108.** |
| Stddev | 5. | 648. | 86. | 444. | .37 | 1.1 | 3. | 2.98 | 2.49 | 2.8 | 5. | 4. |
| %RSD | 4.27 | 2.52 | 2.93 | 2.65 | 5.38 | 4.05 | 2.83 | 112. | 106. | 23.3 | 4.02 | 3.96 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **115.** |
| Stddev | 4. |
| %RSD | 3.84 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125730.** | **1273500.** | **307710.** |
| Stddev | 110. | 8959. | 196. |
| %RSD | .08769 | .70353 | .06373 |

Sample Name: MSS254602 Acquired: 04/25/2019 18:35:04 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.36** | **39100.** | **1670.** | **1630.** | **307.** | **364.** | **.828** | **14800.** | **-.341** | **5.45** | **9.64** | **51.7** |
| Stddev | .75 | 966. | 32. | 20. | 5. | 10. | .051 | 409. | .104 | .12 | .23 | 1.2 |
| %RSD | 54.6 | 2.47 | 1.93 | 1.24 | 1.50 | 2.71 | 6.13 | 2.76 | 30.5 | 2.17 | 2.40 | 2.29 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **96.9** | **109.** | **22100.** | **2640.** | **17300.** | **7.53** | **26.7** | **105.** | **2.46** | **.381** | **14.3** | **100.** |
| Stddev | 2.4 | 2. | 569. | 21. | 432. | .56 | .5 | 3. | 1.51 | 2.73 | 3.4 | 12. |
| %RSD | 2.46 | 2.23 | 2.58 | .807 | 2.50 | 7.38 | 1.90 | 2.75 | 61.4 | 715. | 23.4 | 11.7 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **96.4** | **118.** |
| Stddev | 1.7 | 1. |
| %RSD | 1.73 | .969 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125540.** | **1274200.** | **307600.** |
| Stddev | 63. | 6049. | 2758. |
| %RSD | .04982 | .47472 | .89658 |

Sample Name: MSDS254602 Acquired: 04/25/2019 18:41:32 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.333** | **39600.** | **1820.** | **1780.** | **333.** | **351.** | **.910** | **13300.** | **.022** | **5.94** | **10.6** | **59.2** |
| Stddev | .549 | 262. | 14. | 11. | 1. | 3. | .027 | 158. | .066 | .17 | .1 | 1.0 |
| %RSD | 165. | .660 | .755 | .596 | .202 | .991 | 2.95 | 1.19 | 300. | 2.86 | 1.17 | 1.62 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **97.9** | **108.** | **25200.** | **2510.** | **16800.** | **8.65** | **30.0** | **112.** | **1.43** | **2.44** | **15.4** | **110.** |
| Stddev | 2.7 | 6. | 154. | 73. | 175. | .53 | .6 | 5. | .70 | 5.97 | 1.7 | 3. |
| %RSD | 2.74 | 5.47 | .613 | 2.89 | 1.04 | 6.08 | 1.85 | 4.85 | 48.8 | 244. | 10.8 | 3.05 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **108.** | **133.** |
| Stddev | 1. | 1. |
| %RSD | .632 | .498 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125270.** | **1275400.** | **307530.** |
| Stddev | 260. | 5103. | 1954. |
| %RSD | .20763 | .40015 | .63530 |

Sample Name: PDSS254602 Acquired: 04/25/2019 18:48:00 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.0** | **47900.** | **2740.** | **2950.** | **3950.** | **77.1** | **89.6** | **333000.** | **62.5** | **78.0** | **692.** |
| Stddev | 1.9 | 1720. | 158. | 156. | 132. | 1.9 | 3.9 | 9890. | 3.5 | 4.2 | 38. |
| %RSD | 2.63 | 3.60 | 5.77 | 5.30 | 3.33 | 2.49 | 4.31 | 2.97 | 5.54 | 5.41 | 5.50 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **364.** | **490.** | **514.** | **26400.** | **161000.** | **16400.** | **6.01** | **690.** | **694.** | **719.** | **732.** |
| Stddev | 9. | 10. | 20. | 954. | 4850. | 437. | .47 | 41. | 39. | 45. | 43. |
| %RSD | 2.47 | 1.94 | 3.93 | 3.61 | 3.01 | 2.67 | 7.74 | 5.87 | 5.62 | 6.29 | 5.86 |

| Elem | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **729.** | **721.** | **2820.** | **2590.** | **1010.** | **900.** | **767.** | **796.** |
| Stddev | 38. | 36. | 122. | 120. | 32. | 20. | 45. | 42. |
| %RSD | 5.27 | 4.98 | 4.34 | 4.62 | 3.12 | 2.24 | 5.86 | 5.29 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117110.** | **1183800.** | **295270.** |
| Stddev | 337. | 5871. | 1359. |
| %RSD | .28814 | .49590 | .46041 |

Sample Name: 254603 Acquired: 04/25/2019 18:54:14 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.47** | **84900.** | **89.6** | **676.** | **969.** | **2.04** | **59400.** | **-1.69** | **1.15** | **23.3** | **90.9** | **157.** |
| Stddev | .44 | 3210. | 4.5 | 20. | 36. | .09 | 2460. | .37 | .23 | .8 | 5.3 | 7. |
| %RSD | 29.8 | 3.78 | 5.02 | 3.01 | 3.67 | 4.41 | 4.15 | 21.9 | 20.3 | 3.25 | 5.79 | 4.43 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **176.** | **63200.** | **6450.** | **23700.** | **4.88** | **45.2** | **206.** | **3.04** | **7.57** | **19.1** | **185.** | **160.** |
| Stddev | 8. | 2360. | 354. | 829. | .61 | 1.0 | 5. | 2.59 | 6.78 | 1.7 | 7. | 8. |
| %RSD | 4.62 | 3.73 | 5.50 | 3.50 | 12.5 | 2.29 | 2.30 | 85.0 | 89.6 | 9.06 | 3.98 | 4.81 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **251.** |
| Stddev | 6. |
| %RSD | 2.46 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124780.** | **1258800.** | **306050.** |
| Stddev | 184. | 6807. | 1678. |
| %RSD | .14765 | .54074 | .54831 |

Sample Name: ccv1 Acquired: 04/25/2019 19:00:50 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **4510.** | **4890.** | **4870.** | **468.** | F **4360.** | **477.** | **4820.** | **4920.** | F **4370.** | **4790.** | **5120.** |
| Stddev | 3. | 14. | 13. | 55. | 6. | 22. | 1. | 19. | 8. | 35. | 148. | 123. |
| %RSD | .685 | .310 | .273 | 1.14 | 1.21 | .501 | .191 | .390 | .156 | .791 | 3.09 | 2.41 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4560.** | **4790.** | **4790.** | **4560.** | **4860.** | **4720.** | **4780.** | **4840.** | **4800.** |
| Stddev | 48. | 15. | 10. | 21. | 10. | 36. | 18. | 40. | 15. |
| %RSD | 1.04 | .304 | .198 | .449 | .201 | .751 | .382 | .819 | .306 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121360.** | **1235100.** | **300520.** |
| Stddev | 203. | 3809. | 1027. |
| %RSD | .16720 | .30835 | .34185 |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **467.** | **481.** | **497.** | **479.** | **509.** | **50.0** | **52.0** | **481.** | **48.8** | **50.9** | **497.** |
| Stddev | .9 | 2. | 6. | 4. | 1. | 7. | .1 | 2.4 | 4. | .3 | .2 | 2. |
| %RSD | 1.89 | .426 | 1.25 | .731 | .112 | 1.28 | .294 | 4.62 | .918 | .561 | .386 | .356 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **462.** | **472.** | **482.** | **470.** | **466.** | **477.** | **488.** | **501.** | **502.** | **479.** | **479.** |
| Stddev | 3. | 10. | 7. | 6. | 2. | 2. | 2. | 1. | 1. | 2. | 8. | 4. |
| %RSD | .595 | 2.19 | 1.54 | 1.16 | .482 | .380 | .357 | .257 | .127 | .489 | 1.61 | .748 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **502.** | **493.** | **516.** | **504.** | **498.** | **497.** | **490.** |
| Stddev | 3. | 4. | 7. | 1. | 7. | 2. | 1. | . |
| %RSD | .556 | .742 | 1.34 | .231 | 1.36 | .498 | .156 | .089 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 124170. | 1264700. | 302550. |
| Stddev | 370. | 4814. | 2853. |
| %RSD | .29826 | .38061 | .94303 |

Sample Name: ccb Acquired: 04/25/2019 19:12:08 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.905** | **-10.1** | **-7.60** | **-.385** | **.017** | **-14.1** | **-.062** | **.057** | **.067** | **.135** | **6.29** | **-14.8** |
| Stddev | .960 | .2 | 7.49 | .284 | .009 | .8 | .232 | .117 | .235 | .529 | 6.80 | 1.7 |
| %RSD | 106. | 2.41 | 98.5 | 73.6 | 52.2 | 5.38 | 374. | 206. | 349. | 393. | 108. | 11.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.6** | **-.842** | **.474** | **.171** | **1.21** | **-.309** | **3.78** | **-.395** | **-.159** | **-.163** |
| Stddev | .1 | .054 | .506 | .271 | 2.29 | 2.81 | 3.45 | 2.11 | .434 | .139 |
| %RSD | .280 | 6.43 | 107. | 159. | 190. | 909. | 91.3 | 535. | 273. | 85.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124240.** | **1271400.** | **302340.** |
| Stddev | 75. | 3984. | 990. |
| %RSD | .06008 | .31339 | .32745 |

Sample Name: 254604 Acquired: 04/25/2019 19:18:25 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.556** | **69800.** | **62.3** | **419.** | **469.** | **2.26** | **22800.** | **-.885** | **.707** | **26.6** | **91.1** | **77.9** |
| Stddev | .379 | 876. | 8.6 | 1. | 5. | .05 | 270. | .157 | .104 | .4 | .5 | 7.2 |
| %RSD | 68.2 | 1.26 | 13.7 | .192 | 1.06 | 2.18 | 1.19 | 17.7 | 14.7 | 1.40 | .525 | 9.25 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **90.0** | **69600.** | **5640.** | **9980.** | **4.36** | **52.8** | **119.** | **.612** | **6.42** | **15.4** | **165.** | **155.** |
| Stddev | 4.0 | 663. | 47. | 80. | .39 | .2 | 1. | 3.50 | 3.67 | 3.4 | 2. | 1. |
| %RSD | 4.43 | .952 | .837 | .801 | 8.98 | .372 | 1.25 | 572. | 57.2 | 22.3 | 1.46 | .816 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **203.** |
| Stddev | 1. |
| %RSD | .651 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125920.** | **1266500.** | **309240.** |
| Stddev | 458. | 3666. | 3185. |
| %RSD | .36410 | .28948 | 1.0298 |

Sample Name: 254605 Acquired: 04/25/2019 19:24:52 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-4.84** | **37300.** | **90.7** | **3080.** | **1.85** | **14400.** | **.770** | **1.85** | **43.4** | **46.6** | **741.** |
| Stddev | .63 | 782. | 15.7 | 73. | .04 | 451. | .077 | .26 | 1.1 | 1.2 | 26. |
| %RSD | 13.1 | 2.10 | 17.3 | 2.39 | 2.41 | 3.13 | 9.95 | 14.0 | 2.48 | 2.46 | 3.44 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **776.** | **54000.** | **5920.** | **159000.** | **17.4** | **39.7** | **2640.** | **4.18** | **12.1** | **89.5** | **240.** |
| Stddev | 14. | 1620. | 114. | 4040. | .7 | .2 | 46. | 1.73 | 5.0 | 4.4 | 2. |
| %RSD | 1.83 | 3.00 | 1.92 | 2.54 | 3.86 | .575 | 1.72 | 41.4 | 41.7 | 4.87 | .899 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **207.** | **406.** | **390.** |
| Stddev | 3. | 7. | 5. |
| %RSD | 1.44 | 1.79 | 1.17 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123730.** | **1257700.** | **305200.** |
| Stddev | 142. | 4558. | 1233. |
| %RSD | .11506 | .36241 | .40395 |

Sample Name: 254606 Acquired: 04/25/2019 19:31:23 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-3.67** | **28700.** | **52.4** | **2150.** | **1.76** | **11000.** | **.384** | **1.11** | **35.7** | **45.0** | **651.** | **670.** |
| Stddev | .92 | 433. | 4.7 | 35. | .02 | 151. | .136 | .07 | .7 | 1.6 | 22. | 14. |
| %RSD | 25.1 | 1.51 | 8.94 | 1.62 | 1.21 | 1.38 | 35.4 | 6.62 | 1.91 | 3.47 | 3.34 | 2.16 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **49400.** | **4960.** | **95400.** | **8.34** | **39.8** | **1020.** | **948.** | **.561** | **8.14** | **59.9** | **168.** | **158.** |
| Stddev | 641. | 25. | 1820. | .54 | .5 | 14. | 6. | 2.19 | 5.28 | 1.8 | 2. | 3. |
| %RSD | 1.30 | .503 | 1.90 | 6.42 | 1.24 | 1.35 | .591 | 390. | 64.8 | 2.96 | 1.26 | 1.82 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **421.** | **411.** |
| Stddev | 5. | 5. |
| %RSD | 1.29 | 1.32 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124500.** | **1266100.** | **307680.** |
| Stddev | 182. | 4316. | 1229. |
| %RSD | .14596 | .34089 | .39956 |

Sample Name: 255833 Acquired: 04/25/2019 19:38:00 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.84** | **29500.** | **92.7** | **952.** | **1040.** | **1.72** | **38700.** | **1.27** | **2.25** | **25.0** | **55.7** | **811.** |
| Stddev | .85 | 241. | 17.5 | 15. | 10. | .05 | 369. | .38 | .05 | .4 | .8 | 12. |
| %RSD | 29.9 | .817 | 18.8 | 1.58 | .916 | 3.13 | .956 | 29.9 | 2.32 | 1.67 | 1.40 | 1.52 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **833.** | **39600.** | **16200.** | **93500.** | **12.7** | **43.1** | **533.** | **489.** | **1.06** | **12.2** | **60.4** | **178.** |
| Stddev | 17. | 386. | 122. | 966. | .5 | 1.1 | 13. | 7. | 1.12 | 5.2 | 4.8 | 7. |
| %RSD | 2.00 | .976 | .752 | 1.03 | 3.86 | 2.47 | 2.48 | 1.48 | 105. | 43.0 | 7.90 | 3.86 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **171.** | **1590.** |
| Stddev | 2. | 30. |
| %RSD | 1.04 | 1.87 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122850.** | **1256500.** | **307270.** |
| Stddev | 694. | 6752. | 1859. |
| %RSD | .56502 | .53735 | .60508 |

Sample Name: 255853 Acquired: 04/25/2019 19:44:35 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.28** | **20800.** | **47.3** | **357.** | **393.** | **1.13** | **23800.** | **.170** | **1.03** | **15.8** | **50.5** | **191.** |
| Stddev | .20 | 411. | 6.3 | 2. | 10. | .05 | 346. | .288 | .10 | .3 | .8 | 5. |
| %RSD | 15.8 | 1.97 | 13.3 | .549 | 2.51 | 4.08 | 1.45 | 169. | 9.65 | 1.87 | 1.54 | 2.68 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **202.** | **32700.** | **12000.** | **24700.** | **3.73** | **33.9** | **202.** | **1.45** | **5.72** | **19.1** | **100.** | **98.4** |
| Stddev | 7. | 656. | 180. | 442. | .63 | .8 | 3. | .91 | 1.64 | 2.2 | 7. | 1.4 |
| %RSD | 3.49 | 2.00 | 1.50 | 1.79 | 17.0 | 2.23 | 1.46 | 62.6 | 28.6 | 11.4 | 6.82 | 1.37 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **381.** |
| Stddev | 2. |
| %RSD | .628 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124470.** | **1265600.** | **307480.** |
| Stddev | 112. | 4048. | 2947. |
| %RSD | .09003 | .31988 | .95846 |

Sample Name: 255854 Acquired: 04/25/2019 19:51:12 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.31** | **15500.** | **15.5** | **3940.** | **1.14** | **2800.** | **.524** | **1.20** | **22.3** | **29.2** | **485.** | **507.** |
| Stddev | .42 | 252. | 11.4 | 49. | .05 | 63. | .215 | .27 | .4 | 1.7 | 5. | 9. |
| %RSD | 18.1 | 1.63 | 73.6 | 1.25 | 4.13 | 2.27 | 41.2 | 22.8 | 1.71 | 5.73 | 1.03 | 1.69 |

| Elem | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **28600.** | **1710.** | **69000.** | **12.0** | **25.3** | **2700.** | **14.7** | **1.41** | **41.4** | **102.** | **93.1** | **322.** |
| Stddev | 451. | 43. | 940. | .8 | .6 | 41. | 1.7 | 4.89 | 2.3 | 5. | 1.8 | 4. |
| %RSD | 1.58 | 2.51 | 1.36 | 6.58 | 2.19 | 1.53 | 11.8 | 348. | 5.46 | 5.05 | 1.97 | 1.30 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124880.** | **1271300.** | **305940.** |
| Stddev | 181. | 3355. | 2413. |
| %RSD | .14501 | .26391 | .78878 |

Sample Name: ccv1 Acquired: 04/25/2019 20:21:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4540.** | **4880.** | **4870.** | **469.** | F **4330.** | **478.** | **4810.** | **4900.** | F **4360.** | **4830.** | **4950.** |
| Stddev | 2. | 72. | 8. | 45. | 1. | 13. | . | 28. | 1. | 26. | 229. | 103. |
| %RSD | .354 | 1.58 | .161 | .917 | .210 | .309 | .092 | .576 | .014 | .589 | 4.74 | 2.07 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4530.** | **4790.** | **4800.** | **4580.** | **4860.** | **4690.** | **4800.** | **4840.** | **4810.** |
| Stddev | 31. | 11. | 10. | 14. | 8. | 33. | 19. | 42. | 10. |
| %RSD | .677 | .224 | .205 | .316 | .162 | .705 | .388 | .876 | .199 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121260.** | **1237200.** | **300720.** |
| Stddev | 95. | 4335. | 2794. |
| %RSD | .07846 | .35041 | .92894 |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.3** | **467.** | **473.** | **492.** | **478.** | **505.** | **49.6** | **49.9** | **478.** | **48.8** | **50.9** | **496.** |
| Stddev | .1 | 1. | 15. | 6. | 1. | 7. | .3 | .7 | 7. | .2 | .1 | 2. |
| %RSD | .278 | .292 | 3.10 | 1.20 | .232 | 1.43 | .564 | 1.43 | 1.41 | .428 | .225 | .366 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **495.** | **457.** | **468.** | **482.** | **467.** | **466.** | **477.** | **487.** | **499.** | **501.** | **479.** | **476.** |
| Stddev | 3. | 3. | 3. | 4. | 3. | 3. | 3. | 2. | 2. | 2. | 6. | 5. |
| %RSD | .599 | .631 | .613 | .729 | .744 | .695 | .578 | .433 | .312 | .354 | 1.26 | 1.13 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **500.** | **491.** | **516.** | **498.** | **496.** | **496.** | **488.** |
| Stddev | 3. | 3. | 6. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .549 | .541 | 1.30 | .651 | .929 | .354 | .428 | .228 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124480.** | **1266700.** | **303030.** |
| Stddev | 212. | 2501. | 2034. |
| %RSD | .17053 | .19745 | .67130 |

Sample Name: ccb Acquired: 04/25/2019 20:33:00 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.616** | **-9.58** | **-3.94** | **-.200** | **-.005** | **-13.7** | **.063** | **.028** | **-.048** | **.082** | **5.21** | **-11.7** |
| Stddev | .319 | .74 | 6.55 | .212 | .032 | .7 | .093 | .104 | .089 | .671 | 3.41 | .7 |
| %RSD | 51.8 | 7.68 | 166. | 106. | 712. | 5.27 | 148. | 373. | 184. | 815. | 65.5 | 6.23 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.3** | **-.623** | **.265** | **.240** | **.628** | **1.95** | **3.11** | **-.114** | **.550** | **.028** |
| Stddev | .1 | .058 | .421 | .630 | 2.16 | .70 | 2.91 | 2.07 | .338 | .202 |
| %RSD | .254 | 9.23 | 159. | 262. | 344. | 35.8 | 93.5 | 1820. | 61.5 | 710. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

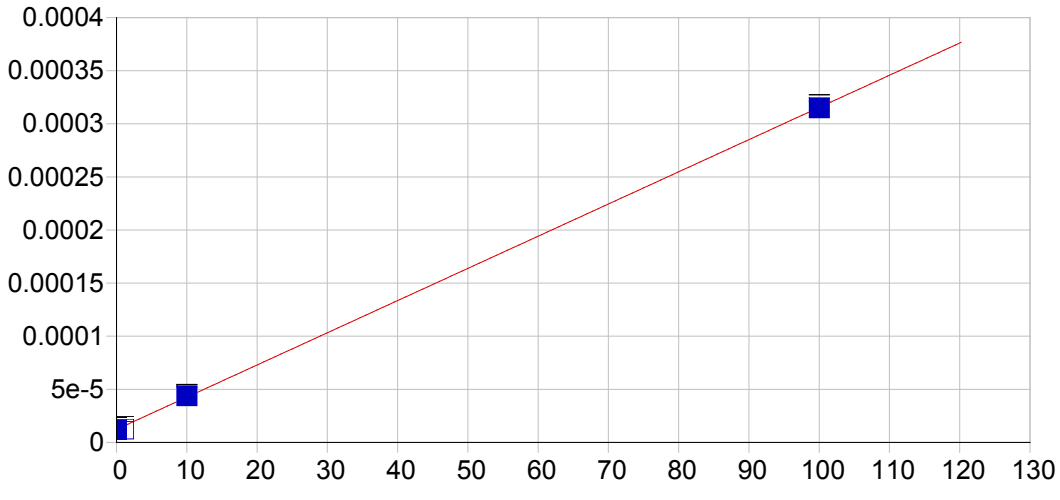
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124710.** | **1266200.** | **303360.** |
| Stddev | 246. | 7402. | 2134. |
| %RSD | .19686 | .58455 | .70331 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:04:13 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000002 | 0.771259 | 2.570863 |
| Ag 338.289 {100} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.962425 | 0.000002 | 18.287510 | 60.958366 |
| Al 167.079 {501} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | None | 0.000058 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000014 | 0.663610 | 2.212032 |
| Al 308.215 {109} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.992739 | 0.000216 | 35.529198 | 118.43066 |
| Al 396.152 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Curvili | 1/Conc | -0.000023 | 0.000001 | 0.000000 | 1.000000 | 0.999721 | 0.000063 | 12.909176 | 43.030588 |
| As 193.759 {474} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Var | 0.539750 | 0.187381 | 0.000000 | 1.000000 | 0.999781 | 1.235779 | 3.306742 | 11.022473 |
| As 197.262 {471} | 04/30/2019 08:01:24 | 04/29/2019 15:16:22 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.998967 | 0.000000 | 7.150038 | 23.833460 |
| Ba 233.527 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.998869 | 0.000001 | 0.388630 | 1.295433 |
| Ba 455.403 { 74} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000125 | 0.000046 | 0.000000 | 1.000000 | 0.998156 | 0.000011 | 0.424860 | 1.416201 |
| Ba 493.409 { 68} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.010947 | 0.000056 | 0.000000 | 1.000000 | 0.998653 | 0.000137 | 0.907157 | 3.023855 |
| Be 313.042 {108} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | -0.000185 | 0.000058 | 0.000000 | 1.000000 | 0.999544 | 0.000002 | 0.049429 | 0.164762 |
| Be 234.861 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999290 | 0.000001 | 1.414818 | 4.716060 |
| Ca 315.887 {107} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.000054 | 0.000000 | 0.000000 | 1.000000 | 0.999799 | 0.000011 | 12.463600 | 41.545332 |
| Ca 317.933 {106} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.002916 | 0.000001 | 0.000000 | 1.000000 | 0.999746 | 0.000028 | 6.859728 | 22.865759 |
| Ca 393.366 { 86} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Var | 0.008895 | 0.000188 | 0.000000 | 1.000000 | 0.999982 | 0.000207 | 0.074229 | 0.247430 |
| Ca 396.847 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.008134 | 0.000111 | 0.000000 | 1.000000 | 0.998837 | 0.000251 | 0.118050 | 0.393499 |
| Cd 226.502 {449} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | -0.000010 | 0.000026 | 0.000000 | 1.000000 | 0.997348 | 0.000002 | 0.233555 | 0.778515 |
| Cd 228.802 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | 0.000024 | 0.000048 | 0.000000 | 1.000000 | 0.991474 | 0.000006 | 0.157317 | 0.524389 |
| Co 228.616 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000017 | 0.000018 | 0.000000 | 1.000000 | 0.996680 | 0.000006 | 0.449246 | 1.497487 |
| Co 238.892 {141} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.998281 | 0.000005 | 0.890001 | 2.966671 |
| Cr 205.560 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Var | 0.000037 | 0.000015 | 0.000000 | 1.000000 | 0.997498 | 0.000145 | 0.312030 | 1.040101 |
| Cr 267.716 {126} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.998132 | 0.000001 | 0.923046 | 3.076818 |
| Cu 224.700 {450} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | -0.000001 | 0.000006 | 0.000000 | 1.000000 | 0.999425 | 0.000011 | 0.447985 | 1.493282 |
| Cu 324.754 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | 32.917937 | 0.432226 | 0.000000 | 1.000000 | 0.999630 | 0.452439 | 5.608774 | 18.695912 |
| Cu 327.396 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 7.187822 | 0.321888 | 0.000000 | 1.000000 | 0.999459 | 0.282912 | 9.835319 | 32.784397 |
| Fe 234.349 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Curvili | 1/Var | 0.000030 | 0.000000 | 0.000000 | 1.000000 | 0.999923 | 0.000006 | 1.861928 | 6.206425 |
| Fe 239.562 {140} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000013 | 0.000000 | 0.000000 | 1.000000 | 0.994823 | 0.000040 | 17.270833 | 57.569443 |
| Fe 259.940 {129} | 04/30/2019 08:01:24 | 04/29/2019 15:35:49 | Curvili | 1/Var | 0.000065 | 0.000001 | 0.000000 | 1.000000 | 0.997286 | 0.000158 | 5.216183 | 17.387276 |
| Mg 202.582 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999696 | 0.000343 | 2.203469 | 7.344897 |
| Mg 279.079 {121} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.100000 | 0.999980 | 0.000001 | 225.46699 | 751.55664 |
| Mg 280.270 {120} | 04/30/2019 08:01:24 | 04/29/2019 15:16:24 | Linear | 1/Var | 0.001262 | 0.000024 | 0.000000 | 1.000000 | 0.992448 | 0.000619 | 0.051519 | 0.171731 |
| Mn 257.610 {131} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000029 | 0.000012 | 0.000000 | 1.000000 | 0.995548 | 0.000011 | 0.097079 | 0.323597 |
| Mn 259.373 {130} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999811 | 0.000028 | 1.512228 | 5.040759 |
| Mo 202.030 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Conc | 0.000010 | 0.000009 | 0.000000 | 1.000000 | 0.918937 | 0.000011 | 0.461169 | 1.537230 |
| Mo 203.844 {465} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Var | 0.000022 | 0.000006 | 0.000000 | 1.000000 | 0.999869 | 0.000018 | 0.801215 | 2.670716 |
| Mo 204.598 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999653 | 0.000025 | 0.916548 | 3.055158 |
| Ni 221.647 {452} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.998093 | 0.000030 | 0.768351 | 2.561171 |
| Ni 231.604 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000020 | 0.000011 | 0.000000 | 1.000000 | 0.984592 | 0.000007 | 0.735570 | 2.451899 |
| Pb 216.999 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000015 | 0.000001 | 0.000000 | 1.000000 | 0.999773 | 0.000038 | 5.620225 | 18.734085 |
| Pb 220.353 {453} | 04/30/2019 08:01:24 | 04/29/2019 15:09:57 | Linear | 1/Conc | 0.000028 | 0.000003 | 0.000000 | 1.000000 | 0.878400 | 0.000005 | 2.481162 | 8.270541 |
| Pb 220.353 {153} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999653 | 0.000000 | 6.969384 | 23.231279 |
| Sb 206.833 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.998562 | 0.000001 | 2.581313 | 8.604377 |
| Sb 217.581 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.933696 | 0.000006 | 2.801324 | 9.337748 |
| Se 196.090 {472} | 04/30/2019 08:01:24 | 04/29/2019 15:09:58 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999198 | 0.000000 | 4.389697 | 14.632322 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Curvili | 1/Conc | 0.000004 | 0.000000 | -0.000000 | 1.000000 | 0.999688 | 0.000000 | 28.202163 | 94.007210 |
| Tl 190.856 {476} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.997608 | 0.000002 | 2.696044 | 8.986812 |
| Tl 190.856 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.997785 | 0.000001 | 5.738296 | 19.127652 |
| V 290.882 {116} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.998924 | 0.000002 | 8.162286 | 27.207619 |
| V 292.402 {115} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000005 | 0.000007 | 0.000000 | 1.000000 | 0.998319 | 0.000005 | 0.630081 | 2.100271 |
| Zn 206.200 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000061 | 0.000017 | 0.000000 | 1.000000 | 0.996075 | 0.000214 | 0.372954 | 1.243179 |
| Zn 213.856 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:09:59 | Linear | 1/Conc | 0.000030 | 0.000027 | 0.000000 | 1.000000 | 0.999485 | 0.000004 | 0.208095 | 0.693650 |
| Y 224.306 {450}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.004901 | 0.000005 | 0.000000 | 1.000000 | 0.999164 | 0.000037 | 10.509748 | 35.032492 |
| Na 589.592 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 0.000353 | 0.000005 | 0.000000 | 1.000000 | 0.999651 | 0.000172 | 7.542021 | 25.140069 |
| Si 251.611 {134} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 5.496233 | 0.049700 | 0.000000 | 1.000000 | 0.999713 | 0.563773 | 25.456914 | 84.856379 |
| Ti 323.452 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000229 | 0.000006 | 0.000000 | 1.000000 | 0.998823 | 0.000003 | 1.679766 | 5.599219 |
| Ti 334.941 {101} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000004 | 0.000000 | 1.000000 | 0.999000 | 0.000001 | 2.153927 | 7.179758 |
| Sr 407.771 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000090 | 0.000090 | 0.000000 | 1.000000 | 0.998548 | 0.000019 | 0.191487 | 0.638289 |
| Sr 421.552 { 80} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000064 | 0.000134 | 0.000000 | 1.000000 | 0.998725 | 0.000027 | 0.129437 | 0.431456 |
| Sn 189.989 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.998477 | 0.000002 | 1.686047 | 5.620155 |
| B 249.678 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999110 | 0.000001 | 1.384749 | 4.615829 |
| B 249.773 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.996375 | 0.000019 | 0.746113 | 2.487044 |
| Li 670.784 { 50} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000113 | 0.000026 | 0.000000 | 1.000000 | 0.996196 | 0.000316 | 1.644438 | 5.481459 |
| K 766.490 { 44} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | -0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999481 | 0.000045 | 53.224850 | 177.41616 |
| P 213.618 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:16:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1106.1553 | 3687.1846 |
| S 182.034 {485} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Curvili | 1/Conc | 0.000025 | 0.000000 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 6.539657 | 21.798855 |
| Hg 184.950 {482} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.351706 | 0.000021 | 8.769662 | 29.232206 |
| Ce 404.076 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000036 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.280330 | 74.267767 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

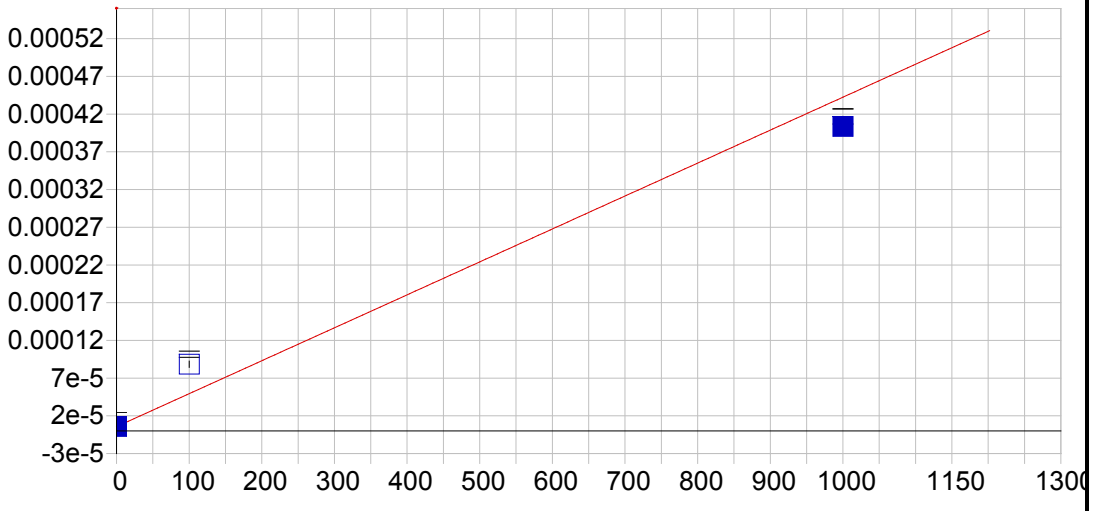



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.771259 | | |
| Predicted MQL: | 2.570863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.20712 | -.207 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.392 | .392 | 3.92 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.814 | -.186 | -.186 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .06215 | -.938 | -93.8 | .00001 | .000 | 1 |

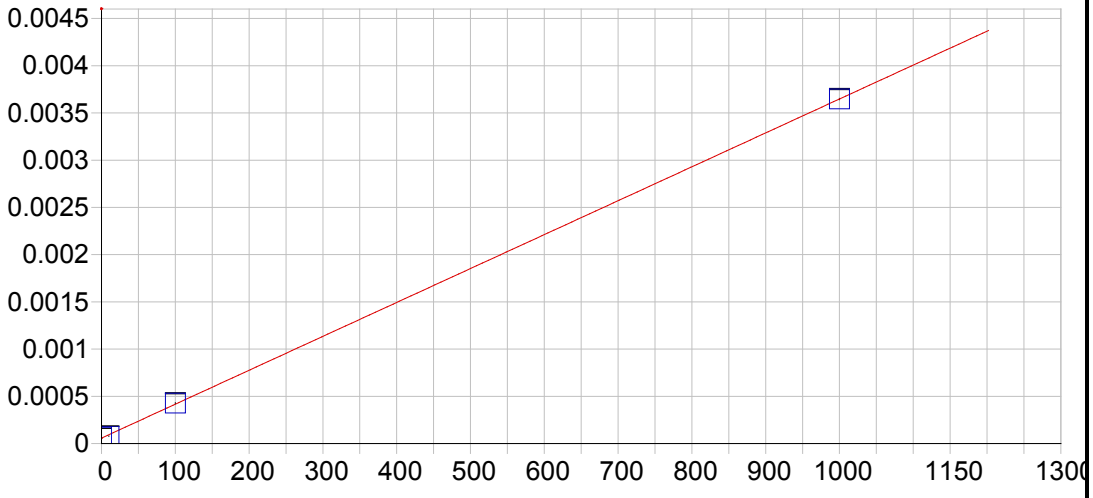



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.962425 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 18.287510 | | |
| Predicted MQL: | 60.958366 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08027 | -.080 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 189.19 | 89.2 | 89.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 910.83 | -89.2 | -8.92 | .00040 | .000 | 1 |

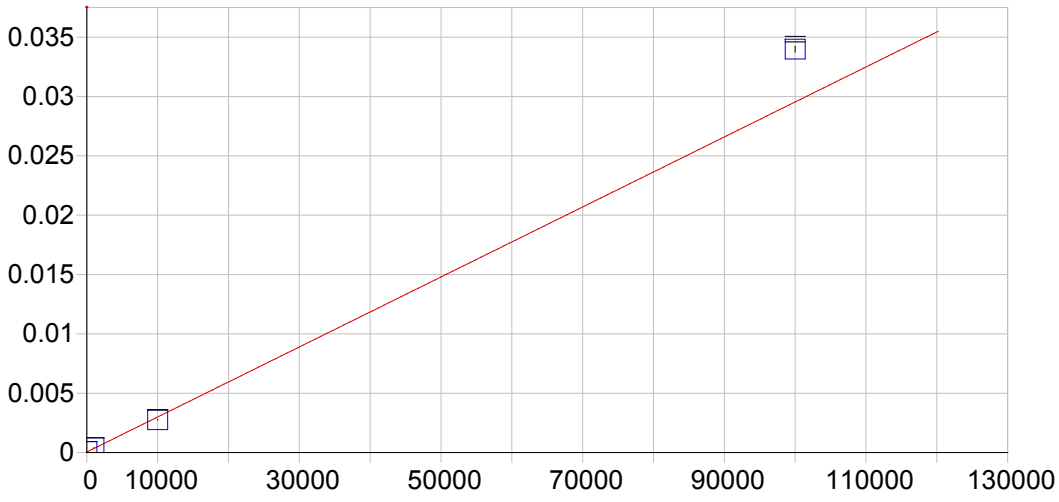



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.663610 | | |
| Predicted MQL: | 2.212032 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.0288 | 2.03 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.78 | -.219 | -.022 | .00365 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.5578 | -4.44 | -44.4 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.63 | 2.63 | 2.63 | .00043 | .000 | 1 |

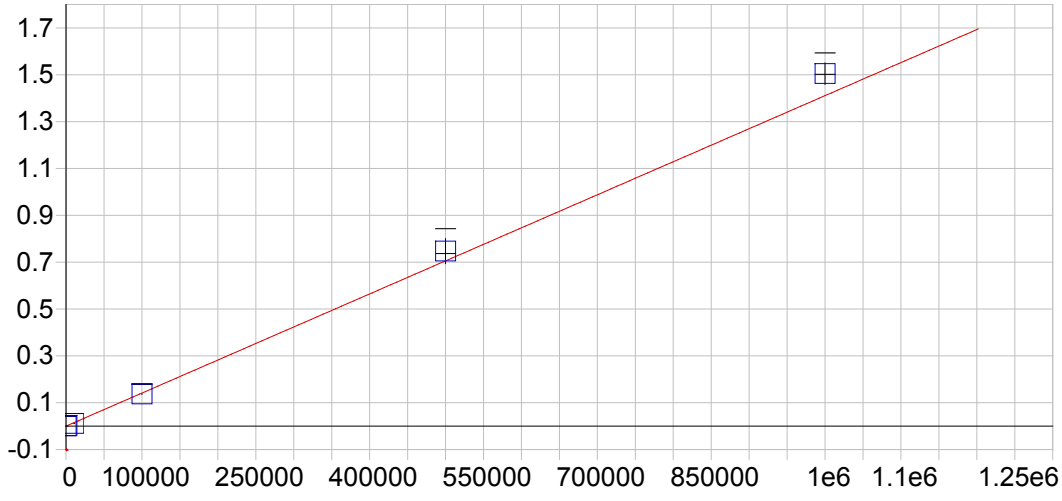



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992739 | Status: | OK. |
| Std Error of Est: | 0.000216 | | |
| Predicted MDL: | 35.529198 | | |
| Predicted MQL: | 118.430662 | | |

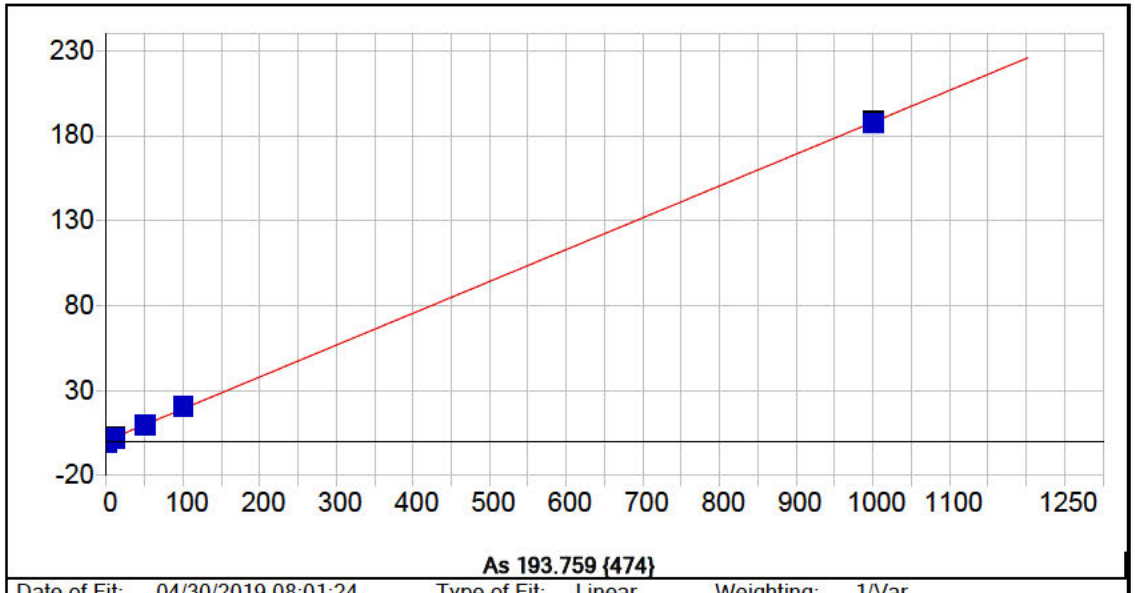
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 75.924 | 75.9 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9189.9 | -810. | -8.10 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1201.1 | 201. | 20.1 | .00040 | .000 | 1 |
| CalStd13=10 | 100000. | 115080. | 15100. | 15.1 | .03399 | .000 | 1 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000023 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999721 | | Status: | OK. | |
| Std Error of Est: | 0.000063 | | | | |
| Predicted MDL: | 12.909176 | | | | |
| Predicted MQL: | 43.030588 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33758 | .338 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 529520. | 29500. | 5.90 | .74706 | .053 | 1 |
| CalStd13=10 | 100000. | 96995. | -3010. | -3.01 | .13683 | .001 | 1 |
| CalStd10=10 | 10000. | 7635.5 | -2360. | -23.6 | .01075 | .000 | 1 |
| CalStd9=100 | 1000.0 | 919.15 | -80.8 | -8.08 | .00127 | .000 | 1 |
| CalibStd15= | 1000000. | 1066400. | 66400. | 6.64 | 1.5046 | .045 | 1 |

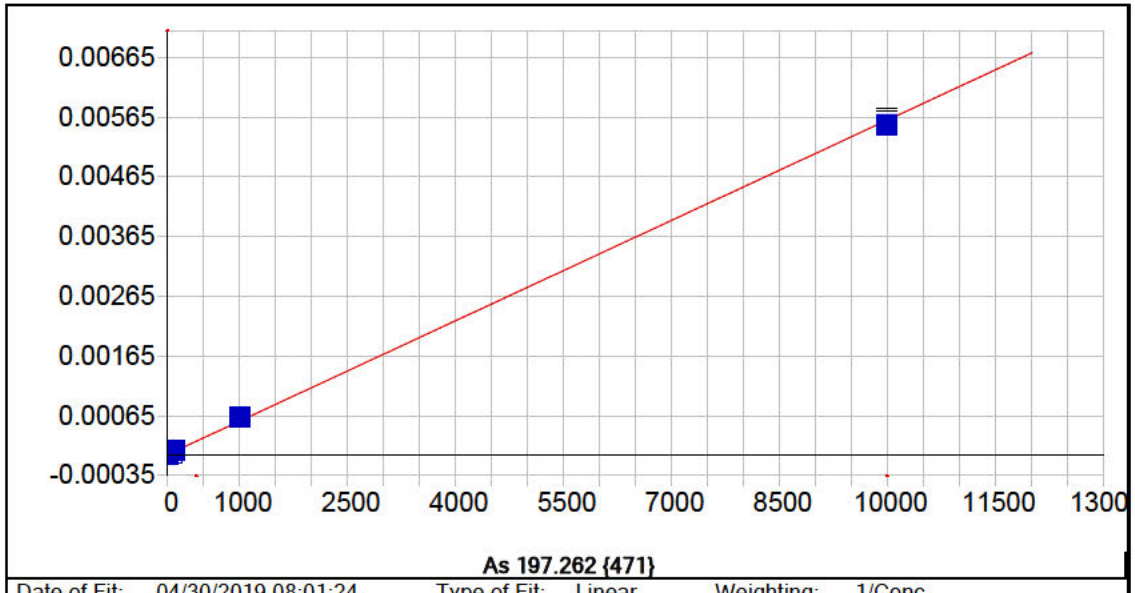



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.539750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.187381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 1.235779 | | |
| Predicted MDL: | 3.306742 | | |
| Predicted MQL: | 11.022473 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0560 | -6.06 | .000 | -.59503 | .623 | 1 |
| CalStd9=100 | 1000.0 | 997.06 | -2.94 | -.294 | 186.75 | 1.12 | 1 |
| CalStd7=50 | 50.000 | 47.791 | -2.21 | -4.42 | 9.4735 | .588 | 1 |
| CalStd5=10 | 10.000 | 7.5505 | -2.45 | -24.5 | 1.9497 | .990 | 1 |
| CalStd8=100 | 100.00 | 106.54 | 6.54 | 6.54 | 20.442 | .494 | 1 |

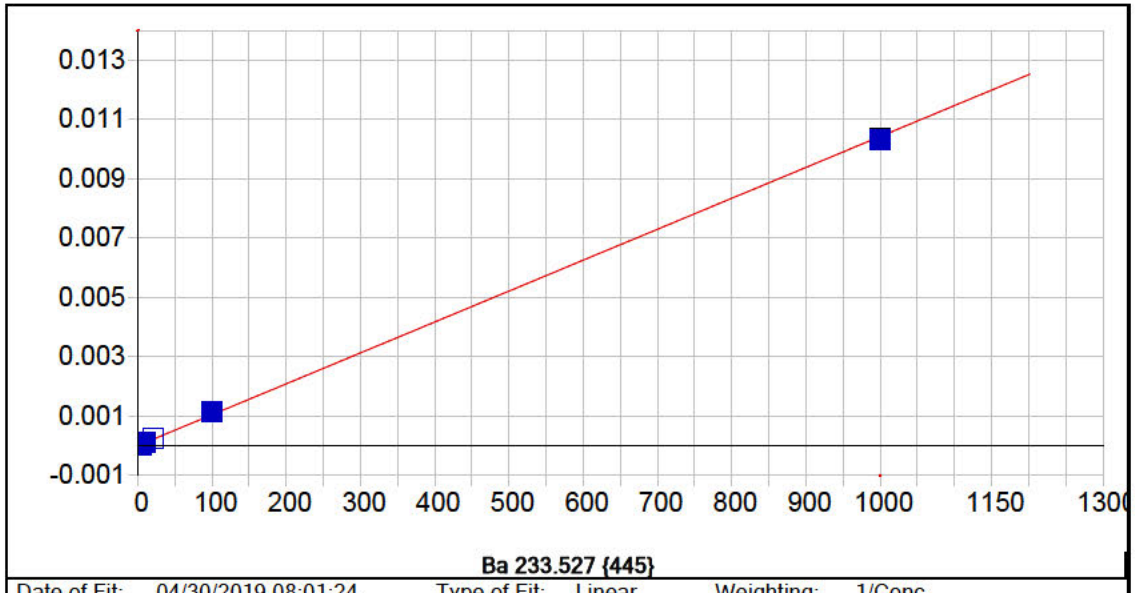



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.150038 | | |
| Predicted MQL: | 23.833460 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00548 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.8 | 132. | 13.2 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.208 | 8.21 | 16.4 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.48 | 14.5 | 14.5 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.4 | -156. | -1.56 | .00555 | .000 | 1 |

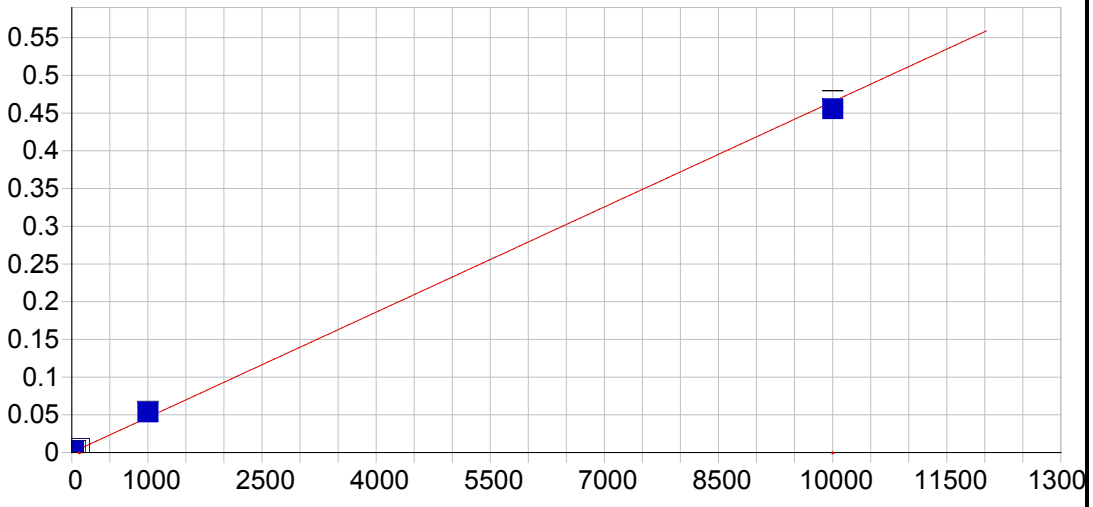



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998869 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.388630 | | |
| Predicted MQL: | 1.295433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.685 | 1.69 | 16.9 | .00013 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.379 | 2.38 | 11.9 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.99 | 8.99 | 8.99 | .00114 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.5664 | -1.43 | -28.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.19 | -10.8 | -1.08 | .01031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .18135 | -.819 | -81.9 | .00001 | .000 | 1 |

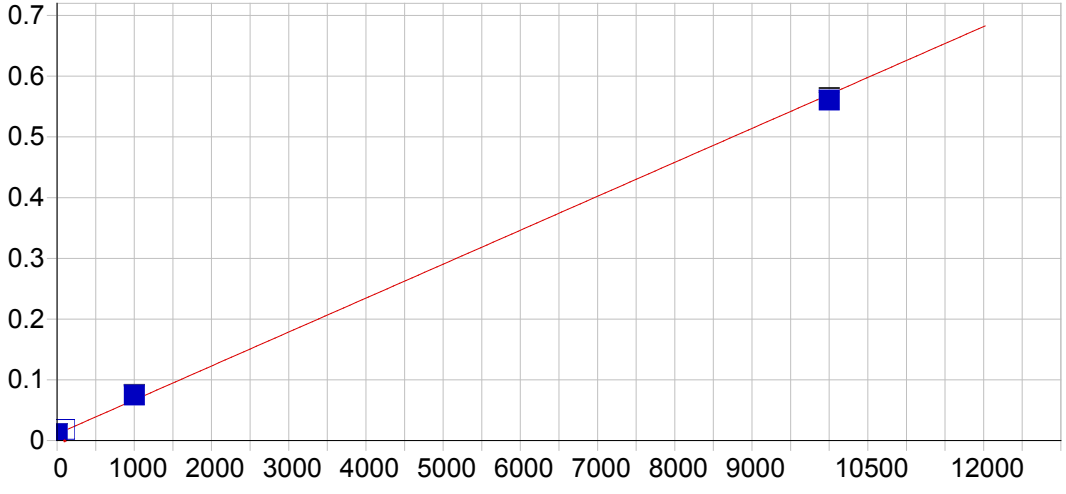



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000125 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998156 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.424860 | | |
| Predicted MQL: | 1.416201 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00102 | -.001 | .000 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.838 | 15.8 | 31.7 | .00319 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.147 | 3.15 | 31.5 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.954 | 5.95 | 29.8 | .00133 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.81 | 24.8 | 24.8 | .00593 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9621 | .962 | 19.2 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.5 | 151. | 15.1 | .05367 | .001 | 1 |
| CalStd3=1 | 1.0000 | .51857 | -.481 | -48.1 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.3 | -202. | -2.02 | .45572 | .011 | 1 |

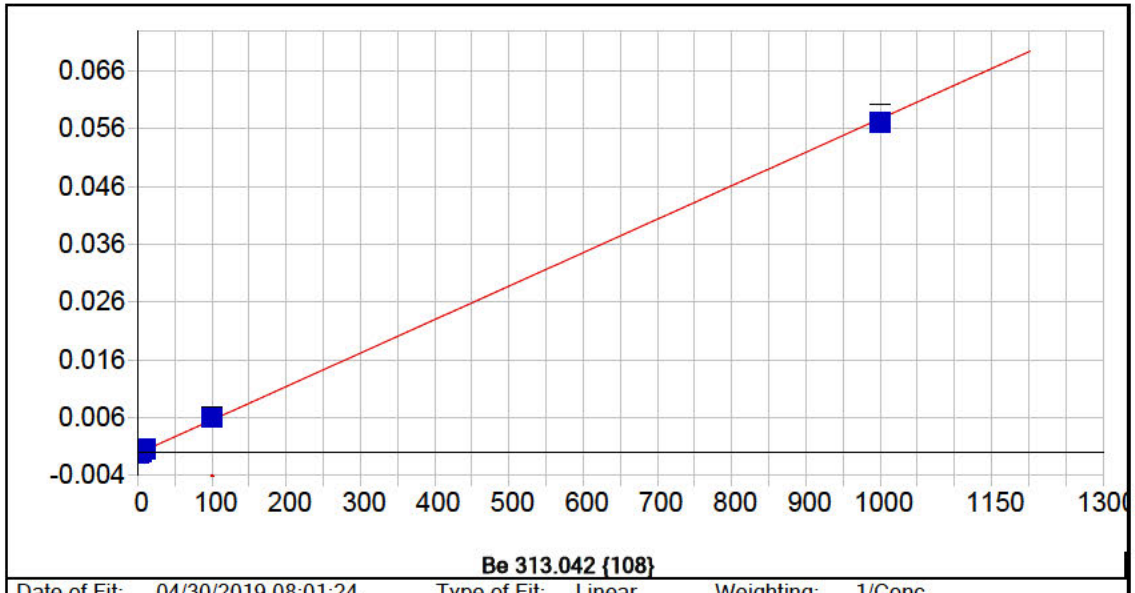



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010947 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998653 | Status: | OK. |
| Std Error of Est: | 0.000137 | | |
| Predicted MDL: | 0.907157 | | |
| Predicted MQL: | 3.023855 | | |

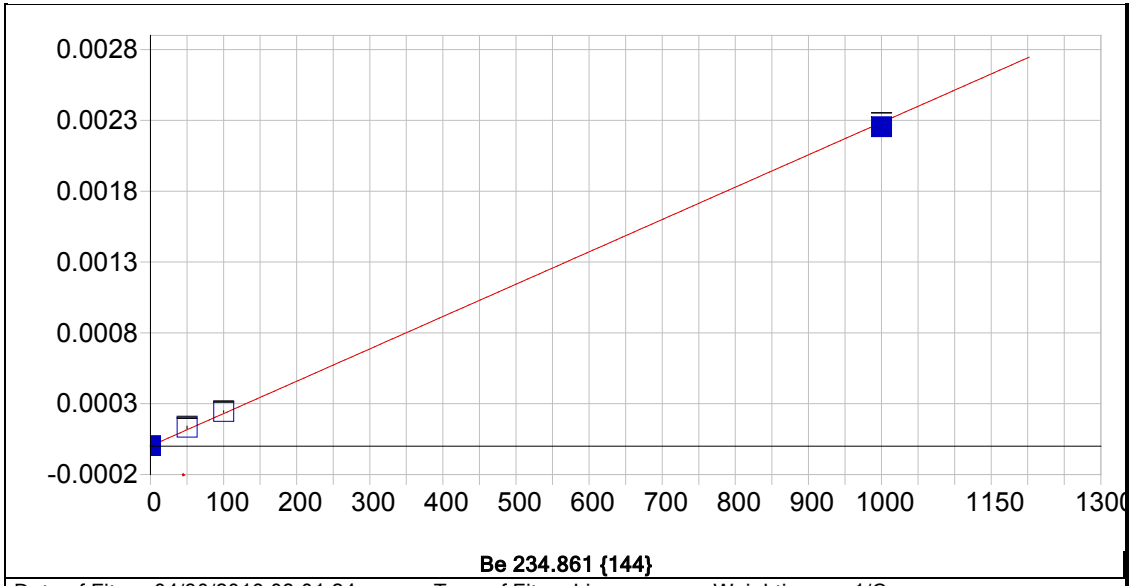
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03968 | -.040 | .000 | .01094 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1140.3 | 140. | 14.0 | .07469 | .001 | 1 |
| CalStd8=100 | 100.00 | 127.32 | 27.3 | 27.3 | .01806 | .000 | 1 |
| CalStd10=10 | 10000. | 9832.4 | -168. | -1.68 | .56060 | .003 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000185 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000058 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999544 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.049429 | | |
| Predicted MQL: | 0.164762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.811 | 1.81 | 18.1 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.89 | 6.89 | 6.89 | .00601 | .000 | 1 |
| CalStd2=0.5 | .50000 | .48965 | -.010 | -2.07 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7741 | .774 | 15.5 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.47 | -9.53 | -.953 | .05717 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0666 | .067 | 6.66 | -.00012 | .000 | 1 |

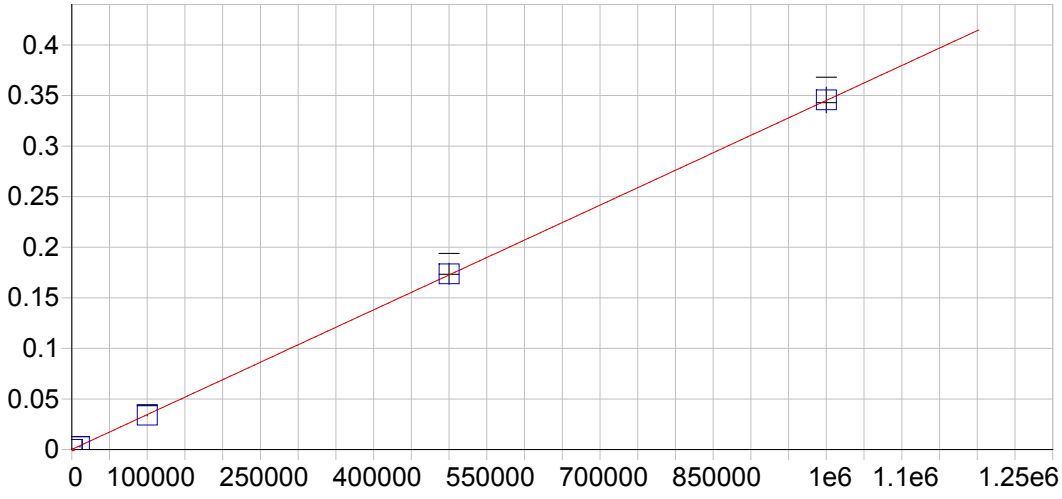



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999290 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.414818 | | |
| Predicted MQL: | 4.716060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00973 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.57 | -13.4 | -1.34 | .00225 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.08 | 6.08 | 6.08 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.360 | 7.36 | 14.7 | .00013 | .000 | 1 |

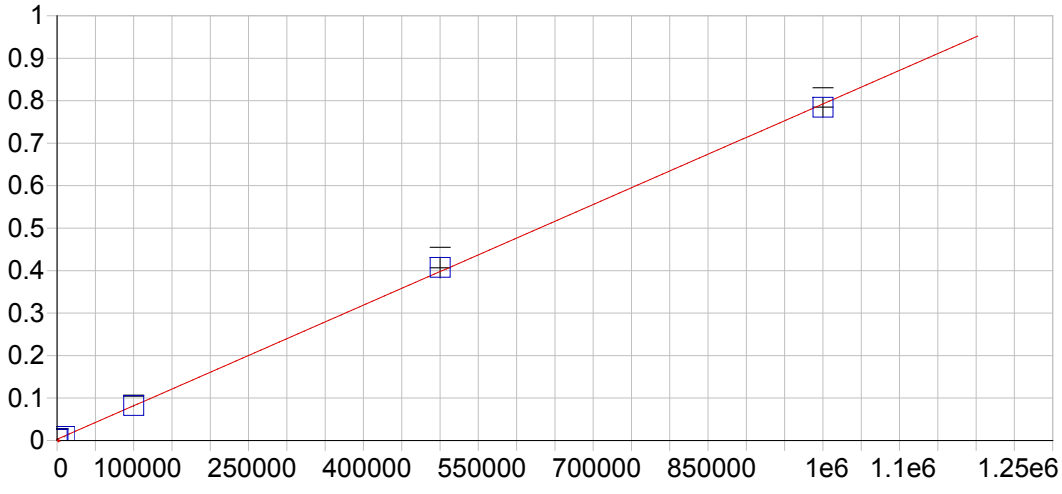



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999799 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 12.463600 | | |
| Predicted MQL: | 41.545332 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .37459 | .375 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 7609.8 | -2390. | -23.9 | .00268 | .000 | 1 |
| CalStd13=10 | 100000. | 97961. | -2040. | -2.04 | .03386 | .001 | 1 |
| CalStd14=50 | 500000. | 503050. | 3050. | .611 | .17366 | .010 | 1 |
| CalStd9=100 | 1000.0 | 877.21 | -123. | -12.3 | .00036 | .000 | 1 |
| CalibStd15= | 1000000. | 1001500. | 1500. | .150 | .34568 | .013 | 1 |

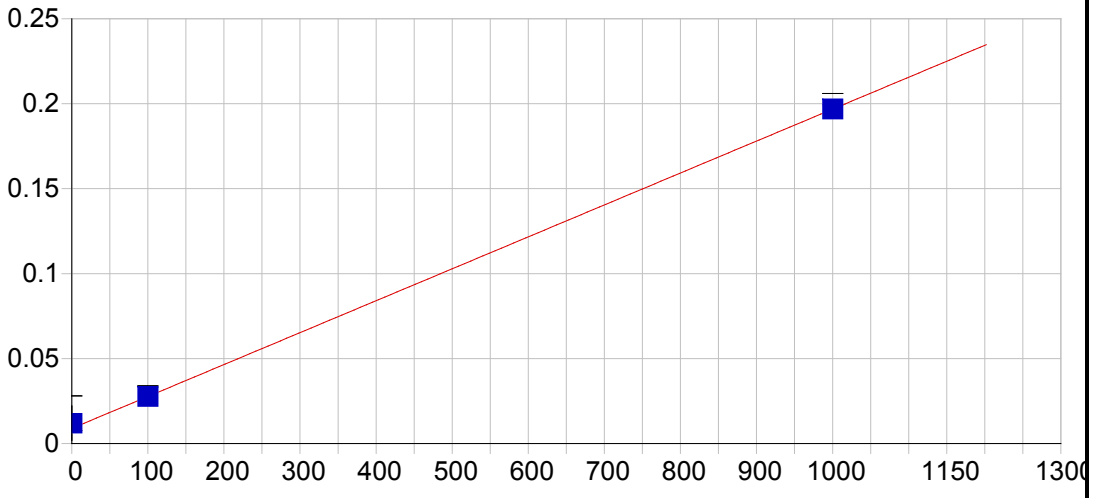



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002916 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 6.859728 | | |
| Predicted MQL: | 22.865759 | | |

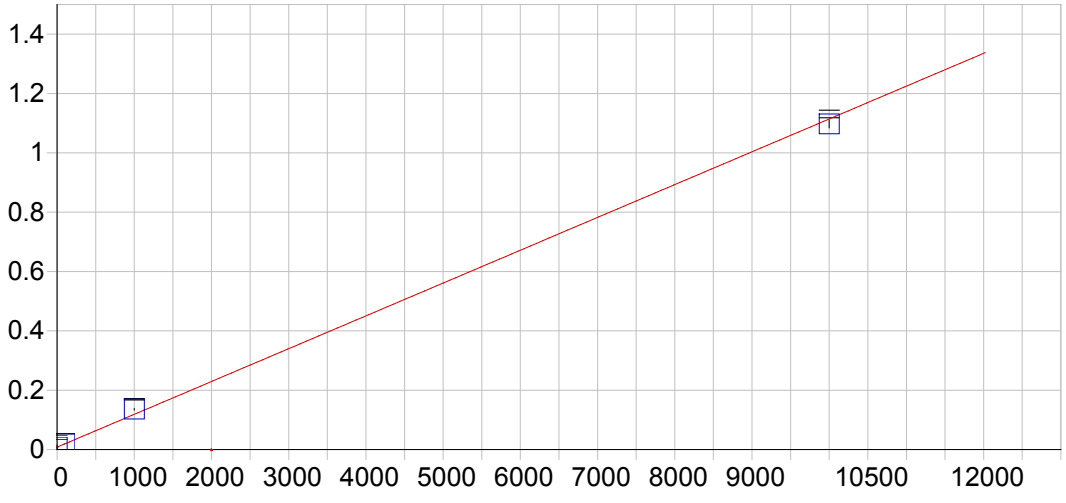
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13150 | .131 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 7981.1 | -2020. | -20.2 | .00922 | .000 | 1 |
| CalStd13=10 | 100000. | 100320. | 322. | .322 | .08212 | .001 | 1 |
| CalStd14=50 | 500000. | 512170. | 12200. | 2.43 | .40730 | .024 | 1 |
| CalStd9=100 | 1000.0 | 1053.4 | 53.4 | 5.34 | .00375 | .000 | 1 |
| CalibStd15= | 1000000. | 989470. | -10500. | -1.05 | .78415 | .023 | 1 |




**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.008895 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000188 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999982 | | Status: | OK. | |
| Std Error of Est: | 0.000207 | | | | |
| Predicted MDL: | 0.074229 | | | | |
| Predicted MQL: | 0.247430 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 16.421 | 16.4 | .000 | .01198 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .196 | .020 | .19683 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.972 | -.028 | -.028 | .02768 | .000 | 1 |

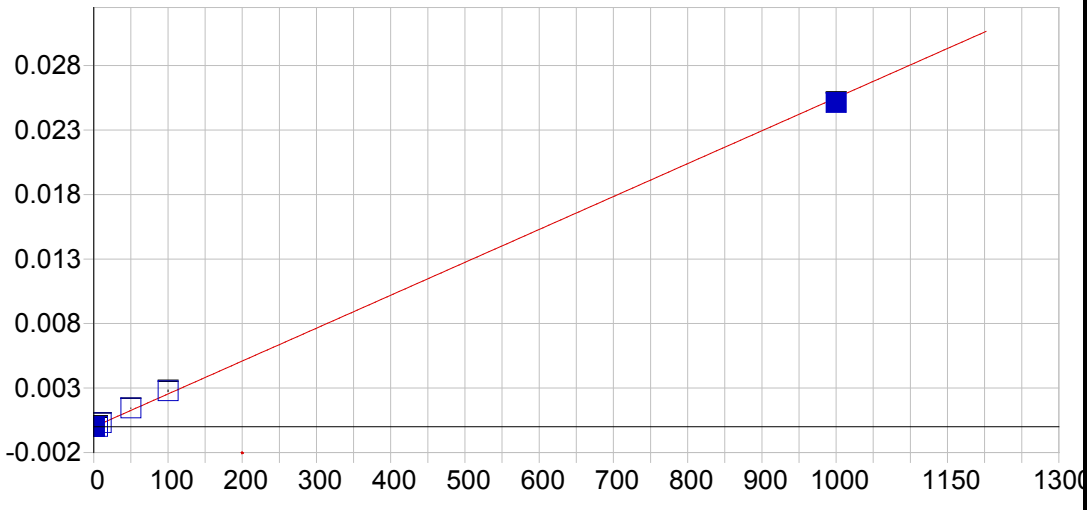



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000111 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998837 | Status: | OK. |
| Std Error of Est: | 0.000251 | | |
| Predicted MDL: | 0.118050 | | |
| Predicted MQL: | 0.393499 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01340 | -.013 | .000 | .00813 | .007 | 1 |
| CalStd10=10 | 10000. | 9847.0 | -153. | -1.53 | 1.0973 | .013 | 1 |
| CalStd8=100 | 100.00 | 99.586 | -.414 | -.414 | .01915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1153.4 | 153. | 15.3 | .13571 | .002 | 1 |

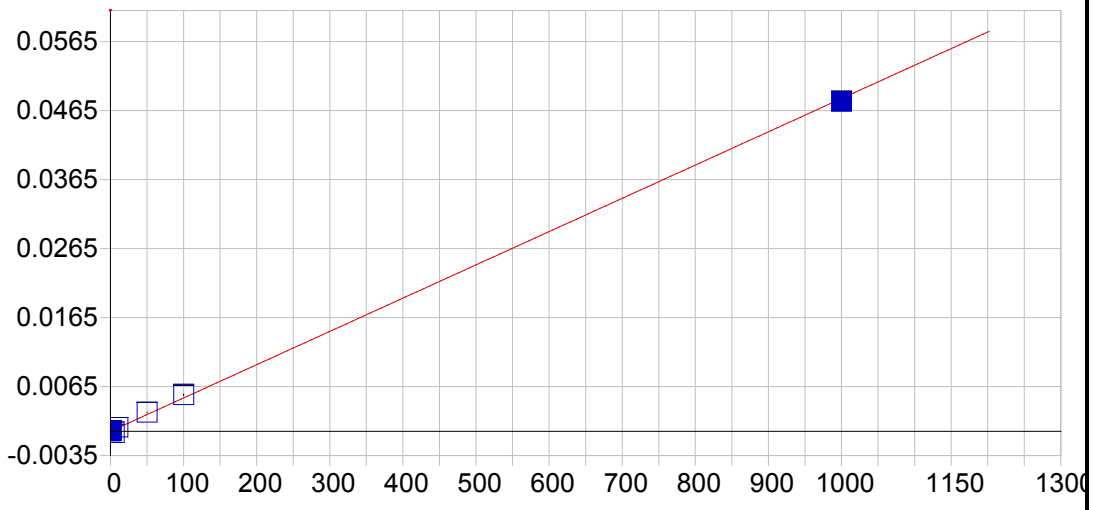



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997348 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.233555 | | |
| Predicted MQL: | 0.778515 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.865 | 6.87 | 13.7 | .00144 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2285 | .228 | 22.8 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61713 | .117 | 23.4 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | .73284 | -4.27 | -85.3 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.55 | 9.55 | 9.55 | .00278 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.062 | 2.06 | 20.6 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.44 | -14.6 | -1.46 | .02513 | .000 | 1 |

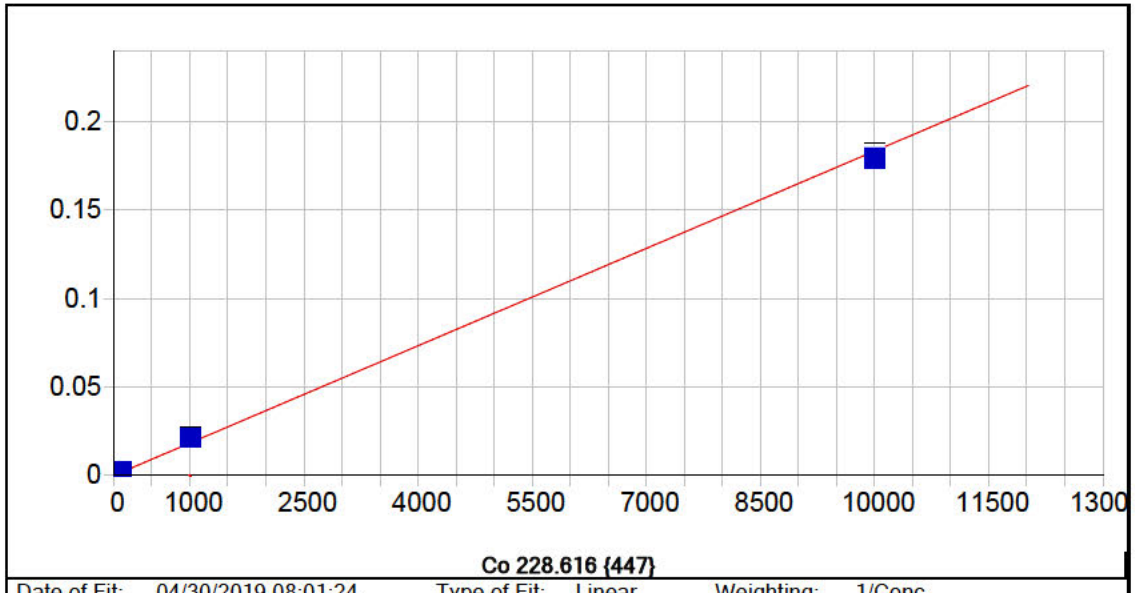



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991474 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.157317 | | |
| Predicted MQL: | 0.524389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.791 | 6.79 | 13.6 | .00276 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1739 | .174 | 17.4 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71504 | .215 | 43.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | -4.4200 | -9.42 | -188. | -.00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00530 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.002 | 2.00 | 20.0 | .00060 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.91 | -9.09 | -.909 | .04781 | .000 | 1 |

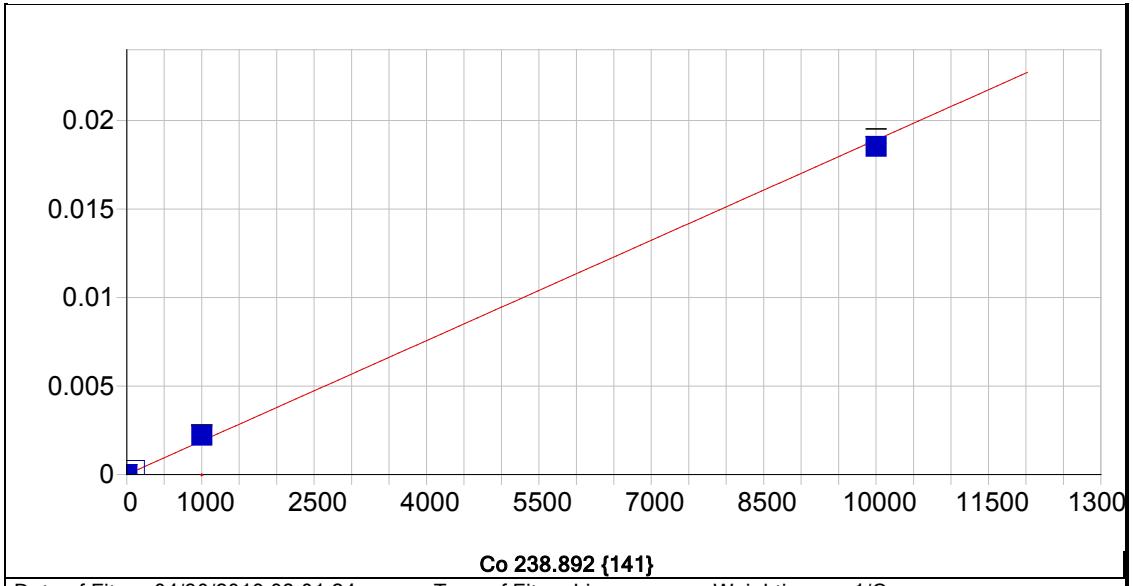



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996680 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.449246 | | |
| Predicted MQL: | 1.497487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00352 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.275 | 16.3 | 32.6 | .00123 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.608 | 3.61 | 36.1 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 16.987 | 12.0 | 240. | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 127.97 | 28.0 | 28.0 | .00236 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1163.2 | 163. | 16.3 | .02135 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0124 | .012 | 1.24 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9777.2 | -223. | -2.23 | .17958 | .003 | 1 |

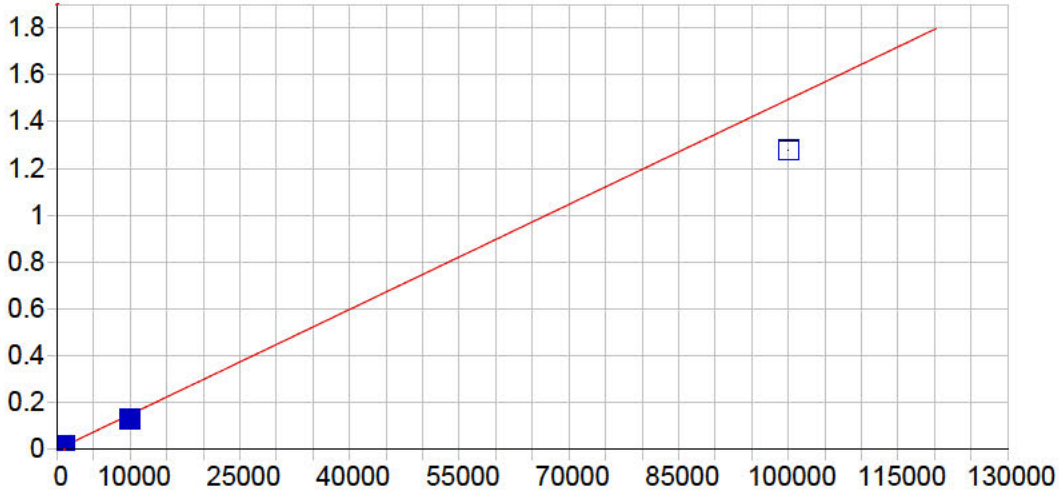



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998281 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.890001 | | |
| Predicted MQL: | 2.966671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03977 | -.040 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1168.3 | 168. | 16.8 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9806.8 | -193. | -1.93 | .01854 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.86 | 24.9 | 24.9 | .00024 | .000 | 1 |

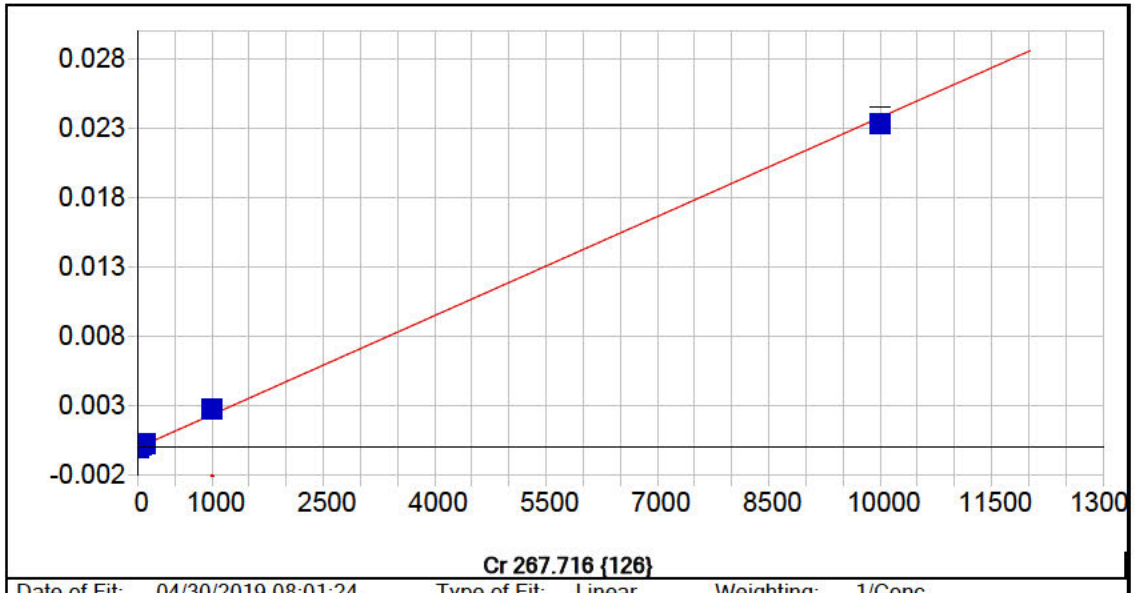



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997498 | Status: | OK. |
| Std Error of Est: | 0.000145 | | |
| Predicted MDL: | 0.312030 | | |
| Predicted MQL: | 1.040101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.1414 | -2.14 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9178 | -.082 | -.822 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.687 | 5.69 | 11.4 | .00087 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.5 | 30.5 | 3.05 | .01544 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.35 | 9.35 | 9.35 | .00167 | .000 | 1 |
| CalStd4=5 | 5.0000 | 51.363 | 46.4 | 927. | .00080 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.5639 | -2.56 | -256. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 8651.3 | -1350. | -13.5 | .12935 | .002 | 1 |
| CalStd12=10 | 100000. | 85458. | -14500. | -14.5 | 1.2774 | .003 | 1 |

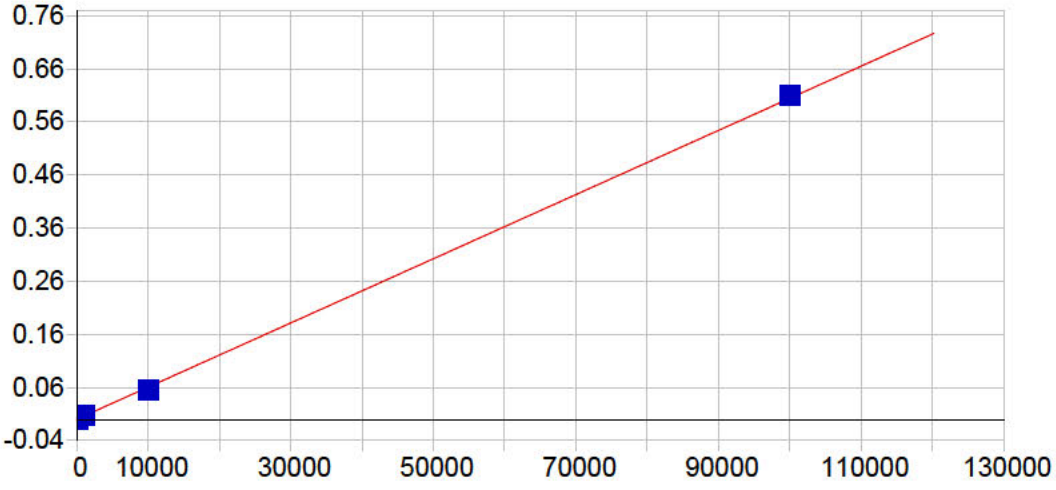



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998132 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.923046 | | |
| Predicted MQL: | 3.076818 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00873 | -.009 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.160 | 3.16 | 31.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 63.410 | 13.4 | 26.8 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1156.3 | 156. | 15.6 | .00275 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.83 | 23.8 | 23.8 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 8.9402 | 3.94 | 78.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9799.4 | -201. | -2.01 | .02328 | .001 | 1 |

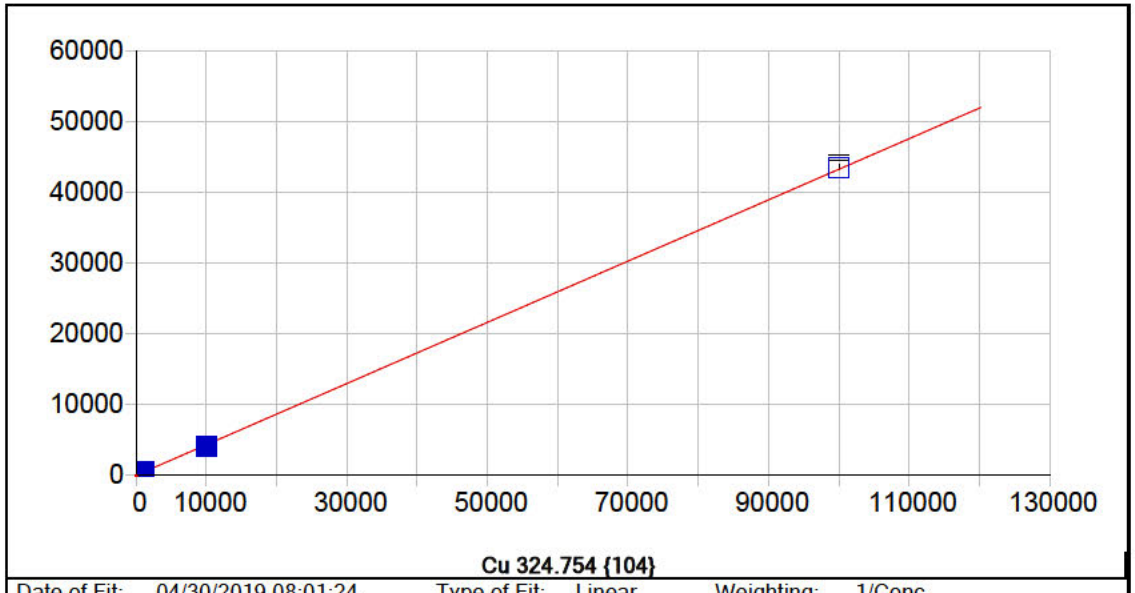



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999425 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.447985 | | |
| Predicted MQL: | 1.493282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03345 | .033 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.2 | 44.2 | 4.42 | .00631 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.011 | -27.0 | -54.0 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.772 | -33.2 | -33.2 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.7070 | -15.3 | -76.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100930. | 926. | .926 | .60996 | .000 | 1 |
| CalStd10=10 | 10000. | 9105.5 | -895. | -8.95 | .05503 | .001 | 1 |

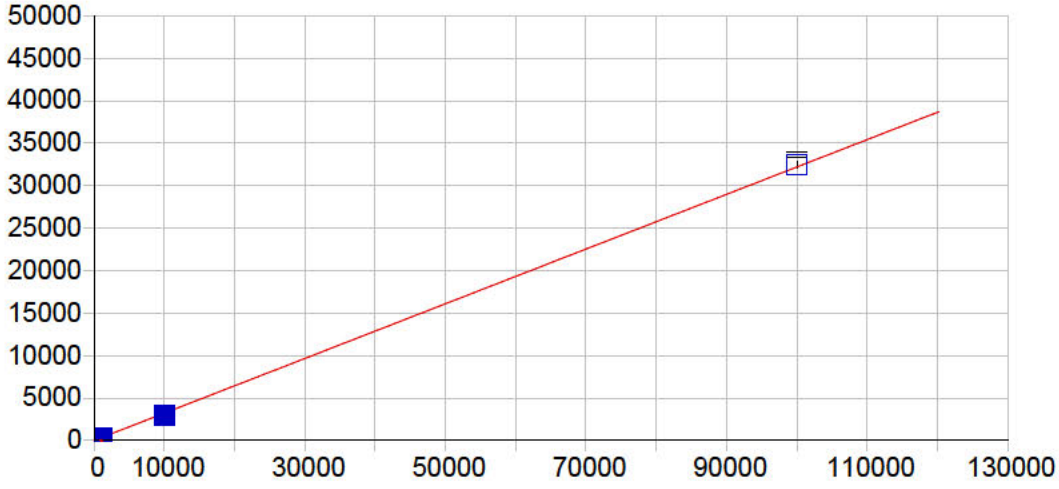



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 32.917937 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.432226 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999630 | Status: | OK. |
| Std Error of Est: | 0.452439 | | |
| Predicted MDL: | 5.608774 | | |
| Predicted MQL: | 18.695912 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01484 | -.015 | .000 | 32.912 | 1.24 | 1 |
| CalStd9=100 | 1000.0 | 1083.9 | 83.9 | 8.39 | 501.38 | 9.93 | 1 |
| CalStd8=100 | 100.00 | 121.35 | 21.4 | 21.4 | 85.370 | 1.21 | 1 |
| CalStd10=10 | 10000. | 9248.4 | -752. | -7.52 | 4030.0 | 17.9 | 1 |
| CalStd12=10 | 100000. | 100620. | 619. | .619 | 43523. | 365. | 1 |
| CalStd5=10 | 10.000 | 15.681 | 5.68 | 56.8 | 39.696 | 3.29 | 1 |
| CalStd6=20 | 20.000 | 28.281 | 8.28 | 41.4 | 45.142 | .661 | 1 |
| CalStd7=50 | 50.000 | 63.663 | 13.7 | 27.3 | 60.435 | .678 | 1 |

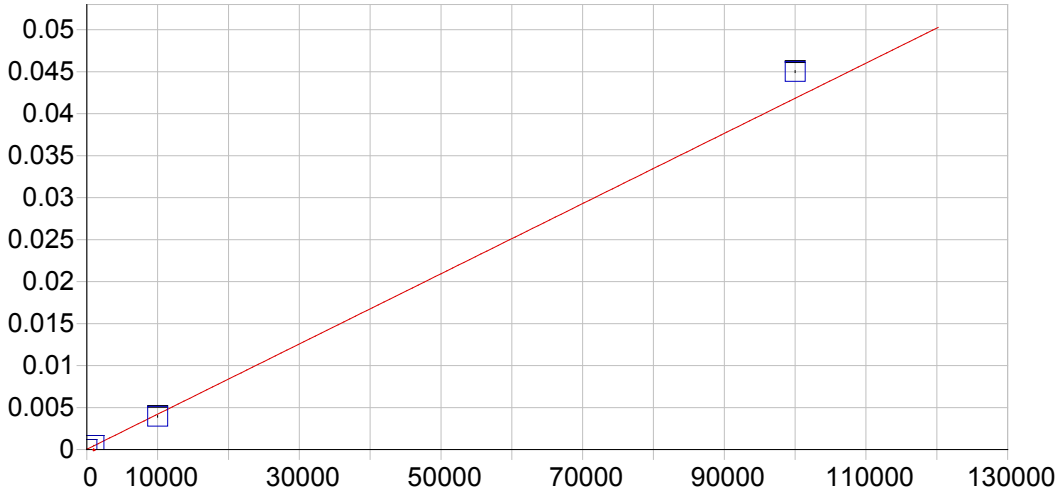



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.187822 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.321888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999459 | Status: | OK. |
| Std Error of Est: | 0.282912 | | |
| Predicted MDL: | 9.835319 | | |
| Predicted MQL: | 32.784397 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01440 | -.014 | .000 | 7.1832 | 2.95 | 1 |
| CalStd6=20 | 20.000 | 24.984 | 4.98 | 24.9 | 15.226 | 3.16 | 1 |
| CalStd7=50 | 50.000 | 66.452 | 16.5 | 32.9 | 28.568 | 1.65 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | 46.347 | 5.06 | 1 |
| CalStd9=100 | 1000.0 | 1078.5 | 78.5 | 7.85 | 354.16 | 6.84 | 1 |
| CalStd10=10 | 10000. | 9093.8 | -906. | -9.06 | 2934.4 | 26.3 | 1 |
| CalStd12=10 | 100000. | 100770. | 771. | .771 | 32444. | 356. | 1 |
| CalStd4=5 | 5.0000 | 12.546 | 7.55 | 151. | 11.225 | 2.33 | 1 |
| CalStd5=10 | 10.000 | 15.797 | 5.80 | 58.0 | 12.271 | 2.94 | 1 |

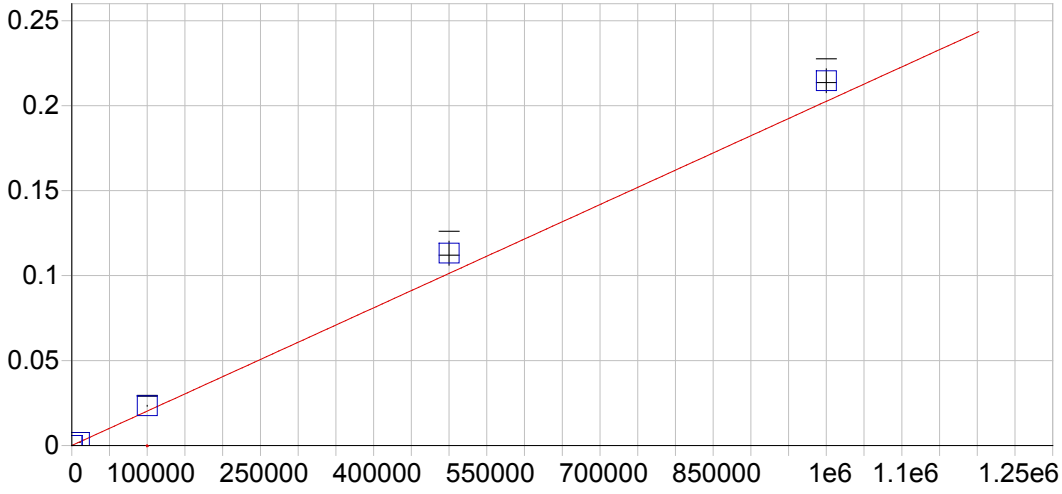



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 1.861928 | | |
| Predicted MQL: | 6.206425 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23485 | -.235 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9375.0 | -625. | -6.25 | .00395 | .000 | 1 |
| CalStd13=10 | 100000. | 107610. | 7610. | 7.61 | .04501 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1097.8 | 97.8 | 9.78 | .00049 | .000 | 1 |

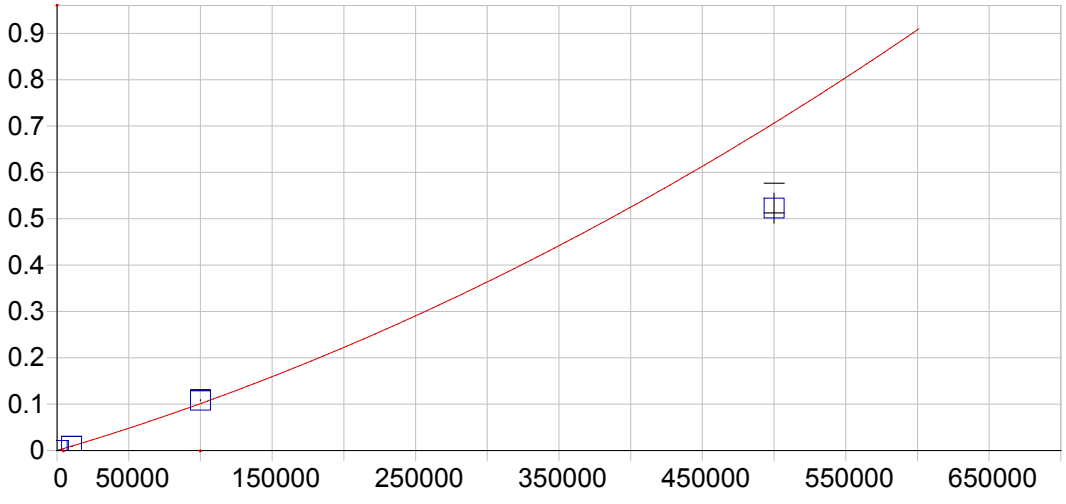



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994823 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 17.270833 | | |
| Predicted MQL: | 57.569443 | | |

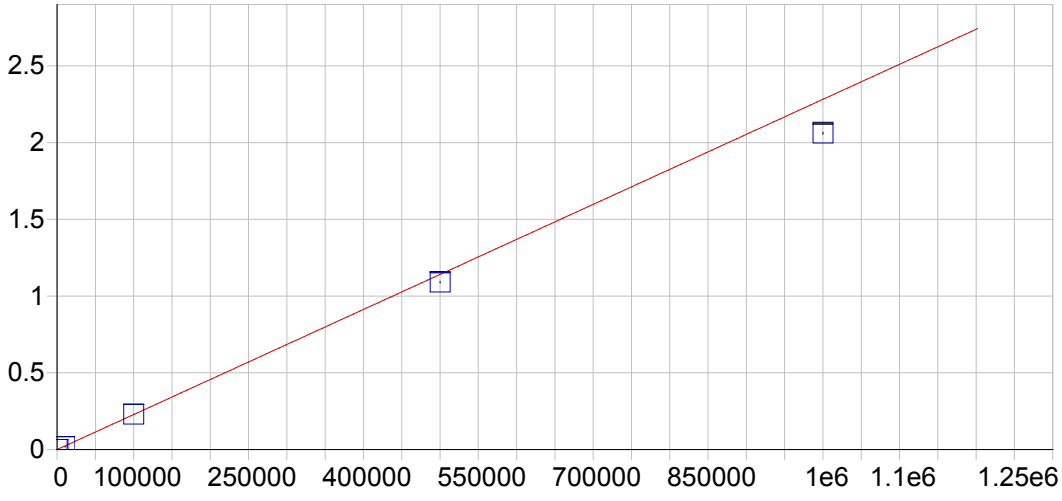
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0192 | -2.02 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9267.3 | -733. | -7.33 | .00189 | .000 | 1 |
| CalStd13=10 | 100000. | 115270. | 15300. | 15.3 | .02336 | .000 | 1 |
| CalStd14=50 | 500000. | 558690. | 58700. | 11.7 | .11317 | .007 | 1 |
| CalStd9=100 | 1000.0 | 1068.1 | 68.1 | 6.81 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 1059600. | 59600. | 5.96 | .21464 | .007 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000065 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997286 | | Status: | Warning | Positive Curvature |
| Std Error of Est: | 0.000158 | | | | |
| Predicted MDL: | 5.216183 | | | | |
| Predicted MQL: | 17.387276 | | | | |

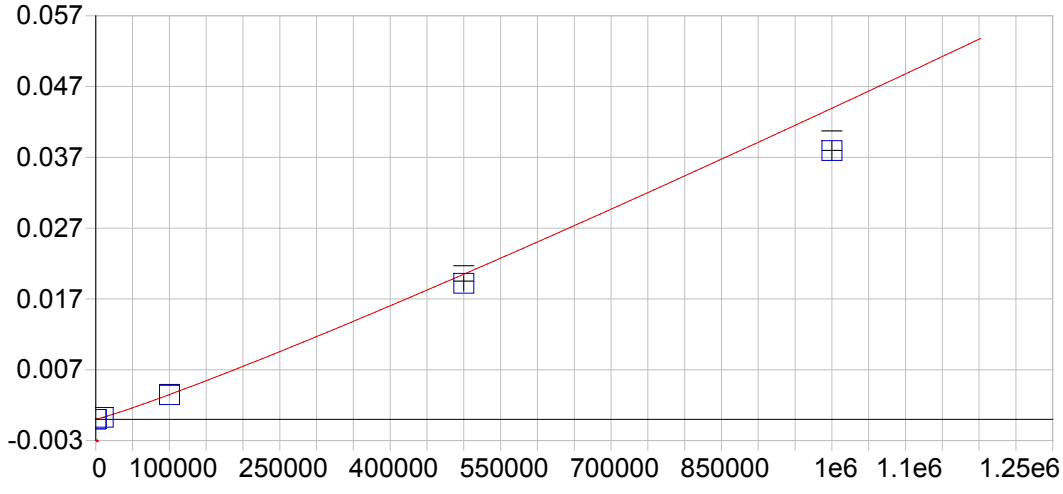
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.898 | -24.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9540.9 | -459. | -4.59 | .00886 | .000 | 1 |
| CalStd13=10 | 100000. | 106310. | 6310. | 6.31 | .10833 | .001 | 1 |
| CalStd14=50 | 500000. | 398750. | -101000. | -20.2 | .52289 | .032 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .00106 | .000 | 1 |




**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000002 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999696 | | Status: | OK. | |
| Std Error of Est: | 0.000343 | | | | |
| Predicted MDL: | 2.203469 | | | | |
| Predicted MQL: | 7.344897 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 23.811 | 23.8 | .000 | .00006 | .000 | 1 |
| CalStd13=10 | 100000. | 100590. | 591. | .591 | .22957 | .000 | 1 |
| CalStd10=10 | 10000. | 7754.8 | -2250. | -22.5 | .01770 | .000 | 1 |
| CalStd14=50 | 500000. | 477620. | -22400. | -4.48 | 1.0900 | .004 | 1 |
| CalStd9=100 | 1000.0 | 997.86 | -2.14 | -.214 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 903090. | -96900. | -9.69 | 2.0610 | .006 | 1 |

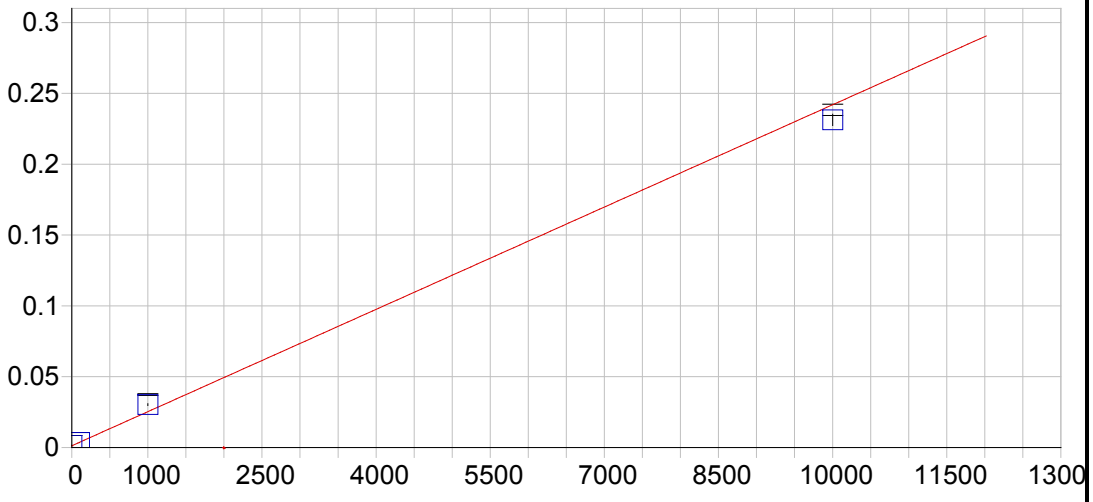



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.100000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 225.466994 | | |
| Predicted MQL: | 751.556647 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99264. | -736. | -.736 | .00346 | .000 | 1 |
| CalStd10=10 | 10000. | 9429.9 | -570. | -5.70 | .00026 | .000 | 1 |
| CalStd14=50 | 500000. | 470980. | -29000. | -5.80 | .01919 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1323.1 | 323. | 32.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 875190. | -125000. | -12.5 | .03794 | .001 | 1 |

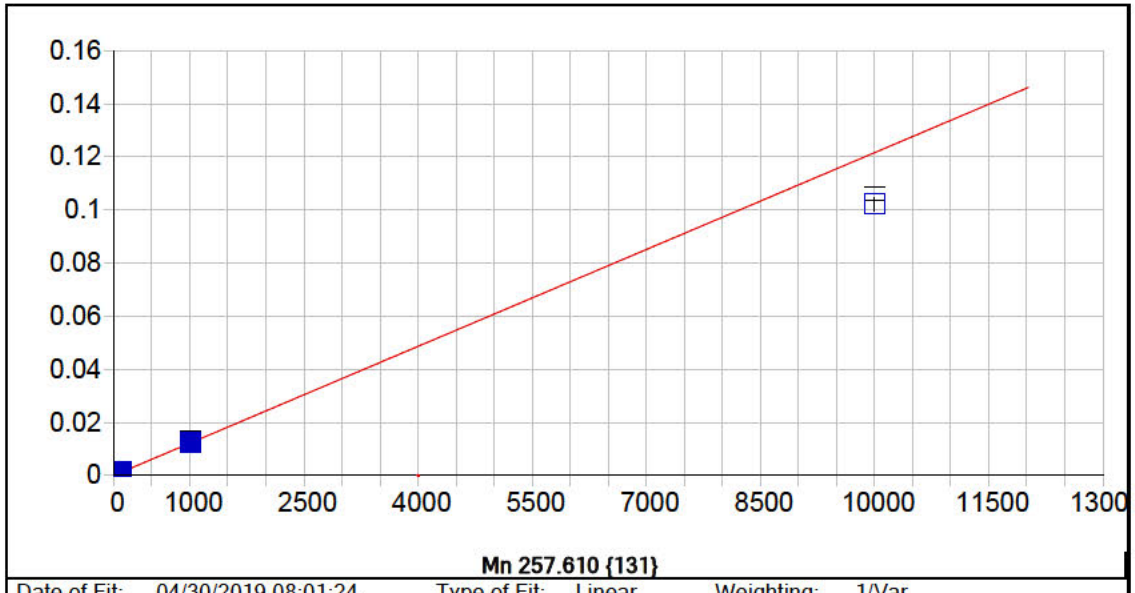



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001262 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992448 | Status: | OK. |
| Std Error of Est: | 0.000619 | | |
| Predicted MDL: | 0.051519 | | |
| Predicted MQL: | 0.171731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.739 | 11.7 | .000 | .00154 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1206.8 | 207. | 20.7 | .03031 | .001 | 1 |
| CalStd10=10 | 10000. | 9556.1 | -444. | -4.44 | .23129 | .004 | 1 |
| CalStd8=100 | 100.00 | 93.604 | -6.40 | -6.40 | .00351 | .000 | 1 |

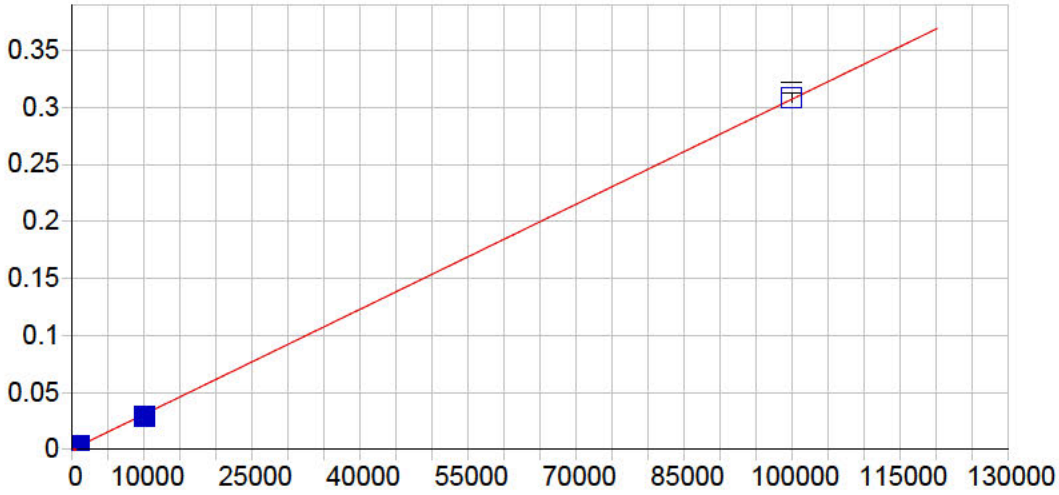



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995548 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.097079 | | |
| Predicted MQL: | 0.323597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04516 | -.045 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.003 | 5.00 | 10.0 | .00070 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.805 | .805 | 4.02 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.55 | 8.55 | 8.55 | .00135 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2295 | -.770 | -15.4 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.2 | 22.2 | 2.22 | .01246 | .000 | 1 |
| CalStd10=10 | 10000. | 8405.2 | -1590. | -15.9 | .10223 | .003 | 1 |

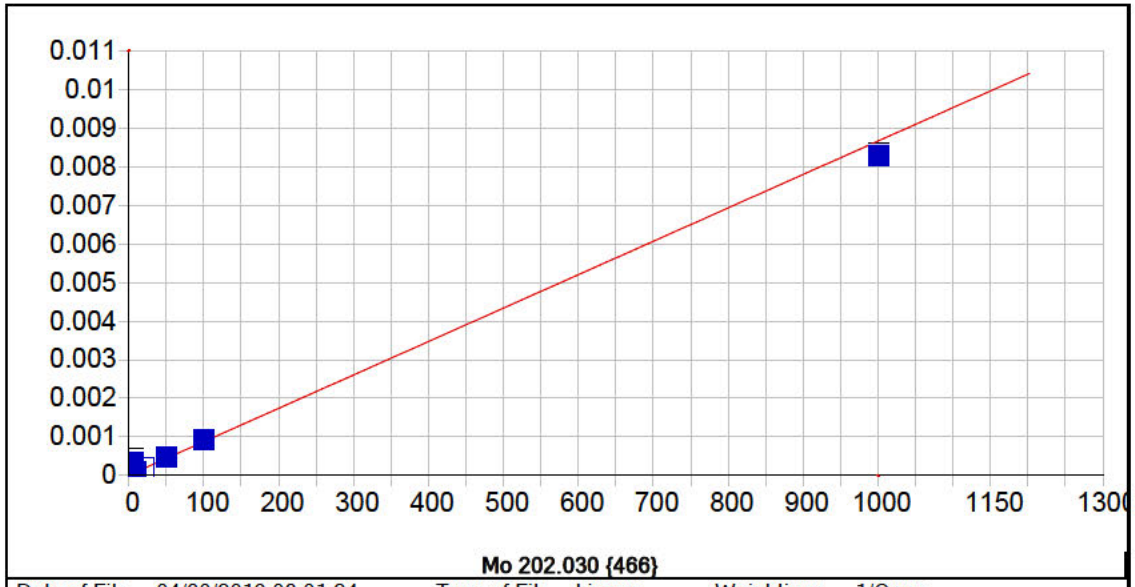



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999811 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 1.512228 | | |
| Predicted MQL: | 5.040759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04534 | -.045 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9446.9 | -553. | -5.53 | .02904 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1096.1 | 96.1 | 9.61 | .00338 | .000 | 1 |
| CalStd12=10 | 100000. | 100460. | 458. | .458 | .30829 | .005 | 1 |

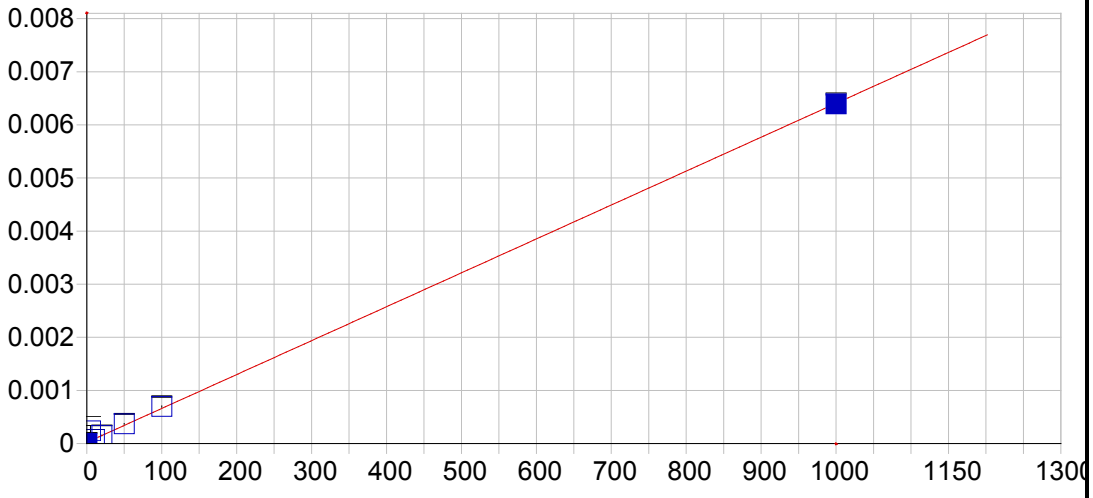



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.918937 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.461169 | | |
| Predicted MQL: | 1.537230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03405 | -.034 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.376 | 4.38 | 8.75 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.645 | 1.65 | 8.23 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.38 | 4.38 | 4.38 | .00092 | .000 | 1 |
| CalStd4=5 | 5.0000 | 37.919 | 32.9 | 658. | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.12 | -43.9 | -4.39 | .00831 | .000 | 1 |

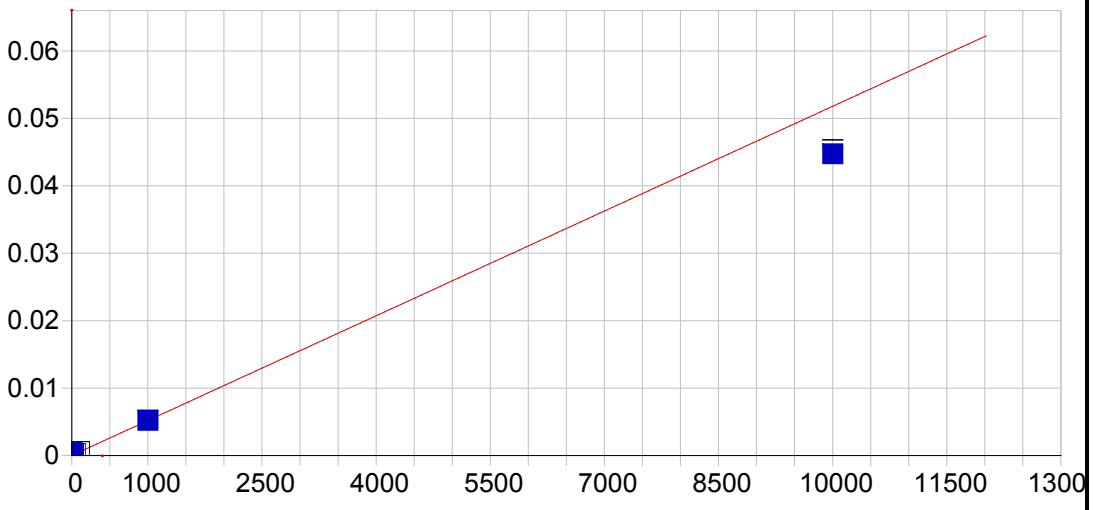



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999869 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.801215 | | |
| Predicted MQL: | 2.670716 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8973 | -1.90 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.529 | 4.53 | 9.06 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.586 | .586 | 2.93 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1156 | -.884 | -8.84 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.51 | 5.51 | 5.51 | .00070 | .000 | 1 |
| CalStd4=5 | 5.0000 | 33.690 | 28.7 | 574. | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.91 | -2.09 | -.209 | .00639 | .000 | 1 |

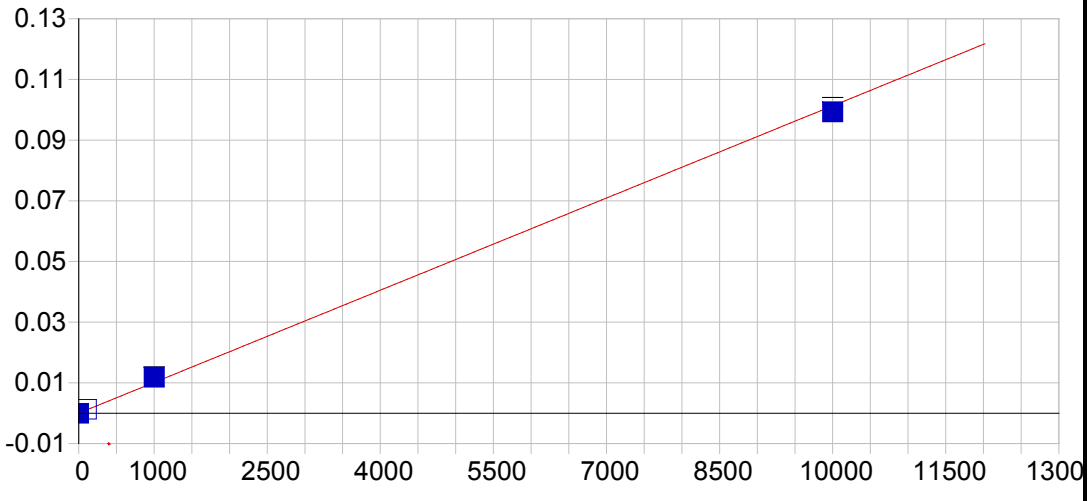



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.916548 | | |
| Predicted MQL: | 3.055158 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3158 | -2.32 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.135 | 5.14 | 10.3 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.378 | .378 | 1.89 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6092 | -.391 | -3.91 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.62 | 7.62 | 7.62 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 83.457 | 78.5 | 1570. | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.19 | .219 | .00520 | .000 | 1 |
| CalStd10=10 | 10000. | 8637.4 | -1360. | -13.6 | .04474 | .001 | 1 |

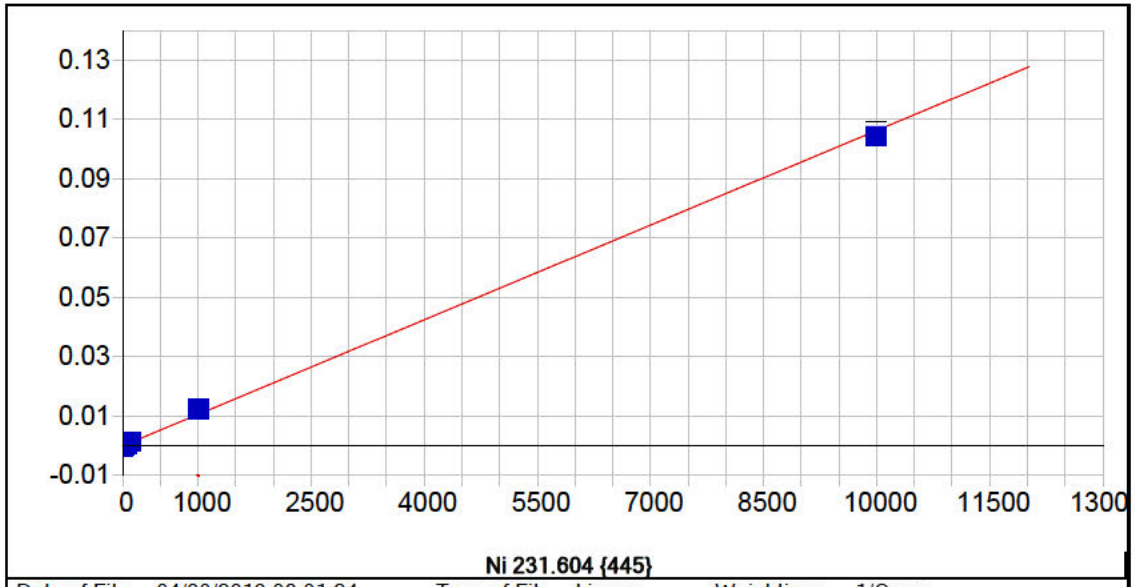



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998093 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 0.768351 | | |
| Predicted MQL: | 2.561171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04496 | -.045 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.5 | -202. | -2.02 | .09927 | .001 | 1 |
| CalStd8=100 | 100.00 | 129.81 | 29.8 | 29.8 | .00132 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1171.7 | 172. | 17.2 | .01187 | .000 | 1 |

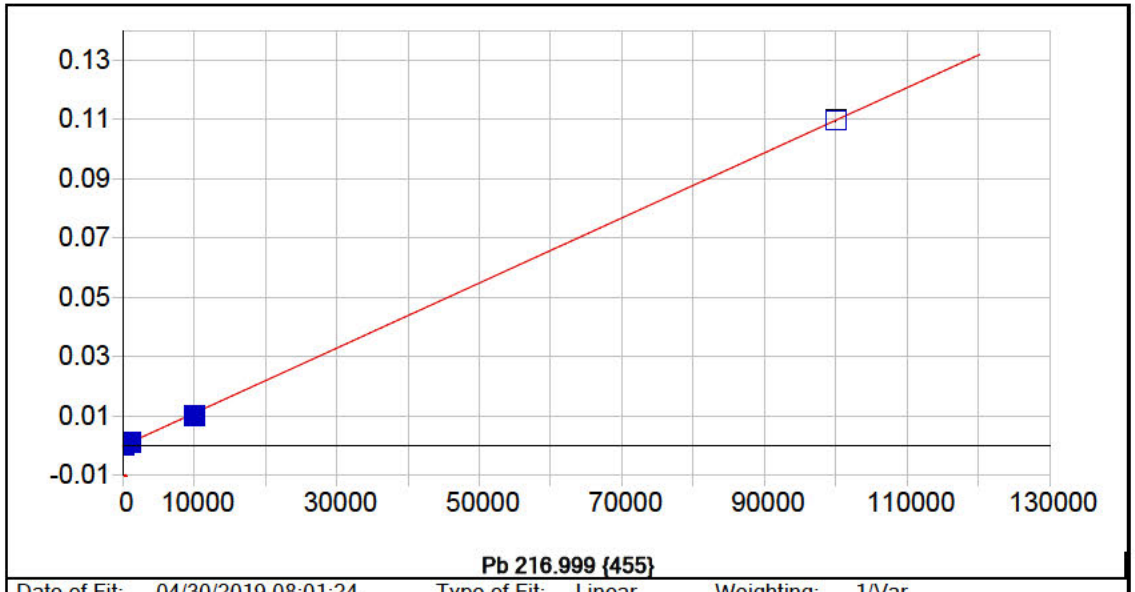



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.984592 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.735570 | | |
| Predicted MQL: | 2.451899 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00668 | .007 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 67.596 | 17.6 | 35.2 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.230 | 4.23 | 42.3 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 130.34 | 30.3 | 30.3 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | -33.889 | -38.9 | -778. | -.00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1173.8 | 174. | 17.4 | .01246 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86059 | -.139 | -13.9 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9813.3 | -187. | -1.87 | .10451 | .002 | 1 |

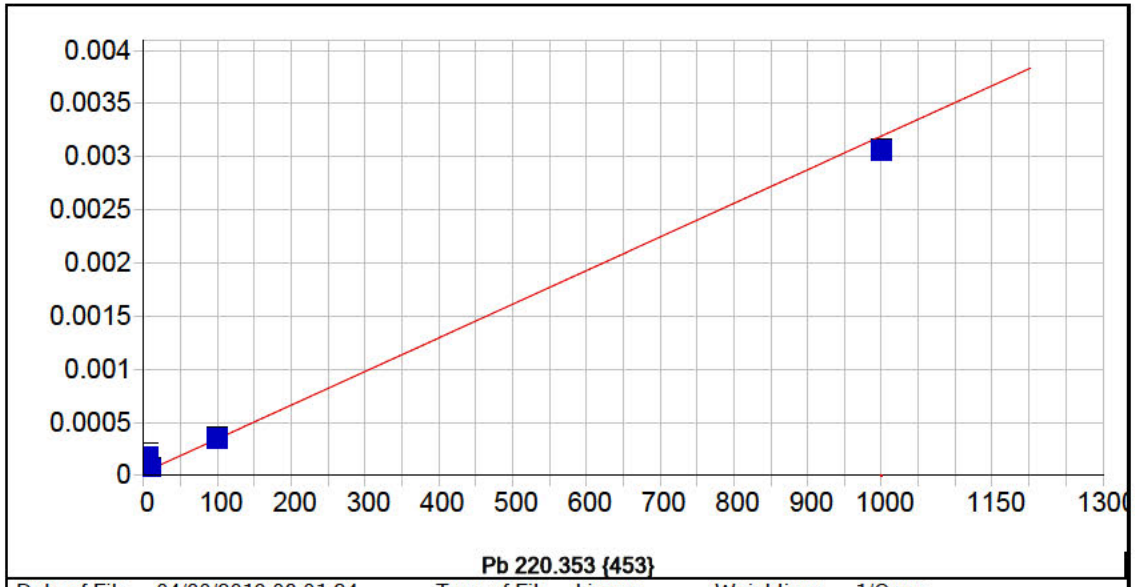



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999773 | Status: | OK. |
| Std Error of Est: | 0.000038 | | |
| Predicted MDL: | 5.620225 | | |
| Predicted MQL: | 18.734085 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.705 | -15.7 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1080.9 | 80.9 | 8.09 | .00120 | .000 | 1 |
| CalStd10=10 | 10000. | 9090.5 | -909. | -9.09 | .00999 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.63 | 8.63 | 8.63 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.9071 | -7.09 | -70.9 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99918. | -82.0 | -.082 | .10965 | .000 | 1 |

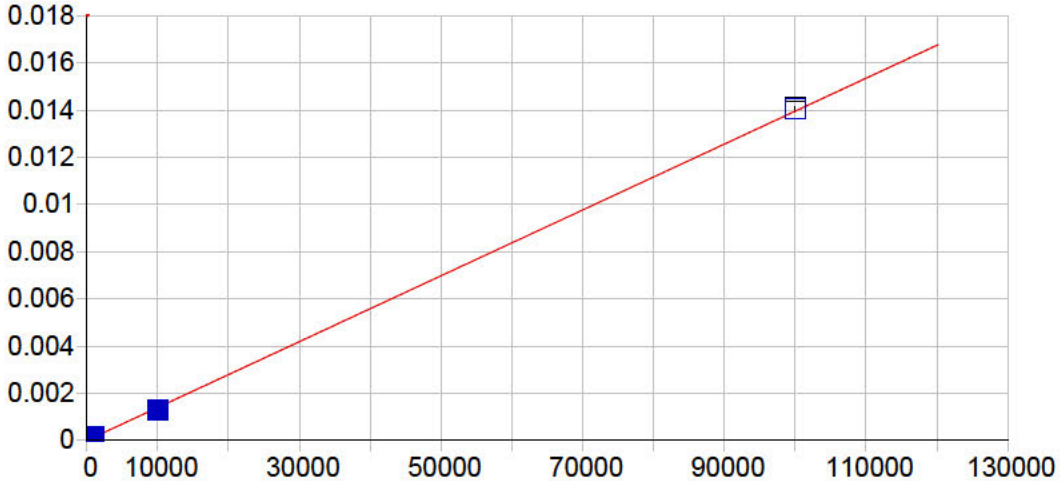



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.878400 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.481162 | | |
| Predicted MQL: | 8.270541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04083 | -.041 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.034 | 1.03 | 10.3 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.10 | 2.10 | 2.10 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 45.423 | 40.4 | 808. | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.47 | -43.5 | -4.35 | .00305 | .000 | 1 |

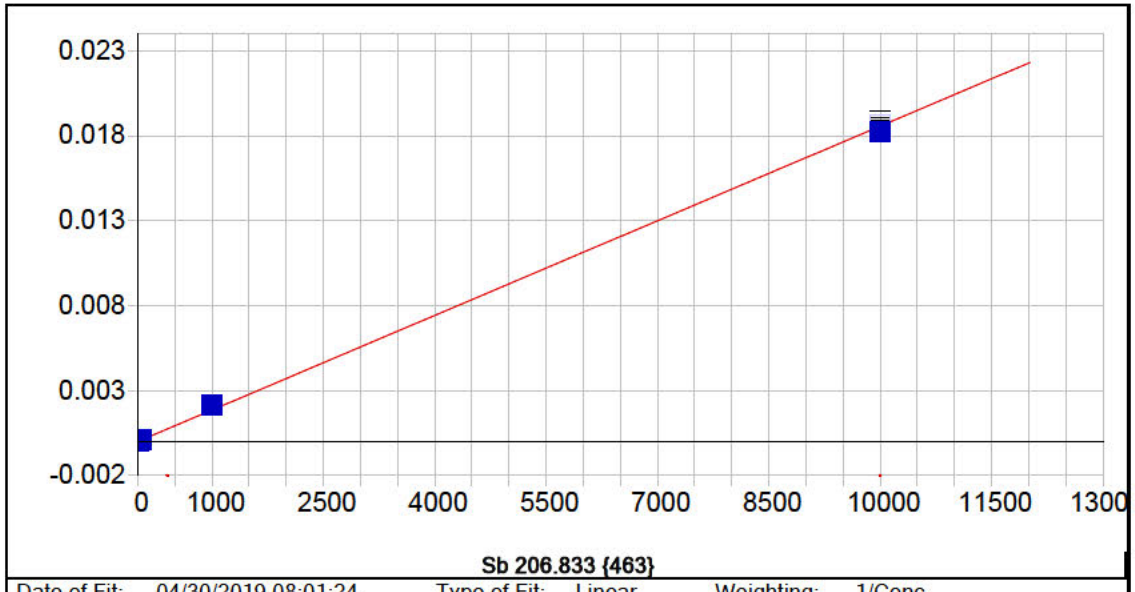



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.969384 | | |
| Predicted MQL: | 23.231279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01616 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1112.0 | 112. | 11.2 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9232.4 | -768. | -7.68 | .00129 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.00 | 12.0 | 12.0 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100640. | 644. | .644 | .01405 | .000 | 1 |

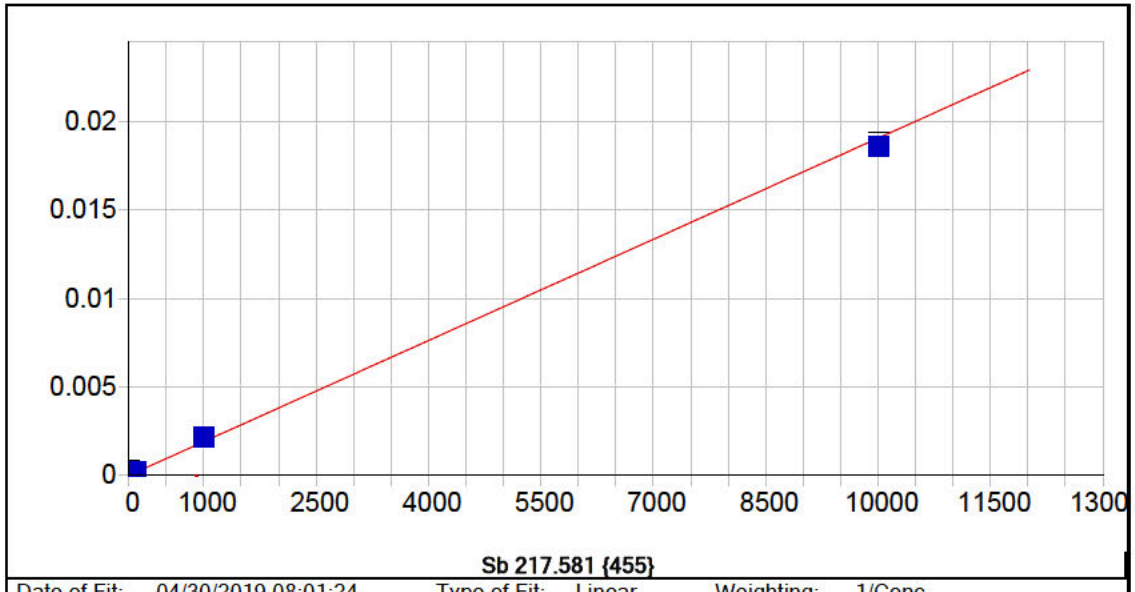



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998562 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.581313 | | |
| Predicted MQL: | 8.604377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00953 | -.010 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1149.7 | 150. | 15.0 | .00217 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.959 | 4.96 | 49.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.221 | 16.2 | 32.4 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.1 | -171. | -1.71 | .01859 | .000 | 1 |

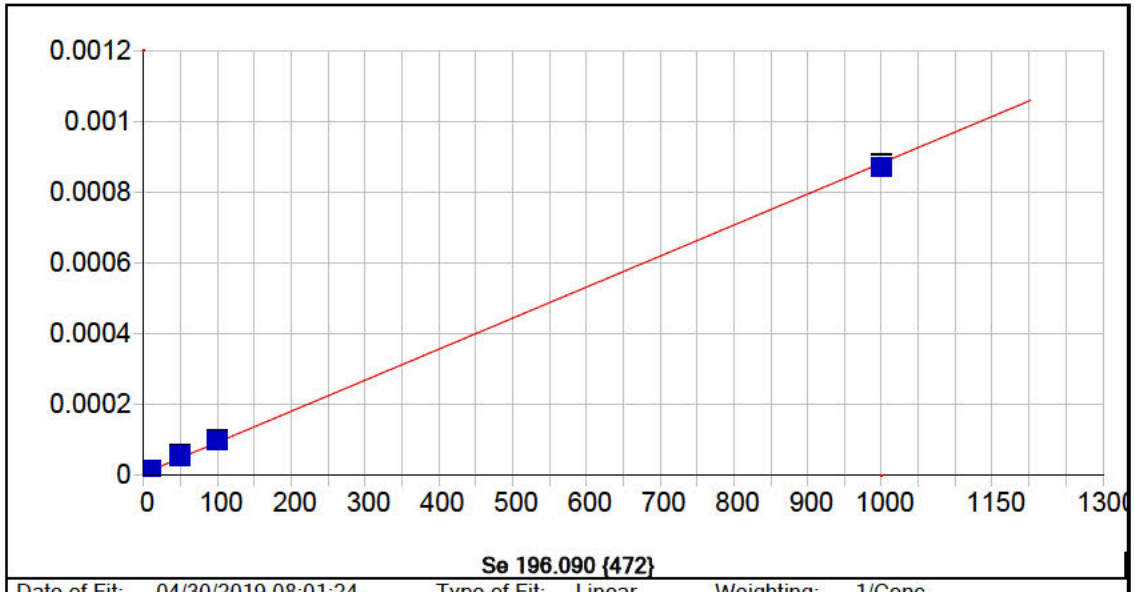



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.933696 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 2.801324 | | |
| Predicted MQL: | 9.337748 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09365 | -.094 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1135.8 | 136. | 13.6 | .00217 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.009 | 5.01 | 25.0 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.209 | 2.21 | 22.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.01 | 24.0 | 24.0 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 94.543 | 89.5 | 1790. | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9743.4 | -257. | -2.57 | .01856 | .000 | 1 |

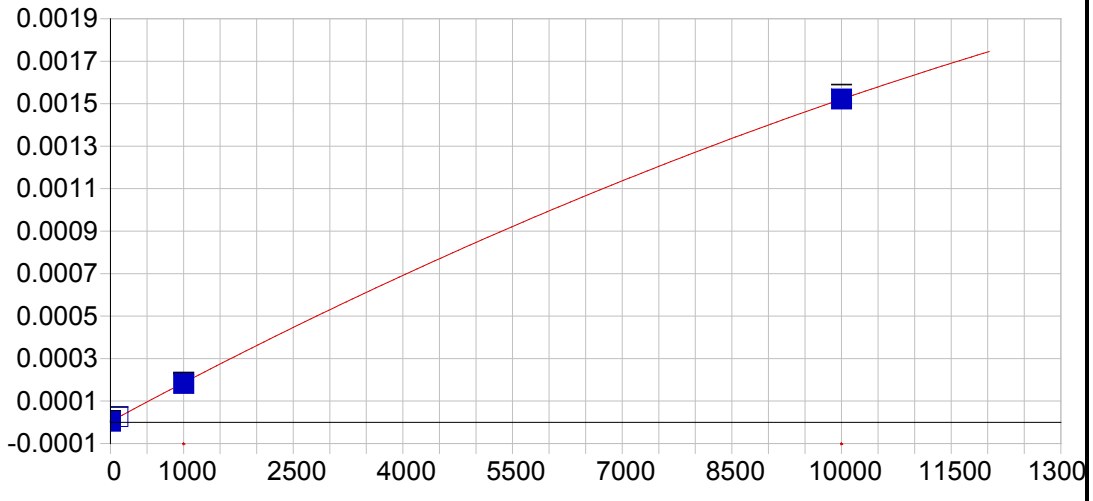



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999198 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.389697 | | |
| Predicted MQL: | 14.632322 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00167 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.114 | 8.11 | 16.2 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.41 | -13.6 | -1.36 | .00087 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5938 | -.406 | -4.06 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.88 | 5.88 | 5.88 | .00010 | .000 | 1 |

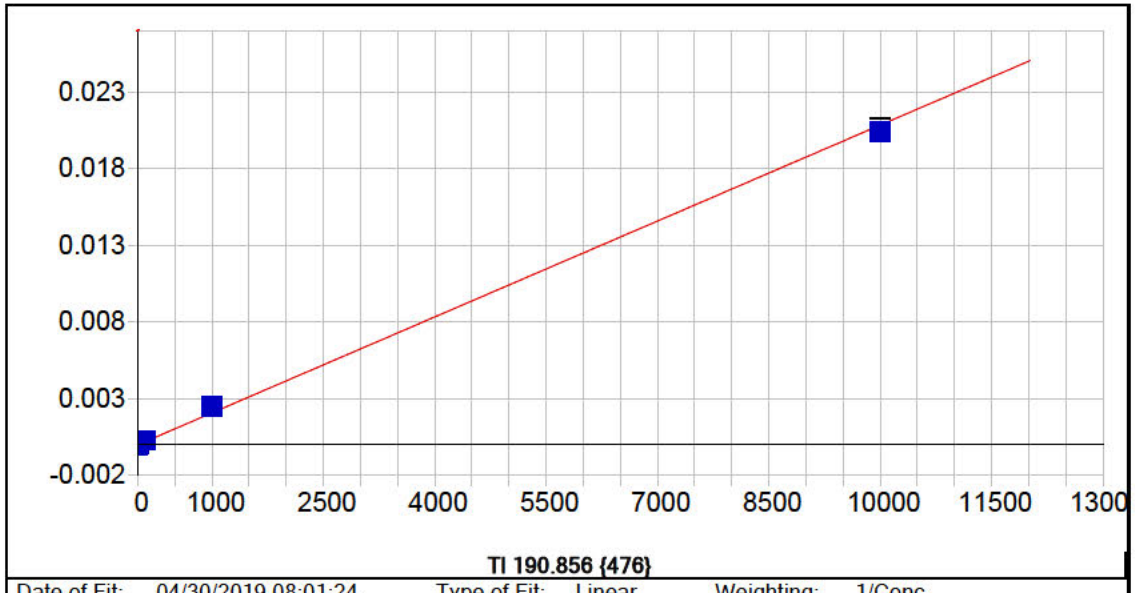



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999688 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.202163 | | |
| Predicted MQL: | 94.007210 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01855 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.30 | -23.7 | -2.37 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.26 | .033 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.89 | 20.9 | 20.9 | .00003 | .000 | 1 |

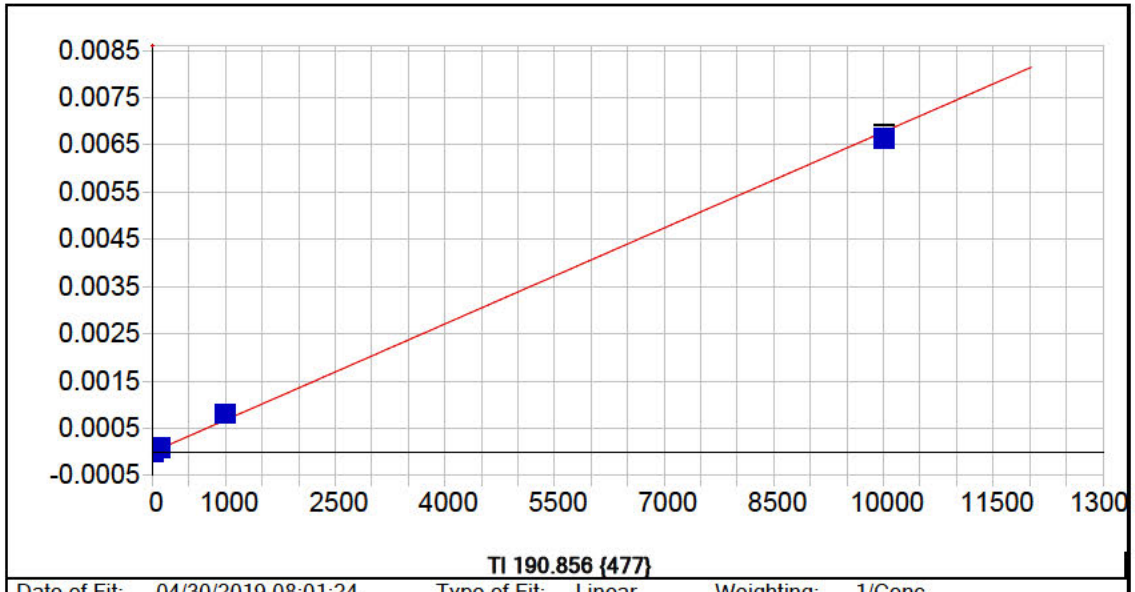



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997608 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 2.696044 | | |
| Predicted MQL: | 8.986812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00879 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1186.9 | 187. | 18.7 | .00248 | .000 | 1 |
| CalStd8=100 | 100.00 | 135.27 | 35.3 | 35.3 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.620 | 3.62 | 36.2 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9774.2 | -226. | -2.26 | .02045 | .000 | 1 |

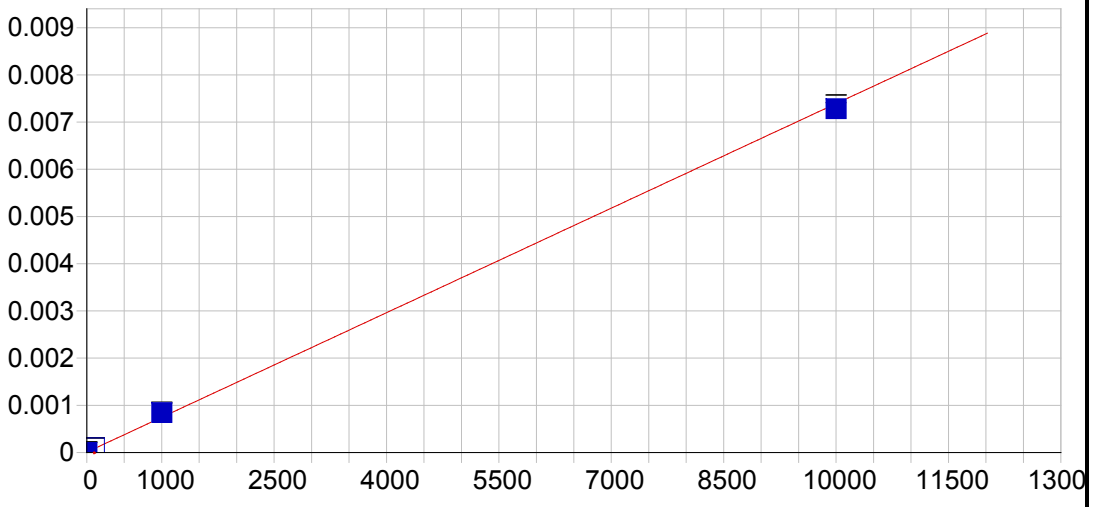



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997785 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.738296 | | |
| Predicted MQL: | 19.127652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00518 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1191.3 | 191. | 19.1 | .00081 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.17 | 28.2 | 28.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.666 | .666 | 6.66 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9779.8 | -220. | -2.20 | .00663 | .000 | 1 |

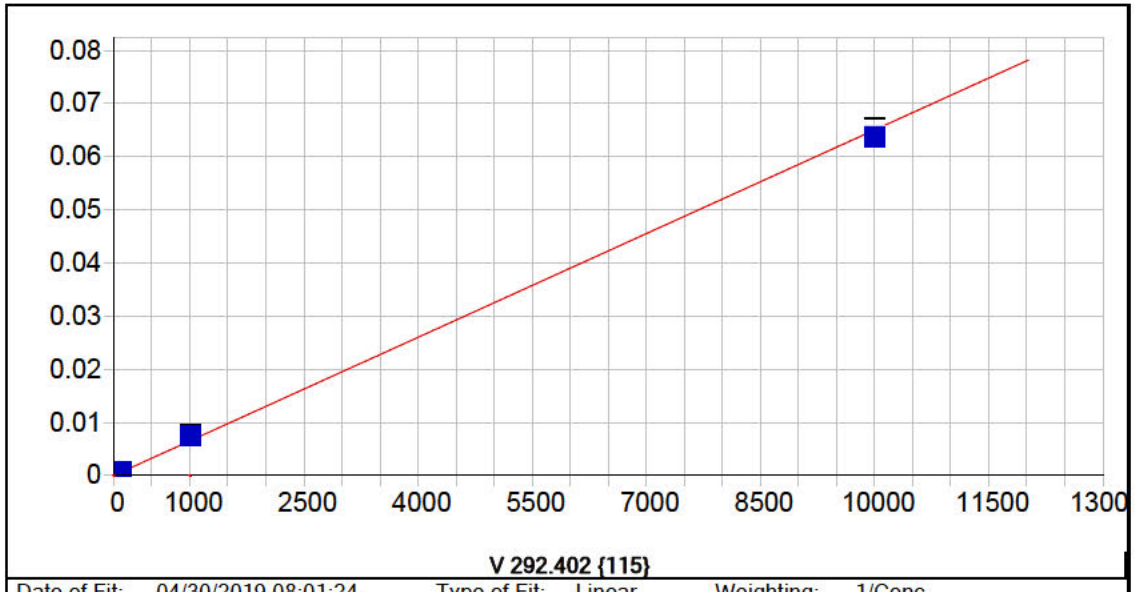



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998924 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 8.162286 | | |
| Predicted MQL: | 27.207619 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03327 | -.033 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1129.9 | 130. | 13.0 | .00084 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.3 | -152. | -1.52 | .00728 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.80 | 21.8 | 21.8 | .00010 | .000 | 1 |

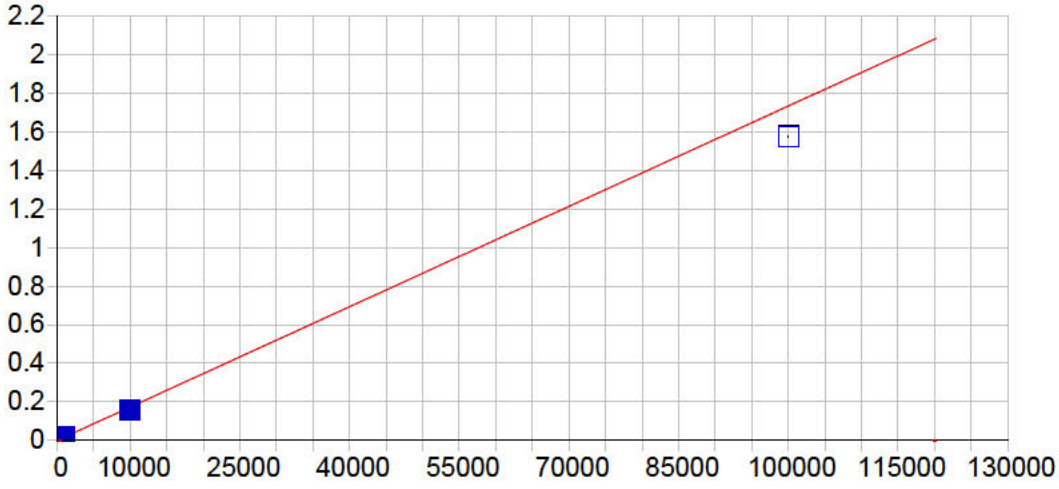



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998319 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.630081 | | |
| Predicted MQL: | 2.100271 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01257 | -.013 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 62.800 | 12.8 | 25.6 | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1150.5 | 150. | 15.0 | .00749 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.252 | 5.25 | 26.3 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.751 | 3.75 | 37.5 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.26 | 23.3 | 23.3 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9805.2 | -195. | -1.95 | .06401 | .002 | 1 |

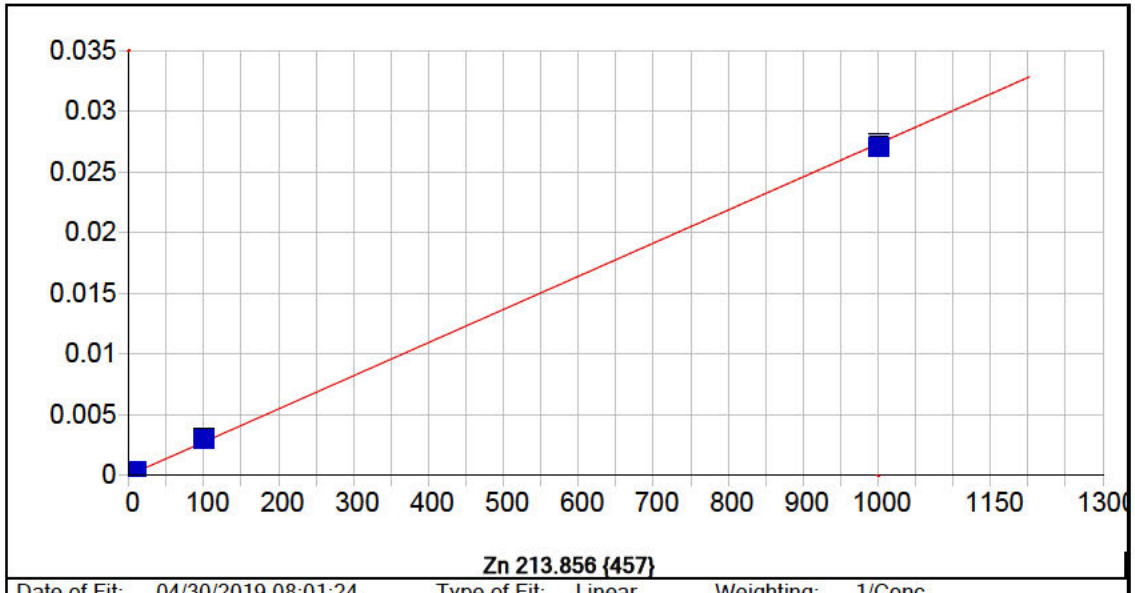



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996075 | Status: | OK. |
| Std Error of Est: | 0.000214 | | |
| Predicted MDL: | 0.372954 | | |
| Predicted MQL: | 1.243179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9095.3 | -905. | -9.05 | .15761 | .003 | 1 |
| Blank | .00000 | -2.7928 | -2.79 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01879 | .000 | 1 |
| CalStd12=10 | 100000. | 90861. | -9140. | -9.14 | 1.5740 | .004 | 1 |
| CalStd5=10 | 10.000 | 10.445 | .445 | 4.45 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.52 | 19.5 | 19.5 | .00213 | .000 | 1 |

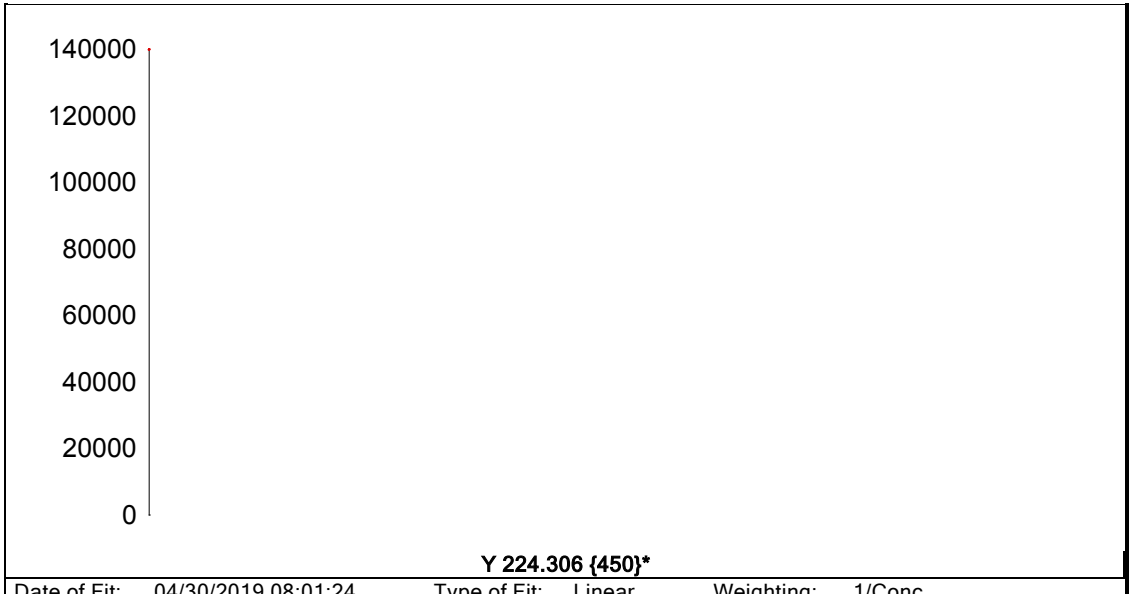



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999485 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.208095 | | |
| Predicted MQL: | 0.693650 | | |

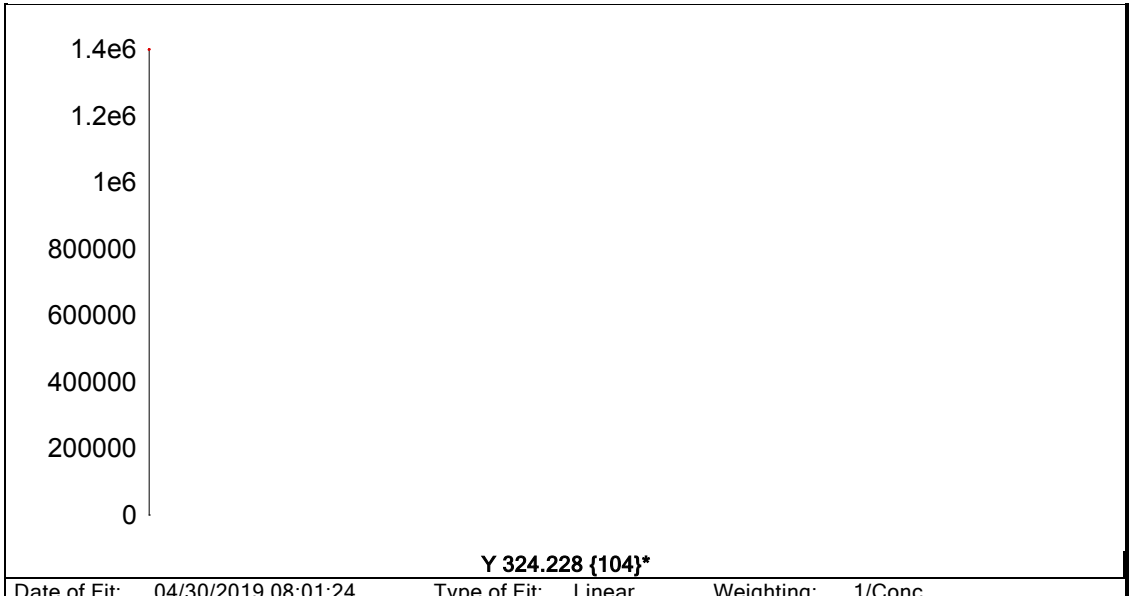
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00259 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.74 | -10.3 | -1.03 | .02724 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.852 | 1.85 | 18.5 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.42 | 8.42 | 8.42 | .00301 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

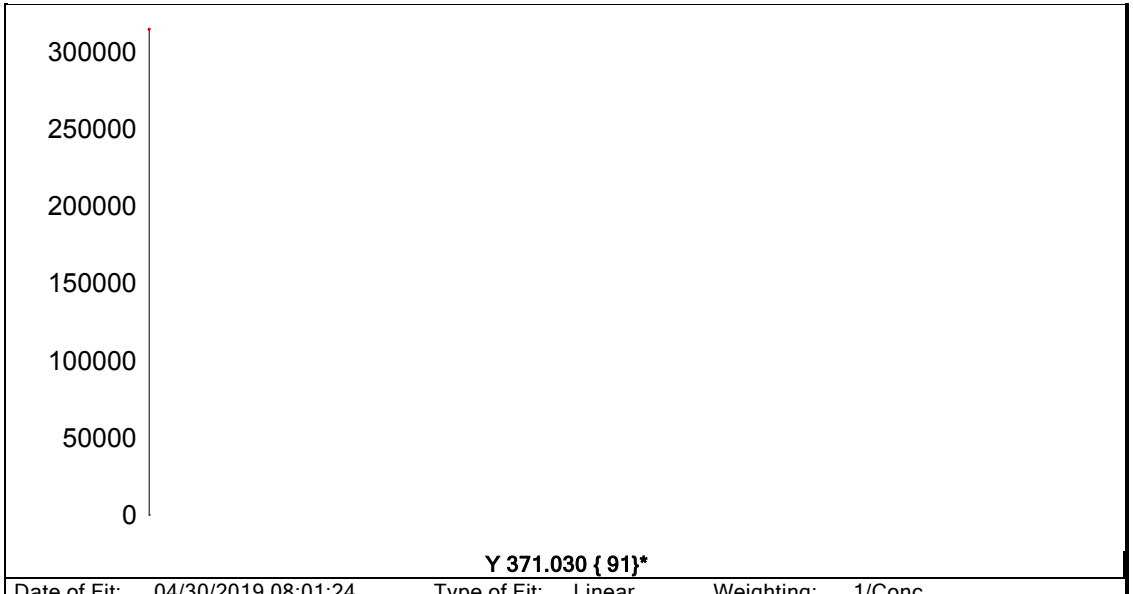
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 126700. | 632. | 1 |




**Y 324.228 {104}***

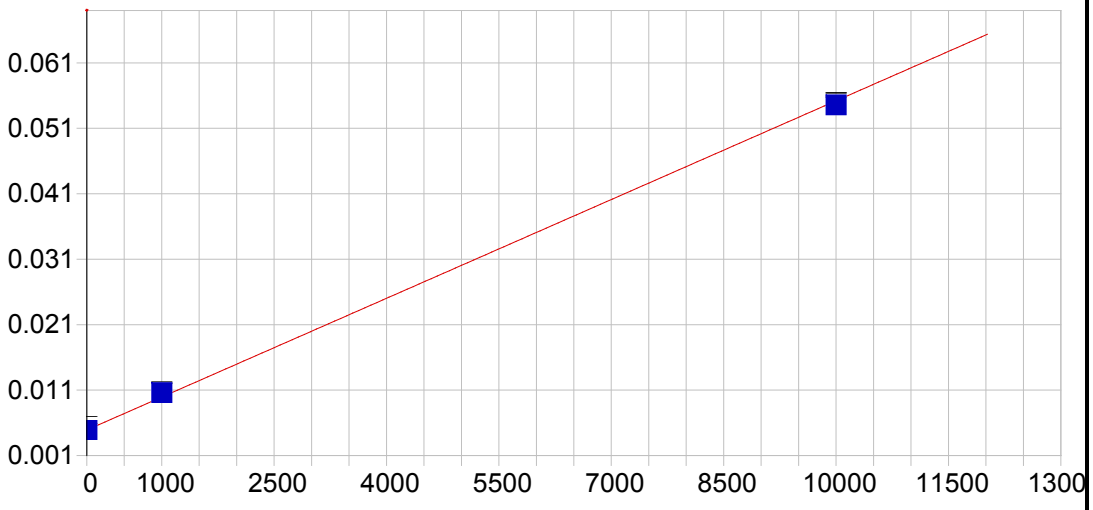
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1295600. | 3610. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 287860. | 9200. | 1 |

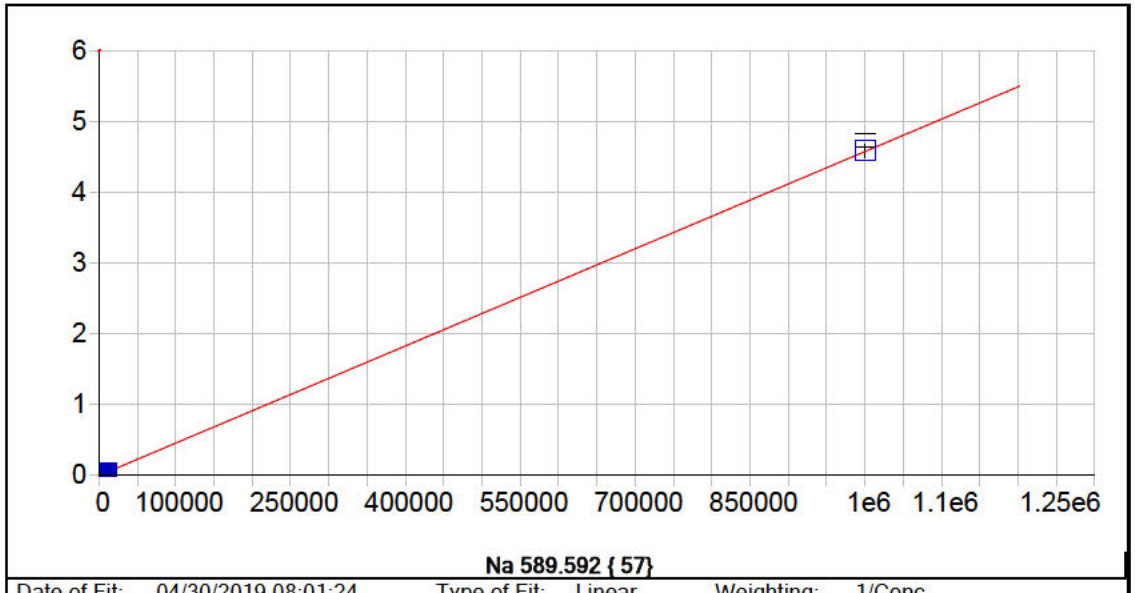



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004901 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999164 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 10.509748 | | |
| Predicted MQL: | 35.032492 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11639 | -.116 | .000 | .00490 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | .01058 | .000 | 1 |
| CalStd10=10 | 10000. | 9870.7 | -129. | -1.29 | .05456 | .000 | 1 |

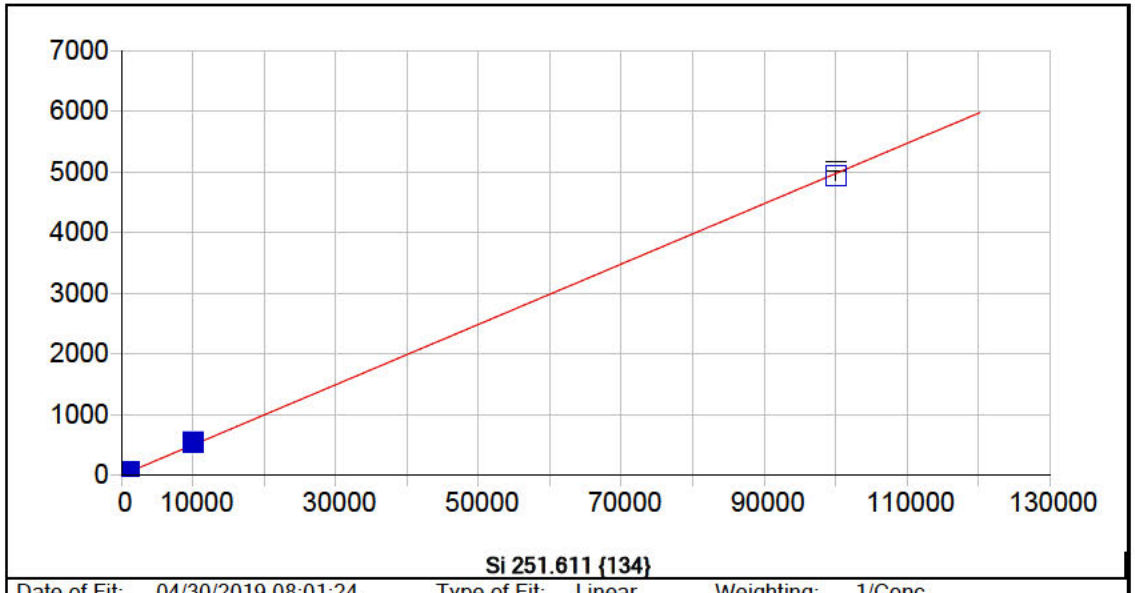



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000353 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 7.542021 | | |
| Predicted MQL: | 25.140069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44012 | .440 | .000 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 814.88 | -185. | -18.5 | .00408 | .000 | 1 |
| CalStd10=10 | 10000. | 7422.4 | -2580. | -25.8 | .03432 | .000 | 1 |
| CalibStd15= | 1000000. | 1002800. | 2760. | .276 | 4.5893 | .089 | 1 |

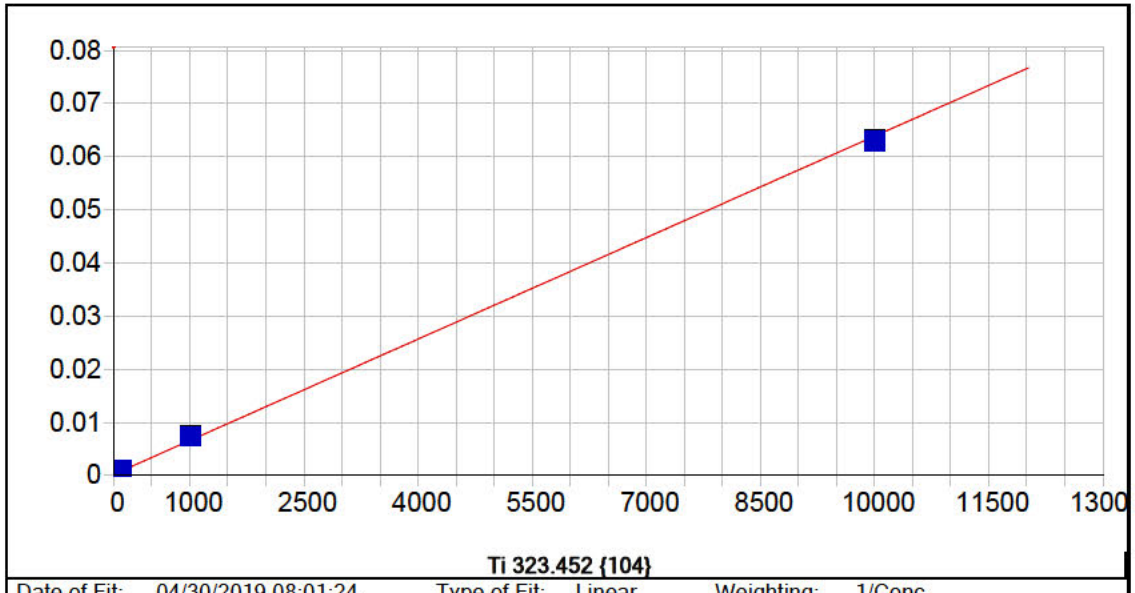



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.496233 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.049700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.563773 | | |
| Predicted MDL: | 25.456914 | | |
| Predicted MQL: | 84.856379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05943 | -.059 | .000 | 5.4933 | 3.24 | 1 |
| CalStd9=100 | 1000.0 | 991.13 | -8.87 | -.887 | 58.676 | 3.89 | 1 |
| CalStd10=10 | 10000. | 10762. | 762. | 7.62 | 565.27 | 4.29 | 1 |
| CalibStd15= | 100000. | 99209. | -791. | -.791 | 4936.2 | 82.1 | 1 |

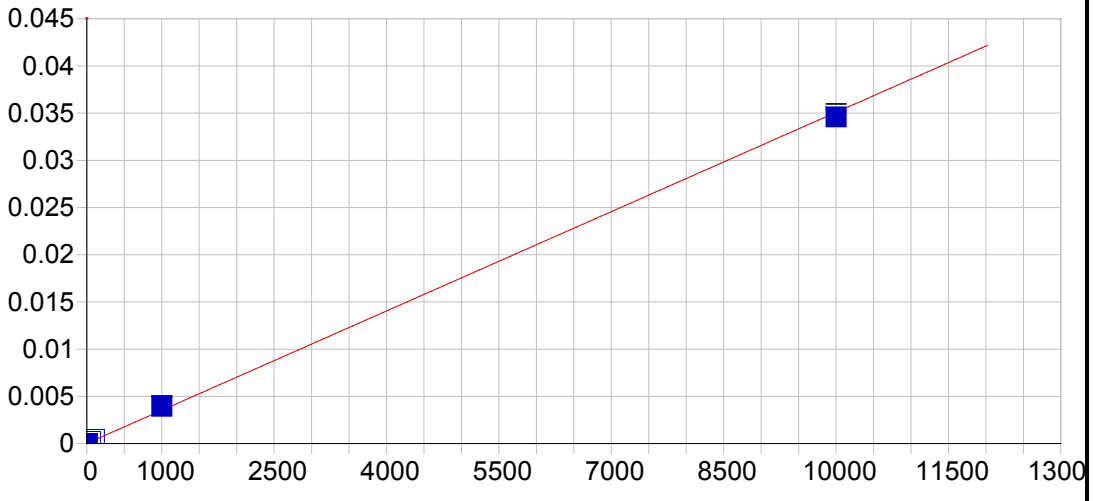



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000229 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998823 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.679766 | | |
| Predicted MQL: | 5.599219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00312 | -.003 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.426 | 1.43 | 14.3 | .00030 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.46 | 21.5 | 21.5 | .00100 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1118.2 | 118. | 11.8 | .00735 | .000 | 1 |
| CalStd10=10 | 10000. | 9843.9 | -156. | -1.56 | .06295 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.862 | 15.9 | 31.7 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2356 | -.764 | -15.3 | .00026 | .000 | 1 |

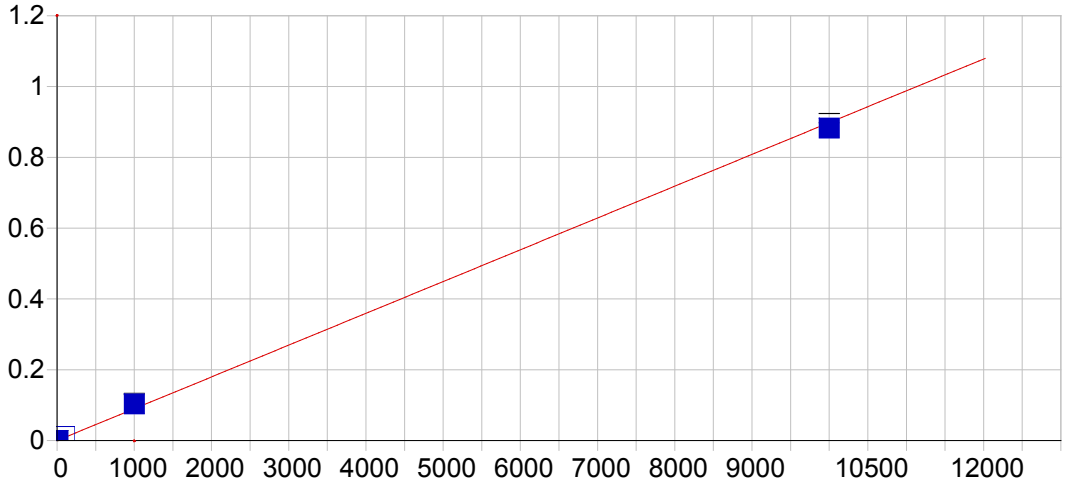



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.153927 | | |
| Predicted MQL: | 7.179758 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.46 | 18.5 | 18.5 | .00043 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1115.8 | 116. | 11.6 | .00393 | .000 | 1 |
| CalStd10=10 | 10000. | 9857.1 | -143. | -1.43 | .03460 | .000 | 1 |
| CalStd7=50 | 50.000 | 60.626 | 10.6 | 21.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5173 | -2.48 | -49.7 | .00002 | .000 | 1 |

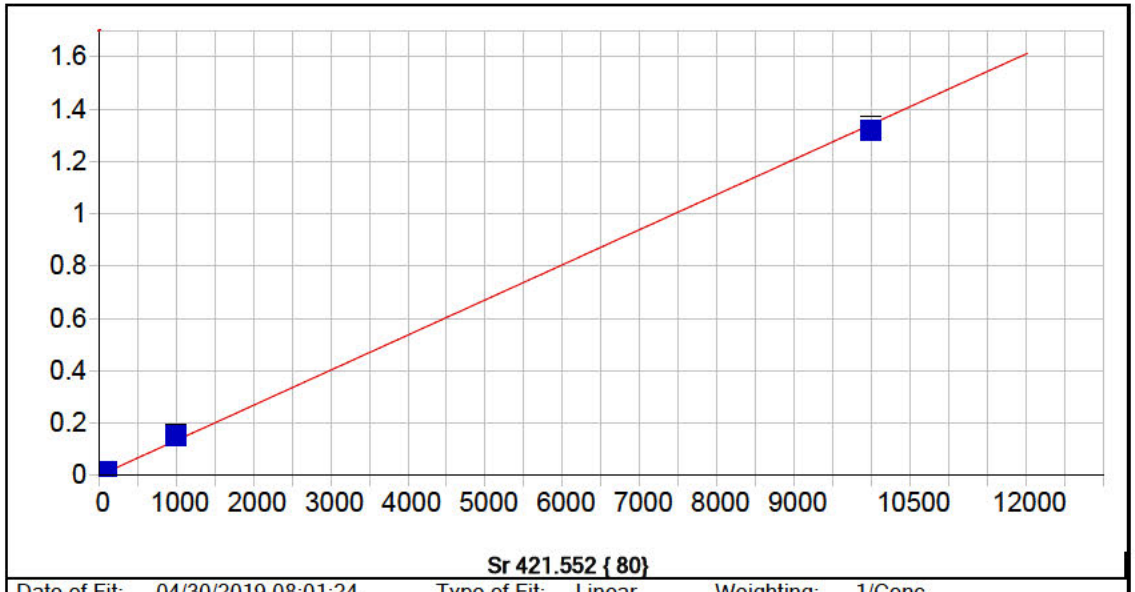



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000090 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998548 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.191487 | | |
| Predicted MQL: | 0.638289 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00094 | -.001 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .96922 | -.031 | -3.08 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.2802 | 1.28 | 25.6 | .00065 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.494 | 3.49 | 34.9 | .00130 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.84 | 23.8 | 23.8 | .01121 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1148.3 | 148. | 14.8 | .10324 | .002 | 1 |
| CalStd10=10 | 10000. | 9823.1 | -177. | -1.77 | .88250 | .013 | 1 |

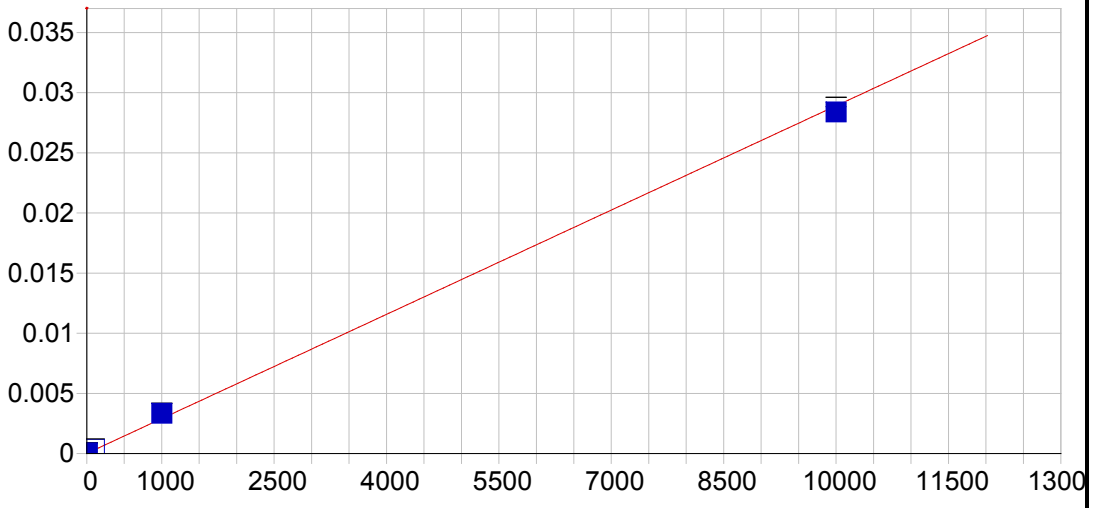



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998725 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.129437 | | |
| Predicted MQL: | 0.431456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | .59172 | -.408 | -40.8 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0861 | 1.09 | 21.7 | .00088 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.395 | 3.40 | 34.0 | .00186 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.02 | 23.0 | 23.0 | .01657 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1137.3 | 137. | 13.7 | .15263 | .003 | 1 |
| CalStd10=10 | 10000. | 9835.6 | -164. | -1.64 | 1.3195 | .013 | 1 |

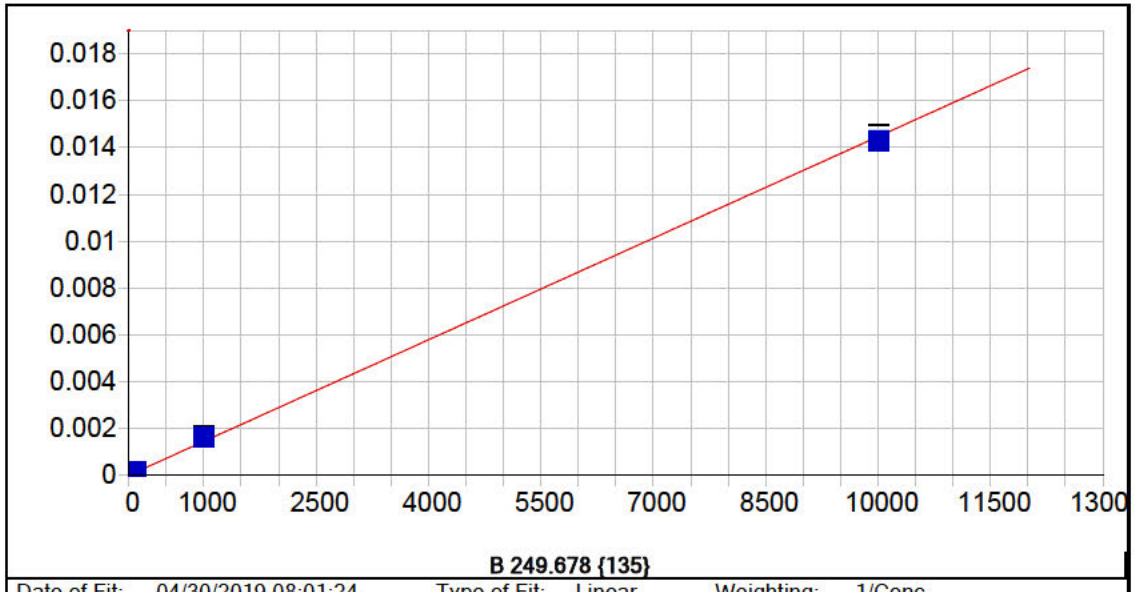



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998477 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.686047 | | |
| Predicted MQL: | 5.620155 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00781 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9819.9 | -180. | -1.80 | .02839 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.1 | 151. | 15.1 | .00334 | .000 | 1 |
| CalStd8=100 | 100.00 | 125.03 | 25.0 | 25.0 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.973 | 3.97 | 39.7 | .00005 | .000 | 1 |

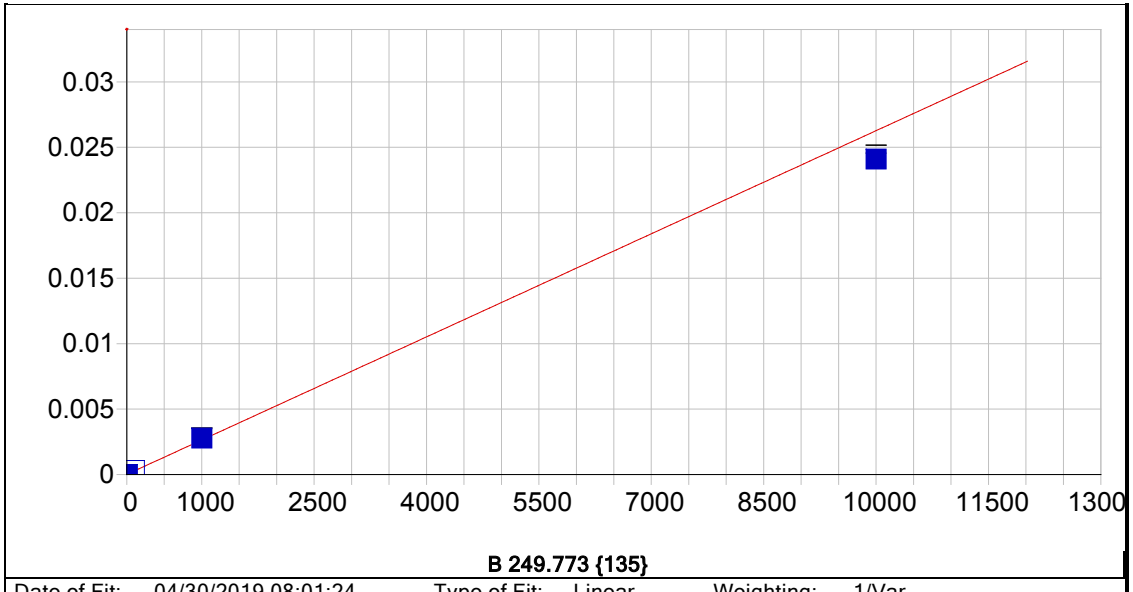



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999110 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.384749 | | |
| Predicted MQL: | 4.615829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00023 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.83 | 15.8 | 15.8 | .00018 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1048 | -2.90 | -29.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1121.6 | 122. | 12.2 | .00164 | .000 | 1 |
| CalStd10=10 | 10000. | 9865.4 | -135. | -1.35 | .01433 | .000 | 1 |

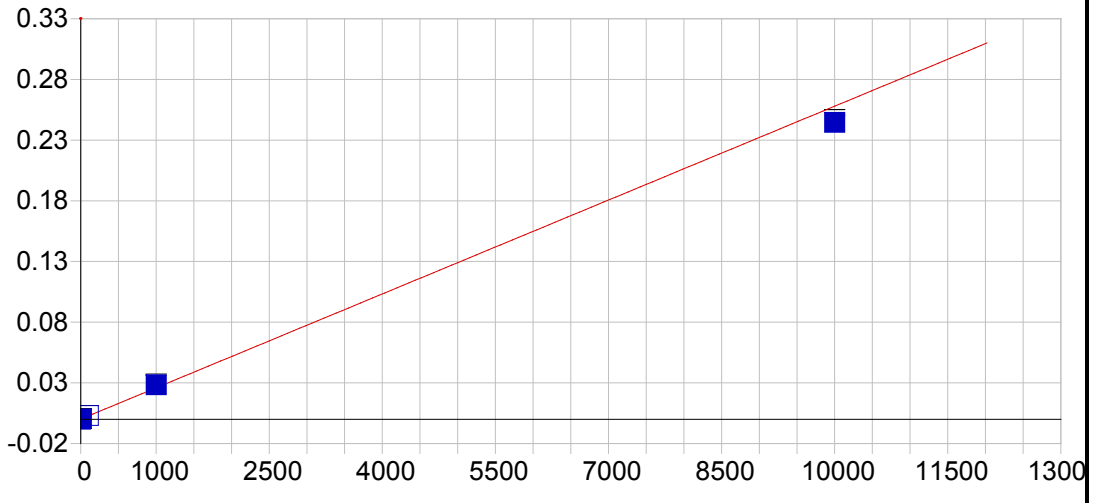



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996375 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.746113 | | |
| Predicted MQL: | 2.487044 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .98371 | .984 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.20 | 10.2 | 10.2 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9208 | -2.08 | -20.8 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.7 | 51.7 | 5.17 | .00278 | .000 | 1 |
| CalStd10=10 | 10000. | 9170.7 | -829. | -8.29 | .02410 | .000 | 1 |

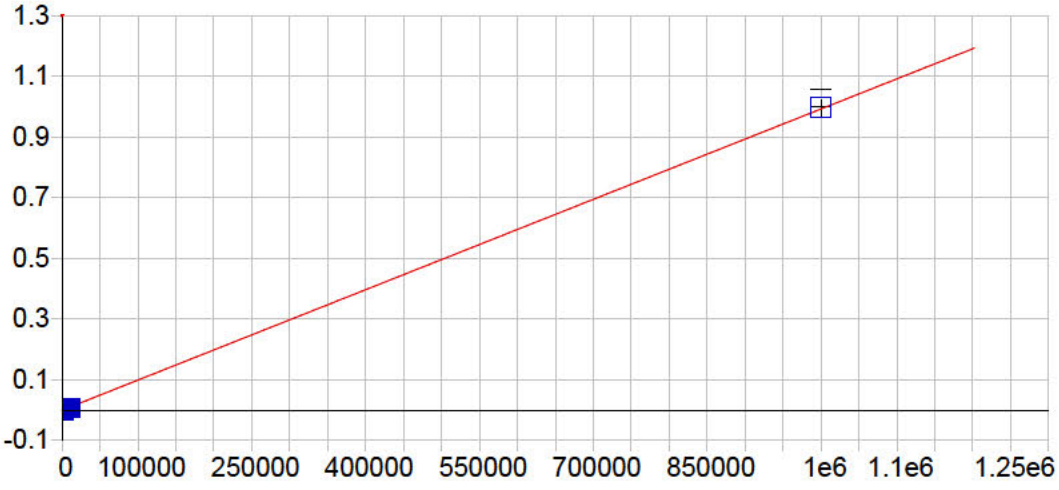



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996196 | Status: | OK. |
| Std Error of Est: | 0.000316 | | |
| Predicted MDL: | 1.644438 | | |
| Predicted MQL: | 5.481459 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.7449 | -7.74 | .000 | -.00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4820 | -3.52 | -35.2 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.33 | 12.3 | 12.3 | .00301 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1095.5 | 95.5 | 9.55 | .02836 | .001 | 1 |
| CalStd10=10 | 10000. | 9480.5 | -520. | -5.20 | .24456 | .002 | 1 |

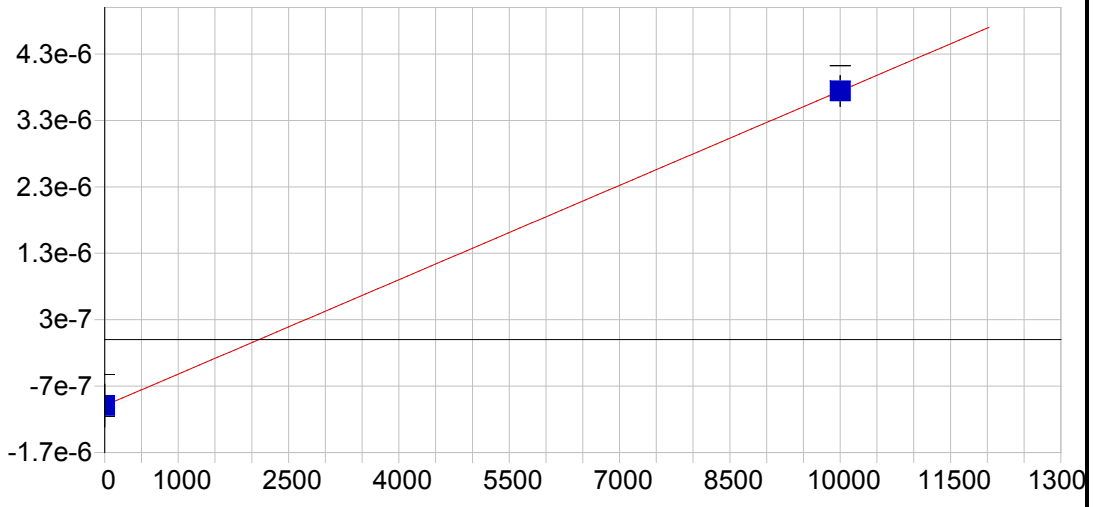



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999481 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 53.224850 | | |
| Predicted MQL: | 177.416168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .55818 | .558 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 750.89 | -249. | -24.9 | .00072 | .000 | 1 |
| CalStd10=10 | 10000. | 6875.5 | -3120. | -31.2 | .00680 | .000 | 1 |
| CalibStd15= | 1000000. | 1003400. | 3370. | .337 | .99608 | .027 | 1 |

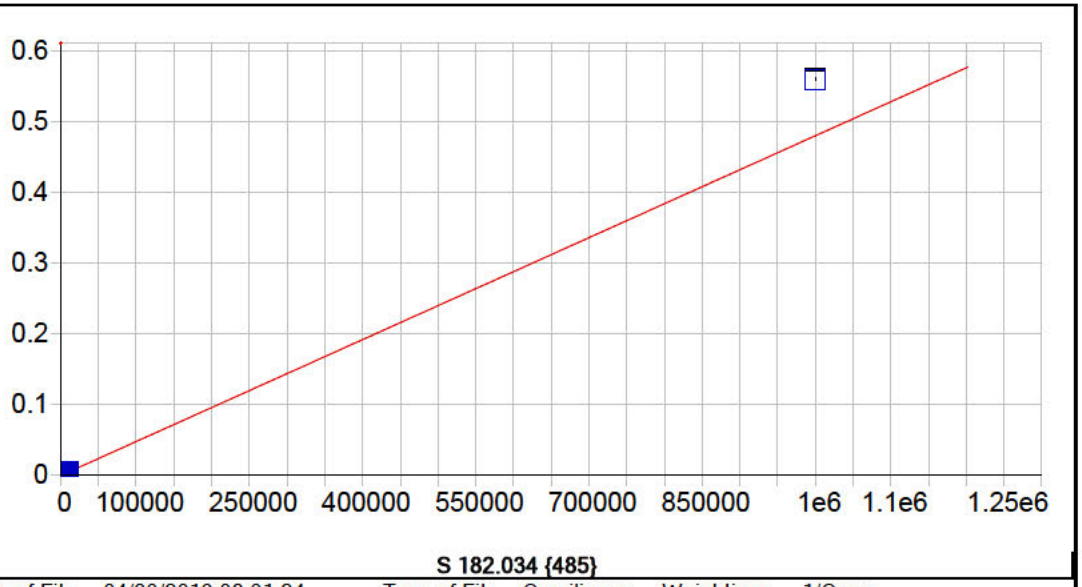



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1106.155392 | | |
| Predicted MQL: | 3687.184641 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00000 | .000 | 1 |

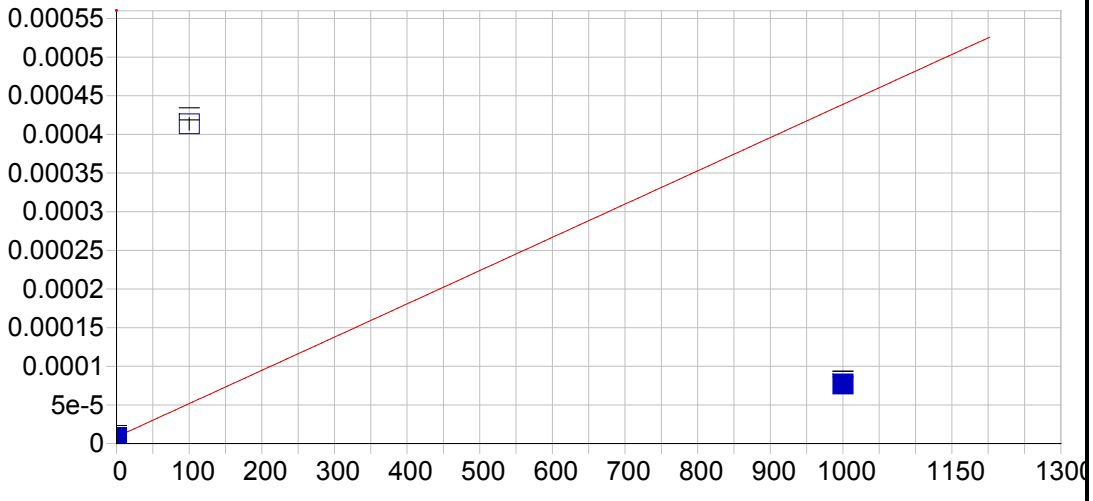



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 6.539657 | | |
| Predicted MQL: | 21.798855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09299 | -.093 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1103.6 | 104. | 10.4 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9912.2 | -87.8 | -.878 | .00479 | .000 | 1 |
| CalibStd15= | 1000000. | 1166000. | 166000. | 16.6 | .55925 | .001 | 1 |

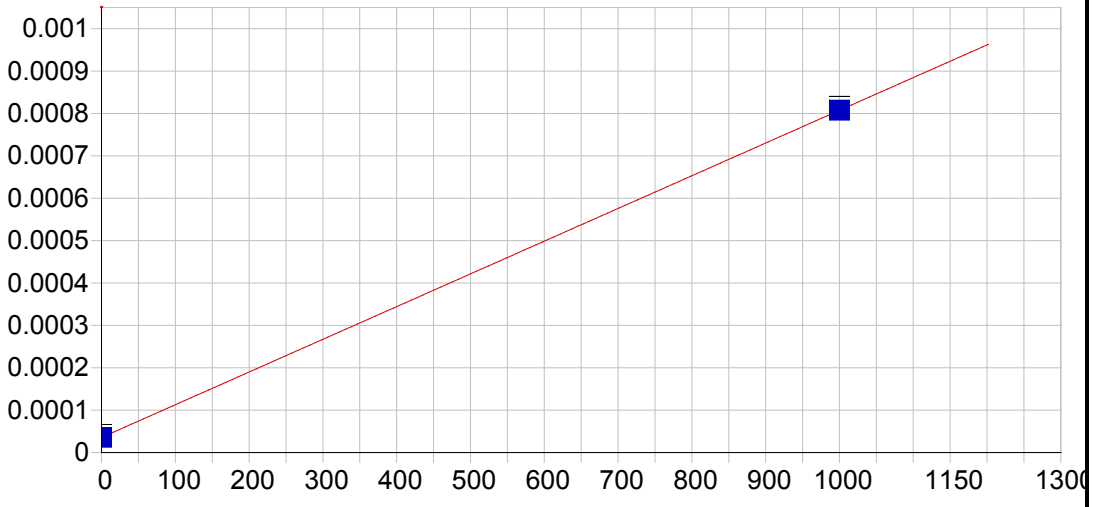



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.351706 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 8.769662 | | |
| Predicted MQL: | 29.232206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75710 | -.757 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 941.22 | 841. | 841. | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 158.78 | -841. | -84.1 | .00008 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000036 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.280330 | | |
| Predicted MQL: | 74.267767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00081 | .000 | 1 |

Sample Name: Blank Acquired: 04/29/2019 14:05:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.595** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.008** | **-.000** |
| Stddev | .000 | .000 | .000 | .623 | .000 | .000 | .000 | .000 | .000 | .000 | .007 | .000 |
| %RSD | 21.1 | 19.7 | 44.3 | 105. | 1380. | 95.5 | 2.89 | 1.22 | 136. | 31.2 | 84.8 | 17.3 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **32.9** | **7.18** | **.000** | **.000** | **.000** | **-.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.2 | 2.95 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.5 | 57.1 | 10.1 | 74.1 | 84.2 | 3.76 | 41.1 | 1.97 | 17.8 | 25.0 | 263. | 5.86 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.35 | 50.7 | 26.0 | 86.5 | 234. | 16.4 | 200. | 9.31 | 190. | 77.9 | 46.1 | 122. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 129. | 53.8 | 28.8 | 40.4 | 12.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1295600.** | **287860.** |
| Stddev | 632. | 3609. | 9201. |
| %RSD | .49904 | .27857 | 3.1964 |

Sample Name: CalStd2=0.5 Acquired: 04/29/2019 14:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.22 | 142. | 3.55 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **126980.** | **1297900.** |
| Stddev | 274. | 2751. |
| %RSD | .21587 | .21197 |

Sample Name: CalStd3=1 Acquired: 04/29/2019 14:18:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.2 | 22.5 | 1.42 | 9.82 | 6.90 | 16.6 | 23.9 | 50.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1298300.** | **279670.** |
| Stddev | 1171. | 9813. | 1746. |
| %RSD | .92435 | .75586 | .62446 |

Sample Name: CalStd4=5 Acquired: 04/29/2019 14:24:48 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.001** | **.000** | **11.2** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.3 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 10.9 | 840. | 123. | 28.5 | 37.1 | 35.4 | 20.7 | 17.1 | 35.4 | 46.7 | 45.9 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 21.1 | 52.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117820.** | **1258200.** | **279990.** |
| Stddev | 1002. | 22700. | 4543. |
| %RSD | .85066 | 1.8042 | 1.6225 |

Sample Name: CalStd5=10 Acquired: 04/29/2019 14:38:57 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.95** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **39.7** |
| Stddev | .000 | .000 | .99 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.3 |
| %RSD | 3.06 | 3.33 | 50.8 | 29.0 | 2.78 | 1.22 | .861 | 1.90 | 1.46 | 1.04 | 1.45 | 8.29 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 23.9 | 1.07 | 1.95 | 4.86 | 2.85 | 22.0 | 10.6 | 8.52 | 5.57 | 6.62 | 12.2 | 3.48 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.54 | .513 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127470.** | **1314900.** | **279840.** |
| Stddev | 543. | 5916. | 2698. |
| %RSD | .42597 | .44994 | .96416 |

Sample Name: CalStd6=20 Acquired: 04/29/2019 14:45:45 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **45.1** | **15.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .7 | 3.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.50 | 1.46 | 20.8 | 4.06 | 1.08 | 2.09 | 7.34 | 4.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127230.** | **1336500.** | **281290.** |
| Stddev | 281. | 43722. | 4762. |
| %RSD | .22067 | 3.2714 | 1.6930 |

Sample Name: CalStd7=50 Acquired: 04/29/2019 14:51:59 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **9.47** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **60.4** | **28.6** | **.001** | **.000** |
| Stddev | .59 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .7 | 1.7 | .000 | .000 |
| %RSD | 6.20 | 13.3 | 6.05 | .715 | .561 | .416 | .571 | 4.00 | 1.12 | 5.76 | 3.81 | .557 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.92 | .610 | 2.57 | 4.98 | 4.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127250.** | **1316800.** | **277460.** |
| Stddev | 420. | 21696. | 1525. |
| %RSD | .32990 | 1.6476 | .54972 |

Sample Name: CalStd8=100 Acquired: 04/29/2019 14:58:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **20.4** | **.000** | **.001** | **.018** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .963 | 1.50 | 2.42 | 3.40 | 1.41 | .981 | 1.80 | 2.05 | 1.32 | 1.97 | 1.86 | 1.68 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **85.4** | **46.3** | **.004** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 1.2 | 5.1 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.44 | 2.03 | 1.56 | 1.42 | 10.9 | 1.66 | 1.75 | 1.48 | 1.88 | 1.49 | 1.90 | 3.34 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.75 | 3.28 | 1.72 | 9.43 | 1.14 | 9.36 | 2.05 | 1.72 | 2.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127180.** | **1310400.** | **281060.** |
| Stddev | 947. | 4674. | 2562. |
| %RSD | .74427 | .35668 | .91156 |

Sample Name: CalStd9=1000 Acquired: 04/29/2019 15:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **187.** | **.001** | **.010** | **.075** | **.057** | **.002** | **.000** | **.136** | **.025** | **.048** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .001 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .200 | 3.18 | .600 | .448 | .355 | 1.58 | 2.26 | 1.21 | 2.00 | 1.68 | .171 | .112 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.003** | **501.** | **354.** | **.000** | **.000** | **.001** | **.000** | **.030** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 7. | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .177 | 2.19 | .085 | 2.28 | 1.98 | 1.93 | 2.35 | 1.99 | 1.63 | 7.99 | 2.19 | 2.33 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.012** | **.012** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.08 | .308 | .184 | .205 | .238 | .841 | .510 | .345 | .214 | .911 | 3.43 | .458 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.019** | **.027** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | 2.36 | .194 | .212 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127570.** | **1307300.** | **280800.** |
| Stddev | 349. | 1896. | 1299. |
| %RSD | .27346 | .14504 | .46270 |

Sample Name: CalStd10=10000 Acquired: 04/29/2019 15:10:04 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.561** | **.003** | **1.10** | **.180** | **.019** | **.129** | **.023** | **4030.** | **2930.** | **.004** |
| Stddev | .000 | .000 | .003 | .000 | .01 | .003 | .000 | .002 | .001 | 18. | 26. | .000 |
| %RSD | 1.36 | 1.33 | .608 | .509 | 1.17 | 1.45 | 2.27 | 1.41 | 2.34 | .443 | .897 | 2.36 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.009** | **.000** | **.231** | **.084** | **.029** | **.045** | **.099** | **.105** | **.010** | **.019** | **.019** |
| Stddev | .000 | .000 | .000 | .004 | .002 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | .808 | .895 | 1.21 | 1.72 | 1.97 | .795 | 1.32 | 1.49 | 1.45 | 1.24 | 1.27 | 1.21 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.020** | **.007** | **.064** | **.158** |
| Stddev | .000 | .000 | .000 | .002 | .003 |
| %RSD | 1.31 | 1.21 | 1.12 | 2.37 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125980.** | **1287600.** | **280530.** |
| Stddev | 699. | 6558. | 1857. |
| %RSD | .55457 | .50933 | .66194 |

Sample Name: CalStd12=100K  Acquired: 04/29/2019 15:16:31  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.28** | **43500.** | **32400.** | **.308** | **.110** | **1.57** |
| Stddev | .00 | 365. | 356. | .005 | .000 | .00 |
| %RSD | .220 | .838 | 1.10 | 1.48 | .171 | .244 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126080.** | **1291400.** | **280400.** |
| Stddev | 291. | 5332. | 3029. |
| %RSD | .23081 | .41287 | 1.0804 |

Sample Name: CalStd13=100000 Acquired: 04/29/2019 15:22:50 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.137** | **.034** | **.045** | **.023** | **.108** | **.003** |
| Stddev | .001 | .001 | .000 | .000 | .001 | .000 |
| %RSD | .846 | 1.58 | .264 | 1.03 | 1.09 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122870.** | **1255700.** | **276750.** |
| Stddev | 346. | 2861. | 2131. |
| %RSD | .28177 | .22782 | .77016 |

Sample Name: CalStd14=500000 Acquired: 04/29/2019 15:29:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.747** | **.174** | **.113** | **.523** | **.019** |
| Stddev | .053 | .010 | .007 | .032 | .001 |
| %RSD | 7.08 | 5.95 | 6.23 | 6.16 | 5.67 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **113070.** | **256400.** |
| Stddev | 158. | 15182. |
| %RSD | .13942 | 5.9212 |

Sample Name: CalibStd15=1000k Acquired: 04/29/2019 15:35:54 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.50** | **.346** | **.215** | **.038** |
| Stddev | .04 | .013 | .007 | .001 |
| %RSD | 3.02 | 3.65 | 3.25 | 3.63 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100510.** | **240940.** |
| Stddev | 265. | 3898. |
| %RSD | .26327 | 1.6180 |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.1** | **9800.** | **1980.** | **2230.** | **2200.** | **47.0** | **8230.** | **47.2** | **53.9** | **567.** | **220.** | **261.** |
| Stddev | .9 | 149. | 22. | 31. | 36. | .8 | 95. | .3 | .7 | 7. | 3. | 3. |
| %RSD | 2.04 | 1.52 | 1.13 | 1.40 | 1.65 | 1.77 | 1.15 | .728 | 1.23 | 1.26 | 1.50 | 1.18 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **266.** | **5250.** | **10400.** | **489.** | **521.** | **465.** | **487.** | **566.** | **565.** | **504.** | **454.** | **558.** |
| Stddev | 8. | 77. | 198. | 9. | 10. | 6. | 5. | 8. | 8. | 13. | 11. | 7. |
| %RSD | 3.18 | 1.46 | 1.90 | 1.87 | 1.91 | 1.24 | .992 | 1.46 | 1.33 | 2.48 | 2.32 | 1.32 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **553.** | **1940.** | **2280.** | **545.** | **552.** | **516.** | **463.** |
| Stddev | 7. | 36. | 21. | 7. | 11. | 8. | 8. |
| %RSD | 1.28 | 1.87 | .934 | 1.24 | 2.07 | 1.49 | 1.77 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127840.** | **1307600.** | **282500.** |
| Stddev | 723. | 3041. | 3053. |
| %RSD | .56570 | .23256 | 1.0807 |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.7** | **1190.** | **1090.** | **62.9** | **29.9** | **11.9** | **1690.** | **15.5** | **15.6** | **34.8** | **35.4** | **33.5** |
| Stddev | .6 | 4. | 10. | 2.2 | .6 | .0 | 19. | .2 | .1 | .6 | .8 | 5.8 |
| %RSD | 2.07 | .337 | .895 | 3.47 | 2.00 | .210 | 1.10 | 1.29 | .722 | 1.84 | 2.40 | 17.5 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2790 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.9** | **1010.** | F **2000.** | **1770.** | **31.3** | **30.8** | **36.0** | **27.9** | F **73.5** | **65.8** | **71.9** | **34.5** |
| Stddev | 9.5 | 7. | 9. | 11. | .1 | .4 | .2 | 1.2 | 3.3 | 3.7 | 1.4 | .2 |
| %RSD | 27.2 | .689 | .472 | .607 | .360 | 1.44 | .578 | 4.12 | 4.43 | 5.66 | 1.91 | .643 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 1500. | | | | | | 60.0 | | | |
| Range | | | 20.0% | | | | | | 20.0% | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.8** |
| Stddev | .5 |
| %RSD | 1.78 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126440.** | **1299100.** | **281370.** |
| Stddev | 219. | 5591. | 1830. |
| %RSD | .17330 | .43034 | .65021 |

Sample Name: icb Acquired: 04/29/2019 16:14:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.28** | **-7.66** | **-3.49** | **-.678** | **.040** | **-65.2** | **-.007** | **-.012** | **-.389** | **-1.22** | **-4.14** | **-25.7** |
| Stddev | .34 | .15 | 1.09 | .359 | .035 | .2 | .032 | .075 | .382 | .46 | 9.91 | 1.7 |
| %RSD | 26.3 | 1.92 | 31.4 | 53.0 | 88.7 | .234 | 459. | 599. | 98.2 | 37.6 | 240. | 6.64 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-45.1** | **-2.33** | **-.779** | **-.444** | **-1.13** | **-1.37** | **-3.02** | **.005** | **-.886** | **-.475** |
| Stddev | .0 | .06 | .620 | .386 | 1.46 | 2.34 | 3.42 | 1.60 | .585 | .118 |
| %RSD | .069 | 2.49 | 79.6 | 87.1 | 129. | 171. | 113. | 35200. | 66.0 | 24.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127950.** | **1314600.** | **279150.** |
| Stddev | 183. | 1396. | 1497. |
| %RSD | .14280 | .10615 | .53616 |

Sample Name: MRL/LLOQ  Acquired: 04/29/2019 16:20:21  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.83** | **399.** | **17.3** | **9.58** | **3.95** | **517.** | **5.09** | **5.18** | **11.3** | **11.0** | F **13.3** | **7.86** |
| Stddev | 1.05 | 1. | 2.5 | .18 | .05 | 14. | .17 | .15 | .5 | .5 | 4.8 | 7.22 |
| %RSD | 10.7 | .244 | 14.5 | 1.86 | 1.29 | 2.78 | 3.44 | 2.86 | 4.58 | 4.90 | 36.2 | 91.9 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 20.0 | | | | | | | | | | 10.0 | |
| Range | -30.0% | | | | | | | | | | 30.0% | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **307.** | **557.** | **8.25** | **9.62** | **11.6** | **8.10** | **21.4** | **19.7** | **23.6** | **10.9** | **10.8** |
| Stddev | 2. | 4. | .12 | .52 | .7 | 1.19 | .9 | 3.6 | 1.2 | .6 | .2 |
| %RSD | .663 | .694 | 1.39 | 5.44 | 5.69 | 14.7 | 4.16 | 18.0 | 4.87 | 5.32 | 1.75 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127160.** | **1305200.** | **281920.** |
| Stddev | 119. | 3887. | 2379. |
| %RSD | .09325 | .29784 | .84390 |

Sample Name: ICSA Acquired: 04/29/2019 16:26:32 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.57** | **526000.** | **.004** | **.000** | **-.667** | **500000.** | **-.001** | **1.18** | **-.018** | **-1.26** | **.003** |
| Stddev | 1.50 | 23900. | 6.63 | 1.21 | .217 | 7850. | .538 | .23 | .727 | 1.07 | 6.54 |
| %RSD | 95.8 | 4.54 | 159000. | 2500000. | 32.5 | 1.57 | 58400. | 19.2 | 4030. | 84.3 | 198000. |
| Check ? | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **542000.** | **473000.** | **-5.48** | **2.51** | **-.575** | **1.54** | **-4.63** | **-11.4** | **-.063** | **13300.** | **-6.89** |
| Stddev | 8100. | 7050. | .16 | .71 | 1.79 | 2.10 | 5.91 | 8.1 | 1.69 | 228. | 1.94 |
| %RSD | 1.49 | 1.49 | 2.86 | 28.5 | 311. | 136. | 128. | 71.3 | 2680. | 1.71 | 28.2 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112330.** | **1167300.** | **261400.** |
| Stddev | 184. | 5118. | 4079. |
| %RSD | .16359 | .43841 | 1.5603 |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **431000.** | **536.** | **577.** | **460.** | **533.** | **447.** | **407000.** | **484.** | **514.** | **523.** |
| Stddev | 1. | 3080. | 4. | 12. | 6. | 2. | 5. | 4890. | 7. | 8. | 4. |
| %RSD | .232 | .714 | .730 | 2.06 | 1.40 | .354 | 1.09 | 1.20 | 1.47 | 1.63 | .686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2025 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | **498.** | **446000.** | **402000.** | **452.** | **521.** | **454.** | **480.** | **503.** | **504.** | F **765.** |
| Stddev | 4. | 12. | 2900. | 6120. | 2. | 7. | 7. | 8. | 8. | 7. | 23. |
| %RSD | .885 | 2.37 | .651 | 1.52 | .475 | 1.27 | 1.59 | 1.59 | 1.58 | 1.40 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | | | 500. |
| Range | | | | | | | | | | | 20.0% |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F **395.** | **502.** | **528.** | **444.** | **534.** | **550.** | **539.** | **482.** | **444.** |
| Stddev | 11. | 6. | 16. | 11. | 8. | 7. | 3. | 7. | 8. |
| %RSD | 2.70 | 1.22 | 3.02 | 2.45 | 1.51 | 1.28 | .483 | 1.39 | 1.80 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | |
| Range | -20.0% | | | | | | | | |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114940.** | **1185100.** | **265530.** |
| Stddev | 897. | 3486. | 319. |
| %RSD | .78024 | .29412 | .12000 |

Sample Name: 254602 Acquired: 04/29/2019 17:30:38 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.35** | **56200.** | **29.9** | **456.** | **659.** | **1.55** | **21600.** | **-.545** | **.907** | **17.2** | **92.5** | **194.** |
| Stddev | .61 | 2430. | 3.2 | 14. | 27. | .05 | 975. | .209 | .207 | .7 | 2.3 | 11. |
| %RSD | 45.4 | 4.32 | 10.8 | 3.11 | 4.15 | 2.99 | 4.51 | 38.4 | 22.9 | 4.28 | 2.53 | 5.69 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **184.** | **41100.** | **4750.** | **28600.** | **10.3** | **49.1** | **147.** | **.295** | **-3.60** | **18.9** | **199.** | **169.** |
| Stddev | 9. | 1620. | 192. | 1230. | .5 | 1.8 | 7. | 1.05 | 4.23 | 2.1 | 11. | 5. |
| %RSD | 4.88 | 3.94 | 4.04 | 4.28 | 5.00 | 3.59 | 5.03 | 357. | 118. | 10.9 | 5.75 | 3.08 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **155.** |
| Stddev | 5. |
| %RSD | 2.94 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127760.** | **1347100.** | **279320.** |
| Stddev | 346. | 30540. | 565. |
| %RSD | .27069 | 2.2670 | .20241 |

Sample Name: 254605 Acquired: 04/29/2019 17:37:17 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.60** | **3260.** | **5.93** | **258.** | **337.** | **.473** | **1680.** | **.217** | **.177** | **4.86** | **3.98** | **93.5** |
| Stddev | .87 | 86. | 1.43 | 16. | 14. | .011 | 44. | .100 | .112 | .49 | .70 | 3.9 |
| %RSD | 54.4 | 2.64 | 24.1 | 6.28 | 3.99 | 2.27 | 2.61 | 46.3 | 63.5 | 10.2 | 17.5 | 4.18 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **87.9** | **5950.** | **698.** | **18400.** | **.841** | **5.50** | **257.** | **-2.59** | **-2.85** | **12.2** | **22.8** | **36.3** |
| Stddev | 8.7 | 238. | 14. | 547. | .366 | .52 | 15. | 1.42 | 2.94 | 2.0 | .7 | 2.5 |
| %RSD | 9.92 | 4.00 | 1.98 | 2.96 | 43.5 | 9.45 | 5.87 | 54.9 | 103. | 16.4 | 3.05 | 6.78 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **129190.** | **1359400.** | **286900.** |
| Stddev | 678. | 4106. | 5615. |
| %RSD | .52503 | .30203 | 1.9569 |

Sample Name: ccv1 Acquired: 04/29/2019 17:49:42 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **460.** | F **4050.** | **5450.** | **5400.** | **459.** | F **4140.** | **485.** | **5340.** | **4640.** | **5180.** | **5240.** | **5390.** |
| Stddev | 23. | 56. | 22. | 119. | 10. | 64. | 1. | 231. | 5. | 83. | 101. | 145. |
| %RSD | 4.89 | 1.38 | .395 | 2.20 | 2.25 | 1.53 | .210 | 4.32 | .106 | 1.61 | 1.93 | 2.68 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | | | |
| Range | | -10.4% | | | | -10.4% | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5320.** | **4980.** | F **5680.** | **5170.** | **5450.** | **4810.** | F **5640.** | **5330.** | **5300.** |
| Stddev | 118. | 28. | 24. | 34. | 22. | 36. | 28. | 105. | 16. |
| %RSD | 2.22 | .563 | .413 | .664 | .403 | .738 | .505 | 1.96 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | 5000. | | |
| Range | | | 10.4% | | | | 10.4% | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123080.** | **1257500.** | **274160.** |
| Stddev | 473. | 75307. | 1908. |
| %RSD | .38434 | 5.9889 | .69588 |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **480.** | **485.** | F **553.** | **503.** | F **587.** | **49.4** | **50.2** | **527.** | **52.0** | **52.2** | F **591.** |
| Stddev | .5 | 1. | 3. | 4. | . | 2. | .6 | 1.1 | 2. | .3 | .1 | 1. |
| %RSD | 1.01 | .272 | .694 | .689 | .096 | .255 | 1.19 | 2.10 | .320 | .565 | .221 | .179 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. | | 500. | | | | | | 500. |
| Range | | | | 10.4% | | 10.4% | | | | | | 10.4% |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **552.** | F **561.** | **514.** | **510.** | **544.** | **472.** | F **556.** | **491.** | **514.** | F **596.** | F **592.** | **545.** |
| Stddev | 5. | 4. | 12. | 5. | 7. | 5. | 1. | 1. | 1. | . | 1. | 4. |
| %RSD | .948 | .784 | 2.34 | 1.03 | 1.33 | 1.15 | .112 | .260 | .267 | .047 | .196 | .745 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | 500. | 500. | | | | | 500. | | | 500. | 500. | |
| Range | 10.4% | 10.4% | | | | | 10.4% | | | 10.4% | 10.4% | |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **480.** | F **565.** | F **558.** | **498.** | F **615.** | F **554.** | **544.** | **552.** | **455.** |
| Stddev | 3. | 1. | 3. | 5. | 4. | 11. | 5. | 2. | 1. |
| %RSD | .704 | .182 | .537 | .979 | .574 | 1.95 | .948 | .367 | .247 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 500. | 500. | | 500. | 500. | | | |
| Range | | 10.4% | 10.4% | | 10.4% | 10.4% | | | |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126540.** | **1325700.** | **275670.** |
| Stddev | 143. | 8007. | 1112. |
| %RSD | .11323 | .60400 | .40336 |

Sample Name: ccb Acquired: 04/29/2019 18:00:55 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.615** | **-12.1** | **-4.13** | **-.238** | **.260** | **-64.5** | **.217** | **.078** | **.468** | **.061** | **-3.75** | **-28.2** |
| Stddev | .604 | .2 | 3.07 | .527 | .060 | .6 | .114 | .159 | .143 | .576 | 6.55 | 1.5 |
| %RSD | 98.2 | 1.65 | 74.3 | 221. | 23.2 | .865 | 52.5 | 205. | 30.5 | 946. | 175. | 5.41 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-47.9** | **-1.73** | **1.70** | **.564** | **-.448** | **-.133** | **-1.41** | **1.69** | **.185** | **.066** |
| Stddev | .1 | .15 | .60 | .584 | 3.79 | 2.55 | 3.40 | 2.46 | .360 | .070 |
| %RSD | .188 | 8.63 | 35.3 | 104. | 848. | 1920. | 241. | 146. | 195. | 106. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126900.** | **1349400.** | **276260.** |
| Stddev | 436. | 24445. | 4406. |
| %RSD | .34375 | 1.8115 | 1.5949 |

# METALS
# LOGBOOK
# DOCUMENTS

# MICP SOIL QSM Analytical Run
# 159095 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 257418 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 257419 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 257420 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 257421 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 257422 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 257424 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 257425 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 257426 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 255705 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71151 | | | |
| | 257427 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 257428 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 257429 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 255704 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71151 | | | |
| 143587 | 253258 | | 03/18/2019 | 0915 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU05 | | | | | | | | 71151 | | | |
| | 257430 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | L | 253258 | | | | 0 | | | |
| | 255706 | | 03/18/2019 | 0915 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU05 | | | DUP | 253258 | | | | 71151 | | | |
| | 255707 | | 03/18/2019 | 0915 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU05 | | | DUP | 253258 | | | | 71151 | | | |
| | 255708 | | 03/18/2019 | 0915 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU05 | | | MSS | 253258 | | | | 71151 | | | |
| | 255709 | | 03/18/2019 | 0915 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU05 | | | MSDS | 255708 | | | | 71151 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159095 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 257431 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 253258 | | | | 0 | | | |
| 143587 | 253274 | | 03/18/2019 | 0915 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU05 | | | | | | | | 71151 | | | |
| 143587 | 253275 | | 03/18/2019 | 1100 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU27 | | | | | | | | 71151 | | | |
| | 257432 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 257433 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 257434 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143587 | 253276 | | 03/18/2019 | 1100 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU27 | | | | | | | | 71151 | | | |
| 143587 | 253277 | | 03/18/2019 | 1235 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU28 | | | | | | | | 71151 | | | |
| 143587 | 253278 | | 03/18/2019 | 1235 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU28 | | | | | | | | 71151 | | | |
| 143587 | 253279 | | 03/18/2019 | 1440 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU37 | | | | | | | | 71151 | | | |
| 143587 | 253280 | | 03/18/2019 | 1440 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU37 | | | | | | | | 71151 | | | |
| 143587 | 253281 | | 03/18/2019 | 1535 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU41 | | | | | | | | 71151 | | | |
| 143587 | 253282 | | 03/18/2019 | 1535 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU41 | | | | | | | | 71151 | | | |
| 143688 | 254587 | | 03/19/2019 | 1430 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU43 | | | | | | | | 71151 | | | |
| 143688 | 254588 | | 03/19/2019 | 1430 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU43 | | | | | | | | 71151 | | | |
| 143688 | 254589 | | 03/19/2019 | 1605 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU53 | | | | | | | | 71151 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Metals [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159095 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 257435 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 257436 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 257437 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143688 | 254590 | | 03/19/2019 | 1605 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU53 | | | | | | | 71151 | | | |
| 143688 | 254591 | | 03/20/2019 | 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU57 | | | | | | | 71151 | | | |
| 143688 | 254592 | | 03/20/2019 | 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU57 | | | | | | | 71151 | | | |
| 143688 | 254593 | | 03/20/2019 | 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU55 | | | | | | | 71151 | | | |
| 143688 | 254594 | | 03/20/2019 | 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU55 | | | | | | | 71151 | | | |
| 143688 | 254595 | | 03/19/2019 | 1810 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU54 | | | | | | | 71151 | | | |
| 143688 | 254596 | | 03/19/2019 | 1810 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU54 | | | | | | | 71151 | | | |
| | 257439 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 257440 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 257441 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 260120 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 260121 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |
| | 260122 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 260123 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |

Page 1461

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159095 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 260124 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| | 260126 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 260127 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 260128 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143587 | 253279 | | 03/18/2019 | 1440 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU37 | | | | | | | 71151 | | | |
| 143587 | 253280 | | 03/18/2019 | 1440 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1B-SU37 | | | | | | | 71151 | | | |
| | 260129 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 260130 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 260131 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |

**61** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264608 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 264609 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 264610 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 264611 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 264612 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 264613 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264614 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264615 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258597 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71264 | | | |
| | 258596 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71264 | | | |
| 143730 | 254964 | | 03/19/2019 | 1110 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU56 | | | Designated MS/MSD | | | | | 71264 | | | |
| | 264616 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 254964 | | | | 0 | | | |
| | 258599 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU56 | | | DUP | 254964 | | | | 71264 | | | |
| | 258600 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU56 | | | MSS | 254964 | | | | 71264 | | | |
| | 264617 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264618 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264619 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258601 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU56 | | | MSDS | 258600 | | | | 71264 | | | |
| 143730 | 254965 | | 03/19/2019 | 1110 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU56 | | | Designated MS/MSD | | | | | 71264 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264620 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254964 | | | | 0 | | | |
| | 258602 | | 03/19/2019 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU56 | | DUP | 254965 | | | | 71264 | | | |
| | 264621 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | L | 254965 | | | | 0 | | | |
| | 258603 | | 03/19/2019 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU56 | | MSS | 254965 | | | | 71264 | | | |
| | 258604 | | 03/19/2019 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU56 | | MSDS | 258603 | | | | 71264 | | | |
| | 264622 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254965 | | | | 0 | | | |
| 143730 | 254967 | | 03/19/2019 1245 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU47 | | | | | | | 71264 | | | |
| | 264623 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 264624 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 264625 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 258605 | | 03/19/2019 1245 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU47 | | DUP | 254967 | | | | 71264 | | | |
| | 258606 | | 03/19/2019 1245 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU47 | | DUP | 254967 | | | | 71264 | | | |
| 143765 | 255855 | | 03/21/2019 1045 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU07 | | | | | | | 71264 | | | |
| 143765 | 255856 | | 03/22/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU03R2 | | | | | | | 71264 | | | |
| 143765 | 255857 | | 03/22/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU03R2 | | | | | | | 71264 | | | |
| 143765 | 255858 | | 03/22/2019 0850 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU03R3 | | | | | | | 71264 | | | |
| 143765 | 255859 | | 03/22/2019 0850 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU03R3 | | | | | | | 71264 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255860 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU07R1 | | | | | | 71264 | | | |
| 143765 | 255861 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU07R1 | | | | | | 71264 | | | |
| 143765 | 255880 | | 03/25/2019 1505 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU32 | | | | | | 71264 | | | |
| | 264626 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 264627 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 264628 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 266034 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 266036 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 266037 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 266039 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 266050 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 266041 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 266042 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 266043 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 266044 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 266045 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 266046 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143765 | 255858 | | 03/22/2019 0850 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU03R3 | | | | | | 71264 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255882 | | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU33 | | | | | | 71264 | | | |
| 143765 | 255883 | | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU33 | | | | | | 71264 | | | |
| 143765 | 255884 | | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU09 | | | | | | 71264 | | | |
| 143765 | 255885 | | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU09 | | | | | | 71264 | | | |
| 143765 | 255886 | | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU10 | | | | | | 71264 | | | |
| 143765 | 255887 | | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU10 | | | | | | 71264 | | | |
| 143765 | 255888 | | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU05 | | | | | | 71264 | | | |
| 143765 | 255889 | | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU05 | | | | | | 71264 | | | |
| | 266047 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 266048 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 266049 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 273309 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 273310 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 273311 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 273312 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 273313 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 273315 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273316 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 273317 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143730 | 254965 | | 03/19/2019 | 1110 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1B-SU56 | | | Designated MS/MSD | | | | | 71264 | | | |
| | 264621 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 254965 | | | | 0 | | | |
| | 258602 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1B-SU56 | | | DUP | 254965 | | | | 71264 | | | |
| | 258603 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1B-SU56 | | | MSS | 254965 | | | | 71264 | | | |
| | 273318 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 273319 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 273320 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258604 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1B-SU56 | | | MSDS | 258603 | | | | 71264 | | | |
| | 264622 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 254965 | | | | 0 | | | |
| 143765 | 255856 | | 03/22/2019 | 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU03R2 | | | | | | | | 71264 | | | |
| 143765 | 255857 | | 03/22/2019 | 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU03R2 | | | | | | | | 71264 | | | |
| 143765 | 255881 | | 03/25/2019 | 1505 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU32 | | | | | | | | 71264 | | | |
| 143765 | 255884 | | 03/25/2019 | 1620 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU09 | | | | | | | | 71264 | | | |
| 143765 | 255885 | | 03/25/2019 | 1620 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU09 | | | | | | | | 71264 | | | |
| 143765 | 255887 | | 03/25/2019 | 1415 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU10 | | | | | | | | 71264 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273321 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273322 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273323 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 273326 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 273327 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |
| | 273328 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 273329 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |
| | 273330 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| 143765 | 255886 | | 03/25/2019 | 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU10 | | | | | | | 71264 | | | |
| | 273331 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273332 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273333 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |

**100** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264629 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 264630 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 264631 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 264632 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 264633 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 264634 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264635 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264636 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258583 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71263 | | | |
| | 258582 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71263 | | | |
| | 264637 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264638 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264639 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143688 | 254597 | | 03/20/2019 | 1145 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU1A-SU45 | | | | | | | | 71263 | | | |
| 143688 | 254598 | | 03/20/2019 | 1145 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU1B-SU45 | | | | | | | | 71263 | | | |
| 143688 | 254599 | | 03/20/2019 | 1320 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU1A-SU42 | | | | | | | | 71263 | | | |
| 143688 | 254600 | | 03/20/2019 | 1320 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU1B-SU42 | | | | | | | | 71263 | | | |
| | 264656 | | 03/20/2019 | 1320 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU42 | | | DUP | 254600 | | | | 71263 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264657 | | 03/20/2019 1320 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU42 | | DUP 254600 | | | | 71263 | | | |
| 143688 | 254601 | | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU01 | | Designated MS/MSD | | | | 71263 | | | |
| | 264640 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 254601 | | | | 0 | | | |
| | 258589 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 258588 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 264641 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 264642 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 264643 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 258590 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | MSS 254601 | | | | 71263 | | | |
| | 258591 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | MSDS 258590 | | | | 71263 | | | |
| | 264644 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 254601 | | | | 0 | | | |
| 143688 | 254602 | | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU01 | | Designated MS/MSD | | | | 71263 | | | |
| | 264645 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 254602 | | | | 0 | | | |
| | 258592 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | DUP 254602 | | | | 71263 | | | |
| | 258593 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | DUP 254602 | | | | 71263 | | | |
| | 258594 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | MSS 254602 | | | | 71263 | | | |
| | 258595 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | MSDS 258594 | | | | 71263 | | | |
| | 264646 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 254602 | | | | 0 | | | |
| | 264647 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264648 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 264649 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143688 | 254603 | | 03/20/2019 | 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3A-SU02 | | | | | | | 71263 | | | |
| 143688 | 254604 | | 03/20/2019 | 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3B-SU02 | | | | | | | 71263 | | | |
| 143688 | 254605 | | 03/20/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3A-SU04 | | | | | | | 71263 | | | |
| 143688 | 254606 | | 03/20/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3B-SU04 | | | | | | | 71263 | | | |
| 143730 | 254959 | | 03/19/2019 | 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU50 | | | | | | | 71263 | | | |
| 143730 | 254961 | | 03/19/2019 | 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU50 | | | | | | | 71263 | | | |
| 143730 | 254962 | | 03/19/2019 | 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU59 | | | | | | | 71263 | | | |
| 143730 | 254963 | | 03/19/2019 | 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU59 | | | | | | | 71263 | | | |
| 143730 | 254966 | | 03/19/2019 | 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU47 | | | | | | | 71263 | | | |
| 143730 | 254968 | | 03/19/2019 | 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU49 | | | | | | | 71263 | | | |
| | 264650 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 264651 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 264652 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143730 | 254969 | | 03/19/2019 | 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU49 | | | | | | | 71263 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255833 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU03R1 | | | | | | 71263 | | | |
| 143765 | 255853 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU03R1 | | | | | | 71263 | | | |
| 143765 | 255854 | | 03/21/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU07 | | | | | | 71263 | | | |
| | 264653 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 264654 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 264655 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 273252 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 273253 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 273254 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 273255 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 273256 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| 143688 | 254601 | | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU01 | | Designated MS/MSD | | | | 71263 | | | |
| | 264640 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 254601 | | | | 0 | | | |
| | 258589 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 258588 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 258590 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | MSS 254601 | | | | 71263 | | | |
| | 273258 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 273259 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273260 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 258591 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | MSDS | 258590 | | | | 71263 | | | |
| | 264644 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254601 | | | | 0 | | | |
| | 264645 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | L | 254602 | | | | 0 | | | |
| | 258592 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | DUP | 254602 | | | | 71263 | | | |
| | 258593 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | DUP | 254602 | | | | 71263 | | | |
| | 258594 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | MSS | 254602 | | | | 71263 | | | |
| | 258595 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | MSDS | 258594 | | | | 71263 | | | |
| | 264646 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254602 | | | | 0 | | | |
| 143688 | 254603 | | 03/20/2019 1550 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU02 | | | | | | | 71263 | | | |
| | 273261 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 273262 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 273263 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| 143688 | 254604 | | 03/20/2019 1550 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU02 | | | | | | | 71263 | | | |
| 143688 | 254606 | | 03/20/2019 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU04 | | | | | | | 71263 | | | |
| 143765 | 255833 | | 03/21/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU03R1 | | | | | | | 71263 | | | |
| 143765 | 255853 | | 03/21/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU03R1 | | | | | | | 71263 | | | |
| 143765 | 255854 | | 03/21/2019 1045 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU07 | | | | | | | 71263 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273264 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273265 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273266 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 273289 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 273290 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |
| | 273291 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 273292 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |
| | 273293 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| 143688 | 254602 | | 03/20/2019 | 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| RERUN | | DU3B-SU01 | | | Designated MS/MSD | | | | 71263 | | | |
| 143688 | 254605 | | 03/20/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| RERUN | | DU3A-SU04 | | | | | | | 71263 | | | |
| | 273294 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273295 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273296 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |

**102** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,151** Date Prepped: 03/25/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 255704 | MBS | | ICP QSM 5.0 | SOLID | 50 | 2.06 | | | |
| | 255705 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.05 | | | |
| 143587 | 253258 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 253274 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 253275 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 253276 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 253277 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 253278 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 253279 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 253279 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 253280 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 253280 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 253281 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 253282 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| 143688 | 254587 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 254588 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254589 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143688 | 254590 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254591 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 254592 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254593 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 254594 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 254595 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 254596 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 255706 | DUP | 253258 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 255707 | DUP | 253258 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 255708 | MSS | 253258 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 255709 | MSDS | 255708 | ICP QSM 5.0 | SOIL | 50 | 1.97 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,264** Date Prepped: 04/01/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258596 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.90 | | | |
| | 258597 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.96 | | | |
| 143730 | 254964 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254965 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254965 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254967 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| 143765 | 255855 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255856 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 255856 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 255857 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255857 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255858 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 255858 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 255859 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255860 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255861 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255880 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255881 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 255882 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 255883 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255884 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255884 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255885 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255885 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255886 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 255886 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 255887 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255887 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255888 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255889 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 258599 | DUP | 254964 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258600 | MSS | 254964 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258601 | MSDS | 258600 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258602 | DUP | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258602 | DUP | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |

# PREP WORKSHEET
# on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258603 | MSS | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258603 | MSS | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258604 | MSDS | 258603 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258604 | MSDS | 258603 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258605 | DUP | 254967 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 258606 | DUP | 254967 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |

Notes:_____

# PREP WORKSHEET
# on 05/01/2019

Prep Batch **71,263** Date Prepped: 04/01/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258582 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.99 | | | |
| | 258583 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.98 | | | |
| 143688 | 254597 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254598 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 254599 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254600 | | | ICP QSM 5.0 | SOIL | 50 | 2.02 | | 4 | |
| | 254601 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254601 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254602 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254602 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254603 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254603 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254604 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 254604 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 254605 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 254605 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 254606 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143688 | 254606 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| 143730 | 254959 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254961 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254962 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 254963 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254966 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 254968 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 254969 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| 143765 | 255833 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255833 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255853 | | | ICP QSM 5.0 | SOIL | 50 | 2.09 | | 4 | |
| | 255853 | | | ICP QSM 5.0 | SOIL | 50 | 2.09 | | 4 | |
| | 255854 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 255854 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 258588 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258588 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258589 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258589 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258590 | MSS | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258590 | MSS | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258591 | MSDS | 258590 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258591 | MSDS | 258590 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258592 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258592 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258593 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 258593 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 258594 | MSS | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258594 | MSS | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258595 | MSDS | 258594 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258595 | MSDS | 258594 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 264656 | DUP | 254600 | ICP QSM 5.0 | SOIL | 50 | 2.01 | | | |
| | 264657 | DUP | 254600 | ICP QSM 5.0 | SOIL | 50 | 2.02 | | | |

Notes:_____

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71151 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 03/25/2019 |
| **Start Time:** | 13:35 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 03/25/2019
End Time: 15:58

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.672 |
| Hydrochloric Acid: | AB.671 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3181
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 92
Final-Digestion Temp (ºC): 92

| Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|
| 255704 | (MB) | | 2.06 | | 50 |
| 255705 | (LCS) | | 2.05 | | 50 |
| 253258 | | | 1.97 | | 50 |
| 253274 | Comments: | | 1.92 | | 50 |
| 253275 | | | 1.99 | | 50 |
| 253276 | | | 1.93 | | 50 |
| 253277 | | | 2.01 | | 50 |
| 253278 | | | 2.04 | | 50 |
| 253279 | | | 2.04 | | 50 |
| 253280 | | | 2.05 | | 50 |
| 253281 | | | 2.06 | | 50 |
| 253282 | | | 1.97 | | 50 |
| 254587 | | | 1.94 | | 50 |
| 254588 | | | 1.93 | | 50 |
| 254589 | | | 1.93 | | 50 |
| 254590 | | | 1.93 | | 50 |
| 254591 | | | 1.98 | | 50 |
| 254592 | | | 1.93 | | 50 |
| 254593 | | | 2.03 | | 50 |
| 254594 | | | 2.03 | | 50 |
| 254595 | | | 2.05 | | 50 |
| 254596 | | | 2.05 | | 50 |
| 255706 | (DUP) | | 1.96 | | 50 |
| 255707 | (DUP) | | 1.96 | | 50 |
| 255708 | (MS) | Parent Sample | 1.96 | | 50 |
| 255709 | (MSD) | 253258 | 1.97 | | 50 |
| | (MS) | Parent Sample | | | 50 |
| | (MSD) | | | | 50 |
| Leave >> | (DUP) if applicable | | | | 50 |
| blank | (MS) | Parent Sample | | | 50 |
| if N/A | (MSD) | | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13616 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13616 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

05/03/201912:25

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: Soil

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71264 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/01/2019 |
| **Start Time:** | 11:12 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 04/01/2019
End Time: 14:11

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3231
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 91
Final-Digestion Temp (ºC): 92

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 258596 | (MB) | | 1.90 | | 50 |
| | 258597 | (LCS) | | 1.96 | | 50 |
| | 254964 | | | 1.91 | | 50 |
| | 254965 | Comments: | | 1.91 | | 50 |
| | 254967 | | | 1.90 | | 50 |
| | 255855 | | | 1.96 | | 50 |
| | 255856 | | | 2.08 | | 50 |
| | 255857 | | | 1.93 | | 50 |
| | 255858 | | | 2.06 | | 50 |
| | 255859 | | | 1.91 | | 50 |
| | 255860 | | | 1.92 | | 50 |
| | 255861 | | | 1.93 | | 50 |
| | 255880 | | | 1.94 | | 50 |
| | 255881 | | | 2.03 | | 50 |
| | 255882 | | | 1.95 | | 50 |
| | 255883 | | | 1.91 | | 50 |
| | 255884 | | | 1.92 | | 50 |
| | 255885 | | | 1.93 | | 50 |
| | 255886 | | | 1.97 | | 50 |
| | 255887 | | | 1.91 | | 50 |
| | 255888 | | | 1.96 | | 50 |
| | 255889 | | | 2.01 | | 50 |
| | 258605 | (DUP) | | 1.90 | | 50 |
| | 258606 | dup2 | | 1.90 | | 50 |
| | | | 254967 | | | 50 |
| | 258599 | (DUP) | | 1.92 | | 50 |
| | 258600 | (MS) | Parent Sample | 1.92 | | 50 |
| | 254601 | (MSD) | 254964 | 1.92 | | 50 |
| Leave >> | 258602 | (DUP) if applicable | | 1.91 | | 50 |
| blank | 258603 | (MS) | | 1.91 | | 50 |
| if N/A | 258604 | (MSD) | 254965 | 1.92 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date:
05/03/201912:25

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: Soil

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71263 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/01/2019 |
| **Start Time:** | 11:12 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 04/01/2019
End Time: 14:11

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3231
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 91
Final-Digestion Temp (ºC): 92

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 258582 | (MB) | | 1.99 | | 50 |
| | 258283 | (LCS) | | 1.98 | | 50 |
| | 254597 | | | 1.92 | | 50 |
| | 254598 | Comments: | | 2.06 | | 50 |
| | 254599 | 2dup 258589 1.93 | | 1.92 | | 50 |
| | 254600 | 2dup 258593 1.94 | | 2.02 | | 50 |
| | 254601 | | | 1.92 | | 50 |
| | 254602 | | | 1.93 | | 50 |
| | 254603 | | | 1.91 | | 50 |
| | 254604 | | | 2.06 | | 50 |
| | 254605 | | | 1.90 | | 50 |
| | 254606 | | | 1.95 | | 50 |
| | 254959 | | | 1.93 | | 50 |
| | 254961 | | | 1.92 | | 50 |
| | 254962 | | | 1.95 | | 50 |
| | 254963 | | | 1.93 | | 50 |
| | 254966 | | | 1.94 | | 50 |
| | 254968 | | | 1.99 | | 50 |
| | 254969 | | | 1.96 | | 50 |
| | 255833 | | | 1.96 | | 50 |
| | 255853 | | | 2.09 | | 50 |
| | 255854 | | | 2.01 | | 50 |
| | 264656 | (DUP) | | 1.92 | | 50 |
| | 264657 | dup2 | | 1.93 | | 50 |
| | | | 254600 | | | 50 |
| | 258588 | (DUP) | | 1.92 | | 50 |
| | 258590 | (MS) | Parent Sample | 1.91 | | 50 |
| | 258591 | (MSD) | 254601 | 1.93 | | 50 |
| Leave >> | 258592 | (DUP) if applicable | | 1.92 | | 50 |
| blank | 258594 | (MS) | Parent Sample | 1.92 | | 50 |
| if N/A | 258595 | (MSD) | 254602 | 1.93 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

05/03/201912:26

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 3-27-19 | Data File: D00nov05r | Date of review: 4/4/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS #: 159095 | Analyst: [redacted] | Reviewer: MDS | Approved? Yes No |
| Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r > 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| Prep Batch ID#: 71151 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | | ✓ | | |
| Spiked samples in batch: | | | | | |
| a) 725258 matrix = S | ✓ | ✓ | ✓ | ✓ | (Fail MS, MSD Fail |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#: 9 | ✓ | ✓ | ✓ | ✓ | MA "M" |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix = _____ | | | | | |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix = _____ | | | | | |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix = _____ | | | | | |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4-3-19 | Data File: DD Results | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS #: 159293 | Analyst [redacted] | Reviewer: MOS | Approved? Yes No |

Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r > 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71264 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As > LOD < ½ RL Mn > LOD OK |
| Spiked samples in batch: | | | | | |
| a) 254964 matrix = S | ✓ | ✓ | ✓ | ✓ | < invalid, fail |
| b) 254965 matrix = S | ✓ | | ✓ | | |
| c) 254967 matrix = S | ✓ | | ✓ | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: 71264 Dig. Meth. 3050 | ✓ | | | | |
| LCS - generated limits or project specific limits | ✓ | | | | |
| MB - <LOD or ≤ ½ RL | ✓ | | | | |
| Spiked samples in batch: | | | | | |
| a) 254967 matrix = S | ✓ | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

FORM #: FMT9-01
Rev. #: 1.0
Effective Date: 05/14/2014
Page 1 of 1

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/3/19 | Data File: 200Nov05 | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: M135519 LIMS #: 159294 | Analy[redacted] | Reviewer: MDS | Approved? Yes No |
| Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / ICPMS / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r > 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71263 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As >LOD <½ RL Mn > LOD. "B" |
| Spiked samples in batch: | | | | | |
| a) 234600 matrix = S | ✓ | ✓X | ✓ | ✓ | "Y" As |
| b) 234601 matrix = S | ✓ | ✓ | ✓ | ✓ | "M" "Y" |
| c) 234602 matrix = S | ✓ | ✓ | ✓ | ✓ | "M" "Y". |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

CT Laboratories, LLC

# ICP-6500 Instrument Run Logbook

| Date | Time: Start / End | Analyst | Analytes / Sequence I.D. | Method | LIMS # or Sample Description | Nebulizer Pressure (kpa) | Calib. Std ID | Version | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 3/29/19 | 1027 / 0621 | A | DOD Cal n 032919 | DOD Cal n | 159138, 159137, 159206 159182 159194 159191 159192 159183 159188, 86, 159183, 182 159177, 74 159187, 159175 | 270 | M13661 M13519 | V3287 V3286 V3283 V3282 | M13621 M13626 M13633 M13660 M13624 |
| 3/29/19 | 1027 / 0621 | A | 040119 | DOD Cal n | 159257 159179, 81 159168 159166 159260 159265 159266, 67, 69 159269 159271, 159235 | 270 | M13661 M13519 | V3289 V3286 V3284 V3288 | M13621 M13626 M13633 M13660 M13624 |
| 3/4/1/19 | 1225 / 0358 | A | 040219 | DOD Cal n | 159271 159280 159293 159284 159353 159286 159294 159288 159354 159291 159285 159287 159236 159292 | 270 | M13661 M13519 | V3294 V3293 | M13621 M13626 M13633 M13660 M13624 |
| 4/3/19 | 1405 / 1429 4/4/19 | A | 040519 | DOD Cal n | 159388, 159294 159457 159443 159387 159293 159449 159444 159385 79 159383 159445 | 270 | M13661 M13519 | V3296 V3299 V3295 V3300 V3297 V3303 | M13621 M13626 M13633 M13660 M13624 |
| 4/05/19 | 0716 / 0842 | A | 041019 | DOD Cal n | 159519, 159545, 159556 159563 159524 159560 159528 159561 159527 159529 | 270 | M13661 M13519 | V3302 V3301 | M13621 M13626 M13633 M13660 M13624 |
| 4/10/19 | 1139 / 1056 4/11/19 | A | 041119 | DOD Cal n | 159552 159550 159554 159622 159554 159553 159595 159633 159271 159549 159604 159615 | 270 | M13661 M13519 | V3308 V3305 V3304 V3302 | M13621 M13626 M13633 M13660 M13624 |
| 4/11/19 | 1345 / 1415 | A | 041519 | DOD Cal n | 159627 159628 159596 159603 159733 159681 159738 159680 159737 159739 159736 159685 | 270 | M13661 M13519 | V3310 V3309 | M13621 M13626 M13633 M13660 M13624 |
| 4/16/19 | 1505 / 1319 | A | 041819 | DOD Cal n | 159583 159798 159801 159857 159795 159803 159804 159796 159804 159805 159808 159809 | 280 | M13661 M13519 | V3312 V3311 V3313 V3306 | M13621 M13626 M13633 M13660 M13624 |
| 4/18/19 | 1426 / 1007 4/19 | A | 041919 | DOD Cal n | 159785 159294 159809 159293 | 280 | M13661 M13519 | V3314 | M13621 M13626 M13633 M13660 M13624 |
| 4/19/19 | 1057 / 1645 | A | 042219 | DOD Cal n | 159943 159893 159896 159901 159894 159898 | 280 | M13661 M13519 | V3323 V3324 | M13621 M13626 M13633 M13660 M13624 |
| 4/22/19 | 1517 / 0651 0728 | A | 042319 | DOD Cal n | 159985 159983, 159984 159943 159979, 159903 159905 160004 160204, 159944 159939 | 280 | M13661 M13519 | V3318 V3317 V3325 | M13621 M13626 M13633 M13660 M13624 |
| 4/23/19 | 1203 / 0513 | A | 042419 | DOD Cal n | 159524 159940 159736 159939 159906 159934 159904 159993 | 280 | M13661 M13519 | V3326 V3327 V3316 | M13621 M13626 M13633 M13660 M13624 |
| 4/24/19 | 1543 / 0422 | A | | | | | | | |

*A 4-3-19

Comments:

Checked By / Date:

CT Laboratories, LLC

# *ICP-6500 Instrument Run Logbook*

| Date | Time: Start / End | Analyst | Analytes / Sequence I.D. | Method | LIMS # or Sample Description | Nebulizer Pressure (kpa) | Calib. Std ID | Version | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 4/25/19 | 1403 / 4/26 1434 | JD | 042519 | DODCal u | 159294 159962 160125 160122 159549 160048 160124 159883 160105 160121 | 280 | M13616L1 M13519 | V3329 V3328 V3320 | M13621 M13624 M13633 M13660 M13624 |
| 4/26/19 | 1447 / 1050 | JD | 042619 | DODCal u | 160120 160145, 160050 160191 160117 160108 160119 160192 159923 159921 160005 160194 | 280 | M13616L1 M13519 | V3330 V3331 V3329 | M13621 M13624 M13633 M13660 M13624 |
| 4/29/19 | 1405 / 1800 | JD | 042819 | DODCal u | 159294 160207 160204 160167 160288 160286 159549 | 280 | M13616L1 M13519 | V3321 | M13621 M13624 M13633 M13660 M13624 |
| 4/30/19 | 1341 / 1512 | JD | 043019 | DODCal u | 160230 160224 160256 160237 160290 160227 160051 160245 160243 160225 160224 160216 160244, 160248 | 280 | M13616L1 M13519 | V3336 V3335 V3337 | M13621 M13624 M13633 M13660 M13624 |
| 5/1/19 | 1518 / 1902 | JD | 050119 | DODCal u | 160286, 160288, 160290 | 280 | M13616L1 M13519 | V3339 | M13621 M13624 M13633 M13660 M13624 |
| 5/2/19 | 1511 / 1805 | JD | 050219 | DODCal u | 159549 | 280 | M13616L1 M13519 | V3334 | M13621 M13624 M13633 M13660 M13624 |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |

Comments: _____

_____

Checked By / Date: _____

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/27/2019 11:46:21 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 11:47:23 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/27/2019 11:51:27 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 11:51:48 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/27/2019 11:51:48 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 11:52:09 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 11:58:29 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:04:45 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:11:03 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:17:19 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:23:37 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:29:46 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:35:55 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:42:03 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:43:38 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/27/2019 12:47:46 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 12:54:17 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:00:35 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:06:52 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:13:44 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:21:12 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:27:24 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:33:39 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:39:53 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:45:59 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:52:13 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 13:58:28 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:04:40 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:11:27 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:17:43 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:23:55 | Running ICVLLag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:30:08 | Running icsa-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:36:19 | Running icsa-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:43:01 | Running icsa-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:48:59 | Running icsa-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 14:55:09 | Running 255763 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:01:45 | Running msw255763 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:08:02 | Running msdw255763 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:14:19 | Running 255764 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:21:00 | Running 255765 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:27:54 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:33:45 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:39:29 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:45:45 | Running 255767 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:52:25 | Running 255768 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 15:59:03 | Running 255902 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:05:40 | Running 255922 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:12:18 | Running 255923 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:18:59 | Running 255924 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:25:37 | Running 255925 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:32:16 | Running 255926 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:38:29 | Running 255927 (19) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/27/2019 16:45:08 | Running lcss71151 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:51:38 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 16:57:30 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:03:14 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:09:30 | Running mbs71151 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:15:55 | Running 253258 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:22:12 | Running l253258 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:28:35 | Running 253258dup1 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:34:51 | Running 253258dup2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:41:07 | Running mss253258 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:47:16 | Running msds253258 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:53:25 | Running pdss253258 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 17:59:35 | Running 253274 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:05:55 | Running 253275 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:12:25 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:18:15 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:24:00 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:30:15 | Running 253276 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:36:47 | Running 253277 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:43:11 | Running 253278 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:49:45 | Running 253279 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 18:56:57 | Running 253280 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:04:12 | Running 253281 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:10:32 | Running 253282 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:17:05 | Running 254587 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:23:20 | Running 254588 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:29:50 | Running 254589 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:36:12 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:42:02 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:47:47 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 19:54:03 | Running 254590 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:00:08 | Running 254591 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:06:22 | Running 254592 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:12:48 | Running 254593 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:18:56 | Running 254594 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:25:14 | Running 254595 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:31:34 | Running 254596 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:37:56 | Running 254813 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:44:27 | Running 254815 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:50:53 | Running mbw tclp1 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 20:57:07 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:02:54 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:08:38 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:14:54 | Running 253453 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:21:21 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:27:40 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:33:30 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:39:14 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/27/2019 21:45:29 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/27/2019 21:45:29 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/27/2019 21:45:31 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/28/2019 05:56:37 | | [redacted] | iTEVA Control Center | |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/28/2019 05:56:59 | Connected to instrument 20082101 | [redacted] | iTEVA Control Center | |
| | 03/28/2019 06:46:55 | Plasma On | [redacted] | iTEVA Control Center | |
| | 03/28/2019 06:47:00 | Plasma ignition successful | [redacted] | Analyst | |
| | 03/28/2019 06:47:47 | D33534 - Debug:Wavelength check : x = 0.997, y =-0.259 | [redacted] | Analyst | |
| | 03/28/2019 13:20:47 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/28/2019 13:20:48 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/29/2019 06:54:23 | Plasma On | [redacted] | iTEVA Control Center | |
| | 03/29/2019 06:54:29 | Plasma ignition successful | [redacted] | iTEVA Control Center | |
| | 03/29/2019 06:55:15 | D33534 - Debug:Wavelength check : x = 1.138, y =-0.313 | [redacted] | iTEVA Control Center | |
| | 03/29/2019 09:22:39 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/29/2019 09:22:39 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:23:00 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:29:20 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:35:46 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:37:41 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:38:12 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/29/2019 09:38:12 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:38:33 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:44:56 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:51:11 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 09:57:27 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:00:02 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:06:42 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/29/2019 10:06:42 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:07:03 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:08:34 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/29/2019 10:13:21 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:19:36 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:23:33 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:27:24 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:27:24 | Autosampler Run Started | [redacted] | Analyst | |
| | 03/29/2019 10:27:46 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:34:05 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:36:44 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/29/2019 10:40:19 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:46:37 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:52:54 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 10:59:14 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:05:24 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:11:34 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:17:41 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:23:19 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:29:52 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:36:10 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:42:28 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:49:20 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 11:56:42 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:02:54 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:09:09 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:15:23 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:21:30 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:27:44 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/29/2019 12:33:59 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:40:10 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:41:20 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/29/2019 12:46:14 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 03/29/2019 12:46:14 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 03/29/2019 12:47:28 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:53:42 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 12:59:54 | Running ICVLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:03:54 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 03/29/2019 13:03:55 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 03/29/2019 13:06:07 | Running icsa-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:07:27 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/29/2019 13:12:20 | Running icsa-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:19:04 | Running icsa-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:25:03 | Running icsa-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:27:16 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/29/2019 13:31:15 | Running 256467 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:37:38 | Running msw256467 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:43:44 | Running msdw256467 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:49:55 | Running 257306 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 13:56:17 | Running 256936 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:02:33 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:02:40 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 03/29/2019 14:08:16 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:14:00 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:20:17 | Running 256937 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:26:46 | Running 256938 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:33:10 | Running 256939 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:39:43 | Running 256940 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:46:23 | Running 256941 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:53:05 | Running 256942 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 14:59:31 | Running 256943 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:05:58 | Running 256944 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:12:23 | Running 256945 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:18:47 | Running 257317 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:25:11 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:30:56 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:36:38 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:42:54 | Running msw257317 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:49:10 | Running msdw257317 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 15:55:26 | Running 257318 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:02:06 | Running 257319 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:08:40 | Running 257320 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:15:19 | Running lcsw71191 90 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:21:58 | Running mbw71191 90 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:27:48 | Running 256525 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:35:03 | Running 256538  256546 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:41:50 | Running msw256538 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:48:21 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:54:10 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 16:59:52 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:06:08 | Running msdw256538 (31) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/29/2019 17:12:40 | Running pdsw256538 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:19:08 | Running 256580 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:26:01 | Running lcsw71189 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:32:16 | Running mbw71189 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:38:31 | Running 256951 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:45:01 | Running msw256951 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:51:13 | Running msdw256951 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 17:57:24 | Running pdsw256951 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:03:37 | Running 256959 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:10:23 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:16:08 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:21:50 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:28:06 | Running msw256959 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:34:15 | Running msdw256959 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:40:25 | Running pdsw256959 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:46:32 | Running lcsw71194 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:52:45 | Running mbw71194 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 18:59:00 | Running 256557 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:05:39 | Running l256557 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:12:22 | Running dup256557 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:19:02 | Running msw256557 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:25:15 | Running pdsw256557 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:31:20 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:37:08 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:42:50 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:49:04 | Running 256560 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 19:55:56 | Running 256562 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:02:32 | Running 256564 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:08:59 | Running lcsw71193 (54) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:15:13 | Running mbw71193 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:21:27 | Running 256553 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:28:05 | Running l256553 (57) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:34:50 | Running dup256553 (58) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:41:28 | Running msw256553 (59) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:47:38 | Running pdsw256553 (60) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:53:41 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 20:59:28 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:05:10 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:11:25 | Running 256559 (61) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:18:03 | Running 259561 (62) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:24:43 | Running 259563 (63) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:31:10 | Running lcsw71158 63 (64) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:37:35 | Running mbw71158 63 (65) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:43:49 | Running 256253 (66) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:50:09 | Running 256254 (67) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 21:56:27 | Running 256255 (68) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:02:51 | Running l256255 (69) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:09:31 | Running dup256255 (70) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:15:56 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:21:49 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:27:33 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:33:50 | Running msw256255 (71) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/29/2019 22:40:10 | Running msdw256255 (72) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:46:31 | Running pdsw256255 (73) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:52:44 | Running 256257 (74) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 22:59:23 | Running 256258 (75) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:05:41 | Running 256259 (76) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:12:04 | Running 256260 (77) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:18:12 | Running lcsw71164 59 (78) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:24:40 | Running mbw71164 59 (79) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:30:55 | Running 255832 (80) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:37:33 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:43:28 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:49:12 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/29/2019 23:55:29 | Running l255832 (81) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:02:09 | Running dup255832 (82) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:08:47 | Running msw255832 (83) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:15:20 | Running pdsw255832 (84) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:21:34 | Running 255835 (85) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:28:12 | Running 255837 (86) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:35:02 | Running lcsw71157 (87) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:41:31 | Running mbw71157 (88) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:47:45 | Running 255831 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 00:54:21 | Running l255831 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:01:02 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:07:04 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:12:48 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:19:05 | Running dup255831 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:25:39 | Running msw255831 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:32:10 | Running pdsw255831 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:38:34 | Running 255834 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:45:10 | Running 255836 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:51:49 | Running 255838 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 01:58:04 | Running lcsw71154 60 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:04:33 | Running mbw71154 60 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:10:49 | Running 255686 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:17:26 | Running msw255686 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:23:47 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:29:45 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:35:30 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:41:47 | Running msdw255686 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:48:12 | Running pdsw255686 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 02:54:26 | Running 255688 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:01:04 | Running 255690 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:07:42 | Running 255692 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:14:19 | Running 255694 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:20:54 | Running 256037 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:27:27 | Running 256249 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:34:11 | Running lcss71165 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:40:15 | Running mbs71165 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:46:30 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:52:28 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 03:58:13 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:04:30 | Running 255377 (111) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 03/30/2019 04:10:43 | Running mss255377 (112) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:16:55 | Running msds255377 (113) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:23:03 | Running pdss255377 (114) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:29:21 | Running lcss71198 (115) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:35:25 | Running mbs71198 (116) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:41:40 | Running 256725 (117) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:48:06 | Running mss256725 (118) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:54:01 | Running msds256725 (119) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 04:59:56 | Running pdss256725 (120) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:05:58 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:11:55 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:17:40 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:23:57 | Running lcswtclp (121) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:30:17 | Running mbwtclp (122) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:36:32 | Running 256931 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:43:27 | Running msw256931 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:50:00 | Running 253279 (125) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 05:56:41 | Running 253280 (126) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 06:03:20 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 06:09:32 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 06:15:37 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 06:21:23 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 03/30/2019 06:27:41 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 03/30/2019 06:27:42 | Plasma off | [redacted] | iTEVA Control Center | |
| | 03/30/2019 06:27:43 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 07:22:29 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/01/2019 07:22:35 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/01/2019 07:23:15 | D33534 - Debug:Wavelength check : x = 0.735, y =-0.191 | [redacted] | Analyst | |
| | 04/01/2019 12:24:55 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 12:24:55 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/01/2019 12:25:16 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 12:31:36 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 12:38:07 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 12:44:23 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 12:50:39 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 12:56:56 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:02:58 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/01/2019 13:03:05 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:09:13 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:15:21 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:21:02 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:27:35 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:28:33 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/01/2019 13:28:33 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/01/2019 13:33:53 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:40:11 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:47:05 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 13:54:40 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 14:00:53 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 14:07:09 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 14:13:24 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/01/2019 14:19:29 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/02/2019 00:50:24 | Running 257627 (74) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 00:57:03 | Running 257628 (75) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:03:46 | Running 257629 (76) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:10:23 | Running 257630 (77) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:17:02 | Running 257631 (78) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:23:26 | Running 257632 (79) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:29:52 | Running 257633 (80) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:36:19 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:42:00 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:47:44 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:54:00 | Running 258192 (81) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:00:17 | Running msw258192 (82) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:06:38 | Running msdw258192 (83) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:13:03 | Running 258195 (84) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:19:25 | Running 258196 (85) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:25:46 | Running 258197 (86) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:32:08 | Running 258198 (87) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:38:22 | Running 258199 (88) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:44:56 | Running 258200 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:51:30 | Running 258201 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:58:05 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:03:49 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:09:34 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:15:50 | Running 258203 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:22:24 | Running 258207 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:28:41 | Running 258208 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:34:57 | Running 258209 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:41:13 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:47:23 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:53:07 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:58:51 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 04:05:07 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/02/2019 04:05:08 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/02/2019 04:05:09 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 08:01:53 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/02/2019 08:01:57 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/02/2019 08:02:44 | D33534 - Debug:Wavelength check : x = 0.945, y =-0.238 | [redacted] | Analyst | |
| | 04/02/2019 13:36:00 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/02/2019 13:36:00 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/03/2019 07:05:04 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/03/2019 07:05:10 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/03/2019 07:05:50 | D33534 - Debug:Wavelength check : x = 0.863, y =-0.240 | [redacted] | Analyst | |
| | 04/03/2019 13:49:02 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/03/2019 13:49:02 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 13:49:23 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 13:55:36 | E33539 - : Error Updating Method with standard: Standard saturated. | [redacted] | Analyst | |
| | 04/03/2019 13:55:39 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:01:22 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:05:05 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/03/2019 14:05:05 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:05:25 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:11:42 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/03/2019 14:17:55 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:24:11 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:30:26 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:36:43 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:42:54 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:49:03 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:55:12 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:00:51 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:07:24 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:13:42 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:20:06 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:26:47 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:34:16 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:40:28 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:46:43 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:52:57 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:59:03 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:05:17 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:11:32 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:17:43 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:24:29 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:30:37 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:36:49 | Running ICVLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:43:03 | Running ICSA-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:49:15 | Running ICSA-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:55:58 | Running ICSA-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:01:57 | Running ICSA-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:08:08 | Running 257505 (61) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:14:49 | Running 257506 (62) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:21:30 | Running 257507 (63) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:28:12 | Running 257508 (64) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:34:52 | Running 257509 (65) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:41:32 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:47:00 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:52:45 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:59:01 | Running 257510 (66) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:05:42 | Running 257513 (69) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:12:14 | Running 257516 (72) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:18:58 | Running 257627 (74) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:25:30 | Running 257629 (76) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:31:47 | Running 259311 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:38:24 | Running msw259311 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:44:41 | Running msdw259311 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:50:59 | Running 259007 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:57:42 | Running msw259007 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:04:00 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:09:32 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:15:17 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:21:33 | Running msdw259007 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:27:53 | Running 259371 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:34:30 | Running 259426 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:41:06 | Running 259427 (14) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/03/2019 19:47:44 | Running 259428 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:54:24 | Running 259429 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:01:04 | Running 259430 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:07:44 | Running lcsw71255 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:14:03 | Running mbw71255 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:20:17 | Running 258029 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:26:53 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:32:22 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:38:06 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:44:23 | Running l258029 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:51:02 | Running dup258029 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:57:40 | Running msw258029 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:03:42 | Running pdsw258029 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:09:59 | Running lcsw71248 62 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:16:19 | Running mbw71248 62 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:22:33 | Running 258035 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:29:09 | Running l258035 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:35:48 | Running dup258035 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:42:26 | Running msw258035 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:48:23 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:53:52 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:59:37 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:05:52 | Running pdsw258035 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:12:08 | Running lcsw71254 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:18:28 | Running mbw71254 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:24:42 | Running 257990 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:31:22 | Running l257990 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:37:58 | Running dup257990 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:44:39 | Running msw257990 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:50:56 | Running pdsw257990 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:57:05 | Running 257994 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:03:39 | Running lcsw71251 49 53 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:09:59 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:15:27 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:21:11 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:27:27 | Running mbw71251 49 53 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:33:43 | Running 258019 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:39:58 | Running msw258019 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:45:54 | Running msdw258019 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:51:50 | Running pdsw258019 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:58:16 | Running 258021 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:04:57 | Running 258077 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:11:21 | Running lcsw71256 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:17:42 | Running mbw71256 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:23:58 | Running 258205 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:30:38 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:36:07 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:41:51 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:48:07 | Running msw258205 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:54:21 | Running msdw258205 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:00:36 | Running pdsw258205 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:06:48 | Running 258210 (54) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/04/2019 01:13:27 | Running 258211 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:20:07 | Running 258212 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:26:40 | Running 258213 (57) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:33:12 | Running 258216 (58) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:39:43 | Running 258217 (59) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:46:23 | Running 258218 (60) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:53:04 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:58:34 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:04:19 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:10:35 | Running 258219 (67) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:17:17 | Running lcsw71245 (68) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:23:39 | Running mbw71245 (70) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:29:54 | Running 257745 (71) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:36:34 | Running l257745 (73) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:43:18 | Running dup257745 (75) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:49:59 | Running msw257745 (77) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:56:07 | Running msdw257745 (78) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:02:14 | Running pdsw257745 (79) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:08:31 | Running 257762 (80) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:15:11 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:20:41 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:26:27 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:32:44 | Running 257763 (81) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:39:19 | Running 257764 (82) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:45:58 | Running 257767 (83) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:52:38 | Running 257807 (84) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:59:18 | Running 257809 (85) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:05:59 | Running 257810 (86) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:12:38 | Running 257811 (87) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:19:17 | Running 257812 (88) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:25:58 | Running 257813 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:32:37 | Running 257814 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:39:17 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:44:48 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:50:33 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:56:50 | Running 257816 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:03:30 | Running 257817 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:10:11 | Running 257818 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:16:45 | Running 257819 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:23:26 | Running 257820 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:30:07 | Running 257821 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:36:47 | Running 257822 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:43:22 | Running 257823 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:50:03 | Running lcss71263 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:56:39 | Running mbs71263 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:03:07 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:08:36 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:14:22 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:20:39 | Running 254597 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:27:10 | Running 254598 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:33:45 | Running 254599 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:40:10 | Running 254600 (104) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/04/2019 06:46:44 | Running 1dup254600 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:53:11 | Running 2dup254600 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:59:43 | Running 254601 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:06:13 | Running l254601 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:12:48 | Running 1dup254601 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:19:11 | Running 2dup254601 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:25:40 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:31:22 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:37:08 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:43:25 | Running mss254601 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:49:42 | Running msds254601 (112) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:55:57 | Running pdss254601 (113) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:02:21 | Running 254602 (114) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:08:32 | Running l254602 (115) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:15:07 | Running 1dup254602 (116) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:21:19 | Running 2dup254602 (117) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:27:38 | Running mss254602 (118) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:33:59 | Running msds254602 (119) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:40:37 | Running pdss254602 (120) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:47:01 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:52:34 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:58:21 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:04:39 | Running 254603 (121) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:11:51 | Running 254604 (122) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:18:20 | Running 254605 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:25:05 | Running 254606 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:31:56 | Running 254959 (125) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:38:27 | Running 254961 (126) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:45:03 | Running 254962 (127) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:51:38 | Running 254963 (128) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:58:00 | Running 254966 (129) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:04:34 | Running 254968 (130) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:10:50 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:16:29 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:22:17 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:28:36 | Running 254969 (131) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:34:46 | Running 255833 (132) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:41:29 | Running 255853 (133) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:47:51 | Running 255854 (134) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:54:44 | Running lcss71264 (135) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:01:21 | Running mbs71264 (136) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:07:51 | Running 254964 (137) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:14:24 | Running l254964 (138) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:20:49 | Running 1dup254964 (139) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:27:21 | Running mss254964 (140) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:33:50 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:39:34 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:45:23 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:47:44 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:47:44 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/04/2019 11:51:43 | Running msds254964 (141) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:54:08 | Unable to Set Check Table, icsab | [redacted] | Analyst | |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/04/2019 11:54:08 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/04/2019 11:55:57 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:56:55 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:57:51 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:58:13 | Running pdss254964 (142) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:02:36 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/04/2019 12:04:34 | Running 254965 (143) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:11:05 | Running l254965 (144) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:17:27 | Running 1dup254965 (145) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:23:56 | Running mss254965 (146) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:30:19 | Running msds254965 (147) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:36:51 | Running pdss254965 (148) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:43:23 | Running 254967 (149) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:50:01 | Running 1dup254967 (150) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:56:26 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:02:12 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:08:01 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:14:19 | Running 2dup254967 (151) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:20:44 | Running 255855 (152) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:24:52 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/04/2019 13:27:02 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/04/2019 13:27:10 | Running 255856 (153) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:33:35 | Running 255857 (154) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:39:45 | Running 255858 (155) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:45:56 | Running 255859 (156) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:52:08 | Running 255860 (157) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:58:40 | Running 255861 (158) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:05:00 | Running 255880 (159) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:11:20 | Running 255881 (160) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:17:34 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:23:13 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:29:00 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:35:21 | Running 255882 (161) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:35:57 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:40:31 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/04/2019 14:40:31 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:40:52 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:47:10 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:53:25 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:59:43 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:05:59 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:12:16 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:18:26 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:24:35 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:30:42 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:36:21 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:42:54 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:49:11 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:55:36 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 16:02:19 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 16:09:50 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 16:16:02 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/05/2019 07:10:15 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:15:59 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:15:59 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/05/2019 07:16:20 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:22:02 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 07:22:42 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:28:55 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:35:30 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:41:46 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:48:03 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:54:13 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:00:22 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:06:31 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:12:10 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:18:42 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:25:00 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:31:24 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:38:16 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:45:41 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:51:53 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:58:05 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:04:20 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:10:25 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:16:40 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:22:55 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:29:07 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:35:53 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:42:05 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:48:17 | Running ICVLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:54:28 | Running ICSA-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:00:40 | Running ICSA-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:07:23 | Running ICSA-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:13:22 | Running ICSA-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:19:33 | Running lcss71284 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:26:05 | Running mbs71284 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:32:32 | Running 255901 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:38:49 | Running 255903 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:45:21 | Running 255904 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:51:51 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:57:22 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:03:06 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:09:24 | Running 1dup255904 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:15:54 | Running 2dup255904 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:22:24 | Running 255905 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:28:40 | Running 255906 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:34:51 | Running 255907 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:41:10 | Running 255908 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:47:35 | Running 255909 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:53:48 | Running 255910 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:00:11 | Running 255911 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:06:27 | Running 255912 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:12:54 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/05/2019 12:18:24 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:24:08 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:30:25 | Running 255913 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:36:39 | Running 255914 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:43:05 | Running 255915 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:49:24 | Running 255916 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:55:36 | Running 255917 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:01:44 | Running 255918 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:08:07 | Running 255919 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:14:28 | Running l255919 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:20:54 | Running 1dup255919 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:27:03 | Running 2dup255919 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:33:11 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:38:42 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:44:27 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:50:44 | Running mss255919 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:57:08 | Running msds255919 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:03:24 | Running pdss255919 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:09:41 | Running 255920 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:10:04 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 14:10:09 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 14:15:49 | Running 256795 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:22:23 | Running 254600 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:29:01 | Running 1dup254600 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:35:40 | Running 2dup254600 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:40:52 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 14:42:18 | Running 254601 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:48:57 | Running l254601 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:55:24 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:00:51 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:06:36 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:12:52 | Running 1dup254601 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:19:22 | Running 2dup254601 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:26:01 | Running mss254601 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:32:42 | Running msds254601 (112) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:39:16 | Running pdss254601 (113) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:45:44 | Running 254602 (114) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:52:25 | Running l254602 (115) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:58:41 | Running 1dup254602 (116) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:05:08 | Running 2dup254602 (117) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:11:40 | Running mss254602 (118) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:18:09 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:23:37 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:29:21 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:35:38 | Running msds254602 (119) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:42:08 | Running pdss254602 (120) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:48:42 | Running 254603 (121) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:55:23 | Running 254604 (122) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:01:53 | Running 254605 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:08:30 | Running 254606 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:15:10 | Running 255833 (132) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:21:47 | Running 255853 (133) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/05/2019 17:28:29 | Running 255854 (134) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:34:38 | Running 255857 (154) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:41:07 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:46:35 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:52:19 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:58:37 | Running 255858 (155) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:05:06 | Running 255882 (161) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:11:30 | Running 255883 (162) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:17:57 | Running 255884 (163) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:24:39 | Running 255885 (164) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:31:10 | Running 255886 (165) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:38:02 | Running 255887 (166) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:44:27 | Running 255888 (167) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:50:58 | Running 255889 (168) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:57:25 | Running lcsw71309 71300 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:03:50 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:09:25 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:15:10 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:21:27 | Running mbw71309 71300 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:27:43 | Running 260297 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:34:36 | Running 260373 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:41:13 | Running 260611 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:48:18 | Running msw260611 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:54:54 | Running msdw260611 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:01:30 | Running pdsw260611 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:07:45 | Running lcsw71290 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:14:05 | Running mbw71290 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:20:19 | Running 259148 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:26:53 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:32:22 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:38:07 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:44:00 | Running l259148 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:50:38 | Running dup259148 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:57:12 | Running msw259148 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:03:25 | Running msdw259148 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:09:40 | Running pdsw259148 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:15:53 | Running 259169 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:22:21 | Running lcsw71292 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:28:41 | Running mbw71292 (54) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:34:55 | Running 259006 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:41:34 | Running l259006 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:48:05 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:53:42 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:59:27 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:05:44 | Running dup259006 (57) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:12:24 | Running msw259006 (58) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:18:44 | Running pdsw259006 (59) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:24:59 | Running lcsw71286 (60) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:31:21 | Running mbw71286 (61) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:37:35 | Running 259093 (62) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:44:33 | Running msw259093 (63) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:50:57 | Running msdw259093 (64) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 06:34:37 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/25/2019 06:35:23 | D33534 - Debug:Wavelength check : x = 1.064, y =-0.266 | [redacted] | Analyst | |
| | 04/25/2019 07:06:37 | iTEVA loaded | [redacted] | iTEVA Control Center | |
| | 04/25/2019 07:06:56 | Connected to instrument 20082101 | [redacted] | iTEVA Control Center | |
| | 04/25/2019 07:07:38 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/25/2019 14:03:38 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:03:38 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/25/2019 14:03:58 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:10:16 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:16:34 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:22:49 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:29:06 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:35:23 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:41:33 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:47:43 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:53:51 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:59:32 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:03:42 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/25/2019 15:06:08 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:12:26 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:18:52 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:25:30 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:32:35 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:38:47 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:45:04 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:51:21 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:57:25 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:03:40 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:09:55 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:16:06 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:22:38 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:28:33 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:34:46 | Running ICVll AG (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:40:57 | Running ICSA-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:47:10 | Running ICSA-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:53:52 | Running ICSA-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:59:50 | Running ICSA-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:06:00 | Running 254601 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:12:38 | Running L254601 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:19:03 | Running 1DUP254601 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:25:41 | Running 2DUP254601 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:32:19 | Running MSS254601 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:38:56 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:44:27 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:50:12 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:56:28 | Running MSDS254601 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:03:07 | Running PDSS254601 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:09:30 | Running 254602 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:15:42 | Running L254602 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:22:06 | Running 1DUP254602 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:28:36 | Running 2DUP254602 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:35:04 | Running MSS254602 (17) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 18:41:32 | Running MSDS254602 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:48:00 | Running PDSS254602 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:54:14 | Running 254603 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:00:50 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:06:25 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:12:08 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:18:25 | Running 254604 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:24:52 | Running 254605 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:31:23 | Running 254606 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:38:00 | Running 255833 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:44:35 | Running 255853 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:51:12 | Running 255854 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:57:13 | Running 254965 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:03:20 | Running L254965 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:09:22 | Running 1DUP254965 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:15:31 | Running MSS254965 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:21:38 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:27:16 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:33:00 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:39:16 | Running MSDS254965 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:45:24 | Running PDSS254965 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:51:34 | Running 255856 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:57:32 | Running 255857 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:04:03 | Running 255881 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:10:33 | Running 255884 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:17:08 | Running 255885 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:23:19 | Running 255886 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:29:49 | Running 255887 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:35:53 | Running LCSS71374 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:41:44 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:47:20 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:53:04 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:59:20 | Running MSS261068 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:05:34 | Running MSDS261068 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:11:49 | Running PDSS261068 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:18:17 | Running 267773 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:25:00 | Running MSW267773 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:31:16 | Running MSDW267773 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:37:31 | Running 267774 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:44:20 | Running 267775 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:50:39 | Running 267776 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:57:15 | Running 267777 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:03:49 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:09:31 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:15:15 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:21:31 | Running 267778 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:27:53 | Running 267779 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:34:31 | Running 267780 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:41:04 | Running 267781 (54) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:47:36 | Running 267782 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:54:09 | Running 267783 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 00:00:42 | Running 267784 (57) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/27/2019 07:42:02 | Running 269340 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 07:48:15 | Running 269341 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 07:54:49 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:00:29 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:06:14 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:12:31 | Running 269342 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:18:44 | Running l269342 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:24:57 | Running dup269342 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:31:10 | Running msw269342 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:37:32 | Running msdw269342 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:43:58 | Running pdsw269342 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:50:14 | Running lcsw71621 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:56:36 | Running mbw71621 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:02:51 | Running 270273 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:09:35 | Running msw270273 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:15:56 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:21:40 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:27:24 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:33:42 | Running msdw270273 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:40:05 | Running pdsw270273 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:46:15 | Running 270275 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:52:40 | Running 270276 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:59:13 | Running 270277 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:05:39 | Running 270278 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:12:18 | Running 270286 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:18:56 | Running 270287 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:25:49 | Running msw270287 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:32:28 | Running msdw270287 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:39:05 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:44:51 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:50:37 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:56:55 | Running 270298 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:03:06 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:09:18 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:15:01 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:20:46 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:27:04 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/27/2019 11:27:04 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/27/2019 11:27:06 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 07:03:29 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/29/2019 07:03:34 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/29/2019 07:04:21 | D33534 - Debug:Wavelength check : x = 1.077, y =-0.253 | [redacted] | Analyst | |
| | 04/29/2019 14:05:11 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/29/2019 14:05:11 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:05:32 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:11:53 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:18:32 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:24:48 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:38:56 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:44:09 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 14:44:38 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 14:45:45 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/29/2019 14:51:27 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/29/2019 14:51:27 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:51:59 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:56:33 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/29/2019 14:56:33 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:58:16 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:59:41 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:59:47 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:59:54 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 15:00:06 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 15:04:23 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:07:59 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 15:10:04 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:16:31 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:22:50 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:29:16 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:35:54 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:42:59 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:49:11 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:55:27 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:01:43 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:07:50 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:14:05 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:20:21 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:26:32 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:33:05 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:38:56 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:45:08 | Running 256803 (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:51:41 | Running 1dup256803 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:58:13 | Running 2dup256803 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:04:45 | Running 256767 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:11:17 | Running 256797 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:17:46 | Running lcss71590 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:24:24 | Running 255886 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:30:38 | Running 254602 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:37:17 | Running 254605 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:43:32 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:49:42 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:55:11 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 18:00:55 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 18:07:12 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/29/2019 18:07:12 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/29/2019 18:07:14 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 06:47:28 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/30/2019 06:47:33 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/30/2019 06:48:20 | D33534 - Debug:Wavelength check : x = 0.951, y =-0.262 | [redacted] | Analyst | |
| | 04/30/2019 13:31:32 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/30/2019 13:31:33 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:31:53 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:37:33 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:40:57 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:40:57 | Autosampler Run Started | [redacted] | Analyst | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13785 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV BASE STD |
| Date Received: | 04/19/2019 | Lot #: | P2-MEB678822 |
| Expiration Date (if any): | 04/19/2020 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13786 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE BASE STD |
| Date Received: | 04/19/2019 | Lot #: | P2-MEB678821 |
| Expiration Date (if any): | 04/19/2020 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13787 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13788 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13789 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13782 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/18/2019 | Expiration Date: | 04/18/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13783 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Matrix Mod. |
| Date Received: | 04/18/2019 | Lot #: | 9166009 |
| Expiration Date (if any): | 09/30/2020 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13784 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/18/2019 | Expiration Date: | 10/18/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13780 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/17/2019 | Expiration Date: | 10/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13781 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/17/2019 | Expiration Date: | 04/17/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13779 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/12/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13778 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 04/11/2019 | Expiration Date: | 04/11/2020 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13777 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/09/2019 | Expiration Date: | 04/09/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13775 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 04/02/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13776 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2019 | Expiration Date: | 04/03/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.676 with **1** part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13771 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13772 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13773 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13774 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 03/26/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb)<br>M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13770 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/25/2019 | Expiration Date: | 03/25/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13768 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13769 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/21/2019 | Expiration Date: | 09/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13765 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13766 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13767 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13763 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13764 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13761 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 03/19/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13762 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 09/19/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13511 and 60 g hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13758 | Standard: | ICSA4_Ni_Ti |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ni and Ti |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13759 | Standard: | ICSA2_Ba_Be_Sn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ba, Be, and Sn |
| Prep Date: | 03/13/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13760 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg<br>10,000 V, Ce |
| Prep Date: | 03/13/2019 | Expiration Date: | 09/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13756 | Standard: | ICSA1_Mn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Mn |
| Prep Date: | 03/13/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13757 | Standard: | ICSA3_Cr_Cu_Co_Mo |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Cr, Cu, Co and Mo |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/20 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13751 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 998527-19 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13752 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 982185-12 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13753 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | As 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 166531-32 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400--10M31 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13754 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13755 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 172053-77 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13749 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13750 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2020 |
| Prep: | Into a 1 L volumetric flask, added 400 g NaOH W45383 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13748 | Vendor: | Potters Ind. LLC (Gainger) |
| Analyst: | [redacted] | Chemical: | Glass beads Extra Fine |
| Date Received: | 03/07/2019 | Lot #: | |
| Expiration Date (if any): | XXXXXX | Catalog #: | 6ZC13 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13746 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13747 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| Standard Log #: | M13743 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 02/26/2019 | Expiration Date: | 10/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13458 | 1000 | 0.25 |
| Al | 10 | M13611 | **10000** | 0.05 |
| As | 20 | M13392 | 1000 | 1 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 0.5 | M13579 | 1000 | 0.025 |
| Ca | 50 | M13692 | **10000** | 0.25 |
| Cd | 0.5 | M13570 | 1000 | 0.025 |
| Co | 2.5 | M13575 | 1000 | 0.125 |
| Cr | 5.0 | M13617 | **10000** | 0.025 |
| Cu | 10 | M13618 | **10000** | 0.05 |
| Fe | 40 | M13609 | **10000** | 0.2 |
| Mg | 25 | M13694 | **10000** | 0.125 |
| Mn | 5 | M13616 | **10000** | 0.025 |
| Mo | 2.5 | M13697 | 1000 | 0.125 |
| Ni | 5 | M13569 | 1000 | 0.25 |
| Pb | 10 | M13615 | **10000** | 0.05 |
| Sb | 20 | M13459 | 1000 | 1 |
| Se | 20 | M13460 | 1000 | 1 |
| Tl | 20 | M13583 | 1000 | 1 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 5 | M13610 | **10000** | 0.025 |
| Na | 500 | M13605 | **10000** | 2.5 |
| K | 500 | M13733 | **10000** | 2.5 |
| B | 20 | M13531 | 1000 | 1 |
| Si | 100 | M13731 | 1000 | 5 |
| S | 200 | M13604 | **10000** | 1 |
| Li | 20 | M13537 | 1000 | 1 |
| Sr | 20 | M13572 | 1000 | 1 |
| Sn | 20 | M13580 | 1000 | 1 |
| Ti | 20 | M13573 | 1000 | 1 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13740 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 02/26/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13741 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 02-26-2019 | Lot #: | 3-153AB |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13742 | Vendor: | IKOHE Blasting Media |
| Analyst: | [redacted] | Chemical: | Glass Neads X-fine-20u |
| Date Received: | 02/26/2019 | Lot #: | 52-144 |
| Expiration Date (if any): | ********* | Catalog #: | UL-49/52-1544 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13739 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/22/2019 | Expiration Date: | 02/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13734 | Vendor: | SPEX CERTIPREP |
| Analyst: | [redacted] | Chemical: | HG 1000 ug/mL |
| Date Received: | 02/21/2019 | Lot #: | CL10-136HGY |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard Log #: | M13735 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13736 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13737 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 51-117CR |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13738 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 2-230SGX |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13730 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/14/2019 | Expiration Date: | 02/14/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13731 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 08/20 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13732 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13733 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 172053-36 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13727 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 02/08/2019 | Lot #: | 175511 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13728 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 02/08/2019 | Lot #: | 186819 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13729 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/11/2019 | Expiration Date: | 08/11/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13724 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13725 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13726 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/07/2019 | Expiration Date: | 08/07/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13721 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 02/05/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.671 with **1** part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13722 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13723 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13720 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/31/2019 | Expiration Date: | 01/31/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13716 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13717 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13718 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13719 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 01/30/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13713 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/29/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13714 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 01/29/2019 | Lot #: | A0391673 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13715 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 1/29/2019 | Lot #: | 51-013CR |
| Expiration Date (if any): | 01/30/2020 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13711 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13615<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13712 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13615<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13710 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/22/2019 | Expiration Date: | 01/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13709 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13705 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13706 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13707 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13708 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13703 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13704 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13701 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/13/2018 | Expiration Date: | 06/13/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13696 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 167967-42 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13697 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Moybdenum 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169424-59 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13698 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 175213-60 |
| Expiration Date (if any): | 06/20 | Catalog #: | S4400-10005044F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13699 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/11/2018 | Lot #: | 50-120CR |
| Expiration Date (if any): | 12/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13700 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/12/2018 | Expiration Date: | 12/12/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13689 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13690 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Aluminum 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13691 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 752887-32 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13692 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Calcium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13693 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13694 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Magnesium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13695 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Iron 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13686 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13687 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13688 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13684 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/04/2018 | Expiration Date: | 06/04/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13683 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 10000 mg/L |
| Date Received: | 11/30/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 5/31/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13681 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13531 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13682 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2018 | Expiration Date: | 11/29/2018 |

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood.

| Standard Log #: | M13679 | Instrument: | ICP |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13517 | 1000 | 0.72 |
| Sn | 20 | M13572 | 1000 | 1 |
| Sr | 3.2 | M13586 | 1000 | 0.16 |
| Ti | 9.6 | M13573 | 1000 | 0.48 |
| W | 24 | xxxxxxxx | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| Standard Log #: | M13680 | Instrument: | ICP |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 07/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13531 | 1000 | 0.8 |
| Si | 200 | M13394 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13677 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13562 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13579 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13570 | 1000 | 0.08 |
| Co | 9.6 | M13575 | 1000 | 0.48 |
| Cr | 5.6 | M13617 | **10000** | 0.028 |
| Cu | 16 | M13618 | **10000** | 0.08 |
| Fe | 72 | M13463 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13616 | **10000** | 0.03 |
| Mo | 9.6 | M13608 | 1000 | 0.48 |
| Ni | 4.8 | M13569 | 1000 | 0.24 |
| Pb | 10 | M13610 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13583 | 1000 | 0.95 |
| V | 3.2 | M13578 | 1000 | 0.16 |
| Zn | 12 | M13610 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13676 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13462 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13579 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13570 | 1000 | 0.1 |
| Co | 4 | M13575 | 1000 | 0.2 |
| Cr | 4 | M13617 | **10000** | 0.02 |
| Cu | 7 | M13618 | **10000** | 0.035 |
| Fe | 100 | M13463 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13616 | **10000** | 0.02 |
| Mo | 7 | M13608 | 1000 | 0.35 |
| Ni | 6 | M13569 | 1000 | 0.2 |
| Pb | 4 | M13610 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13583 | 1000 | 0.75 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 10 | M13610 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13675 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/26/2018 | Expiration Date: | 11/26/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13671 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13672 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13673 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13674 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13668 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13669 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13670 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13666 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/19/2018 | Expiration Date: | 07/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13667 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/19/2018 | Expiration Date: | 11/19/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13664 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13665 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13659 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/01/2018 | Expiration Date: | 11/01/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13660 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 11/01/2018 | Expiration Date: | 09/19 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13661 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 11/06/2018 | Expiration Date: | 10/19 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13657 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) XXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13658 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13655 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13656 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13651 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13652 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13653 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance std |
| Date Received: | 10/29/2018 | Lot #: | 2-036AB |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13648 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13649 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13650 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 10/27/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13645 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13646 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 10/25/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13647 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 10/24/2018 | Lot #: | H226-02 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13643 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13644 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13639 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13640 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13641 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13642 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13638 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 10/23/2018 | Expiration Date: | 07/2019 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13615 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13634 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,0000 mg/L |
| Date Received: | 10/18/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 04/20 | Catalog #: | 4400-10m671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13635 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/18/2018 | Lot #: | 2-230sgx |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13636 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/18/2018 | Expiration Date: | 10/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13637 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance standard |
| Date Received: | 10/18/2018 | Lot #: | 50-0007CR |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13633 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13632 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13630 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13631 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13629 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2018 | Expiration Date: | 10/05/2018 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.663 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13627 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13628 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

MRL BASE STD M13626

Analyst [redacted]

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13579 | 1000 | 0.2 | 02/20 |
| Cd | 5 | M13570 | 1000 | 0.25 | 01/20 |
| Co | 10 | M13575 | 1000 | 0.5 | 01/20 |
| Cr | 10 | M13617 | 10000 | 0.05 | 03/20 |
| Cu | 10 | M13618 | 10000 | 0.05 | 03/20 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/19 |
| Mn | 10 | M13616 | 10000 | 0.05 | 03/20 |
| Mo | 10 | M13608 | 1000 | 0.5 | 03/20 |
| Ni | 10 | M13569 | 1000 | 0.5 | 03/20 |
| Pb | 10 | M13610 | 10000 | 0.05 | 03/20 |
| Sb | 20 | M13459 | 1000 | 1 | 03/20 |
| V | 10 | M13578 | 1000 | 0.5 | 02/20 |
| Zn | 10 | M13610 | 10000 | 0.05 | 02/20 |
| K | 1000 | M13341 | 10000 | 5 | 05/19 |
| Na | 1000 | M13402 | 10000 | 5 | 08/19 |
| As | 20 | M13392 | 1000 | 1 | 07/19 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/19 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/19 |
| Se | 20 | M13460 | 1000 | 1 | 10/19 |
| Tl | 20 | M13583 | 1000 | 1 | 02/20 |
| Si | 100 | M13394 | 1000 | 5 | 07/19 |
| B | 20 | M13531 | 1000 | 1 | 07/19 |
| Li | 20 | M13517 | 1000 | 1 | 02/20 |
| W | 50 | xxxxxxx | 1000 | 2.5 | xxxxxxx |
| Ti | 10 | M13573 | 1000 | 0.5 | 02/20 |
| Sr | 10 | M13586 | 1000 | 0.5 | 02/20 |
| Sn | 50 | M13572 | 1000 | 2.5 | 02/20 |
| S | 300 | M13391 | 10000 | 1.5 | 07/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13625 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 10/03/2018 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13623 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13624 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 09/27/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.** |
| Prep Date: | 09/27/18 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 , **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M13576 , **2.5 mLs Na 10,000 ug/mL** M13461 ,**2.5 mLs k 10,000 ug/mL** M13581 **2.5 mLs S 10,000 ug/mL** M13530 , **0.5 mls Si 1000 ug/mL** M13571 and brought up to volume with milli-Q . | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13622 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/27/2018 | Expiration Date: | 09/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13618 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148796-39 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M141 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13619 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/19/2018 | Expiration Date: | 09/19/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.664 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13620 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 09/04/2018 | Lot #: | 177409 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13611 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169484-18 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13612 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 440010M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13613 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13614 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13615 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 168223-17 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13616 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167540-6 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13617 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158236-7 |
| Expiration Date (if any): | 03/2020 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13604 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167967-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13605 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 752887-3 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13606 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 144467-179 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000411-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13607 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158237-113 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000521-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13608 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169424-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13609 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 156651-53 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13610 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 979871-2 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13603 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 09/19/2018 | Expiration Date: | 10/20/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13601 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/12/2018 | Expiration Date: | 09/12/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13602 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09-12-2018 | Lot #: | 1-124AB |
| Expiration Date (if any): | 09-30-2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13600 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 1% Pd Matrix Modifier |
| Date Received: | 09/11/2018 | Lot #: | 1808015 |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13599 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/08/2018 | Expiration Date: | 09/08/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13595 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 08/29/2018 | Lot #: | 49-151CR |
| Expiration Date (if any): | 08/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13596 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/30/2018 | Expiration Date: | 08/30/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13597 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13598 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13591 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13592 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13593 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13594 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/23/2018 | Expiration Date: | 08/23/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13588 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13589 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13590 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | turbidity std 2.0 ntu |
| Date Received: | 08/21/2018 | Lot #: | 18272791 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13586 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) MXXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13587 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13584 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 08/20/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13585 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13577 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Li 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 751942-25 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13578 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | V 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 152207-68 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13579 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Be 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 660981-5 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13580 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sr 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 168227-29 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13581 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 02/2020 | Catalog #: | 4400-10411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13582 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 02/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13583 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Tl 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 148983-70 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13576 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/04/2018 | Lot #: | 49-045CR |
| Expiration Date (if any): | 07/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13569 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ni 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 166665-86 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13570 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cd 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 160499-32 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13571 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175213-28 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13572 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sn 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 144466-74 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13573 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ti 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 152616-55 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000623 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13574 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175191-22 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13575 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Co 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 161693-10 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000131 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13567 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. ($2\% HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13568 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13535, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **0.5 mL** Mo (1000 mg/L) M13393, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13129, **0.5 mL** Li (1000 mg/L) M13130, **0.5 mL** Sn (1000 mg/L) M13134, **0.5 mL** Ti (1000 mg/L) M13128, **0.5 mL** W (1000 mg/L) xxxxxx, **0.5 mL** Si (1000 mg/L) M13528, **0.5 mL** S (10000 mg/L) M13466, **0.5 mL** K (10000 mg/L) M13527, and **0.5 mL** Na (10000 mg/L) M13461 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13565 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/23/2018 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **15 mL** Fe (10,000 mg/L) M13463, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13564 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 07/20/2018 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13563 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13466 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13562 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13561 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13560 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13557 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 07/17/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13558 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 07/17/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13559 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/17/2018 | Expiration Date: | 01/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13559 and brought up to volume. | | |

| Standard Log #: | M13556 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 07/13/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13554 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13390 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13555 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13466 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13553 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 07/12/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13550 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13551 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13547 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 07/09/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) *Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13548 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 07/10/2018 | Expiration Date: | 01/10/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13549 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13545 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13546 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13542 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13543 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/09/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13544 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 01/09/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13539 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13540 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13541 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13536 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/03/2018 | Expiration Date: | 01/03/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13537 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13538 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/05/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13534 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 07/02/2018 | Expiration Date: | 09/16/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13535 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 07/02/2018 | Lot #: | 48-179CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13533 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 06/29/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **2.5 mL** of K (10,000 mg/L) M13400 , **2.5 mL** of Na (10,000 mg/L) M13402 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13526 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | YTTRIUM 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 138448-54 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13527 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | POTASSIUM 10,000 |
| Date Received: | 06/22/2018 | Lot #: | 172053-32 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-104411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13528 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 142610-115 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13529 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 156651-42 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13530 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | SULFUR 10,000ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 129880-46 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13531 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | BORON 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 158372-91 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13532 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | CUSTOM ASSURANCE STANDARD |
| Date Received: | 06/22/2018 | Lot #: | 48-146CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13525 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/20/2018 | Expiration Date: | 06/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13524 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/15/2018 | Expiration Date: | 06/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13522 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13523 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13520 | Vendor: | FRISCOLYT |
| Analyst: | [redacted] | Chemical: | Electrolyte Solution |
| Date Received: | 06/13/2018 | Lot #: | 1DO71H |
| Expiration Date (if any): | 12/03/2021 | Catalog #: | 51 340 053 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13521 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 06/13/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13518 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/11/2018 | Lot #: | 48-060CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13519 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 06/11/2018 | Expiration Date: | 06/30/2019 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13319 , **10 mL** of Fe (10,000 mg/L) M13463 , **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| Standard Log #: | M13513 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 12/06/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13514 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13515 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13516 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13510 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/01/2018 | Expiration Date: | 06/01/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13511 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 06/04/2018 | Lot #: | 176877 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13509 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 05/30/2018 | Expiration Date: | 11/30/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13506 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-042CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XCTWI-4-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13507 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-041CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13508 | Vendor: | RESTEK |
| Analyst: | [redacted] | Chemical: | Diatomaceous earth (Celite 566) |
| Date Received: | 05/22/2018 | Lot #: | 811030-BG |
| Expiration Date (if any): | N/A | Catalog #: | 26033 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13503 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13504 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13505 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13502 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 05/21/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13499 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13500 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13501 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13496 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 05/16/2018 | Expiration Date: | 05/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13497 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13498 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13495 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 05/15/2018 | Lot #: | H052-17 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13494 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Modifier |
| Date Received: | 05/11/2018 | Lot #: | 8130826 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | 39043 |

| Standard Log #: | M13491 | Reagent/Standard: | Mehlich 3 Extractant |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/18/2018 |

**PREP**

Into a 1000 mL V.F., filled with approximately 800 mL D.I. H2O, added 20g NH4NO3 (W43076), 4 mL Mehlich 3 Stock Solution (M13489), 11.5 mL Glacial Acetic Acid (AB 653), 820 µl HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | Instrument: | GFAA |
|---|---|---|---|
| Standard Log #: | M13492 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| Standard Log #: | M13489 | Reagent/Standard: | Mehlich 3 Stock Solution |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 100 mL V.F., added 13.89g NH4F (W43077) and 7.305g EDTA (W43689). Brought to volume with D.I. H2O. Stirred and dissolved for 15 minutes. Stored in refrigerator.

| Standard Log #: | M13490 | Reagent/Standard: | Mehlich 3 Extractant |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 2000 mL V.F., filled with approximately 1500 mL D.I. H2O, added 40g NH4NO3 (W43076), 8 mL Mehlich 3 Stock Solution (M13489), 23 mL Glacial Acetic Acid (AB 653), 1.64 mL HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13485 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13486 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13487 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13488 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13484 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10,000 mg/L |
| Date Received: | 05/03/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13482 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13483 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305, **15 mL** Fe (10,000 mg/L) M13321, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) 13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13480 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 05/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13479 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13481 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

MRL BASE STD M13479

Analyst [redacted]

Prep Date 05/02/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/2018 |
| Cd | 5 | M13327 | 1000 | 0.25 | 09/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/2018 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/2018 |
| Sb | 20 | M13459 | 1000 | 1 | 10/2019 |
| V | 10 | M13125 | 1000 | 0.5 | 09/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13341 | 10000 | 5 | 05/2019 |
| Na | 1000 | M13402 | 10000 | 5 | 08/2019 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/2019 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/2019 |
| Se | 20 | M13460 | 1000 | 1 | 10/2019 |
| Tl | 20 | M13124 | 1000 | 1 | 09/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/2018 |
| W | 50 | xxxxxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2018

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13476 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg |
| Prep Date: | 05/02/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305 and **15 mL** Fe (10000 mg/L) M13321 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13477 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13478 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13475 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/30/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13474 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/27/2018 | Expiration Date: | 04/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13471 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13472 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13473 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13470 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 04/25/2018 | Expiration Date: | 10/25/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13043 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13467 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 147497-47 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13468 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 04/24/2018 | Lot #: | 174236 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13469 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/24/2018 | Expiration Date: | 04/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13462 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158058-23 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13463 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 156651-18 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13464 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 148250-67 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13465 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 172053-2 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13466 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | S 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 129880-37 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13457 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158364-3 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13458 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ag 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 162712-9 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13459 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sb 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 153992-1 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13460 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Se 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 154366-16 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13461 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 107139-108 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13455 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13456 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/20/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13452 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13453 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13454 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13450 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 04/20/2018 | Expiration Date: | 01/30/2019 |
| Prep: | Standard Conc. (ug/L) | Pipette the following: | |
| | 1 | **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L* | |
| | 10 | **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L* | |
| | 100 | **1 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L* | |
| | 1000 (CCV) | **2 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L* | |
| | 10000 | **20 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13451 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 04/20/201 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13447 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13448 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13449 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13445 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/19/2018 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | Hach 2100 turbidity meter |
| Standard Log #: | M13446 | Standard: | Turbity ICAL |
| Analyst: | [redacted] | Concentrations: | 20, 100, 200 ntu |
| Prep Date: | 04/19/2018 | Expiration Date: | 12/2019 |
| Prep: | Using the hach vials , pipet the following:<br>*20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20.<br>*100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20.<br>*200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13444 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Hg Standard |
| Date Received: | 04/18/2018 | Lot #: | CL10-31HGY |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13443 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/16/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13341 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13440 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/12/2018 | Expiration Date: | 04/12/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13441 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13442 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

**LPMT1-04**
**Metals Reagents and Standards**
**Prep Logbook**
*Created: 12/19/17*

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

---

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13438 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 07/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* **-1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13439 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 01/19/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13437 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 04/10/2018 | Expiration Date: | 07/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13390 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

| | | | |
|---|---|---|---|
| Standard ID#: | M13436a | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal 200 NTU |
| Date Received: | 04/10/2018 | Lot #: | A7354 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 2660449 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13436 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13435 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std Spike |
| Date Received: | 04/10/2018 | Lot #: | 1-81YJ |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13434 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13433 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13431 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13432 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13430 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2018 | Expiration Date: | 04/03/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13429 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 04/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13362 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **0.5 mL** Mo (1000 mg/L) M13393 , **0.5 mL** B (1000 mg/L) M13390 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 , **0.5 mL** Ti (1000 mg/L) M13128 , **0.5 mL** W (1000 mg/L) MXXXXX , **0.5 mL** Si (1000 mg/L) M13394 ,**0.5 mL** S (10000 mg/L) M13391 , **0.5 mL** K (10000 mg/L) M13391 , and **0.5 mL** Na (10000 mg/L) M13342 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13428 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 03/29/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13427 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2018 | Expiration Date: | 03/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13426 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/23/2018 | Expiration Date: | 03/23/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13423 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13424 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13425 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13422 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/20/2018 | Expiration Date: | 03/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13418 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13419 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 09/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13420 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 03/15/2018 | Expiration Date: | 07/02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (2% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M13392 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | | |
| Standard Log #: | M13421 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2019 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13416 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 03/09/2018 | Expiration Date: | 07/02/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13417 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/09/2018 | Expiration Date: | 03/09/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13413 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13414 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13415 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13412 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 03/06/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **2.5 mL** of K (10,000 mg/L) M13323 , **2.5 mL** of Na (10,000 mg/L) M13342 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13411 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/02/2018 | Expiration Date: | 03/02/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13410 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Inerference_A |
| Date Received: | 02/28/2018 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 02/28/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13408 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/27/2018 | Expiration Date: | 02/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13409 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/27/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13048, **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13406 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13407 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

MRL BASE STD M13405 Analyst [redacted]

Prep Date 02/21/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2018 |
| Al | 400 | M13322 | 10000 | 2 | 04/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05/03/2018 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/2018 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/2018 |
| Mg | 500 | M13236 | 10000 | 2.5 | 01/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/2018 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/2018 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/2018 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/2018 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13237 | 10000 | 2.5 | 01/2019 |
| Fe | 300 | M13321 | 10000 | 1.5 | 01/30/2019 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/2018 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 50 | Mxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 05/03/2018

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13404 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/21/2018 | Expiration Date: | 02/21/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13403 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/19/2018 | Expiration Date: | 08/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13400 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 106958-116 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13401 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13402 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 107139-126 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13398 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13399 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13390, **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13396 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 01/31/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M13236 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13388 | Reagent: | SPLP EXTRACTION FLUID EAST # |
| Analyst: | [redacted] | pH: | 4.20 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13389 | Reagent: | SPLP EXTRACTION FLUID WEST # |
| Analyst: | [redacted] | pH: | 5.00 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13390 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Boron 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 158372-29 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13391 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 129880-28 |
| Expiration Date (if any): | 07/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13392 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Arsenic 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 143356-61 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100031 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13393 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Molybdenum 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 134169R-102 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13394 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 142610-58 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard Log #: | M13386 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13387 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13383 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13384 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13385 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13048 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13280 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13380 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M12958 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13347 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13049 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13379 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/20/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 2640 | M13341 | 10000 | 13.2 |
| Na | 960 | M13342 | 10000 | 4.8 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13377 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 500 | M13341 | 10000 | 2.5 |
| Na | 600 | M13342 | 10000 | 3 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13378 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 L2 Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 10/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 10 | M13130 | 1000 | 0.5 |
| Sn | 10 | M13134 | 1000 | 0.5 |
| Sr | 2 | M13129 | 1000 | 0.1 |
| Ti | 8 | M13128 | 1000 | 0.8 |
| W | 36 | M | 1000 | 1.8 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13376 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M12958 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13347 | **10000** | 0.5 |
| Mg | 40 | M13236 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13049 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13374 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/08/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) *Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13375 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M12958 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13372 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M12958<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13373 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M12958<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13369 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13370 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13371 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13368 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 01/05/2018 | Expiration Date: | 02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13083 | 1000 | 0.25 |
| Al | 10 | M13322 | **10000** | 0.05 |
| As | 20 | M12958 | 1000 | 1 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 0.5 | M13126 | 1000 | 0.025 |
| Ca | 50 | M13324 | **10000** | 0.25 |
| Cd | 0.5 | M13127 | 1000 | 0.025 |
| Co | 2.5 | M13132 | 1000 | 0.125 |
| Cr | 5.0 | M13165 | **10000** | 0.025 |
| Cu | 10 | M13166 | **10000** | 0.05 |
| Fe | 40 | M13397 | **10000** | 0.2 |
| Mg | 25 | M13319 | **10000** | 0.125 |
| Mn | 5 | M13167 | **10000** | 0.025 |
| Mo | 2.5 | M13049 | 1000 | 0.125 |
| Ni | 5 | M13133 | 1000 | 0.25 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 20 | M13084 | 1000 | 1 |
| Se | 20 | M13082 | 1000 | 1 |
| Tl | 20 | M13124 | 1000 | 1 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 5 | M13168 | **10000** | 0.025 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13366 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_Li_Sn_Sr_Ti Spiking _Solu |
| Prep Date: | 01/05/2018 | Expiration Date: | 09/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 20 | M13130 | 1000 | 1 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 20 | M13129 | 1000 | 1 |
| Ti | 20 | M13128 | 1000 | 1 |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13364 | Vendor: | Sprx CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Standard |
| Date Received: | 01/05/2018 | Lot #: | 46-183CR |
| Expiration Date (if any): | 01/30/2019 | Catalog #: | XCTW-5-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13365 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_B&Si&S_Spiking_Solution |
| Prep Date: | 01/05/2018 | Expiration Date: | 06/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 20 | M13048 | 1000 | 1 |
| Si | 100 | M13338 | 1000 | 5 |
| S | 200 | M13280 | 1000 | 1 |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13362 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/26/2017 | Lot #: | 46-162CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13361 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/22/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13356 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 12/018/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13357 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 12/18/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13358 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 06/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.651 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13359 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/18/2017 | Lot #: | 46-114CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13353 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13354 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13355 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13351 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/15/2017 | Expiration Date: | 06/15/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13350 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 12/12/2017 | Lot #: | 1729606 |
| Expiration Date (if any): | 06//2019 | Catalog #: | 10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13348 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190 , **0.05 mL** of B (1000 µg/mL) M12957 , **0.05 mL** of Si (1000 µg/mL) M12943 and **3 mL** of Fe (10,000 mg/L) M13235 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13349 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13346 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/07/2017 | Expiration Date: | 12/07/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13347 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 12/06/2017 | Lot #: | 156651-6 |
| Expiration Date (if any): | 06/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13344 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 12/01/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13050 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13338 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Silicon 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 142610-58 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13339 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 93655-174 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13340 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 144467-94 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 060020-04-03 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13341 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 106958-97 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13342 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 107139-106 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13343 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 12/01/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13335 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2017 | Expiration Date: | 11/29/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.649 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13336 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13337 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13333 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 11/17/2017 | Lot #: | 46-040CR |
| Expiration Date (if any): | 11/20/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13334 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/28/2017 | Expiration Date: | 11/28/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | HYDRA |
| Standard Log #: | M13331 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/15/2017 | Expiration Date: | 05/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **10 mL** hydrochloric acid AB.651 and dissolved **20 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13329 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/14/2017 | Expiration Date: | 05/14/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13330 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/14/2017 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12958 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13328 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As, Tl<br>8 µg/L Pb<br>14 µg/L Sb<br>20 µg/L Se<br>0.6 µg/L Ag |
| Prep Date: | 11/13/2017 | Expiration Date: | 02/23/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M12958 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.8 | 10,000 | 8 |
| Tl | 1.0 | 10,000 | 10 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.4 | 10,000 | 14 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13325 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2017 | Expiration Date: | 11/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.652 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13326 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/09/2017 | Expiration Date: | 08/30/2018 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13327 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/09/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **6 mL** of Fe (10,000 mg/L) M13235, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13318 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std |
| Date Received: | 11/07/2017 | Lot #: | 49-012CR |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13319 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 148250-15 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13320 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 139448-37 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13321 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 101593-91 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-101M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13322 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 103665-69 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13323 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 106958-82 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13324 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 147497-26 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13314 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 11/07/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M12947 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13315 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13316 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13317 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13308 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13309 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13310 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13304 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 10/19/2017 | Expiration Date: | 01/19/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13280 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* -**1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13305 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/19/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 10/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13306 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13307 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13303 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/17/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13163 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13301 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 10/10/17 | Expiration Date: | 04/10/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13299 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13300 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13297 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Palladium Matrix Modifier |
| Date Received: | 10/04/2017 | Lot #: | 1713238 |
| Expiration Date (if any): | 09/2018 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13298 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2017 | Expiration Date: | 10/05/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13295 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/02/2017 | Expiration Date: | 10/02/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13296 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 10/03/2017 | Lot #: | 7106463 |
| Expiration Date (if any): | 03/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13293 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13270 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 , **0.5 mL** Mo (1000 mg/L) M13049 , **0.5 mL** B (1000 mg/L) M13048 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 and **0.5 mL** Ti (1000 mg/L) M13128 . | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13294 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 10/02/2017 | Expiration Date: | 02/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$.<br>(5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13291 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13235 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13292 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13235, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13252 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13289 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | Turbidity 2.0 NTU standard |
| Date Received: | 09/29/2017 | Lot #: | C797951 |
| Expiration Date (if any): | 09/2018 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13290 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 10/02/2017 | Expiration Date: | 06/30/2018 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13252 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **1 mL** of Si (1000 mg/L) M13085 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13233 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13135 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13236 , **10 mL** of Fe (10,000 mg/L) M13235 , **10 mL** of Ca (10,000 mg/L) M13237 and **10 mL** Al (10,000 mg/L) M13232 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13286 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12873 and K (1000 µg/mL) M12874 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13287 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12873 and **0.5 mL** K (1000 µg/mL) M12874 and brought to volume with Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13288 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **2.5 mL** of K (10,000 mg/L) M13163, **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M13164 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13285 | Standard: | DOD MRL |
| Analyst: | [redacted] | Concentrations: | 4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na. |
| Prep Date: | 09/29/17 | Expiration Date: | 02/23/18 |
| Prep: | Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

MRL BASE STD M13284 Analyst [redacted]

Prep Date 09-26-2017

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2017 |
| Al | 400 | M13232 | 10000 | 2 | 01/30/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05//03/18 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/18 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/18 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/18 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/18 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/18 |
| Mg | 500 | M12947 | 10000 | 2.5 | 01/29/18 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/18 |
| Mo | 10 | M13049 | 1000 | 0.5 | 06/08/18 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/18 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/18 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/18 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/18 |
| Zn | 10 | M12989 | 10000 | 0.05 | 04/07/18 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/18 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/18 |
| As | 20 | M12958 | 1000 | 1 | 02/23/18 |
| Ca | 500 | M13032 | 10000 | 2.5 | 05/03/18 |
| Fe | 300 | M13235 | 10000 | 1.5 | 01/30/19 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/18 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/18 |
| Si | 100 | M13085 | 1000 | 5 | 07/02/18 |
| B | 20 | M12957 | 1000 | 1 | 02/23/2018 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/18 |
| W | 50 | Mxxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/18 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/18 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/18 |
| S | 300 | M13280 | 10000 | 1.5 | 03/30/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 02/23/18

| | | | |
|---|---|---|---|
| Standard ID#: | M13280 | Vendor: | SPC Science |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/25/2017 | Lot #: | S170526006 |
| Expiration Date (if any): | 03/2019 | Catalog #: | 140-060-16x |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13281 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13282 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13283 | Standard: | ICSA2 |
| Analyst: | [redacted] | Concentrations: | **10,000 ug/L** Cu, Ni |
| Prep Date: | 09/26/2017 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5 **mL** 1000 mg/L Ni M13133 and 0.5 **mL** 10000 mg/L Cu M13166 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13276 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13277 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13278 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13279 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 mg/L |
| Date Received: | 09/22/2017 | Lot #: | 1712902 |
| Expiration Date (if any): | 03/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13274 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M12957 | 1000 | 2.6 |
| Si | 192 | M13047 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13275 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M13131 | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13271 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13272 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13273 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13270 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09/15/2017 | Lot #: | 4-91MKB |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XSPIKE-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13265 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13266 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.646 with **1** part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13267 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W42226 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13268 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13269 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13262 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13263 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13264 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13263 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13261 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 09/12/2017 | Expiration Date: | 03/12/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added 70 mL hydrochloric acid AB.646 and dissolved 100 g Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13258 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13259 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13260 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13257 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 08/30/2017 | Expiration Date: | 11/11/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12958 **and 0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13255 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M13131 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13256 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 100/300 | M13131 | 1000 | 5 | 09/18/2018 |
| Ti | 10/30 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10/30 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 20/60 | M13134 | 1000 | 1 | 09/18/2018 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| Standard ID#: | M13252 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/23/2017 | Lot #: | 44-188CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13253 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 08/28/2017 | Expiration Date: | 04/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13172 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13254 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 08/28/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13164 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13251 | Reagent: | TCLP EXTRACTION FLUID #2 |
| Analyst: | [redacted] | pH: | 2.88 ± 0.05 |
| Prep Date: | 08/23/2017 | Expiration Date: | 08/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13247 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Phosphorus 10,000 ug/mL |
| Date Received: | 08/10/2017 | Lot #: | AN16-170PY |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | PLP-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13248 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/11/2017 | Lot #: | 44-152CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13245 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/09/2017 | Expiration Date: | 08/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.648 with 1 part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13246 | Vendor: | Lab Chem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 08/09/2017 | Lot #: | G137-04 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13242 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13243 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/02/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB. and dissolved **100 g** Stannous chloride M and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13239 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13240 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13241 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13232 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 103665-32 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13233 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 106958-39 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13234 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 139448-20 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-448-20 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13235 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 101593-51 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13236 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 119874R-57 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13237 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 120907-55 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13238 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | La 1000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 129369-6 |
| Expiration Date (if any): | 01/2019 | Catalog #: | S4400-1000271 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13226 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 07/21/2017 | Lot #: | 170229 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13219 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13220 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13221 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13164, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13214 | Vendor: | SpexCertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/26/2017 | Lot #: | 43-194CR |
| Expiration Date (if any): | 06/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13215 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/27/2017 | Expiration Date: | 06/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.642 with 1 part $HNO_3$ AB.640 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13207 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13172 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13208 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13172 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13202 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 22-46CEY |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | PLCE2-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13203 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 16K087 |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | S4400-1000101 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13204 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/05/2017 | Expiration Date: | 06/05/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13199 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana I soil |
| Date Received: | 05/15/2017 | Lot #: | 2710a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13200 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana II soil |
| Date Received: | 05/15/2017 | Lot #: | 2711a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13198 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 05/26/2017 | Expiration Date: | 11/26/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13198 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13193 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13194 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE Alt. Source |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13195 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13196 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13197 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13188 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13189 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13190 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 05/23/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13191 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom assurance Standard-100 ug/n |
| Date Received: | 05/23/2017 | Lot #: | 43-009CR |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13186 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 05/22/2017 | Lot #: | 166161 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13187 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 05/22/2017 | Lot #: | 1705408 |
| Expiration Date (if any): | 11/16/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13173 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13174 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.637 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13175 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13171 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std. |
| Date Received: | 05/01/2017 | Lot #: | 42-155CR |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13172 | Vendor: | [redacted] |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 05/01/2017 | Lot #: | AL16-158SY |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | PLS9-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13163 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 mg/L |
| Date Received: | 04/24/2017 | Lot #: | 1106963 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13164 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106960 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13165 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106998 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13166 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107000 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M141 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13167 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107001 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13168 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107003 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13169 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107081 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13160 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W40688 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13161 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13162 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13148 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13035 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13149 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **2.5 mL** of K (10,000 mg/L) M13035 , **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13150 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13135 and **0.15 mL** K (10,000 µg/mL) M13035 and brought to volume with Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13142 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13026 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13143 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13048 and Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13144 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **0.05 mL** of B (1000 µg/mL) M13048 , **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13140 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/04/2017 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13134 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tin 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105287 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13135 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105283 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13136 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2017 | Expiration Date: | 03/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.637 with 1 part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13129 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Strontium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105291 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13130 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Lithium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105286 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13131 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tungsten 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105285 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000633 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13132 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cobalt 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105296 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000131 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13133 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Nickel 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1104980 |
| Expiration Date (if any): | 09/14/2018 | Catalog #: | S4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13124 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Thallium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105132 |
| Expiration Date (if any): | 09/16/2017 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13125 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Vanadium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105293 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13126 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Beryllium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105295 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13127 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cadmium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105288 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13128 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Titanium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105290 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000623 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13109 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13110 | Standard: | Hg MRL |
| Analyst: | [redacted] | Concentration: | 0.2 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/18/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13111 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 03/03/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.637 with **1** part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13112 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 09/03/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.637 and dissolved **100 g** Stannous chloride M12998 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13106 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13107 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/2/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13108 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13103 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 02/28/2017 | Lot #: | CL-144HGY |
| Expiration Date (if any): | 02/28/2018 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13104 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 03/02/2017 | Lot #: | 17A006 |
| Expiration Date (if any): | 07/22/2018 | Catalog #: | S4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13105 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 03-02-2017 | Lot #: | 16I092 |
| Expiration Date (if any): | 07/24/2017 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13082 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Selenium |
| Date Received: | 02/08/2017 | Lot #: | 16I070 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13083 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silver |
| Date Received: | 02/08/2017 | Lot #: | 16K036 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13084 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Antimony |
| Date Received: | 02/08/2017 | Lot #: | 16I118 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13085 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silicon |
| Date Received: | 02/08/2017 | Lot #: | 16I001 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13080 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERMANGANATE |
| Date Received: | 01/30/2017 | Lot #: | 164080 |
| Expiration Date (if any): | | Catalog #: | P279-212 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13059 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 12/19/2016 | Lot #: | A0375670 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13047 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 |
| Date Received: | 12/15/2016 | Lot #: | 16I001 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13048 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | B 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16H060 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13049 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16I124 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13050 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16K094 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13036 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 11/10/2016 | Lot #: | 138905AH |
| Expiration Date (if any): | 05/31/2018 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13031 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13032 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13033 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13034 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16F134 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13035 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 11/09/2018 | Lot #: | 16I165 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10m411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13027 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2016 | Expiration Date: | 11/09/2016 |
| Prep: | Carefully mixed 3 parts HCl AB.631 with 1 part $HNO_3$ AB.628 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13028 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 1623223 |
| Expiration Date (if any): | 05/04/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13029 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16H058 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13030 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13024 | Vendor: | METTLER TOLEDO |
| Analyst: | [redacted] | Chemical: | FRISCOLYT |
| Date Received: | 11/01/2016 | Lot #: | 1B167D |
| Expiration Date (if any): | | Catalog #: | 51340053 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12992 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12993 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16B102 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12994 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12988 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I165 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12989 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn |
| Date Received: | 10/13/2016 | Lot #: | 16H186 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12990 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 1013/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12991 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12900 | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal Standard, 200 NTU or FNU |
| Date Received: | 06/17/2016 | Lot #: | A6036 |
| Expiration Date (if any): | 02/2018 | Catalog #: | 2660449 |

# INORGANIC
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.7 | Lab Sample ID: | 253258 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU27**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.3 | Lab Sample ID: | 253275 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU28**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.1 | Lab Sample ID: | 253278 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU37**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.2 | Lab Sample ID: | 253279 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU41**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.5 | Lab Sample ID: | 253281 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU42**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254599 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU43**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.7 | Lab Sample ID: | 254587 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU45**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.9 | Lab Sample ID: | 254597 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU47**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254966 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU49**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.6 | Lab Sample ID: | 254968 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU50**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254959 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU53**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.4 | Lab Sample ID: | 254589 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU54**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.0 | Lab Sample ID: | 254595 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU55**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.1 | Lab Sample ID: | 254593 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.6 | Lab Sample ID: | 254964 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU57**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254591 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU59**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254962 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 96.5 | Lab Sample ID: | 253274 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 96.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU27**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.0 | Lab Sample ID: | 253276 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU28**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 253277 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158862 | Analysis Date/Time | 03/26/2019 11:30 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU37**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 97.8 | Lab Sample ID: | 253280 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU41**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.9 | Lab Sample ID: | 253282 |
| Analytical Method: | EPA 8000C | Date Received: | 03/19/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU42**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.8 | Lab Sample ID: | 254600 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU43**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.9 | Lab Sample ID: | 254588 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU45**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254598 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU47**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254967 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU49**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.3 | Lab Sample ID: | 254969 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU50**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254961 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU53**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 98.3 | Lab Sample ID: | 254590 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU54**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254596 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU55**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254594 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU56**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254965 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU57**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254592 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 158863 | Analysis Date/Time | 03/26/2019 11:50 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU59**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254963 |
| Analytical Method: | EPA 8000C | Date Received: | 03/22/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 100 | Lab Sample ID: | 254601 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.5 | Lab Sample ID: | 254603 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.2 | Lab Sample ID: | 254605 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.7 | Lab Sample ID: | 254602 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254604 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143587 |
| % Solids: | 99.4 | Lab Sample ID: | 254606 |
| Analytical Method: | EPA 8000C | Date Received: | 03/21/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159405 | Analysis Date/Time | 04/04/2019 13:32 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU37**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143587
% Solid for Sample: 97.2
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 158863
ICAL Calibration #:
Sample #: 256451
Parent Sample #: 253279

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 03/26/2019 | 11:50 | 8 | 97.2 | | 97.2 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3A-SU01**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143587

% Solid for Sample: 100

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 159405

ICAL Calibration #:

Sample #: 261503

Parent Sample #: 254601

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/04/2019 | 13:32 | 8 | 100 | | 100 | | 0 | | GRA |

# INORGANICS
# RAW DATA
# DOCUMENTS

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253258

Analyst: [redacted]

Date: 03/19/2019

Time: 10:54

Initial Sample Wet Weight (g): 2590.3

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 18

Date: 03/21/2019

Time: 10:25

Weight Retained on #10 Sieve (g): 125.8
% Retained on #10 Sieve: 4.9
% Passing #10 Sieve: 95.1

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/22/2019

Time: 12:40

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253274

Analyst: [redacted]

Date: 03/19/2019

Time: 10:55

Initial Sample Wet Weight (g): 4596.6

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 18

Date: 03/21/2019

Time: 10:55

Weight Retained on #10 Sieve (g): 62.6
% Retained on #10 Sieve: 1.4
% Passing #10 Sieve: 98.6

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/22/2019

Time: 12:50

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414 Ambient Temp (˚C): 19

**Sample #:** 253275

Analyst: [redacted]

Date: 03/19/2019

Time: 11:01

Initial Sample Wet Weight (g): 3215.5

Observations:

No observations made.

## Sieving:

Analyst: TMG Ambient Temp (˚C): 18

Date: 03/21/2019

Time: 12:30

Weight Retained on #10 Sieve (g): 14.9
% Retained on #10 Sieve: 0.5
% Passing #10 Sieve: 99.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/22/2019

Time: 13:56

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253276

Analyst: [redacted]

Date: 03/19/2019

Time: 11:02

Initial Sample Wet Weight (g): 4046.9

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 18

Date: 03/21/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 21.6
% Retained on #10 Sieve: 0.5
% Passing #10 Sieve: 99.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/22/2019

Time: 14:08

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253277

Analyst: [redacted]

Date: 03/19/2019

Time: 11:07

Initial Sample Wet Weight (g): 4406.6

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 18

Date: 03/21/2019

Time: 13:10

Weight Retained on #10 Sieve (g): 31.9
% Retained on #10 Sieve: 0.7
% Passing #10 Sieve: 99.3

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/23/2019

Time: 9:40

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253278

Analyst: [redacted]

Date: 03/19/2019

Time: 11:07

Initial Sample Wet Weight (g): 2855.2

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 20

Date: 03/21/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 159.8
% Retained on #10 Sieve: 5.6
% Passing #10 Sieve: 94.4

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/23/2019

Time: 10:15

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253279

Analyst: [redacted]

Date: 03/19/2019

Time: 11:10

Initial Sample Wet Weight (g): 2515.5

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 21

Date: 03/21/2019

Time: 14:30

Weight Retained on #10 Sieve (g): 157.5
% Retained on #10 Sieve: 6.3
% Passing #10 Sieve: 93.7

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/23/2019

Time: 10:40

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253280

Analyst: [redacted]

Date: 03/19/2019

Time: 11:11

Initial Sample Wet Weight (g): 4526.1

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 21

Date: 03/21/2019

Time: 14:50

Weight Retained on #10 Sieve (g): 327.4
% Retained on #10 Sieve: 7.2
% Passing #10 Sieve: 92.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/22/2019

Time: 12:00

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253281

Analyst: [redacted]

Date: 03/19/2019

Time: 11:17

Initial Sample Wet Weight (g): 3884.6

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 21

Date: 03/21/2019

Time: 15:45

Weight Retained on #10 Sieve (g): 42.1
% Retained on #10 Sieve: 1.1
% Passing #10 Sieve: 98.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/23/2019

Time: 10:55

# of Grinds: 1
# of Bowls Used: 5

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159414

Ambient Temp (˚C): 19

**Sample #:** 253282

Analyst: [redacted]

Date: 03/19/2019

Time: 11:15

Initial Sample Wet Weight (g): 3974

Observations:

No observations made.

## Sieving:

Analyst: TMG

Ambient Temp (˚C): 18

Date: 03/22/2019

Time: 9:15

Weight Retained on #10 Sieve (g): 50.2
% Retained on #10 Sieve: 1.3
% Passing #10 Sieve: 98.7

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/23/2019

Time: 11:15

# of Grinds: 1
# of Bowls Used: 5

Reviewed By/Date: [redacted] 03/25/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 20.9

**Sample #:** 254587

Analyst: [redacted]

Date: 03/21/2019

Time: 14:07

Initial Sample Wet Weight (g): 3489.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.1

Date: 03/25/2019

Time: 7:40

Weight Retained on #10 Sieve (g): 75.7
% Retained on #10 Sieve: 2.2
% Passing #10 Sieve: 97.8

Observations:

Large & small rocks, grass, and twigs.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 8:45

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 20.9

**Sample #:** 254588

Analyst: [redacted]

Date: 03/21/2019

Time: 14:14

Initial Sample Wet Weight (g): 3719.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.4

Date: 03/25/2019

Time: 8:50

Weight Retained on #10 Sieve (g): 85.9
% Retained on #10 Sieve: 2.3
% Passing #10 Sieve: 97.7

Observations:

Rocks, pebbles, grass, twigs, and tree bark.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 10:00

# of Grinds: 1
# of Bowls Used: 5

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 20.9

**Sample #:** 254589

Analyst: [redacted]

Date: 03/21/2019

Time: 14:21

Initial Sample Wet Weight (g): 3775.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.8

Date: 03/25/2019

Time: 9:20

Weight Retained on #10 Sieve (g): 36.8
% Retained on #10 Sieve: 1.0
% Passing #10 Sieve: 99.0

Observations:

Rocks, pebbles, grass, twigs, and tree bark.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 11:00

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 20.9

**Sample #:** 254590

Analyst: [redacted]

Date: 03/21/2019

Time: 14:24

Initial Sample Wet Weight (g): 4233.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.8

Date: 03/25/2019

Time: 10:20

Weight Retained on #10 Sieve (g): 10.1
% Retained on #10 Sieve: 0.2
% Passing #10 Sieve: 99.8

Observations:

Small rocks/gravel and twigs.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 12:45

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254591

Analyst: [redacted]

Date: 03/21/2019

Time: 14:34

Initial Sample Wet Weight (g): 2559.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.4

Date: 03/25/2019

Time: 10:45

Weight Retained on #10 Sieve (g): 95.4
% Retained on #10 Sieve: 3.7
% Passing #10 Sieve: 96.3

Observations:

Small rocks/gravel, bark, and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 13:20

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254592

Analyst: [redacted]

Date: 03/21/2019

Time: 14:30

Initial Sample Wet Weight (g): 2806.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21

Date: 03/25/2019

Time: 11:15

Weight Retained on #10 Sieve (g): 139.3

% Retained on #10 Sieve: 5.0

% Passing #10 Sieve: 95.0

Observations:

Small rocks/gravel and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 13:50

# of Grinds: 1

# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254593

Analyst: [redacted]

Date: 03/21/2019

Time: 14:38

Initial Sample Wet Weight (g): 2175.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.8

Date: 03/25/2019

Time: 12:10

Weight Retained on #10 Sieve (g): 64.7
% Retained on #10 Sieve: 3.0
% Passing #10 Sieve: 97.0

Observations:

Tree bark, twigs, dried grass, and rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 14:25

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254594

Analyst: [redacted]

Date: 03/21/2019

Time: 14:42

Initial Sample Wet Weight (g): 2807.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.4

Date: 03/25/2019

Time: 12:35

Weight Retained on #10 Sieve (g): 188.1
% Retained on #10 Sieve: 6.7
% Passing #10 Sieve: 93.3

Observations:

Rocks/gravel, twigs, and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 14:40

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254595

Analyst: [redacted]

Date: 03/21/2019

Time: 14:56

Initial Sample Wet Weight (g): 3674

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.9

Date: 03/25/2019

Time: 13:00

Weight Retained on #10 Sieve (g): 34.6
% Retained on #10 Sieve: 0.9
% Passing #10 Sieve: 99.1

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 14:22

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254596

Analyst: [redacted]

Date: 03/21/2019

Time: 14:51

Initial Sample Wet Weight (g): 3447.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.9

Date: 03/25/2019

Time: 13:20

Weight Retained on #10 Sieve (g): 143.3
% Retained on #10 Sieve: 4.2
% Passing #10 Sieve: 95.8

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/25/2019

Time: 14:48

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254597

Analyst: [redacted]

Date: 03/21/2019

Time: 15:00

Initial Sample Wet Weight (g): 3941.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.6

Date: 03/25/2019

Time: 13:10

Weight Retained on #10 Sieve (g): 28.7
% Retained on #10 Sieve: 0.7
% Passing #10 Sieve: 99.3

Observations:

Small rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/26/2019

Time: 12:00

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254598

Analyst: TMG

Date: 03/21/2019

Time: 15:00

Initial Sample Wet Weight (g): 4176.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.2

Date: 03/25/2019

Time: 14:45

Weight Retained on #10 Sieve (g): 3.5

% Retained on #10 Sieve: 0.1

% Passing #10 Sieve: 99.9

Observations:

Dried grass.

## Milling:

Analyst: [redacted]

Date: 03/26/2019

Time: 9:25

# of Grinds: 1

# of Bowls Used: 3

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254599

Analyst: [redacted]

Date: 03/21/2019

Time: 15:03

Initial Sample Wet Weight (g): 3309

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.3

Date: 03/26/2019

Time: 9:20

Weight Retained on #10 Sieve (g): 138.4
% Retained on #10 Sieve: 4.2
% Passing #10 Sieve: 95.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/26/2019

Time: 12:10

# of Grinds: 1
# of Bowls Used: 4

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254600

Analyst: TMG

Date: 03/21/2019

Time: 15:15

Initial Sample Wet Weight (g): 3697.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.3

Date: 03/26/2019

Time: 12:00

Weight Retained on #10 Sieve (g): 57.3

% Retained on #10 Sieve: 1.5

% Passing #10 Sieve: 98.5

Observations:

Small rocks/gravel and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/26/2019

Time: 13:15

# of Grinds: 1

# of Bowls Used: 3

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21

**Sample #:** 254601

Analyst: TMG

Date: 03/21/2019

Time: 15:20

Initial Sample Wet Weight (g): 2706.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 03/26/2019

Time: 12:25

Weight Retained on #10 Sieve (g): 25.3

% Retained on #10 Sieve: 0.9

% Passing #10 Sieve: 99.1

Observations:

Wood chips and small rocks.

## Milling:

Analyst: [redacted]

Date: 03/26/2019

Time: 13:45

# of Grinds: 1

# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254602

Analyst: [redacted]

Date: 03/21/2019

Time: 15:10

Initial Sample Wet Weight (g): 2810.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.4

Date: 03/25/2019

Time: 13:05

Weight Retained on #10 Sieve (g): 47.7
% Retained on #10 Sieve: 1.7
% Passing #10 Sieve: 98.3

Observations:

Small rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/27/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254603

Analyst: [redacted]

Date: 03/21/2019

Time: 15:26

Initial Sample Wet Weight (g): 3125.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 03/26/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 20.7
% Retained on #10 Sieve: 0.7
% Passing #10 Sieve: 99.3

Observations:

Small rocks/gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 03/27/2019

Time: 10:50

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254604

Analyst: [redacted]

Date: 03/21/2019

Time: 15:28

Initial Sample Wet Weight (g): 3903

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 03/26/2019

Time: 14:15

Weight Retained on #10 Sieve (g): 43.6
% Retained on #10 Sieve: 1.1
% Passing #10 Sieve: 98.9

Observations:

Small rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/27/2019

Time: 11:00

# of Grinds: 1
# of Bowls Used: 3

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254605

Analyst: [redacted]

Date: 03/21/2019

Time: 15:30

Initial Sample Wet Weight (g): 2381.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 03/26/2019

Time: 14:40

Weight Retained on #10 Sieve (g): 44.8
% Retained on #10 Sieve: 1.9
% Passing #10 Sieve: 98.1

Observations:

Small rocks/gravel and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/27/2019

Time: 11:20

# of Grinds: 1
# of Bowls Used: 2

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159431

Ambient Temp (˚C): 21.1

**Sample #:** 254606

Analyst: [redacted]

Date: 03/21/2019

Time: 15:38

Initial Sample Wet Weight (g): 3441.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 03/26/2019

Time: 15:15

Weight Retained on #10 Sieve (g): 162.9
% Retained on #10 Sieve: 4.7
% Passing #10 Sieve: 95.3

Observations:

Rocks/gravel, wood chips, and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 8:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254959

Analyst: [redacted]

Date: 03/22/2019

Time: 14:55

Initial Sample Wet Weight (g): 3860.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.5

Date: 03/30/2019

Time: 8:00

Weight Retained on #10 Sieve (g): 38.9
% Retained on #10 Sieve: 1.0
% Passing #10 Sieve: 99.0

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 8:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254961

Analyst: [redacted]

Date: 03/22/2019

Time: 15:02

Initial Sample Wet Weight (g): 4061.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.5

Date: 03/30/2019

Time: 8:10

Weight Retained on #10 Sieve (g): 56.2
% Retained on #10 Sieve: 1.4
% Passing #10 Sieve: 98.6

Observations:

Rocks/gravel and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 8:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254962

Analyst: [redacted]

Date: 03/22/2019

Time: 15:07

Initial Sample Wet Weight (g): 3510.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.5

Date: 03/30/2019

Time: 8:35

Weight Retained on #10 Sieve (g): 14.7
% Retained on #10 Sieve: 0.4
% Passing #10 Sieve: 99.6

Observations:

Rocks/gravel and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 9:05

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254963

Analyst: [redacted]

Date: 03/22/2019

Time: 15:13

Initial Sample Wet Weight (g): 4008.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.1

Date: 03/30/2019

Time: 9:00

Weight Retained on #10 Sieve (g): 24
% Retained on #10 Sieve: 0.6
% Passing #10 Sieve: 99.4

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 9:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254964

Analyst: [redacted]

Date: 03/22/2019

Time: 15:19

Initial Sample Wet Weight (g): 4368.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.1

Date: 03/30/2019

Time: 9:20

Weight Retained on #10 Sieve (g): 131.3
% Retained on #10 Sieve: 3.0
% Passing #10 Sieve: 97.0

Observations:

Rocks/gravel and dried grass.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 10:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254965

Analyst: [redacted]

Date: 03/22/2019

Time: 15:26

Initial Sample Wet Weight (g): 4306.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 03/30/2019

Time: 10:15

Weight Retained on #10 Sieve (g): 1228.1
% Retained on #10 Sieve: 28.5
% Passing #10 Sieve: 71.5

Observations:

Large rocks and gravel.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254966

Analyst: [redacted]

Date: 03/22/2019

Time: 15:34

Initial Sample Wet Weight (g): 3748.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.8

Date: 03/30/2019

Time: 10:20

Weight Retained on #10 Sieve (g): 1224.6
% Retained on #10 Sieve: 32.7
% Passing #10 Sieve: 67.3

Observations:

Small rocks/gravel and some clumps of hard clay that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 10:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254967

Analyst: [redacted]

Date: 03/22/2019

Time: 15:34

Initial Sample Wet Weight (g): 3748.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 03/30/2019

Time: 11:18

Weight Retained on #10 Sieve (g): 764.1
% Retained on #10 Sieve: 20.4
% Passing #10 Sieve: 79.6

Observations:

Small rocks/gravel and some clumps of hard clay that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 11:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254968

Analyst: [redacted]

Date: 03/22/2019

Time: 15:48

Initial Sample Wet Weight (g): 3538.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 03/30/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 477

% Retained on #10 Sieve: 13.5

% Passing #10 Sieve: 86.5

Observations:

Small rocks/gravel, tree bark, grass, and dried wood.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 12:20

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159442

Ambient Temp (˚C): 20.3

**Sample #:** 254969

Analyst: [redacted]

Date: 03/22/2019

Time: 15:55

Initial Sample Wet Weight (g): 3671.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 03/30/2019

Time: 12:15

Weight Retained on #10 Sieve (g): 501.4
% Retained on #10 Sieve: 13.7
% Passing #10 Sieve: 86.3

Observations:

Small rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/30/2019

Time: 12:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/01/2019

# TOTAL SOLIDS (PERCENT)

LIMS #: 158862

| Start Date: | 03/26/2019 | Start Time: | 11:30 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 251135 | T060 | 2.55 | 7.66 | 7.58 | 98.4% |
| 2) | 251136 | T053 | 2.60 | 8.13 | 8.10 | 99.5% |
| 3) | 251137 | T645 | 2.54 | 8.52 | 8.49 | 99.5% |
| 4) | 251138 | T051 | 2.58 | 8.37 | 8.30 | 98.8% |
| 5) | 251139 | T052 | 2.56 | 9.34 | 9.30 | 99.4% |
| 6) | 251140 | T479 | 2.55 | 7.90 | 7.87 | 99.4% |
| 7) | 251141 | D103 | 2.53 | 8.52 | 8.50 | 99.7% |
| 8) | 251142 | D104 | 2.50 | 10.68 | 10.64 | 99.5% |
| 9) | 251663 | T081 | 2.58 | 9.62 | 9.53 | 98.7% |
| 10) | 251664 | T048 | 2.58 | 10.47 | 10.35 | 98.5% |
| 11) | 251665 | T343 | 2.58 | 10.54 | 10.46 | 99.0% |
| 12) | 251666 | T464 | 2.59 | 11.10 | 10.99 | 98.7% |
| 13) | 251668 | T463 | 2.59 | 11.04 | 10.96 | 99.1% |
| 14) | 253258 | T462 | 2.57 | 8.99 | 8.84 | 97.7% |
| 15) | 253274 | T469 | 2.54 | 8.47 | 8.26 | 96.5% |
| 16) | 253275 | T468 | 2.56 | 11.85 | 11.60 | 97.3% |
| 17) | 253276 | T341 | 2.60 | 9.09 | 8.96 | 98.0% |
| 18) | 253277 | T842 | 2.60 | 9.37 | 9.32 | 99.3% |
| 19) | 253278 | T586 | 2.56 | 8.88 | 8.82 | 99.1% |
| *20) | 251667 | T587 | 2.56 | 10.02 | 9.94 | 98.9% |
| Dup 20) | 251667 | T588 | 2.53 | 8.93 | 8.87 | 99.1% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 9.94 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.2% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 03/27/2019 |
| **Stop Time:** | 09:24 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 158863

| Start Date: | 03/26/2019 | Start Time: | 11:50 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 253280 | T589 | 2.53 | 13.67 | 13.42 | 97.8% |
| 2) | 253281 | T590 | 2.55 | 9.32 | 9.22 | 98.5% |
| 3) | 253282 | T591 | 2.57 | 9.54 | 9.46 | 98.9% |
| 4) | 254587 | T592 | 2.59 | 8.92 | 8.84 | 98.7% |
| 5) | 254588 | T593 | 2.56 | 12.73 | 12.62 | 98.9% |
| 6) | 254589 | DDSIS | 2.54 | 13.36 | 13.19 | 98.4% |
| 7) | 254590 | DDSIT | 2.56 | 8.91 | 8.80 | 98.3% |
| 8) | 254591 | DDSIW | 2.56 | 10.53 | 10.47 | 99.2% |
| 9) | 254592 | DDSIV | 2.55 | 12.00 | 11.95 | 99.5% |
| 10) | 254593 | DDSIU | 2.55 | 9.39 | 9.33 | 99.1% |
| 11) | 254594 | DDSIX | 2.55 | 9.68 | 9.64 | 99.4% |
| 12) | 254595 | DDSIY | 2.55 | 10.83 | 10.75 | 99.0% |
| 13) | 254596 | DDSIZ | 2.55 | 8.53 | 8.48 | 99.2% |
| 14) | | | | | | 0.0% |
| 15) | | | | | | 0.0% |
| 16) | | | | | | 0.0% |
| 17) | | | | | | 0.0% |
| 18) | | | | | | 0.0% |
| 19) | | | | | | 0.0% |
| *20) | 253279 | DDSJ0 | 2.56 | 9.65 | 9.45 | 97.2% |
| Dup 20) | 253279 | DDSJ1 | 2.56 | 9.58 | 9.38 | 97.2% |

Dry Weight = Sample + Dish (gms)

Wet Weight = Sample + Dish (gms)

* 2nd Reading, 9.45

Set RPD: 0.0%

Balance: VOB-01

*mg Differen: 0

**Stop Date:** 03/27/2019

**Stop Time:** 09:26

*2nd reading must be within 50mg of the 1st

Calculations

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 159405

| Start Date: | 04/04/2019 | Start Time: | 13:32 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 254597 | T794 | 2.55 | 10.72 | 10.63 | 98.9% |
| 2) | 254598 | T795 | 2.57 | 7.01 | 6.98 | 99.3% |
| 3) | 254599 | T796 | 2.57 | 7.72 | 7.69 | 99.4% |
| 4) | 254600 | T797 | 2.59 | 7.72 | 7.71 | 99.8% |
| 5) | 254602 | T798 | 2.60 | 6.08 | 6.07 | 99.7% |
| 6) | 254603 | T799 | 2.61 | 6.87 | 6.85 | 99.5% |
| 7) | 254604 | T800 | 2.56 | 5.99 | 5.97 | 99.4% |
| 8) | 254605 | T451 | 2.60 | 6.25 | 6.22 | 99.2% |
| 9) | 254606 | T452 | 2.58 | 5.85 | 5.83 | 99.4% |
| 10) | 254959 | T453 | 2.60 | 5.38 | 5.36 | 99.3% |
| 11) | 254961 | T454 | 2.58 | 6.90 | 6.88 | 99.5% |
| 12) | 254962 | T455 | 2.56 | 5.19 | 5.19 | 100.0% |
| 13) | 254963 | T177 | 2.57 | 6.07 | 6.07 | 100.0% |
| 14) | 254964 | T207 | 2.57 | 5.30 | 5.29 | 99.6% |
| 15) | 254965 | T179 | 2.57 | 5.53 | 5.52 | 99.7% |
| 16) | 254966 | T180 | 2.56 | 5.36 | 5.34 | 99.3% |
| 17) | 254967 | T181 | 2.58 | 5.75 | 5.74 | 99.7% |
| 18) | 254968 | T182 | 2.60 | 5.38 | 5.37 | 99.6% |
| 19) | 254969 | T183 | 2.59 | 5.58 | 5.56 | 99.3% |
| *20) | 254601 | T184 | 2.57 | 4.44 | 4.44 | 100.0% |
| Dup 20) | 254601 | T185 | 2.56 | 4.22 | 4.22 | 100.0% |
| | | | | * 2nd Reading, | 4.44 | |
| Dry Weight = Sample + Dish (gms) | | | | | Set RPD: | 0.0% |
| Wet Weight = Sample + Dish (gms) | | | Balance: VOB-01 | | | |
| | | | | | *mg Differen | 0 |

| Stop Date: | 04/05/2019 |
|---|---|
| Stop Time: | 11:42 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# INORGANICS
# LOGBOOK
# DOCUMENTS

# SOIL PREP/MIX KREJCI Analytical Run
# 159414 on 04/04/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143587 | 253258 | | 03/18/2019 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253274 | DU1A-SU05 | 03/18/2019 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253275 | DU1B-SU05 | 03/18/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253276 | DU1A-SU27 | 03/18/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253277 | DU1B-SU27 | 03/18/2019 1235 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253278 | DU1B-SU28 | 03/18/2019 1235 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253279 | DU1A-SU28 | 03/18/2019 1440 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253280 | DU1A-SU37 | 03/18/2019 1440 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253281 | DU1B-SU37 | 03/18/2019 1535 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143587 | 253282 | DU1A-SU41 | 03/18/2019 1535 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU41 | | | | | | | | | |

**10** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159414 | 03/22/2019, 03/23/2019 | [redacted] | [redacted] | 03/25/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | Yes | | Yes | | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 159431 on 04/04/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143688 | 254587 | | 03/19/2019 1430 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254588 | DU1A-SU43 | 03/19/2019 1430 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254589 | DU1B-SU43 | 03/19/2019 1605 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254590 | DU1A-SU53 | 03/19/2019 1605 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254591 | DU1B-SU53 | 03/20/2019 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254592 | DU1A-SU57 | 03/20/2019 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254593 | DU1B-SU57 | 03/20/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254594 | DU1A-SU55 | 03/20/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254595 | DU1B-SU55 | 03/19/2019 1810 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254596 | DU1A-SU54 | 03/19/2019 1810 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254597 | DU1B-SU54 | 03/20/2019 1145 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254598 | DU1A-SU45 | 03/20/2019 1145 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254599 | DU1B-SU45 | 03/20/2019 1320 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254600 | DU1A-SU42 | 03/20/2019 1320 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143688 | 254601 | DU1B-SU42 | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| | | DU3A-SU01 | | Designated MS/MSD | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# SOIL PREP/MIX KREJCI Analytical Run
# 159431 on 04/04/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143688 | 254602 | DU3B-SU01 | 03/20/2019 1435 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143688 | 254603 | DU3A-SU02 | 03/20/2019 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143688 | 254604 | DU3B-SU02 | 03/20/2019 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143688 | 254605 | DU3A-SU04 | 03/20/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143688 | 254606 | DU3B-SU04 | 03/20/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**20** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159431 | 03/25/2019 - 03/29/2019 | [redacted] | [redacted] | 04/01/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | Yes | | Yes | | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 159442 on 04/04/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143730 | 254959 | | 03/19/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU50 | | | | | | | | | |
| 143730 | 254961 | | 03/19/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU50 | | | | | | | | | |
| 143730 | 254962 | | 03/19/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU59 | | | | | | | | | |
| 143730 | 254963 | | 03/19/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU59 | | | | | | | | | |
| 143730 | 254964 | | 03/19/2019 1110 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU56 | | Designated MS/MSD | | | | | | | |
| 143730 | 254965 | | 03/19/2019 1110 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU56 | | Designated MS/MSD | | | | | | | |
| 143730 | 254966 | | 03/19/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU47 | | | | | | | | | |
| 143730 | 254967 | | 03/19/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU47 | | | | | | | | | |
| 143730 | 254968 | | 03/19/2019 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU49 | | | | | | | | | |
| 143730 | 254969 | | 03/19/2019 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU49 | | | | | | | | | |

**10** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159442 | 03/30/2019 | [redacted] | [redacted] | 04/01/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | Yes | | Yes | | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

WSOLIDS Analytical Run
# 158862 on 03/27/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143477 | 251135 | | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251136 | DU1A-SU11R3 | 03/12/2019 1309 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251137 | DU1B-SU11R3 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251138 | DU1A-SU51R1 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251139 | DU1A-SU51R2 | 03/12/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251140 | DU1A-SU51R3 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251141 | DU1B-SU51R1 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143477 | 251142 | DU1B-SU51R2 | 03/12/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251663 | DU1B-SU51R3 | 03/13/2019 0900 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251664 | DU1A-SU06 | 03/13/2019 0900 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251665 | DU1B-SU06 | 03/13/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251666 | DU1A-SU08 | 03/13/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251667 | DU1B-SU08 | 03/13/2019 1315 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143517 | 251668 | DU1A-SU58 | 03/13/2019 1315 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143587 | 253258 | DU1B-SU58 | 03/18/2019 0915 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU05 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: WetChem [redacted] ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 158862 on 03/27/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143587 | 253274 | DU1B-SU05 | 03/18/2019 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253275 | DU1A-SU27 | 03/18/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253276 | DU1B-SU27 | 03/18/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253277 | DU1B-SU28 | 03/18/2019 1235 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143587 | 253278 | DU1A-SU28 | 03/18/2019 1235 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | 256450 | DU1A-SU58 | 03/13/2019 1315 | DUP 251667 | | | SOLIDS,PERCENT | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

WSOLIDS Analytical Run
# 158863 on 03/27/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143587 | 253279 | | 03/18/2019 1440 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143587 | 253280 | DU1A-SU37 | 03/18/2019 1440 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143587 | 253281 | DU1B-SU37 | 03/18/2019 1535 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143587 | 253282 | DU1A-SU41 | 03/18/2019 1535 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254587 | DU1B-SU41 | 03/19/2019 1430 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254588 | DU1A-SU43 | 03/19/2019 1430 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254589 | DU1B-SU43 | 03/19/2019 1605 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254590 | DU1A-SU53 | 03/19/2019 1605 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254591 | DU1B-SU53 | 03/20/2019 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254592 | DU1A-SU57 | 03/20/2019 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254593 | DU1B-SU57 | 03/20/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254594 | DU1A-SU55 | 03/20/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254595 | DU1B-SU55 | 03/19/2019 1810 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254596 | DU1A-SU54 | 03/19/2019 1810 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | 256451 | DU1B-SU54 | 03/18/2019 1440 | | | | SOLIDS,PERCENT | | | | |
| | | DU1A-SU37 | | DUP 253279 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted] ANALYTICALRUN.RPT

WSOLIDS Analytical Run
# 158863 on 03/27/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

**15** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 158862 158863 | 03/26/2019 | [redacted] | [redacted] | 03/27/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

# WSOLIDS Analytical Run
# 159405 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143688 | 254597 | | 03/20/2019 1145 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254598 | DU1A-SU45 | 03/20/2019 1145 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254599 | DU1B-SU45 | 03/20/2019 1320 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254600 | DU1A-SU42 | 03/20/2019 1320 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254601 | DU1B-SU42 | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254602 | DU3A-SU01 | 03/20/2019 1435 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254603 | DU3B-SU01 | 03/20/2019 1550 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254604 | DU3A-SU02 | 03/20/2019 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254605 | DU3B-SU02 | 03/20/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143688 | 254606 | DU3A-SU04 | 03/20/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143730 | 254959 | DU3B-SU04 | 03/19/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143730 | 254961 | DU1A-SU50 | 03/19/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143730 | 254962 | DU1B-SU50 | 03/19/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143730 | 254963 | DU1A-SU59 | 03/19/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143730 | 254964 | DU1B-SU59 | 03/19/2019 1110 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU56 | | Designated MS/MSD | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: WetChem [redacted] ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 159405 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143730 | 254965 | | 03/19/2019 | 1110 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU56 | | | Designated MS/MSD | | | | | | | |
| 143730 | 254966 | | 03/19/2019 | 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU47 | | | | | | | | | | |
| 143730 | 254967 | | 03/19/2019 | 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU47 | | | | | | | | | | |
| 143730 | 254968 | | 03/19/2019 | 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU49 | | | | | | | | | | |
| 143730 | 254969 | | 03/19/2019 | 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU49 | | | | | | | | | | |
| | 261503 | | 03/20/2019 | 1435 | | | | SOLIDS,PERCENT | | | | |
| | | DU3A-SU01 | | | DUP 254601 | | | | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159405 | 04/04/2019 | [redacted] | [redacted] | 04/05/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

# CHAIN OF CUSTODY,
# PM CONFIRMATION
# AND
# SAMPLE CONDITION FORMS
# DOCUMENTS

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contac [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143587
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____
PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | | | | | | | | | | | | | | | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | | | | | | | | | | | | | | | |
| 03/18/19 | 0915 | S | C | | DU1A - SU05 | N | 1 | | | | | | | | | | | | | | | 1 | | 253258 |
| 03/18/19 | 0915 | S | C | | DU1B - SU05 | N | 1 | | | | | | | | | | | | | | | 1 | | 253274 |
| 03/18/19 | 1100 | S | C | | DU1A - SU27 | N | 1 | | | | | | | | | | | | | | | 1 | | 253275 |
| 03/18/19 | 1100 | S | C | | DU1B - SU27 | N | 1 | | | | | | | | | | | | | | | 1 | | 253276 |
| 03/18/19 | 1235 | S | C | | DU1B - SU28 | N | 1 | | | | | | | | | | | | | | | 1 | | 253277 |
| 03/18/19 | 1255 | S | C | | DU1A - SU28 | N | 1 | | | | | | | | | | | | | | | 1 | | 253278 |
| 03/18/19 | 1440 | S | C | | DU1A - SU37 | N | 1 | | | | | | | | | | | | | | | 1 | | 253279 |
| 03/18/19 | 1440 | S | C | | DU1B - SU37 | N | 1 | | | | | | | | | | | | | | | 1 | | 253280 |
| 03/18/19 | 1535 | S | C | | DU1A - SU41 | N | 1 | | | | | | | | | | | | | | | 1 | | 253281 |
| 03/18/19 | 1535 | S | C | | DU1B - SU41 | N | 1 | | | | | | | | | | | | | | | 1 | | 253282 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

Relinquished By: [signature] Date/Time 03/18/19 1700
Received by: Date/Time

Received By: JRB Date/Time 3/19/19 944
Received for Laboratory by: JRB Date/Time 3/19/19 1002

Lab Use Only
Ice Present (Yes) No
Temp 0.9 IR Gun 24
Cooler # 5651

Page 1892

Rev. #: 1.0
Effective Date: 05/27/2014
Page 1 of 1

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 0.9

IR Gun # 24

Initials JRB

Date 3/19/19 Time 944

Cooler #: 5651

JRB
3/19/19
1002




DAVE COTE
ERT
14401 SWEITZER LANE
LAUREL MD 20707

50 LBS

RS

SHIP TO:
SHIPPING DEPT
(608) 356–2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0–10

UPS NEXT DAY AIR 1

TRACKING #: 1Z 1A4 A85 84 4196 3718

BILLING: P/P
DESC: CURTIS BAY SAMPLES
RETURN SERVICE

REF 1:2140208

WS 21.0.23 Zebra ZP 450 09.0A 01/2019

SEE NOTICE ON REVERSE regarding UPS Terms and notice of limitation of liability. Where allowed by law, shipper authorizes UPS to act as forwarding agent for export control and customs purposes. If exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.

**Folder #: 143587**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144216

**Project Manager:** [redacted] **Date Received:** 03/19/19 **Log Date:** 03/19/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 0.9 oC

**SAMPLE #: 253258 DESCR: DU1A-SU05** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/18/2019 Time: 0915**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 253274 DESCR: DU1B-SU05** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/18/2019 Time: 0915**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |



[redacted]CONFIRMATION.RPT

**Folder #:** 143587 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 253274 **DESCR:** DU1B-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 0915

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 253275 **DESCR:** DU1A-SU27 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253276 **DESCR:** DU1B-SU27 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253277 **DESCR:** DU1B-SU28 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1235

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |

**Folder #:** 143587 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 253277 **DESCR:** DU1B-SU28 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1235

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253278 **DESCR:** DU1A-SU28 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1235

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253279 **DESCR:** DU1A-SU37 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1440

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253280 **DESCR:** DU1B-SU37 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1440

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |

**Folder #:** 143587 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 253280 **DESCR:** DU1B-SU37 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1440

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253281 **DESCR:** DU1A-SU41 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1535

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 253282 **DESCR:** DU1B-SU41 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/18/2019 **Time:** 1535

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/01/2019 | 03/31/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 03/31/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/14/2019 | 03/31/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143587 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**Invoice Number:** 144216 **Preliminary Invoice Estimate:** $ 740.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 10 | $ 50.00 | 0.00 | $ 500.00 |
| ICP QSM 5.0 Arsenic | SOIL | 10 | $ 12.00 | 0.00 | $ 120.00 |
| ICP QSM 5.0 Manganese | SOIL | 10 | $ 12.00 | 0.00 | $ 120.00 |
| SOLIDS,PERCENT | SOIL | 10 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **20** | SOIL PREP/MIX |
| **SOLIDS** | **20** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143587
Client: ERT

Print Date / Time: 03/19/2019 10:01
Received Date / Time / By: 03/19/2019 09:44 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/19/2019 10:02 [redacted]
Project #: PM: [redacted]

Coolers: 5651
Custody Seals Present : **Y**

Temperature: 0.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858441963718
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED IN GOOD CONDITION ON ICE
ONE COSTUDY SEAL PRESENT AND INTACT, SIGNED AND DATED 03/18/19

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **253258** DU1A-SU05 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **253258** DU1A-SU05 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **253274** DU1B-SU05 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **253274** DU1B-SU05 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **253275** DU1A-SU27 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **253275** DU1A-SU27 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**253276** DU1B-SU27

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**253276** DU1B-SU27

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**253277** DU1B-SU28

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**253277** DU1B-SU28

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**253278** DU1A-SU28

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**253278** DU1A-SU28

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**253279** DU1A-SU37

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**253279** DU1A-SU37

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**253280** DU1B-SU37

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**253280** DU1B-SU37

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**253281** DU1A-SU41

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |

| | | | | |
|---|---|---|---|---|
| **253281** | DU1A-SU41 | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **253282** DU1B-SU41 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **253282** DU1B-SU41 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

143587

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: Michelle Chesnut
Telephone: 301-323-1496
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143688
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JLS PM: BM

Program:
(OSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: Michelle.chesnut@ertcorp.com
Company:
Address: ERT

Invoice To:* 14401 Sweitzer Ln
EMAIL: Suite 300
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

**ANALYSES REQUESTED**

Turnaround Time
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Mets/S | | | | | | | | | | | | | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | | | | | | | | | | | | | |
| 03/19/19 | 1430 | S | C | | DU1A-SU43 | N | 1 | | | | | | | | | | | | | 1 | | 254587 |
| 03/19/19 | 1430 | S | C | | DU1B-SU43 | N | 1 | | | | | | | | | | | | | 1 | | 254588 |
| 03/19/19 | 1605 | S | C | | DU1A-SU55 | N | 1 | | | | | | | | | | | | | 1 | | 254589 |
| 03/19/19 | 1605 | S | C | | DU1B-SU55 | N | 1 | | | | | | | | | | | | | 1 | | 254590 |
| 03/20/19 | 0920 | S | C | | DU1A-SU57 | N | 1 | | | | | | | | | | | | | 1 | | 254591 |
| 03/20/19 | 0920 | S | C | | DU1B-SU57 | N | 1 | | | | | | | | | | | | | 1 | | 254592 |
| 03/20/19 | 1015 | S | C | | DU1A-SU55 | N | 1 | | | | | | | | | | | | | 1 | | 254593 |
| 03/20/19 | 1015 | S | C | | DU1D-SU55 | N | 1 | | | | | | | | | | | | | 1 | | 254594 |
| 03/19/19 | 1810 | S | C | | DU1A-SU53 | N | 1 | | | | | | | | | | | | | 1 | | 254595 |
| 03/19/19 | 1810 | S | C | | DU1B-SU53 | N | 1 | | | | | | | | | | | | | 1 | | 254596 |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |

Relinquished By: Mike Watson
Date/Time: 03/20/19 - 1700
Received by:
Date/Time

Received By: gb for cjb
Date/Time: 3/21/19 1054
Received for Laboratory by: gb
Date/Time: 3/21/19 1346

Lab Use Only
Ice Present (Yes) No
Temp 1.7 IR Gun 22
Cooler # 3685

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: Michelle Chesnut
Telephone: 301.323.1494
Project Name: Curtis Bay
Project #:
Location: Baltimore MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
143688

Program: (OSM) RCRA SDWA NPDES Solid Waste Other _____
PO #

Report To: EMAIL: michelle.chesnut@ertcorp.com
Company: Address: ERT
Invoice To:* EMAIL: 14401 Sweitzer Ln Suite 300
Company: Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

**Turnaround Time**
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Metal | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ANALYSES REQUESTED | Fill in Spaces with Bottles per Test | | | |
| 03/20/19 | 1145 | S | C | | DU1A - SU45 | 2 | 1 | 1 | | 254597 |
| 03/20/19 | 1145 | S | C | | DU1B - SU45 | 2 | 1 | 1 | | 254598 |
| 03/20/19 | 1320 | S | C | | DU1A - SU42 | 2 | 1 | 1 | | 254599 |
| 03/20/19 | 1320 | S | C | | DU1B - SU42 | 2 | 1 | 1 | | 254600 |
| 03/20/19 | 1435 | S | C | | DU3A - SU01 | 2 | 1 | 1 | X | 254601 |
| 03/20/19 | 1435 | S | C | | DU3B - SU01 | 2 | 1 | 1 | X | 254602 |
| 03/20/19 | 1550 | S | C | | DU3A - SU02 | 2 | 1 | 1 | | 254603 |
| 03/20/19 | 1550 | S | C | | DU3B - SU02 | 2 | 1 | 1 | | 254604 |
| 03/20/19 | 1630 | S | C | | DU3A - SU04 | 2 | 1 | 1 | | 254605 |
| 03/20/19 | 1630 | S | C | | DU3B - SU04 | 2 | 1 | 1 | | 254606 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Relinquished By: Mike Watson — Date/Time 03/20/19 1700
Received By: — Date/Time
Received By: — Date/Time 3/21/19 1045
Received for Laboratory by: — Date/Time 3/21/19 1346

Lab Use Only
Ice Present (Yes) No
Temp 2.6 IR Gun 22
Cooler # 6215

Page 1803

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.6

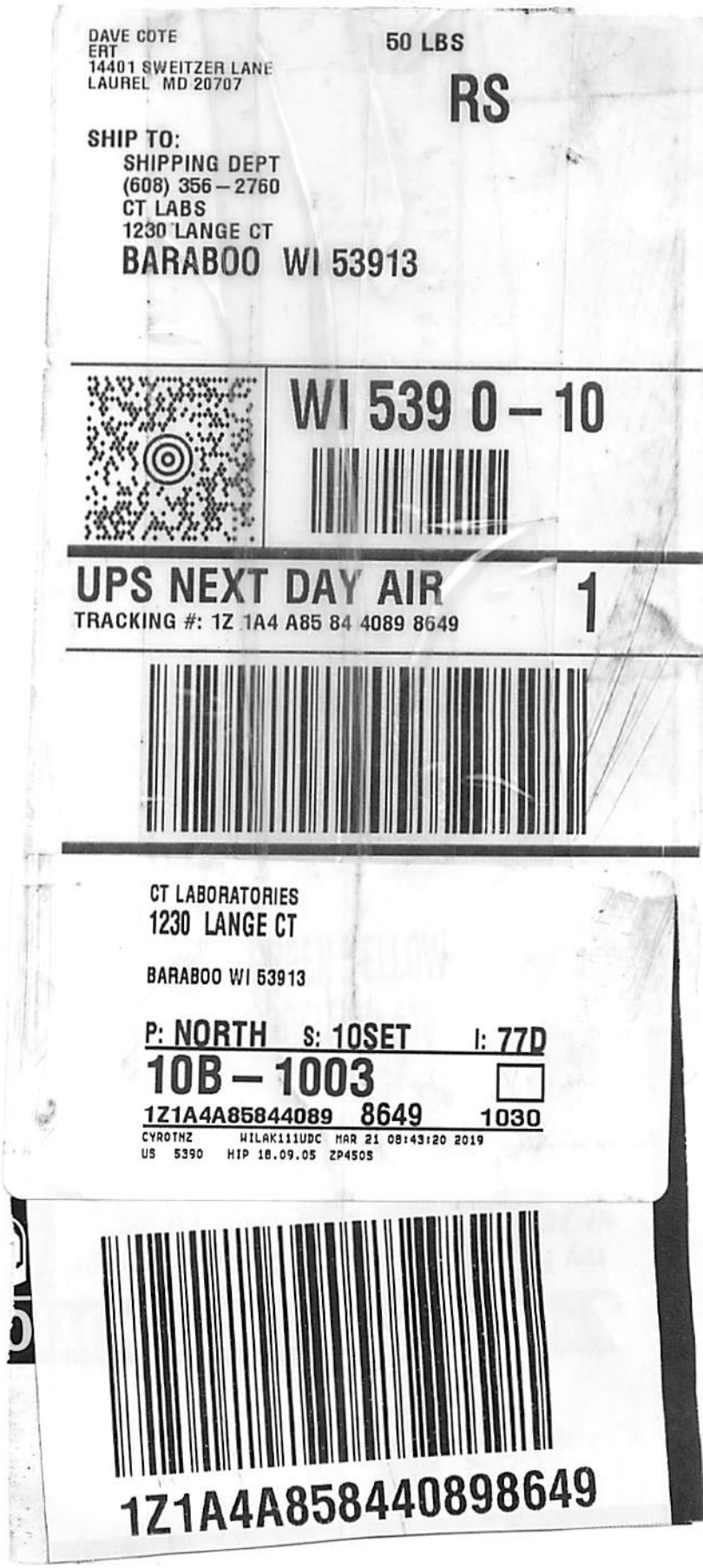
IR Gun # 22

Initials JRB

Date 3/21/19 Time 1054

Cooler #: 6215



# Cooler Receipt Form

Ice Present YES NO

Temperature 1.7 / 2.2

IR Gun # _____

Initials jrb

Date 3/21/19 Time 1045

Cooler #: 5685

CUSTODY SEAL
DATE 3/20/19
SIGNATURE

QEC
Quality Environmental
800-255-3950

DAVE COTE
ERT
14401 SWEITZER LANE
LAUREL MD 20707

50 LBS
RS

SHIP TO:
SHIPPING DEPT
(608) 356-2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0-10

UPS NEXT DAY AIR 1
TRACKING #: 1Z 1A4 A85 84 4170 2697

BILLING: P/P
DESC: CURTIS BAY SAMPLES
RETURN SERVICE

REF 1:2140208

WS 21.0.23 Zebra ZP 450 09.0A 01/2019

SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where allowed by law, shipper authorizes UPS to act as forwarding agent for export control and customs purposes. If exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A858441702697

**Folder #: 143688**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144314

**Project Manager:** [redacted] **Date Received:** 03/21/19 **Log Date:** 03/21/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 1.7 oC

**SAMPLE #: 254587 DESCR: DU1A-SU43** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/19/2019 Time: 1430**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 254588 DESCR: DU1B-SU43** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/19/2019 Time: 1430**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |



[redacted]CONFIRMATION.RPT

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254588 **DESCR:** DU1B-SU43 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1430

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 254589 **DESCR:** DU1A-SU53 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1605

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254590 **DESCR:** DU1B-SU53 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1605

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254591 **DESCR:** DU1A-SU57 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 0920

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254591 **DESCR:** DU1A-SU57 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 0920

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254592 **DESCR:** DU1B-SU57 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 0920

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254593 **DESCR:** DU1A-SU55 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254594 **DESCR:** DU1B-SU55 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254594 **DESCR:** DU1B-SU55 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254595 **DESCR:** DU1A-SU54 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1810

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254596 **DESCR:** DU1B-SU54 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1810

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254597 **DESCR:** DU1A-SU45 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1145

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254597 **DESCR:** DU1A-SU45 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1145

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254598 **DESCR:** DU1B-SU45 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1145

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254599 **DESCR:** DU1A-SU42 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1320

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254600 **DESCR:** DU1B-SU42 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1320

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254600 **DESCR:** DU1B-SU42 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1320

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254601 **DESCR:** DU3A-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1435

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254602 **DESCR:** DU3B-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1435

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254603 **DESCR:** DU3A-SU02 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1550

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254604 **DESCR:** DU3B-SU02 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1550

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254605 **DESCR:** DU3A-SU04 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143688 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254606 **DESCR:** DU3B-SU04 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/20/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/03/2019 | 04/02/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/02/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/16/2019 | 04/02/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144314 **Preliminary Invoice Estimate:** $ 1,480.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 20 | $ 50.00 | 0.00 | $ 1000.00 |
| ICP QSM 5.0 Arsenic | SOIL | 20 | $ 12.00 | 0.00 | $ 240.00 |
| ICP QSM 5.0 Manganese | SOIL | 20 | $ 12.00 | 0.00 | $ 240.00 |
| SOLIDS,PERCENT | SOIL | 20 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **40** | SOIL PREP/MIX |
| **SOLIDS** | **40** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143688
Client: ERT

Print Date / Time: 03/21/2019 13:46
Received Date / Time / By: 03/21/2019 10:45 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/21/2019 13:46 JLS
Project #: PM: [redacted]

Coolers: 3685
Custody Seals Present : **Y**

Temperature: 1.7,2.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 1Z1A4A858441702697,, "440898649
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - BOTH DATED 3/20/19 AND SIGNED.

COC INDICATES A SAMPLE DU1D-SU55, BAG FOR CORRESPONDING SAMPLE CLEARLY INDICATES THAT SAMPLE DESCRIPTION IS DU1B-SU55. LOGGED IN PER COC, AWAITING CLIENT TO ADVISE CORRECT DESCRIPTION.

PER THE CLIENT'S INSTRUCTIONS, THE DESCRIPTIONS FOR THE SAMPLES COLLECTED ON 03/19/2019 @ 1810 WERE CHANGED TO DU1A-SU54 AND DU1B-SU54.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254587** DU1A-SU43 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254587** DU1A-SU43 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254588** DU1B-SU43 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254588** DU1B-SU43 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254589** DU1A-SU53 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254589** DU1A-SU53 | | | | |

| | | | | |
|---|---|---|---|---|
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254590** DU1B-SU53 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254590** DU1B-SU53 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254591** DU1A-SU57 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254591** DU1A-SU57 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254592** DU1B-SU57 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254592** DU1B-SU57 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254593** DU1A-SU55 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254593** DU1A-SU55 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254594** DU1B-SU55 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254594** DU1B-SU55 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254595** DU1A-SU54 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **254595** DU1A-SU54 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **254596** DU1B-SU54 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **254596** DU1B-SU54 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **254597** DU1A-SU45 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **254597** DU1A-SU45 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **254598** DU1B-SU45 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **254598** DU1B-SU45 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **254599** DU1A-SU42 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 2** | | | |
| **254599** DU1A-SU42 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2** | | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254600** DU1B-SU42 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254600** DU1B-SU42 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254601** DU3A-SU01 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254601** DU3A-SU01 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254602** DU3B-SU01 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254602** DU3B-SU01 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254603** DU3A-SU02 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254603** DU3A-SU02 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254604** DU3B-SU02 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254604** DU3B-SU02 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **254605** | DU3A-SU04 | | | | |
| | | SOLIDS | 1 | / | %SOL,ICP |
| | | SOLIDS | 1 | / | %SOL,ICP |
| | | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254605** | DU3A-SU04 | | | | |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254606** DU3B-SU04 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **254606** DU3B-SU04 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

143688

Rev. 02/2017

# CHAIN OF CUSTODY



Company: ERT
Project Contact: Michelle Chesnut
Telephone: 301.323.1496
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES

Folder #: 143730
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
SDWA RCRA SDWA NPDES
Solid Waste Other _____
PO #

Report To:
EMAIL: michelle.chesnut@ert corp.com
Company:
Address:

Invoice To:* ERT
EMAIL: 14401 Sweitzer Ln
Company: Suite 300
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/19/19 | 0830 | S | C | | DU1A-SU50 | N | 1 | 1 | | 254959 |
| 03/19/19 | 0830 | S | C | | DU1B-SU50 | N | 1 | 1 | | 254961 |
| 03/19/19 | 0950 | S | C | | DU1A-SU59 | N | 1 | 1 | | 254962 |
| 03/19/19 | 0950 | S | C | | DU1B-SU5T | N | 1 | 1 | | 254963 |
| 03/19/19 | 1110 | S | C | | DU1A-SU56 | N | 1 | 1 | X | 254964 |
| 03/19/19 | 1110 | S | C | | DU1B-SU56 | N | 1 | 1 | X | 254965 |
| 03/19/19 | 1245 | S | C | | DU1A-SU47 | N | 1 | 1 | | 254966 |
| 03/19/19 | 1245 | S | C | | DU1B-SU47 | N | 1 | 1 | | 254967 |
| 03/19/19 | 1335 | S | C | | DU1A-SU49 | N | 1 | 1 | | 254968 |
| 03/19/19 | 1335 | S | C | | DU1B-SU49 | N | 1 | 1 | | 254969 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Relinquished By: Mike Watson — Date/Time: 03/19/19 1700
Received by: — Date/Time:

Received By: JRB — Date/Time: 3/22/19 1318
Received for Laboratory by: JRB — Date/Time: 3/22/19 1339

Lab Use Only
Ice Present Yes No
Temp 2.3 IR Gun 23
Cooler # 0061

# CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.



**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Ice Present (YES) NO

Temperature 2.3

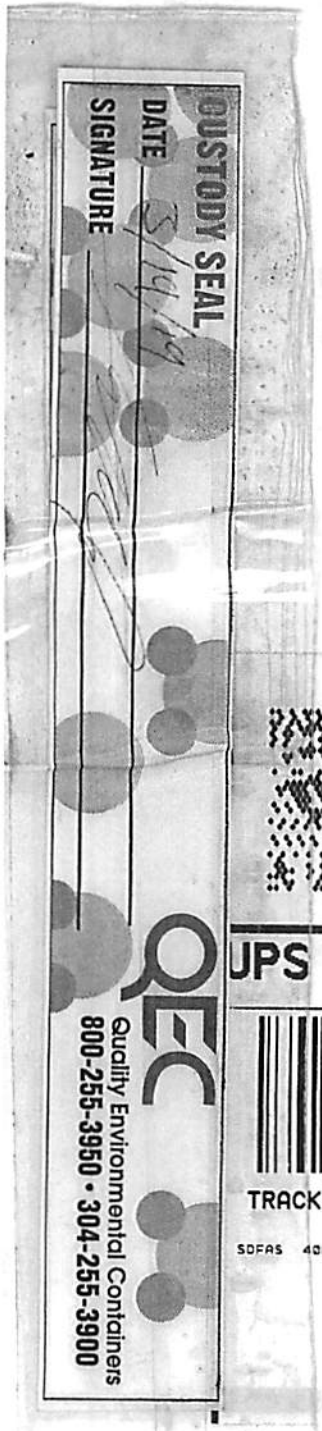
IR Gun # 23

Initials JRB

Date 3/22/19 Time 1318

Cooler #: 6061

JRB 3/22/19
1339
143730












**Folder #: 143730**

## PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144357

**Project Manager:** [redacted] **Date Received:** 03/22/19 **Log Date:** 03/22/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 2.3 oC

**SAMPLE #: 254959 DESCR: DU1A-SU50** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/19/2019 Time: 0830**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 254961 DESCR: DU1B-SU50** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/19/2019 Time: 0830**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |



[redacted]CONFIRMATION.RPT

**Folder #:** 143730 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254961 **DESCR:** DU1B-SU50 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 0830

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 254962 **DESCR:** DU1A-SU59 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 0950

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254963 **DESCR:** DU1B-SU59 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 0950

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254964 **DESCR:** DU1A-SU56 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1110

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/15/2019 | 04/03/2019 | | NeedPrep |

**Folder #:** 143730 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254964 **DESCR:** DU1A-SU56 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1110

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254965 **DESCR:** DU1B-SU56 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1110

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254966 **DESCR:** DU1A-SU47 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1245

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254967 **DESCR:** DU1B-SU47 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1245

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |

**Folder #:** 143730 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 254967 **DESCR:** DU1B-SU47 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1245

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254968 **DESCR:** DU1A-SU49 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1335

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 254969 **DESCR:** DU1B-SU49 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/19/2019 **Time:** 1335

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/02/2019 | 04/03/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/03/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/15/2019 | 04/03/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143730 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**Invoice Number:** 144357 **Preliminary Invoice Estimate:** $ 740.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 10 | $ 50.00 | 0.00 | $ 500.00 |
| ICP QSM 5.0 Arsenic | SOIL | 10 | $ 12.00 | 0.00 | $ 120.00 |
| ICP QSM 5.0 Manganese | SOIL | 10 | $ 12.00 | 0.00 | $ 120.00 |
| SOLIDS,PERCENT | SOIL | 10 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **20** | SOIL PREP/MIX |
| **SOLIDS** | **20** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143730
Client: ERT

Print Date / Time: 03/22/2019 13:39
Received Date / Time / By: 03/22/2019 13:18 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/22/2019 13:39 [redacted]
Project #: PM: [redacted]

Coolers: 6061
Custody Seals Present : **Y**

Temperature: 2.3 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS NEXT DAY AIR
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858440037668
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEA WAS PRESENT AND INTACT UPON RECEIPT - SIGNED AND DATED 3/19/19.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **254959** DU1A-SU50 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254959** DU1A-SU50 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **254961** DU1B-SU50 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254961** DU1B-SU50 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **254962** DU1A-SU59 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **254962** DU1A-SU59 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**254963** DU1B-SU59

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**254963** DU1B-SU59

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**254964** DU1A-SU56

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**254964** DU1A-SU56

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**254965** DU1B-SU56

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**254965** DU1B-SU56

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**254966** DU1A-SU47

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**254966** DU1A-SU47

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**254967** DU1B-SU47

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**254967** DU1B-SU47

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**254968** DU1A-SU49

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |

---

**254968** DU1A-SU49

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

---

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

---

**254969** DU1B-SU49

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |

---

**254969** DU1B-SU49

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |

---

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

[redacted]

**From:** [redacted] <[redacted]ertcorp.com>
**Sent:** 03/25/2019 10:54
**To:** [redacted]
**Subject:** sample names and time of sample

Hi Bret,
The field team lead just called me to let me know that he had incorrectly told me the sample names for those two sets of samples that we discussed this morning.
The samples identified as DU1A-SU53 and DU1B-SU53 collected at 1604 are correct.
The sample identified as DU1A-SU53 collected at 1810 should be DU1A-SU54.
The sample identified as DU1B-SU53 collected at 1810 should be DU1B-SU54.
I am sorry for any confusion this may cause.
thanks,
--

[redacted] | **ERT, Inc.**
Environmental Scientist
[redacted] | Suite 300 | Laurel, MD 20707
Office:
[redacted]ertcorp.com

This email was scanned by Bitdefender

[redacted]

**From:** [redacted] <[redacted]ertcorp.com>
**Sent:** 03/12/2019 11:35
**To:** [redacted]
**Subject:** Fwd: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
**Attachments:** MFR Response to ERT Email for Use of Puck Mill-Curtis Bay RI-FS for Mn_1....docx

FYI - we are good to go with the puck mill see the attached and email below.

---------- Forwarded message ---------
From: [redacted] **CIV USARMY CENAB (US)** <[redacted]usace.army.mil>
Date: Tue, Mar 12, 2019 at 12:26 PM
Subject: RE: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
To: [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>

CLASSIFICATION: UNCLASSIFIED

From the chemist, [redacted]

"Based on the Method Blank and LCS QC data provided and justification for switching from use of a Teflon-Coated Ball Mill to using a Puck Mill to process the Curtis Bay RI/FS ISM Soil Samples, I find the request for the change to the sample prep to be acceptable. I have a more detailed response in the form of an MFR which I have attached as a file to this email response."

[redacted] PMP
Project Manager
USACE Baltimore District
[redacted]
Attn: CENAB-ENE-M, Room 09-F-08
Baltimore, MD 21201
W: [redacted]

-----Original Message-----
From: [redacted] [mailto:[redacted]ertcorp.com]
Sent: Monday, March 11, 2019 4:26 PM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>

Subject: [Non-DoD Source] Sample preparation for the Curtis Bay Depot

All,

ERT has contracted CT Laboratories, LLC (CT) to perform the sample preparation and analysis required for the Curtis Bay Ordnance Depot arsenic and manganese RI. After reviewing the Final UFP-QAPP, CT is concerned with processing the sample mass that will be submitted for each of the ISM soil samples collected (approximately 5-10 kg) using the Teflon-coated ball mill specified in the UFP-QAPP. CT indicates that they can process three 1-2 kg masses of soil at a time using the Teflon-coated ball mill. Each of these grind processes will take from 20-30 minutes for clay, and up to one week for sand. Soil samples collected for the RI are expected to be a mixture of sands and clays. Given the large number of soil samples that will be submitted (220+ [surface, subsurface, and QC replicates]) and the need to divide the samples into 5-10 processing masses, the sample processing using the Teflon-coated ball mill is impracticable.

In order to process the soil samples collected at the Curtis Bay Ordnance Depot, ERT and CT propose use of the puck mill for sample grinding. The puck mill is expected to grind the soil samples to the required specification in one minute or less. Use of the puck mill for soil sample grinding will allow the laboratory to process and analyze the submitted soil samples so that the project schedule is not impacted.

To validate use of the puck mill grinding method, CT performed a puck mill grind test on method blank sand materials, both as a blank and arsenic and manganese spiked laboratory control samples and analyzed all for arsenic and manganese using USEPA Method SW846 6010C with the following results:

Puck Mill Grind Test for Analytical Method SW846 6010C (one minute grind time)

Replicate

Method Blank (mg/kg)

Laboratory Control Sample

Percent Recovery

Arsenic

Manganese

Arsenic QC Limit (82-118)

Manganese QC Limit (85-116)

1

0.425

4.375

98

103

2

0.435

4.525

92

96

3

<LOD

2.9

95

97.5

4

0.156

3.15

94.5

96

5

<LOD

2.8

93

98

6

<LOD

3.175

87

91

7

<LOD

2.725

87

96

8

0.0575

2.975

82.5

80

9

<LOD

3.1

91.5

94

10

<LOD

3.1

92.5

97

The concern with use of the puck mill with soil sample submitted for analysis of manganese is adding a high bias to the sample results due to the metals makeup of the puck mill. Although low levels of manganese are detected in the method blank sample, these low levels are not expected to affect project decisions due to the magnitude of the lowest screening level (300 mg/kg, USEPA BTAG) as compared to the detected concentration in the method blank. Also note that all but one LCS recovery was within the DoD QSM QC limit.

The concern with use of the puck mill with soil sample submitted for analysis of arsenic is adding a low bias to the sample results due to volatilization of arsenic during the grinding process. Based on the LCS recoveries (all recoveries were within the DoD QSM QC limit) for arsenic, use of the puck mill for a one-minute grind cycle is not expected to adversely affect the concentrations measured in site soil samples.

Please let me know if sample preparation using the puck mill will be acceptable.

Thank you,

--

[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

CLASSIFICATION: UNCLASSIFIED

--
[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

This email was scanned by Bitdefender

12 March 2019

Memorandum for Record

Subject: Response to Email Message, sent 11 March 2019 from ERT on Sample Preparation on the Curtis Bay Depot RI/FS Project for Mn and As to change from processing of ISM Soil Samples from using a Teflon-Coated Ball Mill to a Puck Mill

Your request to use the puck mill for soil sample grinding in order to more efficiently process the large volume and quantities of soil samples consisting of a clay and sand mix is acceptable based on the method QC data provide for the 10 replicate method blanks and the LCS samples processed using the puck mill and analyzed for arsenic and manganese.

Based on an evaluation of the listed Measurement Performance Criteria (MPC) for the two metals in QAPP Worksheet #12, the method blank result for manganese needs to be < 1/10 the regulatory limit (or < 1/10$^{th}$ the amount measure in any sample [whichever is greater] per the DoD QSM). Between the writing of the Draft QAPP and then the Final version of the QAPP, two additional regulatory criteria were added to Worksheet #15: the USEPA Residential and the USEPA BTAG, with the BTAG regulatory value for Mn being the lowest at 330 mg/kg. A tenth of that value is 33 mg/kg, therefore any Method Blank analysis needs to be < 33 mg/kg for Mn. The Method Blank results presented for Mn range from 2.8 to 4.5 mg/kg which is a factor of 7x below 1/10$^{th}$ the Regulatory Limit. Also 9 of the 10 LCS samples spiked for Mn were within acceptable percent recovery limits with the one falling outside the QC limit at 80% which was slightly below the 85% Lower Limit.

For the Arsenic analysis, using the puck mill with a limit of a one-minute grind cycle is acceptable to prevent the puck mill from getting too hot. If another grinding cycle will be done, several minutes should be allowed for the puck mill to cool down. The puck mill should not contain arsenic as part of its elemental makeup, so that shouldn't be a contributing factor in the method blank analysis. The lowest regulatory action level listed for Arsenic in QAPP Worksheet #15 is 0.68 mg/kg, the EPA Residential value. Based on the reported method blank results, the values for arsenic are below the EPA Residential Action Limit or are non-detect.

[redacted]
Chemist
USACE, Baltimore District

CT LABORATORIES

*delivering more than data from your environmental analyses*

***ANALYTICAL RESULTS FOR:***

[redacted]
**ERT INC.**
[redacted]
**SUITE 300**
**LAUREL, MD 20707**

| | |
|---|---|
| PROJECT SITE: | Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD |
| DOD CONTRACT #: | [redacted] DO [redacted] |
| PROJECT #: | 3756 |
| SDG: | **143765** |
| FOLDERS: | 143765, 143811, 143856, & 143900 |
| PREPARED: | May 8, 2019 *Revised 06/12/2019* |
| TOTAL # OF PAGES: | 2809 |

*The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.*

**APPROVED BY:** [redacted] PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents


| Section | Page |
|---|---|
| Cover Page | 1 |
| Table of Contents | 2 |
| Case Narrative and Summary of Detects (if applicable) | 3 |
| Data Qualifier Sheet | 6 |
| Sample Delivery Group Summary | 8 |
| QC Batch Cross Reference | 11 |
| Metals CLP Forms Documents | 19 |
| Metals Raw Data Documents | 454 |
| Metals Logbook Documents | 2143 |
| Inorganic CLP Forms Documents | 2508 |
| Inorganic Raw Data Documents | 2599 |
| Inorganic Logbook Documents | 2691 |
| Chain of Custody, PM Confirmation and Sample Condition Forms | 2719 |

CT LABORATORIES

delivering more than data from your environmental analyses

## *Case Narrative*

**Client:** ERT, Inc.
**Project:** Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD
**Sample Receipt Dates:** 03/26/2019, 03/27/2019, 03/28/2019, & 03/29/2019
**SDG #:** 143765 (Folders 143765, 143811, 143856 & 143900)

Eighty-six ISM samples were received and analyzed for Arsenic and Manganese. Prior to analysis, the ISM samples were dried, sieved, and ground following the homogenization procedure outlined by the client. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale". The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

*Revision 06/12/2019:* The GFAA Arsenic (7010) QC forms (MS, MSD, and Duplicates/Replicates) were recalculated and regenerated.

**Sample Analysis and Quality Control**

***Metals Analysis:***

The samples were analyzed using US EPA Method 6010C (ICP Metals). Any samples that had an Arsenic result less than the LOQ on the ICP (6010C) analysis were re-logged for GFAA (7010) Arsenic analysis in order to meet the RSL. Per the client's request, both the GFAA and the ICP Arsenic results were reported when both procedures were performed. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

**ICP Arsenic & Manganese (6010C) Soil Analysis**

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 159293

Arsenic was detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and qualified with a "B" flag when the MB manganese result was greater than 1/10$^{th}$ of the sample results.

The sample QC was performed on a sample from SDG # 143587.

Analytical Run # 159294

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and qualified with a "B" flag when the MB arsenic result was greater than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not qualified because the MB manganese result was less than 1/10$^{th}$ of the sample results.

The sample QC was performed on a sample from SDG # 143587.

Analytical Run # 159388

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not qualified because the MB manganese result was less than 1/10$^{th}$ of the sample results.

The Duplicate (DUP) and Triplicate (TRIP) for sample # 255904 were not applicable for arsenic because the parent sample result was less than five times the Limit of Quantitation (LOQ). The parent sample was reported and not qualified.

Analytical Run # 159809

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

The Serial Dilution (L) for sample # 256798 was not applicable for arsenic because the parent sample raw result was less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for arsenic. The parent sample was reported and qualified with an "M" flag for the failing element.

The Matrix Spike (MS) for sample # 256798 had an outside recovery for arsenic. A PDS was analyzed and was unacceptable. The parent sample was reported and qualified with an "M" flag for the failing element.

The DUP and TRIP for sample # 256803 were not acceptable for manganese because the results exceeded the Relative Percent Difference (RPD) limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

Analytical Run # 159920

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not qualified because the MB result was less than 1/10$^{th}$ of the sample results.

The DUP and TRIP for sample # 257656 were not applicable for arsenic because the parent sample result was less than five times the LOQ. The parent sample was reported and not qualified.

The L for sample # 257656 was not acceptable for manganese because the result exceeded the RPD limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The MS and MSD for sample # 258269 had outside recoveries for manganese. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 159931

Manganese was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not qualified because the MB result was less than 1/10$^{th}$ of the sample results.

The DUP for sample # 258271 was not applicable for arsenic because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

**GFAA Arsenic (7010) Soil Analysis**

Analytical Run # 160412

Arsenic was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

The L for sample # 257647 was not applicable for arsenic because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP and TRIP for sample # 257647 were not applicable for arsenic because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The MS and MSD for sample # 257647 had outside recoveries for arsenic. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The samples were diluted for analysis to reduce the background signal to less than 1.0. The samples were reported and qualified with a "V" flag when the final results were less than the adjusted RL.

CT LABORATORIES

delivering more than data from your environmental analyses

## Data Qualifiers

| Code | Description |
|---|---|
| A | Analyte averaged calibration criteria within acceptable limits. |
| B | Analyte detected in associated Method Blank. |
| C | Toxicity present in BOD sample. |
| D | Diluted Out. |
| E | Safe, No Total Coliform detected. |
| F | Unsafe, Total Coliform detected, no E. Coli detected. |
| G | Unsafe, Total Coliform detected and E. Coli detected. |
| H | Holding time exceeded. |
| J | Estimated value. |
| L | Significant peaks were detected outside the chromatographic window. |
| M | Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits. |
| N | Insufficient BOD oxygen depletion. |
| O | Complete BOD oxygen depletion. |
| P | Concentration of analyte differs more than 40% between primary and confirmation analysis. |
| Q | Laboratory Control Sample outside acceptance limits. |
| R | See Narrative at end of report. |
| S | Surrogate standard recovery outside acceptance limits due to apparent matrix effects. |
| T | Sample received with improper preservation or temperature. |
| U | Analyte concentration was not above the detection level. |
| V | Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference. |
| W | Sample amount received was below program minimum. |
| X | Analyte exceeded calibration range. |
| Y | Replicate/Duplicate precision outside acceptance limits. |
| Z | Calibration criteria exceeded. |

CT LABORATORIES

delivering more than data from your environmental analyses

## MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

**#1**: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

**#2**: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

**#3: Improperly Integrated Isomers and/or coeluting compounds.**
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

**#4: System Established Incorrect Baseline.**
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

**#5: Miscellaneous.**
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143765

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 1 | 255833 | 143765 | | DU3A-SU03R1 | SOIL | 03/21/2019 | 03/26/2019 |
| 2 | 255853 | 143765 | | DU3B-SU03R1 | SOIL | 03/21/2019 | 03/26/2019 |
| 3 | 255854 | 143765 | | DU3A-SU07 | SOIL | 03/21/2019 | 03/26/2019 |
| 4 | 255855 | 143765 | | DU3B-SU07 | SOIL | 03/21/2019 | 03/26/2019 |
| 5 | 255856 | 143765 | | DU3A-SU03R2 | SOIL | 03/22/2019 | 03/26/2019 |
| 6 | 255857 | 143765 | | DU3B-SU03R2 | SOIL | 03/22/2019 | 03/26/2019 |
| 7 | 255858 | 143765 | | DU3A-SU03R3 | SOIL | 03/22/2019 | 03/26/2019 |
| 8 | 255859 | 143765 | | DU3B-SU03R3 | SOIL | 03/22/2019 | 03/26/2019 |
| 9 | 255860 | 143765 | | DU2A-SU07R1 | SOIL | 03/22/2019 | 03/26/2019 |
| 10 | 255861 | 143765 | | DU2B-SU07R1 | SOIL | 03/22/2019 | 03/26/2019 |
| 11 | 255880 | 143765 | | DU1A-SU32 | SOIL | 03/25/2019 | 03/26/2019 |
| 12 | 255881 | 143765 | | DU1B-SU32 | SOIL | 03/25/2019 | 03/26/2019 |
| 13 | 255882 | 143765 | | DU1A-SU33 | SOIL | 03/25/2019 | 03/26/2019 |
| 14 | 255883 | 143765 | | DU1B-SU33 | SOIL | 03/25/2019 | 03/26/2019 |
| 15 | 255884 | 143765 | | DU3A-SU09 | SOIL | 03/25/2019 | 03/26/2019 |
| 16 | 255885 | 143765 | | DU3B-SU09 | SOIL | 03/25/2019 | 03/26/2019 |
| 17 | 255886 | 143765 | | DU3A-SU10 | SOIL | 03/25/2019 | 03/26/2019 |
| 18 | 255887 | 143765 | | DU3B-SU10 | SOIL | 03/25/2019 | 03/26/2019 |
| 19 | 255888 | 143765 | | DU3A-SU05 | SOIL | 03/25/2019 | 03/26/2019 |
| 20 | 255889 | 143765 | | DU3B-SU05 | SOIL | 03/25/2019 | 03/26/2019 |
| 21 | 255901 | 143765 | | DU1A-SU46 | SOIL | 03/25/2019 | 03/26/2019 |
| 22 | 255903 | 143765 | | DU1B-SU46 | SOIL | 03/25/2019 | 03/26/2019 |
| 23 | 255904 | 143765 | | DU1A-SU38 | SOIL | 03/25/2019 | 03/26/2019 |
| 24 | 255905 | 143765 | | DU1B-SU38 | SOIL | 03/25/2019 | 03/26/2019 |
| 25 | 255906 | 143765 | | DU1A-SU40 | SOIL | 03/25/2019 | 03/26/2019 |
| 26 | 255907 | 143765 | | DU1B-SU40 | SOIL | 03/25/2019 | 03/26/2019 |
| 27 | 255908 | 143765 | | DU1A-SU35 | SOIL | 03/25/2019 | 03/26/2019 |
| 28 | 255909 | 143765 | | DU1B-SU35 | SOIL | 03/25/2019 | 03/26/2019 |
| 29 | 255910 | 143765 | | DU1A-SU31 | SOIL | 03/25/2019 | 03/26/2019 |
| 30 | 255911 | 143765 | | DU1B-SU31 | SOIL | 03/25/2019 | 03/26/2019 |
| 31 | 255912 | 143765 | | DU2A-SU07R2 | SOIL | 03/22/2019 | 03/26/2019 |
| 32 | 255913 | 143765 | | DU2B-SU07R2 | SOIL | 03/22/2019 | 03/26/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143765

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 33 | 255914 | 143765 | | DU2A-SU07R3 | SOIL | 03/22/2019 | 03/26/2019 |
| 34 | 255915 | 143765 | | DU2B-SU07R3 | SOIL | 03/22/2019 | 03/26/2019 |
| 35 | 255916 | 143765 | | DU2A-SU02R1 | SOIL | 03/22/2019 | 03/26/2019 |
| 36 | 255917 | 143765 | | DU2B-SU02R1 | SOIL | 03/22/2019 | 03/26/2019 |
| 37 | 255918 | 143765 | | DU2A-SU02R2 | SOIL | 03/22/2019 | 03/26/2019 |
| 38 | 255919 | 143765 | | DU2B-SU02R2 | SOIL | 03/22/2019 | 03/26/2019 |
| 39 | 255920 | 143765 | | DU2A-SU02R3 | SOIL | 03/22/2019 | 03/26/2019 |
| 40 | 255921 | 143765 | | DU2B-SU02R3 | SOIL | 03/22/2019 | 03/26/2019 |
| 41 | 256767 | 143811 | | DU1A-SU24 | SOIL | 03/26/2019 | 03/27/2019 |
| 42 | 256794 | 143811 | | DU1B-SU24 | SOIL | 03/26/2019 | 03/27/2019 |
| 43 | 256795 | 143811 | | DU1A-SU25 | SOIL | 03/26/2019 | 03/27/2019 |
| 44 | 256796 | 143811 | | DU1B-SU25 | SOIL | 03/26/2019 | 03/27/2019 |
| 45 | 256797 | 143811 | | DU1A-SU15 | SOIL | 03/26/2019 | 03/27/2019 |
| 46 | 256798 | 143811 | | DU1B-SU15 | SOIL | 03/26/2019 | 03/27/2019 |
| 47 | 256799 | 143811 | | DU3A-SU08 | SOIL | 03/26/2019 | 03/27/2019 |
| 48 | 256800 | 143811 | | DU3B-SU08 | SOIL | 03/26/2019 | 03/27/2019 |
| 49 | 256801 | 143811 | | DU3A-SU06 | SOIL | 03/26/2019 | 03/27/2019 |
| 50 | 256802 | 143811 | | DU3B-SU06 | SOIL | 03/26/2019 | 03/27/2019 |
| 51 | 256803 | 143811 | | DU1A-SU18 | SOIL | 03/26/2019 | 03/27/2019 |
| 52 | 256804 | 143811 | | DU1B-SU18 | SOIL | 03/26/2019 | 03/27/2019 |
| 53 | 256805 | 143811 | | DU1A-SU22 | SOIL | 03/26/2019 | 03/27/2019 |
| 54 | 256806 | 143811 | | DU1B-SU22 | SOIL | 03/26/2019 | 03/27/2019 |
| 55 | 256807 | 143811 | | DU1A-SU17 | SOIL | 03/26/2019 | 03/27/2019 |
| 56 | 256808 | 143811 | | DU1B-SU17 | SOIL | 03/26/2019 | 03/27/2019 |
| 57 | 257642 | 143856 | | DU1B-SU16 | SOIL | 03/27/2019 | 03/28/2019 |
| 58 | 257643 | 143856 | | DU1A-SU16 | SOIL | 03/27/2019 | 03/28/2019 |
| 59 | 257644 | 143856 | | DU1B-SU26 | SOIL | 03/27/2019 | 03/28/2019 |
| 60 | 257645 | 143856 | | DU1A-SU20 | SOIL | 03/27/2019 | 03/28/2019 |
| 61 | 257646 | 143856 | | DU1B-SU20 | SOIL | 03/27/2019 | 03/28/2019 |
| 62 | 257647 | 143856 | | DU1A-SU44R1 | SOIL | 03/27/2019 | 03/28/2019 |
| 63 | 257648 | 143856 | | DU1B-SU44R1 | SOIL | 03/27/2019 | 03/28/2019 |
| 64 | 257649 | 143856 | | DU1A-SU44R2 | SOIL | 03/27/2019 | 03/28/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143765

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 65 | 257650 | 143856 | | DU1B-SU44R2 | SOIL | 03/27/2019 | 03/28/2019 |
| 66 | 257651 | 143856 | | DU1A-SU44R3 | SOIL | 03/27/2019 | 03/28/2019 |
| 67 | 257652 | 143856 | | DU1B-SU44R3 | SOIL | 03/27/2019 | 03/28/2019 |
| 68 | 257653 | 143856 | | DU1A-SU48 | SOIL | 03/27/2019 | 03/28/2019 |
| 69 | 257654 | 143856 | | DU1B-SU48 | SOIL | 03/27/2019 | 03/28/2019 |
| 70 | 257655 | 143856 | | DU1A-SU26 | SOIL | 03/27/2019 | 03/28/2019 |
| 71 | 257656 | 143856 | | DU1A-SU30S1 | SOIL | 03/27/2019 | 03/28/2019 |
| 72 | 257657 | 143856 | | DU1B-SU30S1 | SOIL | 03/27/2019 | 03/28/2019 |
| 73 | 257658 | 143856 | | DU1A-SU30S2 | SOIL | 03/27/2019 | 03/28/2019 |
| 74 | 257659 | 143856 | | DU1B-SU30S2 | SOIL | 03/27/2019 | 03/28/2019 |
| 75 | 257660 | 143856 | | DU1A-SU30S3 | SOIL | 03/27/2019 | 03/28/2019 |
| 76 | 257661 | 143856 | | DU1B-SU30S3 | SOIL | 03/27/2019 | 03/28/2019 |
| 77 | 257662 | 143856 | | DU2A-SU18 | SOIL | 03/27/2019 | 03/28/2019 |
| 78 | 257663 | 143856 | | DU2B-SU18 | SOIL | 03/27/2019 | 03/28/2019 |
| 79 | 258269 | 143900 | | DU2A-SU10 | SOIL | 03/28/2019 | 03/29/2019 |
| 80 | 258271 | 143900 | | DU2B-SU10 | SOIL | 03/28/2019 | 03/29/2019 |
| 81 | 258272 | 143900 | | DU2A-SU05 | SOIL | 03/28/2019 | 03/29/2019 |
| 82 | 258273 | 143900 | | DU2B-SU05 | SOIL | 03/28/2019 | 03/29/2019 |
| 83 | 258274 | 143900 | | DU2A-SU04 | SOIL | 03/28/2019 | 03/29/2019 |
| 84 | 258275 | 143900 | | DU2B-SU04 | SOIL | 03/28/2019 | 03/29/2019 |
| 85 | 258276 | 143900 | | DU2A-SU03 | SOIL | 03/28/2019 | 03/29/2019 |
| 86 | 258277 | 143900 | | DU2B-SU03 | SOIL | 03/28/2019 | 03/29/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# QC Batch Cross Reference Summary



ERT
[redacted]
SUITE 300
LAUREL, MD 20707

| | |
|---|---|
| Project Name: | CURTIS BAY ORDNANCE DEP |
| Project #: | 3756 |
| Report Date: | 05/08/2019 |
| Date Received: | 03/26/2019 |
| SDG #: | 143765 |

## *Inorganic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255833 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255853 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255854 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255855 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255856 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255857 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255858 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255859 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255860 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255861 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255880 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255881 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255882 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255883 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255884 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255885 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255886 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255887 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255888 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255889 | Solids, Percent | EPA 8000C | SOIL | | 159406 |
| 255901 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255903 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255904 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255905 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255906 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255907 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255908 | Solids, Percent | EPA 8000C | SOIL | | 159407 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255909 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255910 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255911 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255912 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255913 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255914 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255915 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255916 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255917 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255918 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255919 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255920 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 255921 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256767 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256794 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256795 | Solids, Percent | EPA 8000C | SOIL | | 159407 |
| 256796 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256797 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256798 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256799 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256800 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256801 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256802 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256803 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256804 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256805 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256806 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256807 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 256808 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 257642 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 257643 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 257644 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 257645 | Solids, Percent | EPA 8000C | SOIL | | 159770 |
| 257646 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257647 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257648 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257649 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257650 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257651 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257652 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257653 | Solids, Percent | EPA 8000C | SOIL | | 159771 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 257654 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257655 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257656 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257657 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257658 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257659 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257660 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257661 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257662 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 257663 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 258269 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 258271 | Solids, Percent | EPA 8000C | SOIL | | 159771 |
| 258272 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 258273 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 258274 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 258275 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 258276 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 258277 | Solids, Percent | EPA 8000C | SOIL | | 159772 |

## *Metal Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 257647 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257648 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257649 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257650 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257651 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257652 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257653 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257654 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257655 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257657 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257659 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 257661 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255833 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 255853 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 255854 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 255855 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255856 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255857 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255858 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255859 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255860 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255861 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255880 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255881 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255882 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255883 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255884 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255885 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255886 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255887 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255888 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255889 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255901 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255903 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255904 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255905 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255906 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255907 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255908 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255909 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255910 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255911 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255912 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255913 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255914 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255915 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255916 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255917 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255918 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255919 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255920 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 255921 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256767 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256794 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256795 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71284 | 159388 |
| 256796 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256797 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 256798 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256799 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256800 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256801 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256802 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256803 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256804 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256805 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256806 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256807 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256808 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 257642 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 257643 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 257644 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 257645 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 257646 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257647 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257648 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257649 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257650 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257651 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257652 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257653 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257654 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257655 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257656 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257657 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257658 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257659 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257660 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257661 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257662 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257663 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 258269 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 258271 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 258272 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 258273 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 258274 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 258275 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 258276 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 258277 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255833 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 255853 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 255854 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71263 | 159294 |
| 255856 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255857 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255858 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255884 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255885 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255886 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 255887 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71264 | 159293 |
| 256767 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256797 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 256803 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71469 | 159809 |
| 257656 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257658 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |
| 257660 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71472 | 159920 |

## *Organic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255833 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255853 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255854 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255855 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255856 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255857 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255858 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255859 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255860 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255861 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255880 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255881 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255882 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255883 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255884 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255885 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255886 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255887 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255888 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 255889 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159470 |
| 255901 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255903 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255904 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255905 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255906 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255907 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255908 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255909 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255910 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255911 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255912 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255913 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255914 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255915 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255916 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255917 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255918 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255919 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255920 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 255921 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159471 |
| 256767 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256794 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256795 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256796 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256797 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256798 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256799 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256800 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256801 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256802 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256803 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256804 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256805 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256806 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256807 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 256808 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160313 |
| 257642 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257643 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257644 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257645 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEP
Project #: 3756
SDG #: 143765

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 257646 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257647 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257648 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257649 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257650 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257651 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257652 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257653 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257654 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257655 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257656 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257657 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257658 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257659 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257660 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257661 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257662 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 257663 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159729 |
| 258269 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258271 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258272 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258273 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258274 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258275 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258276 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |
| 258277 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 159730 |

# METALS
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.7 | Lab Sample ID: | 256797 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 08:38 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 44.6 | | 0.14 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.7 | Lab Sample ID: | 256797 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 100.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/29/2019 17:11 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 16600 | | 2.6 | 7.9 | 16 | 16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257643 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 15:25 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 237 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.3 | Lab Sample ID: | 256807 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 15:06 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 29.8 | | 0.14 | 0.43 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 1790 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256803 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 14:09 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 55.1 | | 0.13 | 0.40 | 0.79 | 0.79 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256803 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 100.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/29/2019 16:45 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 17900 | Y | 2.5 | 7.4 | 15 | 15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU20**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257645 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 15:38 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.2 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 1010 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

**DU1A-SU22**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 256805 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 14:53 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 37.5 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 470 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU1A-SU24**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 256767 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 08:19 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 48.3 | | 0.13 | 0.39 | 0.78 | 0.78 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU1A-SU24**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 256767 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 100.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/29/2019 17:04 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 18400 | | 2.5 | 7.4 | 15 | 15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU25**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 256795 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 14:15 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 24.8 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 449 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU26**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257655 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:31 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.91 | B | 0.21 | 0.42 | 0.85 | 0.85 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU26**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257655 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 23:01 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.79 | J | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 163 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257656 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/25/2019 12:41 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 5100 | | 0.13 | 0.40 | 0.79 | 0.79 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257656 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 23:06 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.3 | | 0.14 | 0.42 | 0.85 | 0.85 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257658 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/25/2019 12:56 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 5090 | | 0.13 | 0.39 | 0.77 | 0.77 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257658 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 23:29 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.8 | | 0.13 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257660 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/25/2019 13:01 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 3850 | | 0.13 | 0.39 | 0.77 | 0.77 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257660 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 23:56 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.9 | | 0.13 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU31**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255910 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 11:53 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.5 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 214 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU32**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 255880 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 14:11 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 24.1 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1680 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU33**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 255882 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:05 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.9 | | 0.13 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 165 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU35**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255908 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 11:41 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 139 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU38**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255904 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 10:45 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.4 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 386 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU40**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255906 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 11:28 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.8 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 198 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 257647 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 17:18 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.39 | J | V,B | 0.20 | 0.40 | 0.79 | 0.79 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 257647 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:02 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.45 | J | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 120 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU1A-SU44R2**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257649 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 15:43 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.2 | B | 0.21 | 0.41 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257649 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:13 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.38 | J | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 140 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257651 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 15:55 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.1 | B | 0.21 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257651 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:23 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.4 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 105 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU46**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255901 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 10:32 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.2 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 558 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU48**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257653 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:07 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.3 | B | 0.20 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU48**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257653 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:50 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.43 | J | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 140 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.4 | Lab Sample ID: | 256798 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 08:45 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.0 | M | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 1200 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257642 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 15:19 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.5 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 149 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.5 | Lab Sample ID: | 256808 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 15:12 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 34.7 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1170 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 256804 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 14:29 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.4 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 2400 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU20**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.6 | Lab Sample ID: | 257646 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 21:56 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.7 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 667 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU22**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256806 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 14:59 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 30.4 | | 0.13 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 301 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU24**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 256794 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 08:26 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.0 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 155 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU25**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 256796 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 08:32 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 29.5 | | 0.14 | 0.43 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 436 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU26**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257644 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 15:31 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 273 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257657 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:37 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.76 | J | V,B | 0.21 | 0.42 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257657 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 23:24 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.60 | J | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 426 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257659 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:42 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.74 | J V,B | 0.21 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257659 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 23:35 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.71 | J | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 354 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.7 | Lab Sample ID: | 257661 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/24/2019 00:02 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.60 | J | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 346 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.7 | Lab Sample ID: | 257661 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:48 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.91 | B | 0.21 | 0.42 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU31**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.6 | Lab Sample ID: | 255911 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:00 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.2 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 163 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU32**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255881 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 3.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 21:04 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.9 | | 0.39 | 1.2 | 2.4 | 2.4 |
| 7439-96-5 | Manganese | 1290 | | 0.074 | 0.22 | 0.45 | 0.45 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU33**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255883 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:11 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 60.8 | B | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU35**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255909 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 11:47 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.5 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 57.6 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU38**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255905 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 11:22 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.0 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 234 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU40**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255907 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 11:34 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.1 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 140 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257648 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 15:36 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.0 | B | 0.20 | 0.41 | 0.81 | 0.81 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257648 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:07 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.57 | J | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 84.9 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257650 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 15:49 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.1 | B | 0.21 | 0.42 | 0.85 | 0.85 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257650 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:18 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.60 | J | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 105 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257652 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:01 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.82 | B | 0.20 | 0.40 | 0.81 | 0.81 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257652 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:45 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.32 | J | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 69.9 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU46**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 255903 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 10:38 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 18.2 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 423 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU48**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257654 |
| Analytical Method: | EPA 7010 | Date Received: | 03/28/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:13 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.1 | B | 0.20 | 0.39 | 0.78 | 0.78 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU48**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257654 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/23/2019 22:56 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.19 | J | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 71.3 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU02R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 255916 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:49 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.1 | | 0.14 | 0.43 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 279 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU02R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 255918 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 13:01 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.5 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 473 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU02R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255920 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 14:09 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 17.0 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 254 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.1 | Lab Sample ID: | 258276 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 18:18 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 35.8 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 1460 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 97.4 | Lab Sample ID: | 258274 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/24/2019 01:09 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.2 | | 0.14 | 0.43 | 0.86 | 0.86 |
| 7439-96-5 | Manganese | 835 | | 0.027 | 0.081 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.5 | Lab Sample ID: | 258272 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 18:01 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.0 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 687 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255860 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 13:58 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 56.1 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 179 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 255912 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:06 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 92.5 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 402 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 255914 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:36 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 96.0 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 443 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 97.8 | Lab Sample ID: | 258269 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/24/2019 00:19 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.4 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1910 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257662 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/24/2019 00:08 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.3 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 586 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU02R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255917 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:55 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.8 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 222 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU2B-SU02R2**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255919 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 13:08 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.7 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 135 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU02R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255921 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 08:13 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 14.6 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 90.5 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 258277 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 18:23 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.9 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 612 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 258275 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 18:12 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.2 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 328 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 258273 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 18:07 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.9 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 326 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.6 | Lab Sample ID: | 255861 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 14:05 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 24.3 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1960 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 255913 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:30 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 67.1 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 183 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255915 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159388 | Analysis Date/Time | 04/05/2019 12:43 |
| Analytical Prep Batch #: | 71284 | Prep. Date/Time: | 04/03/2019 14:25 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 53.5 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 216 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.7 | Lab Sample ID: | 258271 |
| Analytical Method: | EPA 6010C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 17:13 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.1 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 587 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257663 |
| Analytical Method: | EPA 6010C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159920 | Analysis Date/Time | 04/24/2019 00:13 |
| Analytical Prep Batch #: | 71472 | Prep. Date/Time: | 04/19/2019 12:26 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.3 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 345 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255833 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 10:34 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 28.6 | | 0.13 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255833 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 19:38 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 23900 | | 0.26 | 0.77 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255856 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 13:33 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.7 | | 0.13 | 0.39 | 0.77 | 0.77 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255856 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 20:51 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 1600 | | 0.24 | 0.72 | 1.4 | 1.4 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 255858 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 13:45 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.7 | | 0.13 | 0.39 | 0.78 | 0.78 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 255858 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 20.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 17:58 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 5980 | | 0.49 | 1.5 | 2.9 | 2.9 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255888 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:44 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.5 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 867 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256801 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 13:56 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.6 | B | 0.67 | 2.1 | 4.1 | 4.1 |
| 7439-96-5 | Manganese | 5140 | | 0.13 | 0.39 | 0.77 | 0.77 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 255854 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 10:47 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.3 | | 0.13 | 0.40 | 0.80 | 0.80 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 255854 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 19:51 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 17300 | | 0.25 | 0.75 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.6 | Lab Sample ID: | 256799 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 3.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 13:43 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 17.3 | | 0.39 | 1.2 | 2.4 | 2.4 |
| 7439-96-5 | Manganese | 1350 | | 0.076 | 0.23 | 0.45 | 0.45 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU3A-SU09**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255884 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:17 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.1 | | 0.14 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255884 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 21:10 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 15600 | | 0.26 | 0.79 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255886 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 100.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/29/2019 17:24 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 45400 | | 2.6 | 7.7 | 15 | 15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255886 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:31 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.3 | | 0.13 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255853 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/04/2019 10:41 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.8 | | 0.12 | 0.38 | 0.77 | 0.77 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255853 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159294 | Analysis Date/Time | 04/25/2019 19:44 |
| Analytical Prep Batch #: | 71263 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 5910 | | 0.24 | 0.72 | 1.4 | 1.4 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255857 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 13:39 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.1 | | 0.14 | 0.42 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255857 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 20:57 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 2480 | | 0.26 | 0.78 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU3B-SU03R3**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255859 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 66.0 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 432 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255889 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:50 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.4 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 233 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.7 | Lab Sample ID: | 256802 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 14:02 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.5 | B | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 89.0 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255855 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/04/2019 13:27 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.9 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 1880 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256800 |
| Analytical Method: | EPA 6010C | Date Received: | 03/27/2019 |
| Dilution Factor: | 3.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159809 | Analysis Date/Time | 04/19/2019 13:50 |
| Analytical Prep Batch #: | 71469 | Prep. Date/Time: | 04/15/2019 12:18 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.7 | B | 0.41 | 1.3 | 2.5 | 2.5 |
| 7439-96-5 | Manganese | 245 | B | 0.079 | 0.24 | 0.47 | 0.47 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255885 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:24 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.1 | | 0.13 | 0.41 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255885 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 21:17 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 557 | B | 0.26 | 0.78 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255887 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/05/2019 18:38 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.6 | | 0.14 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255887 |
| Analytical Method: | EPA 6010C | Date Received: | 03/26/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159293 | Analysis Date/Time | 04/25/2019 21:29 |
| Analytical Prep Batch #: | 71264 | Prep. Date/Time: | 04/01/2019 11:12 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 3850 | | 0.26 | 0.79 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412  Lab Sample ID: 276544

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 14:11 | 10.00 | 10.35 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264608

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:46 | 2000 | 1990 | 100 | 90 | 110 |
| Manganese | 4/3/19 | 15:46 | 500.0 | 513.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264609

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:52 | 60.00 | 65.10 | 108 | 80 | 120 |
| Manganese | 4/3/19 | 15:52 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264629

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:46 | 2000 | 1990 | 100 | 90 | 110 |
| Manganese | 4/3/19 | 15:46 | 500.0 | 513.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264630

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/3/19 | 15:52 | 60.00 | 65.10 | 108 | 80 | 120 |
| Manganese | 4/3/19 | 15:52 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 265992

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 08:51 | 2000 | 1920 | 96 | 90 | 110 |
| Manganese | 4/5/19 | 08:51 | 500.0 | 500.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 265994

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 09:04 | 60.00 | 62.40 | 104 | 80 | 120 |
| Manganese | 4/5/19 | 09:04 | 30.00 | 32.30 | 108 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266034

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 08:51 | 2000 | 1920 | 96 | 90 | 110 |
| Manganese | 4/5/19 | 08:51 | 500.0 | 500.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266036

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 09:04 | 60.00 | 62.40 | 104 | 80 | 120 |
| Manganese | 4/5/19 | 09:04 | 30.00 | 32.30 | 108 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270322

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 12:34 | 2000 | 1840 | 92 | 90 | 110 |
| Manganese | 4/19/19 | 12:34 | 500.0 | 458.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270323

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 12:47 | 60.00 | 61.30 | 102 | 80 | 120 |
| Manganese | 4/19/19 | 12:47 | 30.00 | 31.60 | 105 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270958

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 16:24 | 60.00 | 67.80 | 113 | 80 | 120 |
| Manganese | 4/23/19 | 16:24 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 270998

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 16:24 | 60.00 | 67.80 | 113 | 80 | 120 |
| Manganese | 4/23/19 | 16:24 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271470

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 16:19 | 2000 | 2170 | 108 | 90 | 110 |
| Manganese | 4/23/19 | 16:19 | 500.0 | 518.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271472

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 16:19 | 2000 | 2170 | 108 | 90 | 110 |
| Manganese | 4/23/19 | 16:19 | 500.0 | 518.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271943

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 11:56 | 2000 | 2110 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 11:56 | 500.0 | 511.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271944

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:02 | 60.00 | 69.50 | 116 | 80 | 120 |
| Manganese | 4/25/19 | 12:02 | 30.00 | 33.70 | 112 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271952

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 11:56 | 2000 | 2110 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 11:56 | 500.0 | 511.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271953

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:02 | 60.00 | 69.50 | 116 | 80 | 120 |
| Manganese | 4/25/19 | 12:02 | 30.00 | 33.70 | 112 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273038

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/18/19 | 16:02 | 2000 | 1810 | 90 | 90 | 110 |
| Manganese | 4/18/19 | 16:02 | 500.0 | 475.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273039

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/18/19 | 16:15 | 60.00 | 57.90 | 96 | 80 | 120 |
| Manganese | 4/18/19 | 16:15 | 30.00 | 31.00 | 103 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273252

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:45 | 2000 | 2040 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 15:45 | 500.0 | 475.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273253

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:51 | 60.00 | 60.90 | 102 | 80 | 120 |
| Manganese | 4/25/19 | 15:51 | 30.00 | 33.10 | 110 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273289

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 15:55 | 2000 | 1980 | 99 | 90 | 110 |
| Manganese | 4/29/19 | 15:55 | 500.0 | 521.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273290

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 16:01 | 60.00 | 62.90 | 105 | 80 | 120 |
| Manganese | 4/29/19 | 16:01 | 30.00 | 31.30 | 104 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273309

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:45 | 2000 | 2040 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 15:45 | 500.0 | 475.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273310

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:51 | 60.00 | 60.90 | 102 | 80 | 120 |
| Manganese | 4/25/19 | 15:51 | 30.00 | 33.10 | 110 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273326

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 15:55 | 2000 | 1980 | 99 | 90 | 110 |
| Manganese | 4/29/19 | 15:55 | 500.0 | 521.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273327

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 16:01 | 60.00 | 62.90 | 105 | 80 | 120 |
| Manganese | 4/29/19 | 16:01 | 30.00 | 31.30 | 104 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273471

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 15:55 | 2000 | 1980 | 99 | 90 | 110 |
| Manganese | 4/29/19 | 15:55 | 500.0 | 521.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273472

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 16:01 | 60.00 | 62.90 | 105 | 80 | 120 |
| Manganese | 4/29/19 | 16:01 | 30.00 | 31.30 | 104 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293 Lab Sample ID: 264613

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:10 | 5000 | 4810 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 10:10 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264614

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:16 | 500.0 | 477.0 | 95 | 90 | 110 |
| Manganese | 4/4/19 | 10:16 | 500.0 | 490.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264617

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:33 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 11:33 | 5000 | 5130 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264618

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:39 | 500.0 | 478.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 11:39 | 500.0 | 492.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264623

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 12:56 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 12:56 | 5000 | 5010 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264624

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 13:02 | 500.0 | 480.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 13:02 | 500.0 | 488.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293 Lab Sample ID: 264626

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 14:17 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 14:17 | 5000 | 5050 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264627

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 14:23 | 500.0 | 483.0 | 97 | 90 | 110 |
| Manganese | 4/4/19 | 14:23 | 500.0 | 496.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264634

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 04:39 | 5000 | 4510 | 90 | 90 | 110 |
| Manganese | 4/4/19 | 04:39 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264635

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 04:44 | 500.0 | 472.0 | 94 | 90 | 110 |
| Manganese | 4/4/19 | 04:44 | 500.0 | 494.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294 Lab Sample ID: 264637

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 06:03 | 5000 | 4500 | 90 | 90 | 110 |
| Manganese | 4/4/19 | 06:03 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264638

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 06:08 | 500.0 | 482.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 06:08 | 500.0 | 498.0 | 100 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264641

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 07:25 | 5000 | 4830 | 97 | 90 | 110 |
| Manganese | 4/4/19 | 07:25 | 5000 | 4720 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264642

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 07:31 | 500.0 | 475.0 | 95 | 90 | 110 |
| Manganese | 4/4/19 | 07:31 | 500.0 | 470.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264647

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 08:47 | 5000 | 4820 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 08:47 | 5000 | 5110 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264648

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 08:52 | 500.0 | 484.0 | 97 | 90 | 110 |
| Manganese | 4/4/19 | 08:52 | 500.0 | 495.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264650

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:10 | 5000 | 4810 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 10:10 | 5000 | 5120 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264651

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 10:16 | 500.0 | 477.0 | 95 | 90 | 110 |
| Manganese | 4/4/19 | 10:16 | 500.0 | 490.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264653

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:33 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/4/19 | 11:33 | 5000 | 5130 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264654

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/4/19 | 11:39 | 500.0 | 478.0 | 96 | 90 | 110 |
| Manganese | 4/4/19 | 11:39 | 500.0 | 492.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 265999

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 10:51 | 5000 | 4640 | 93 | 90 | 110 |
| Manganese | 4/5/19 | 10:51 | 5000 | 4850 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266000

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 10:57 | 500.0 | 459.0 | 92 | 90 | 110 |
| Manganese | 4/5/19 | 10:57 | 500.0 | 468.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266002

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 12:12 | 5000 | 4710 | 94 | 90 | 110 |
| Manganese | 4/5/19 | 12:12 | 5000 | 4840 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266003

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 12:18 | 500.0 | 464.0 | 93 | 90 | 110 |
| Manganese | 4/5/19 | 12:18 | 500.0 | 469.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266006

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 13:33 | 5000 | 4700 | 94 | 90 | 110 |
| Manganese | 4/5/19 | 13:33 | 5000 | 4890 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266007

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 13:38 | 500.0 | 462.0 | 92 | 90 | 110 |
| Manganese | 4/5/19 | 13:38 | 500.0 | 467.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266010

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 14:55 | 5000 | 4720 | 94 | 90 | 110 |
| Manganese | 4/5/19 | 14:55 | 5000 | 4730 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266011

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 15:00 | 500.0 | 457.0 | 91 | 90 | 110 |
| Manganese | 4/5/19 | 15:00 | 500.0 | 463.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266041

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 16:18 | 5000 | 4760 | 95 | 90 | 110 |
| Manganese | 4/5/19 | 16:18 | 5000 | 4680 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266042

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 16:23 | 500.0 | 451.0 | 90 | 90 | 110 |
| Manganese | 4/5/19 | 16:23 | 500.0 | 463.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266044

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 17:41 | 5000 | 4720 | 94 | 90 | 110 |
| Manganese | 4/5/19 | 17:41 | 5000 | 4640 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266045

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 17:46 | 500.0 | 452.0 | 90 | 90 | 110 |
| Manganese | 4/5/19 | 17:46 | 500.0 | 459.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266047

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 19:03 | 5000 | 4800 | 96 | 90 | 110 |
| Manganese | 4/5/19 | 19:03 | 5000 | 4850 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266048

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/5/19 | 19:09 | 500.0 | 452.0 | 90 | 90 | 110 |
| Manganese | 4/5/19 | 19:09 | 500.0 | 459.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270328

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 14:35 | 5000 | 4730 | 95 | 90 | 110 |
| Manganese | 4/19/19 | 14:35 | 5000 | 5190 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270329

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 14:41 | 500.0 | 454.0 | 91 | 90 | 110 |
| Manganese | 4/19/19 | 14:41 | 500.0 | 473.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270331

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 15:57 | 5000 | 4770 | 95 | 90 | 110 |
| Manganese | 4/19/19 | 15:57 | 5000 | 5090 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270332

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 16:02 | 500.0 | 456.0 | 91 | 90 | 110 |
| Manganese | 4/19/19 | 16:02 | 500.0 | 481.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270334

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 07:48 | 5000 | 4780 | 96 | 90 | 110 |
| Manganese | 4/19/19 | 07:48 | 5000 | 4640 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270335

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 09:17 | 500.0 | 468.0 | 94 | 90 | 110 |
| Manganese | 4/19/19 | 09:17 | 500.0 | 488.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931 Lab Sample ID: 270964

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 17:46 | 5000 | 5260 | 105 | 90 | 110 |
| Manganese | 4/23/19 | 17:46 | 5000 | 5110 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270965

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 17:51 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 17:51 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270968

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 18:56 | 5000 | 5140 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 18:56 | 5000 | 4840 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270969

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 19:02 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 19:02 | 500.0 | 479.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931 Lab Sample ID: 270974

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 20:08 | 5000 | 5150 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 20:08 | 5000 | 4870 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270975

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 20:13 | 500.0 | 512.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 20:13 | 500.0 | 474.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270977

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 21:19 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 21:19 | 5000 | 4850 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270978

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 21:24 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 21:24 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270980

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 22:29 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 22:29 | 5000 | 4780 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270981

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 22:34 | 500.0 | 514.0 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 22:34 | 500.0 | 470.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920 Lab Sample ID: 271002

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 21:19 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 21:19 | 5000 | 4850 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271003

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 21:24 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 21:24 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920 Lab Sample ID: 271005

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 22:29 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 22:29 | 5000 | 4780 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271006

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 22:34 | 500.0 | 514.0 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 22:34 | 500.0 | 470.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920 Lab Sample ID: 271008

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 23:41 | 5000 | 5210 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 23:41 | 5000 | 4820 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271009

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 23:46 | 500.0 | 516.0 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 23:46 | 500.0 | 467.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271013

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/24/19 | 00:54 | 5000 | 5250 | 105 | 90 | 110 |
| Manganese | 4/24/19 | 00:54 | 5000 | 4780 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271014

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/24/19 | 00:59 | 500.0 | 516.0 | 103 | 90 | 110 |
| Manganese | 4/24/19 | 00:59 | 500.0 | 460.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271016

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/24/19 | 01:31 | 5000 | 5230 | 105 | 90 | 110 |
| Manganese | 4/24/19 | 01:31 | 5000 | 4770 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271017

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/24/19 | 01:36 | 500.0 | 515.0 | 103 | 90 | 110 |
| Manganese | 4/24/19 | 01:36 | 500.0 | 462.0 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271949

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:22 | 5000 | 4990 | 100 | 90 | 110 |
| Manganese | 4/25/19 | 13:22 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271950

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:28 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 13:28 | 500.0 | 486.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271958

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:22 | 5000 | 4990 | 100 | 90 | 110 |
| Manganese | 4/25/19 | 13:22 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271959

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:28 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 13:28 | 500.0 | 486.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271961

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 14:32 | 5000 | 5090 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 14:32 | 5000 | 5060 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271962

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 14:37 | 500.0 | 512.0 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 14:37 | 500.0 | 495.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271964

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:04 | 5000 | 5320 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:04 | 5000 | 4930 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271965

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:09 | 500.0 | 528.0 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:09 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931 Lab Sample ID: 271967

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:36 | 5000 | 5270 | 105 | 90 | 110 |
| Manganese | 4/26/19 | 01:36 | 5000 | 4910 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271968

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:41 | 500.0 | 528.0 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:41 | 500.0 | 484.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273043

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 06:27 | 5000 | 4620 | 92 | 90 | 110 |
| Manganese | 4/19/19 | 06:27 | 5000 | 5450 | 109 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273044

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 06:33 | 500.0 | 453.0 | 91 | 90 | 110 |
| Manganese | 4/19/19 | 06:33 | 500.0 | 473.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273046

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 07:54 | 500.0 | 478.0 | 96 | 90 | 110 |
| Manganese | 4/19/19 | 07:54 | 500.0 | 485.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809 Lab Sample ID: 273064

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/19/19 | 09:11 | 5000 | 4710 | 94 | 90 | 110 |
| Manganese | 4/19/19 | 09:11 | 5000 | 5090 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273258

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 17:38 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 17:38 | 5000 | 4560 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273259

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 17:44 | 500.0 | 491.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 17:44 | 500.0 | 464.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294 Lab Sample ID: 273261

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:00 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 19:00 | 5000 | 4560 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273262

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:06 | 500.0 | 497.0 | 99 | 90 | 110 |
| Manganese | 4/25/19 | 19:06 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294 Lab Sample ID: 273264

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:21 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:21 | 5000 | 4530 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273265

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:27 | 500.0 | 492.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:27 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273294

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:49 | 5000 | 5450 | 109 | 90 | 110 |
| Manganese | 4/29/19 | 17:49 | 5000 | 5320 | 106 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273295

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:55 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/29/19 | 17:55 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273315

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:00 | 5000 | 4890 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 19:00 | 5000 | 4560 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273316

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:06 | 500.0 | 497.0 | 99 | 90 | 110 |
| Manganese | 4/25/19 | 19:06 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273318

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:21 | 5000 | 4880 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:21 | 5000 | 4530 | 91 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273319

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:27 | 500.0 | 492.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 20:27 | 500.0 | 466.0 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273321

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:41 | 5000 | 4860 | 97 | 90 | 110 |
| Manganese | 4/25/19 | 21:41 | 5000 | 4590 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273322

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:47 | 500.0 | 491.0 | 98 | 90 | 110 |
| Manganese | 4/25/19 | 21:47 | 500.0 | 469.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273331

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:49 | 5000 | 5450 | 109 | 90 | 110 |
| Manganese | 4/29/19 | 17:49 | 5000 | 5320 | 106 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273332

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:55 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/29/19 | 17:55 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273476

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:49 | 5000 | 5450 | 109 | 90 | 110 |
| Manganese | 4/29/19 | 17:49 | 5000 | 5320 | 106 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273477

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:55 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/29/19 | 17:55 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

**2A-2**

***CONTINUING CALIBRATION VERIFICATION***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412 Lab Sample ID: 276546

ICAL Calibration #: 05022019 Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 15:19 | 10.00 | 10.38 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

**2A-2**

***CONTINUING CALIBRATION VERIFICATION***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412 Lab Sample ID: 276548

ICAL Calibration #: 05022019 Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 16:19 | 10.00 | 10.75 | 108 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

**2A-2**

***CONTINUING CALIBRATION VERIFICATION***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412 Lab Sample ID: 276550

ICAL Calibration #: 05022019 Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 17:30 | 10.00 | 10.17 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

**2B**

***MRL STANDARD CHECK***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271946

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:12 | 20.00 | 17.00 | 85 | 70 | 130 |
| Manganese | 4/25/19 | 12:12 | 10.00 | 10.50 | 105 | 70 | 130 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**MRL**

**2B**

***MRL STANDARD CHECK***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271955

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:12 | 20.00 | 17.00 | 85 | 70 | 130 |
| Manganese | 4/25/19 | 12:12 | 10.00 | 10.50 | 105 | 70 | 130 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264610

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/03/2019 16:05 | 2.96 | U | 4 | 16 |
| Manganese | 04/03/2019 16:05 | -0.0760 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264631

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/03/2019 16:05 | 2.96 | U | 4 | 16 |
| Manganese | 04/03/2019 16:05 | -0.0760 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 265995

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 09:10 | -0.338 | U | 4 | 16 |
| Manganese | 04/05/2019 09:10 | 0.151 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266037

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 09:10 | -0.338 | U | 4 | 16 |
| Manganese | 04/05/2019 09:10 | 0.151 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270324

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/19/2019 12:59 | 2.30 | U | 4 | 16 |
| Manganese | 04/19/2019 12:59 | -0.445 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270959

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 16:29 | -6.02 | U | 4 | 16 |
| Manganese | 04/23/2019 16:29 | -3.20 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 270999

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 16:29 | -6.02 | U | 4 | 16 |
| Manganese | 04/23/2019 16:29 | -3.20 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**3-1**

***INITIAL CALIBRATION BLANKS***

**ICB**

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271945

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 12:07 | -2.12 | U | 4 | 16 |
| Manganese | 04/25/2019 12:07 | -0.816 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271954

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 12:07 | -2.12 | U | 4 | 16 |
| Manganese | 04/25/2019 12:07 | -0.816 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273040

Analytical Prep Batch #:  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/18/2019 16:21 | -2.54 | U | 4 | 16 |
| Manganese | 04/18/2019 16:21 | -0.626 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**3-1**

***INITIAL CALIBRATION BLANKS***

**ICB**

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273254

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 16:03 | -4.05 | U | 4 | 16 |
| Manganese | 04/25/2019 16:03 | -1.22 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273291

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 16:14 | -3.49 | U | 4 | 16 |
| Manganese | 04/29/2019 16:14 | -2.33 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273311

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 16:03 | -4.05 | U | 4 | 16 |
| Manganese | 04/25/2019 16:03 | -1.22 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273328

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 16:14 | -3.49 | U | 4 | 16 |
| Manganese | 04/29/2019 16:14 | -2.33 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273473

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 16:14 | -3.49 | U | 4 | 16 |
| Manganese | 04/29/2019 16:14 | -2.33 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264615

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 10:22 | 3.19 | U | 4 | 16 |
| Manganese | 04/04/2019 10:22 | 0.0190 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264619

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:45 | 3.65 | U | 4 | 16 |
| Manganese | 04/04/2019 11:45 | 0.214 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264625

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 13:08 | 1.75 | U | 4 | 16 |
| Manganese | 04/04/2019 13:08 | 0.495 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 264628

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 14:29 | 4.56 | | 4 | 16 |
| Manganese | 04/04/2019 14:29 | 0.709 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264636

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 04:50 | 2.97 | U | 4 | 16 |
| Manganese | 04/04/2019 04:50 | 0.459 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264639

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 06:14 | 4.07 | | 4 | 16 |
| Manganese | 04/04/2019 06:14 | 0.684 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264643

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 07:37 | 3.53 | U | 4 | 16 |
| Manganese | 04/04/2019 07:37 | 0.475 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264649

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 08:58 | 3.97 | U | 4 | 16 |
| Manganese | 04/04/2019 08:58 | 0.858 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264652

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 10:22 | 3.19 | U | 4 | 16 |
| Manganese | 04/04/2019 10:22 | 0.0190 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 264655

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:45 | 3.65 | U | 4 | 16 |
| Manganese | 04/04/2019 11:45 | 0.214 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266001

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 11:03 | 0.289 | U | 4 | 16 |
| Manganese | 04/05/2019 11:03 | 0.157 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266004

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 12:24 | -1.12 | U | 4 | 16 |
| Manganese | 04/05/2019 12:24 | 0.249 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266008

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 13:44 | 1.02 | U | 4 | 16 |
| Manganese | 04/05/2019 13:44 | 0.418 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 266012

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 15:06 | 3.11 | U | 4 | 16 |
| Manganese | 04/05/2019 15:06 | 0.487 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266043

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 16:29 | 1.94 | U | 4 | 16 |
| Manganese | 04/05/2019 16:29 | 0.751 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266046

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 17:52 | 0.0500 | U | 4 | 16 |
| Manganese | 04/05/2019 17:52 | 0.900 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 266049

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/05/2019 19:15 | 1.18 | U | 4 | 16 |
| Manganese | 04/05/2019 19:15 | 1.44 | | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270330

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/19/2019 14:46 | 1.43 | U | 4 | 16 |
| Manganese | 04/19/2019 14:46 | -0.195 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270333

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/19/2019 16:08 | 1.82 | U | 4 | 16 |
| Manganese | 04/19/2019 16:08 | 0.114 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 270336

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/19/2019 08:00 | 2.06 | U | 4 | 16 |
| Manganese | 04/19/2019 08:00 | -0.108 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270966

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 17:56 | -5.62 | U | 4 | 16 |
| Manganese | 04/23/2019 17:56 | -3.21 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270970

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 19:07 | -6.17 | U | 4 | 16 |
| Manganese | 04/23/2019 19:07 | -3.43 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270976

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 20:19 | -6.32 | U | 4 | 16 |
| Manganese | 04/23/2019 20:19 | -3.08 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270979

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 21:29 | -6.79 | U | 4 | 16 |
| Manganese | 04/23/2019 21:29 | -2.83 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 270982

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 22:39 | -7.86 | U | 4 | 16 |
| Manganese | 04/23/2019 22:39 | -2.77 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271004

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 21:29 | -6.79 | U | 4 | 16 |
| Manganese | 04/23/2019 21:29 | -2.83 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271007

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 22:39 | -7.86 | U | 4 | 16 |
| Manganese | 04/23/2019 22:39 | -2.77 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271010

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 23:51 | -7.26 | U | 4 | 16 |
| Manganese | 04/23/2019 23:51 | -2.92 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271015

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/24/2019 01:04 | -5.35 | U | 4 | 16 |
| Manganese | 04/24/2019 01:04 | -3.02 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271018

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/24/2019 01:41 | -8.21 | U | 4 | 16 |
| Manganese | 04/24/2019 01:41 | -3.11 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 271951

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 13:33 | -6.15 | U | 4 | 16 |
| Manganese | 04/25/2019 13:33 | -1.16 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271960

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 13:33 | -6.15 | U | 4 | 16 |
| Manganese | 04/25/2019 13:33 | -1.16 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271963

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 14:42 | -3.15 | U | 4 | 16 |
| Manganese | 04/25/2019 14:42 | -0.814 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271966

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 01:15 | -3.48 | U | 4 | 16 |
| Manganese | 04/26/2019 01:15 | -0.791 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 271969

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 01:47 | -2.35 | U | 4 | 16 |
| Manganese | 04/26/2019 01:47 | -0.612 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809

Lab Sample ID: 273045

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/19/2019 09:23 | 0.765 | U | 4 | 16 |
| Manganese | 04/19/2019 09:23 | 0.275 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273048

Analytical Prep Batch #:  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/19/2019 06:39 | 0.916 | U | 4 | 16 |
| Manganese | 04/19/2019 06:39 | -0.112 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273260

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 17:50 | -9.99 | U | 4 | 16 |
| Manganese | 04/25/2019 17:50 | -0.974 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273263

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 19:12 | -7.60 | U | 4 | 16 |
| Manganese | 04/25/2019 19:12 | -0.842 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273266

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 20:33 | -3.94 | U | 4 | 16 |
| Manganese | 04/25/2019 20:33 | -0.623 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 273296

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 18:00 | -4.13 | U | 4 | 16 |
| Manganese | 04/29/2019 18:00 | -1.73 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273317

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 19:12 | -7.60 | U | 4 | 16 |
| Manganese | 04/25/2019 19:12 | -0.842 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273320

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 20:33 | -3.94 | U | 4 | 16 |
| Manganese | 04/25/2019 20:33 | -0.623 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273323

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 21:53 | 1.12 | U | 4 | 16 |
| Manganese | 04/25/2019 21:53 | -0.297 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 273333

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 18:00 | -4.13 | U | 4 | 16 |
| Manganese | 04/29/2019 18:00 | -1.73 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 273478

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 18:00 | -4.13 | U | 4 | 16 |
| Manganese | 04/29/2019 18:00 | -1.61 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412  Lab Sample ID: 276545

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:17 | -0.102 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412  Lab Sample ID: 276547

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 15:25 | -0.298 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412  Lab Sample ID: 276549

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 16:25 | -0.0617 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412  Lab Sample ID: 276551

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 17:36 | -0.0859 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159294  Lab Sample ID: 258582

Analytical Prep Batch # 71263  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 05:56 | 0.29 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/04/2019 05:56 | 11.2 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159293  Lab Sample ID: 258596

Analytical Prep Batch # 71264  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 11:01 | 0.27 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/04/2019 11:01 | 6.5 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159388  Lab Sample ID: 260073

Analytical Prep Batch # 71284  Preparation Date/Time: 04/03/2019 14:25

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 10:26 | 0.14 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/05/2019 10:26 | 5.7 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159809  Lab Sample ID: 265240

Analytical Prep Batch # 71469  Preparation Date/Time: 04/15/2019 12:18

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 08:06 | 0.29 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/19/2019 08:06 | 8.0 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159920  Lab Sample ID: 265268

Analytical Prep Batch # 71472  Preparation Date/Time: 04/19/2019 12:26

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 21:51 | -0.25 | U | 0.13 | 0.40 | |
| Manganese | 04/23/2019 21:51 | 5.1 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 159931  Lab Sample ID: 265276

Analytical Prep Batch # 71473  Preparation Date/Time: 04/21/2019 14:36

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 17:08 | -0.27 | U | 0.13 | 0.40 | |
| Manganese | 04/23/2019 17:08 | 4.8 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Analytical Run #: 160412  Lab Sample ID: 274294

Analytical Prep Batch # 71761  Preparation Date/Time: 05/01/2019 12:35

ICAL Calibration #: 05022019  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:29 | 0.15 | | 0.04 | 0.08 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 264611
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:17 | 500000 | 547000 | 109 | 80 | 120 |
| Arsenic | 04/03/2019 16:17 | 0 | -0.250 | | -16 | 16 |
| Calcium | 04/03/2019 16:17 | 500000 | 530000 | 106 | 80 | 120 |
| Iron | 04/03/2019 16:17 | 500000 | 540000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:17 | 500000 | 519000 | 104 | 80 | 120 |
| Manganese | 04/03/2019 16:17 | 0 | -4.02 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159294
Lab Sample ID: 264632
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:17 | 500000 | 547000 | 109 | 80 | 120 |
| Arsenic | 04/03/2019 16:17 | 0 | -0.250 | | -16 | 16 |
| Calcium | 04/03/2019 16:17 | 500000 | 530000 | 106 | 80 | 120 |
| Iron | 04/03/2019 16:17 | 500000 | 540000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:17 | 500000 | 519000 | 104 | 80 | 120 |
| Manganese | 04/03/2019 16:17 | 0 | -4.03 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159388
Lab Sample ID: 265997
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/05/2019 09:29 | 500000 | 529000 | 106 | 80 | 120 |
| Arsenic | 04/05/2019 09:29 | 0 | -0.502 | | -16 | 16 |
| Calcium | 04/05/2019 09:29 | 500000 | 514000 | 103 | 80 | 120 |
| Iron | 04/05/2019 09:29 | 500000 | 481000 | 96 | 80 | 120 |
| Magnesium | 04/05/2019 09:29 | 500000 | 494000 | 99 | 80 | 120 |
| Manganese | 04/05/2019 09:29 | 0 | -2.73 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 266039
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/05/2019 09:29 | 500000 | 529000 | 106 | 80 | 120 |
| Arsenic | 04/05/2019 09:29 | 0 | -0.502 | | -16 | 16 |
| Calcium | 04/05/2019 09:29 | 500000 | 514000 | 103 | 80 | 120 |
| Iron | 04/05/2019 09:29 | 500000 | 481000 | 96 | 80 | 120 |
| Magnesium | 04/05/2019 09:29 | 500000 | 494000 | 99 | 80 | 120 |
| Manganese | 04/05/2019 09:29 | 0 | -2.73 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159809
Lab Sample ID: 270325
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/19/2019 13:11 | 500000 | 512000 | 102 | 80 | 120 |
| Arsenic | 04/19/2019 13:11 | 0 | -0.0230 | | -16 | 16 |
| Calcium | 04/19/2019 13:11 | 500000 | 508000 | 102 | 80 | 120 |
| Iron | 04/19/2019 13:11 | 500000 | 490000 | 98 | 80 | 120 |
| Magnesium | 04/19/2019 13:11 | 500000 | 516000 | 103 | 80 | 120 |
| Manganese | 04/19/2019 13:11 | 0 | -3.67 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159931
Lab Sample ID: 270960
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/23/2019 16:40 | 500000 | 469000 | 94 | 80 | 120 |
| Arsenic | 04/23/2019 16:40 | 0 | -0.00100 | | -16 | 16 |
| Calcium | 04/23/2019 16:40 | 500000 | 443000 | 89 | 80 | 120 |
| Iron | 04/23/2019 16:40 | 500000 | 466000 | 93 | 80 | 120 |
| Magnesium | 04/23/2019 16:40 | 500000 | 454000 | 91 | 80 | 120 |
| Manganese | 04/23/2019 16:40 | 0 | -0.00600 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159920
Lab Sample ID: 271000
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/23/2019 16:40 | 500000 | 469000 | 94 | 80 | 120 |
| Arsenic | 04/23/2019 16:40 | 0 | -0.00100 | | -16 | 16 |
| Calcium | 04/23/2019 16:40 | 500000 | 443000 | 89 | 80 | 120 |
| Iron | 04/23/2019 16:40 | 500000 | 466000 | 93 | 80 | 120 |
| Magnesium | 04/23/2019 16:40 | 500000 | 454000 | 91 | 80 | 120 |
| Manganese | 04/23/2019 16:40 | 0 | -0.00600 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159920
Lab Sample ID: 271947
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:18 | 500000 | 465000 | 93 | 80 | 120 |
| Arsenic | 04/25/2019 12:18 | 0 | 0.00600 | | -16 | 16 |
| Calcium | 04/25/2019 12:18 | 500000 | 448000 | 90 | 80 | 120 |
| Iron | 04/25/2019 12:18 | 500000 | 463000 | 93 | 80 | 120 |
| Magnesium | 04/25/2019 12:18 | 500000 | 459000 | 92 | 80 | 120 |
| Manganese | 04/25/2019 12:18 | 0 | -3.69 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159931
Lab Sample ID: 271956
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:18 | 500000 | 465000 | 93 | 80 | 120 |
| Arsenic | 04/25/2019 12:18 | 0 | 0.00600 | | -16 | 16 |
| Calcium | 04/25/2019 12:18 | 500000 | 448000 | 90 | 80 | 120 |
| Iron | 04/25/2019 12:18 | 500000 | 463000 | 93 | 80 | 120 |
| Magnesium | 04/25/2019 12:18 | 500000 | 459000 | 92 | 80 | 120 |
| Manganese | 04/25/2019 12:18 | 0 | -3.69 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159809
Lab Sample ID: 273041
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/18/2019 16:40 | 500000 | 523000 | 105 | 80 | 120 |
| Arsenic | 04/18/2019 16:40 | 0 | 0.0450 | | -16 | 16 |
| Calcium | 04/18/2019 16:40 | 500000 | 493000 | 99 | 80 | 120 |
| Iron | 04/18/2019 16:40 | 500000 | 506000 | 101 | 80 | 120 |
| Magnesium | 04/18/2019 16:40 | 500000 | 500000 | 100 | 80 | 120 |
| Manganese | 04/18/2019 16:40 | 0 | -2.68 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159294
Lab Sample ID: 273255
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:16 | 500000 | 556000 | 111 | 80 | 120 |
| Arsenic | 04/25/2019 16:16 | 0 | 0.263 | | -16 | 16 |
| Calcium | 04/25/2019 16:16 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 16:16 | 500000 | 492000 | 98 | 80 | 120 |
| Magnesium | 04/25/2019 16:16 | 500000 | 501000 | 100 | 80 | 120 |
| Manganese | 04/25/2019 16:16 | 0 | -4.13 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159294
Lab Sample ID: 273292
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:26 | 500000 | 526000 | 105 | 80 | 120 |
| Arsenic | 04/29/2019 16:26 | 0 | 0.00400 | | -16 | 16 |
| Calcium | 04/29/2019 16:26 | 500000 | 500000 | 100 | 80 | 120 |
| Iron | 04/29/2019 16:26 | 500000 | 542000 | 108 | 80 | 120 |
| Magnesium | 04/29/2019 16:26 | 500000 | 473000 | 95 | 80 | 120 |
| Manganese | 04/29/2019 16:26 | 0 | -5.48 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 273312
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:16 | 500000 | 556000 | 111 | 80 | 120 |
| Arsenic | 04/25/2019 16:16 | 0 | 0.263 | | -16 | 16 |
| Calcium | 04/25/2019 16:16 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 16:16 | 500000 | 492000 | 98 | 80 | 120 |
| Magnesium | 04/25/2019 16:16 | 500000 | 501000 | 100 | 80 | 120 |
| Manganese | 04/25/2019 16:16 | 0 | -4.13 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159293
Lab Sample ID: 273329
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:26 | 500000 | 526000 | 105 | 80 | 120 |
| Arsenic | 04/29/2019 16:26 | 0 | 0.00400 | | -16 | 16 |
| Calcium | 04/29/2019 16:26 | 500000 | 500000 | 100 | 80 | 120 |
| Iron | 04/29/2019 16:26 | 500000 | 542000 | 108 | 80 | 120 |
| Magnesium | 04/29/2019 16:26 | 500000 | 473000 | 95 | 80 | 120 |
| Manganese | 04/29/2019 16:26 | 0 | -5.48 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX

Analytical Run #: 159809
Lab Sample ID: 273474
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:26 | 500000 | 526000 | 105 | 80 | 120 |
| Arsenic | 04/29/2019 16:26 | 0 | 0.00400 | | -16 | 16 |
| Calcium | 04/29/2019 16:26 | 500000 | 500000 | 100 | 80 | 120 |
| Iron | 04/29/2019 16:26 | 500000 | 542000 | 108 | 80 | 120 |
| Magnesium | 04/29/2019 16:26 | 500000 | 473000 | 95 | 80 | 120 |
| Manganese | 04/29/2019 16:26 | 0 | -5.48 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 264612
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:24 | 500000 | 535000 | 107 | 80 | 120 |
| Arsenic | 04/03/2019 16:24 | 500.0 | 571.0 | 114 | 80 | 120 |
| Calcium | 04/03/2019 16:24 | 500000 | 522000 | 104 | 80 | 120 |
| Iron | 04/03/2019 16:24 | 500000 | 538000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:24 | 500000 | 510000 | 102 | 80 | 120 |
| Manganese | 04/03/2019 16:24 | 500.0 | 511.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159294
Lab Sample ID: 264633
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/03/2019 16:24 | 500000 | 535000 | 107 | 80 | 120 |
| Arsenic | 04/03/2019 16:24 | 500.0 | 571.0 | 114 | 80 | 120 |
| Calcium | 04/03/2019 16:24 | 500000 | 522000 | 104 | 80 | 120 |
| Iron | 04/03/2019 16:24 | 500000 | 538000 | 108 | 80 | 120 |
| Magnesium | 04/03/2019 16:24 | 500000 | 510000 | 102 | 80 | 120 |
| Manganese | 04/03/2019 16:24 | 500.0 | 511.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159388
Lab Sample ID: 266013
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/05/2019 09:35 | 500000 | 544000 | 109 | 80 | 120 |
| Arsenic | 04/05/2019 09:35 | 500.0 | 568.0 | 114 | 80 | 120 |
| Calcium | 04/05/2019 09:35 | 500000 | 502000 | 100 | 80 | 120 |
| Iron | 04/05/2019 09:35 | 500000 | 506000 | 101 | 80 | 120 |
| Magnesium | 04/05/2019 09:35 | 500000 | 508000 | 102 | 80 | 120 |
| Manganese | 04/05/2019 09:35 | 500.0 | 512.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 266050
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/05/2019 09:35 | 500000 | 544000 | 109 | 80 | 120 |
| Arsenic | 04/05/2019 09:35 | 500.0 | 568.0 | 114 | 80 | 120 |
| Calcium | 04/05/2019 09:35 | 500000 | 502000 | 100 | 80 | 120 |
| Iron | 04/05/2019 09:35 | 500000 | 506000 | 101 | 80 | 120 |
| Magnesium | 04/05/2019 09:35 | 500000 | 508000 | 102 | 80 | 120 |
| Manganese | 04/05/2019 09:35 | 500.0 | 512.0 | 102 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159809
Lab Sample ID: 270326
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/19/2019 13:18 | 500000 | 589000 | 118 | 80 | 120 |
| Arsenic | 04/19/2019 13:18 | 500.0 | 522.0 | 104 | 80 | 120 |
| Calcium | 04/19/2019 13:18 | 500000 | 580000 | 116 | 80 | 120 |
| Iron | 04/19/2019 13:18 | 500000 | 563000 | 113 | 80 | 120 |
| Magnesium | 04/19/2019 13:18 | 500000 | 588000 | 118 | 80 | 120 |
| Manganese | 04/19/2019 13:18 | 500.0 | 576.0 | 115 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159931
Lab Sample ID: 270961
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/23/2019 16:46 | 500000 | 530000 | 106 | 80 | 120 |
| Arsenic | 04/23/2019 16:46 | 500.0 | 581.0 | 116 | 80 | 120 |
| Calcium | 04/23/2019 16:46 | 500000 | 497000 | 99 | 80 | 120 |
| Iron | 04/23/2019 16:46 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/23/2019 16:46 | 500000 | 515000 | 103 | 80 | 120 |
| Manganese | 04/23/2019 16:46 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159920
Lab Sample ID: 271001
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/23/2019 16:46 | 500000 | 530000 | 106 | 80 | 120 |
| Arsenic | 04/23/2019 16:46 | 500.0 | 581.0 | 116 | 80 | 120 |
| Calcium | 04/23/2019 16:46 | 500000 | 497000 | 99 | 80 | 120 |
| Iron | 04/23/2019 16:46 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/23/2019 16:46 | 500000 | 515000 | 103 | 80 | 120 |
| Manganese | 04/23/2019 16:46 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159920
Lab Sample ID: 271948
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:23 | 500000 | 537000 | 107 | 80 | 120 |
| Arsenic | 04/25/2019 12:23 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/25/2019 12:23 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 12:23 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/25/2019 12:23 | 500000 | 526000 | 105 | 80 | 120 |
| Manganese | 04/25/2019 12:23 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159931
Lab Sample ID: 271957
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:23 | 500000 | 537000 | 107 | 80 | 120 |
| Arsenic | 04/25/2019 12:23 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/25/2019 12:23 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 12:23 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/25/2019 12:23 | 500000 | 526000 | 105 | 80 | 120 |
| Manganese | 04/25/2019 12:23 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159809
Lab Sample ID: 273042
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/18/2019 16:46 | 500000 | 592000 | 118 | 80 | 120 |
| Arsenic | 04/18/2019 16:46 | 500.0 | 512.0 | 102 | 80 | 120 |
| Calcium | 04/18/2019 16:46 | 500000 | 556000 | 111 | 80 | 120 |
| Iron | 04/18/2019 16:46 | 500000 | 577000 | 115 | 80 | 120 |
| Magnesium | 04/18/2019 16:46 | 500000 | 563000 | 113 | 80 | 120 |
| Manganese | 04/18/2019 16:46 | 500.0 | 552.0 | 110 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159294
Lab Sample ID: 273256
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:22 | 500000 | 496000 | 99 | 80 | 120 |
| Arsenic | 04/25/2019 16:22 | 500.0 | 554.0 | 111 | 80 | 120 |
| Calcium | 04/25/2019 16:22 | 500000 | 455000 | 91 | 80 | 120 |
| Iron | 04/25/2019 16:22 | 500000 | 440000 | 88 | 80 | 120 |
| Magnesium | 04/25/2019 16:22 | 500000 | 446000 | 89 | 80 | 120 |
| Manganese | 04/25/2019 16:22 | 500.0 | 463.0 | 93 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159294
Lab Sample ID: 273293
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:33 | 500000 | 431000 | 86 | 80 | 120 |
| Arsenic | 04/29/2019 16:33 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/29/2019 16:33 | 500000 | 407000 | 81 | 80 | 120 |
| Iron | 04/29/2019 16:33 | 500000 | 446000 | 89 | 80 | 120 |
| Magnesium | 04/29/2019 16:33 | 500000 | 402000 | 80 | 80 | 120 |
| Manganese | 04/29/2019 16:33 | 500.0 | 521.0 | 104 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 273313
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 16:22 | 500000 | 496000 | 99 | 80 | 120 |
| Arsenic | 04/25/2019 16:22 | 500.0 | 554.0 | 111 | 80 | 120 |
| Calcium | 04/25/2019 16:22 | 500000 | 455000 | 91 | 80 | 120 |
| Iron | 04/25/2019 16:22 | 500000 | 440000 | 88 | 80 | 120 |
| Magnesium | 04/25/2019 16:22 | 500000 | 446000 | 89 | 80 | 120 |
| Manganese | 04/25/2019 16:22 | 500.0 | 463.0 | 93 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159293
Lab Sample ID: 273330
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:33 | 500000 | 431000 | 86 | 80 | 120 |
| Arsenic | 04/29/2019 16:33 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/29/2019 16:33 | 500000 | 407000 | 81 | 80 | 120 |
| Iron | 04/29/2019 16:33 | 500000 | 446000 | 89 | 80 | 120 |
| Magnesium | 04/29/2019 16:33 | 500000 | 402000 | 80 | 80 | 120 |
| Manganese | 04/29/2019 16:33 | 500.0 | 521.0 | 104 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143765
ICS Source: SPEX, Ultra

Analytical Run #: 159809
Lab Sample ID: 273475
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:33 | 500000 | 431000 | 86 | 80 | 120 |
| Arsenic | 04/29/2019 16:33 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/29/2019 16:33 | 500000 | 407000 | 81 | 80 | 120 |
| Iron | 04/29/2019 16:33 | 500000 | 446000 | 89 | 80 | 120 |
| Magnesium | 04/29/2019 16:33 | 500000 | 402000 | 80 | 80 | 120 |
| Manganese | 04/29/2019 16:33 | 500.0 | 521.0 | 104 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU2B-SU02R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 99.4 | Concentration Units: | mg/kg |
| Sample No | 260080 | Parent Sample No.: | 255919 |
| Analytical Prep Batch # | 71284 | Analytical Preparation Date/Time: | 04/03/2019 14:25 |
| Analytical Run #: | 159388 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/05/2019 Analysis Time: -------- 13:50

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 434 | | 13.7 | | 513 | 82 | | P |
| Manganese | 84-114 | 593 | | 135 | | 513 | 89 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 98.4 | Concentration Units: | mg/kg |
| Sample No | 265266 | Parent Sample No.: | 256798 |
| Analytical Prep Batch # | 71469 | Analytical Preparation Date/Time: | 04/15/2019 12:18 |
| Analytical Run #: | 159809 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/19/2019 Analysis Time: -------- 13:30

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 333 | | 8.0 | | 527 | 62 | | P | *FAIL* |
| Manganese | 84-114 | 1750 | | 1200 | | 527 | 104 | | P | |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU2A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 97.8 | Concentration Units: | mg/kg |
| Sample No | 265287 | Parent Sample No.: | 258269 |
| Analytical Prep Batch # | 71472 | Analytical Preparation Date/Time: | 04/19/2019 12:26 |
| Analytical Run #: | 159920 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/24/2019 Analysis Time: -------- 00:36

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 516 | | 21.4 | | 522 | 95 | | P | |
| Manganese | 84-114 | 2120 | | 1910 | | 522 | 40 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU2B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 98.7 | Concentration Units: | mg/kg |
| Sample No | 265290 | Parent Sample No.: | 258271 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/23/2019 Analysis Time: -------- 17:30

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 499 | | 2.1 | | 525 | 95 | | P |
| Manganese | 84-114 | 1060 | | 587 | | 525 | 90 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 274298 | Parent Sample No.: | 257647 |
| Analytical Prep Batch #: | 71761 | Analytical Preparation Date/Time: | 05/01/2019 12:35 |
| Analytical Run #: | 160412 | ICAL Calibration #: | 05022019 |

Analysis Type *Initial Analysis* Analysis Date: -------- 05/02/2019 Analysis Time: -------- 15:13

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 1.3 | | 0.39 | J | 0.37 | 246 | | AA | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU2B-SU02R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 99.4 | Concentration Units: | ug/L |
| Sample No | 266009 | Parent Sample No.: | 255919 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159388 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/05/2019 | Analysis Time: -------- | 14:03 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 80-120 | 91500. | | 5140. | | 100000 | 86 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU15**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solids for Sample: 98.4
Concentration Units: ug/L
Sample No: 270327
Parent Sample No.: 256798
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 159809
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/19/2019 Analysis Time: -------- 13:37

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 496. | | 303. | | 500 | 39 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU2B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 98.7 | Concentration Units: | ug/L |
| Sample No | 270963 | Parent Sample No.: | 258271 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/23/2019 | Analysis Time: -------- | 17:40 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21000 | | 80.9 | | 20000 | 105 | | P |
| Manganese | 80-120 | 43270. | | 22350. | | 20000 | 105 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU2A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 97.8 | Concentration Units: | ug/L |
| Sample No | 271012 | Parent Sample No.: | 258269 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159920 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/24/2019 | Analysis Time: -------- | 00:48 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 22000 | | 822. | | 20000 | 106 | | P |
| Manganese | 80-120 | 91100. | | 73250. | | 20000 | 89 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 276688 | Parent Sample No.: | 257647 |
| Analytical Prep Batch # | | Analytical Preparation Date/Time: | |
| Analytical Run #: | 160412 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 05/02/2019 | Analysis Time: -------- | 17:24 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 13.6470 | | 3.1758 | | 10 | 105 | | AA |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU2B-SU02R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 99.4 | Concentration Units: | mg/kg |
| Sample No | 260081 | Parent Sample No.: | 260080 |
| Analytical Prep Batch # | 71284 | Analytical Preparation Date/Time: | 04/03/2019 14:25 |
| Analytical Run #: | 159388 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/05/2019 | Analysis Time: -------- | 13:57 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 455 | | 13.7 | | 508 | 87 | | P |
| Manganese | 84-114 | 615 | | 135 | | 508 | 94 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description: **DU2A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 97.8 | Concentration Units: | mg/kg |
| Sample No | 265288 | Parent Sample No.: | 265287 |
| Analytical Prep Batch # | 71472 | Analytical Preparation Date/Time: | 04/19/2019 12:26 |
| Analytical Run #: | 159920 | ICAL Calibration #: | |

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/24/2019 Analysis Time: -------- 00:42

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 516 | | 21.4 | | 522 | 95 | | P | |
| Manganese | 84-114 | 2330 | | 1910 | | 522 | 80 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU2B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 98.7 | Concentration Units: | mg/kg |
| Sample No | 265291 | Parent Sample No.: | 265290 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/23/2019 Analysis Time: -------- 17:35

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 493 | | 2.1 | | 528 | 93 | | P |
| Manganese | 84-114 | 1160 | | 587 | | 528 | 109 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143765 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 274299 | Parent Sample No.: | 274298 |
| Analytical Prep Batch #: | 71761 | Analytical Preparation Date/Time: | 05/01/2019 12:35 |
| Analytical Run #: | 160412 | ICAL Calibration #: | 05022019 |

Analysis Type *Initial Analysis* Analysis Date: -------- 05/02/2019 Analysis Time: -------- 15:30

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 1.2 | | 0.39 | J | 0.37 | 219 | | AA | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU38**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.4
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71284
Analytical Run #: 159388
ICAL Calibration #:
Sample #: 260075
Parent Sample #: 255904

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 | 11:09 | 20 | 3.4 | | 4.0 | | 16 | | P |
| Manganese | 04/05/2019 | 11:09 | 20 | 386 | | 396 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU38**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.4
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71284
Analytical Run #: 159388
ICAL Calibration #:
Sample #: 260076
Parent Sample #: 255904

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 | 11:15 | 20 | 3.4 | | 3.9 | | 14 | | P |
| Manganese | 04/05/2019 | 11:15 | 20 | 386 | | 384 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2B-SU02R2**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.4
Concentration Units: mg/kg

Analytical Prep Batch # 1
Analytical Preparation Date/Time 71284
Analytical Run #: 159388
ICAL Calibration #:
Sample #: 260078
Parent Sample #: 255919

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 | 13:20 | 20 | 13.7 | | 13.1 | | 4 | | P |
| Manganese | 04/05/2019 | 13:20 | 20 | 135 | | 138 | | 2 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2B-SU02R2**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 99.4

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71284

Analytical Run #: 159388

ICAL Calibration #:

Sample #: 260079

Parent Sample #: 255919

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 | 13:27 | 20 | 13.7 | | 13.2 | | 4 | | P |
| Manganese | 04/05/2019 | 13:27 | 20 | 135 | | 162 | | 18 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU15**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 98.4
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71469
Analytical Run #: 159809
ICAL Calibration #:
Sample #: 265264
Parent Sample #: 256798

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 | 08:58 | 20 | 8.0 | | 8.2 | | 2 | | P |
| Manganese | 04/19/2019 | 08:58 | 20 | 1200 | | 1150 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU15**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 98.4
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71469
Analytical Run #: 159809
ICAL Calibration #:
Sample #: 265265
Parent Sample #: 256798

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 | 09:05 | 20 | 8.0 | | 8.0 | | 0 | | P |
| Manganese | 04/19/2019 | 09:05 | 20 | 1200 | | 1160 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU30S1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.0
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71472
Analytical Run #: 159920
ICAL Calibration #:
Sample #: 265270
Parent Sample #: 257656

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 23:12 | 20 | 3.3 | | 4.0 | | 19 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU30S1**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 99.0

Concentration Units: mg/kg

Analytical Prep Batch # 2

Analytical Preparation Date/Time 71472

Analytical Run #: 159920

ICAL Calibration #:

Sample #: 265270

Parent Sample #: 257656

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 12:46 | 20 | 5100 | | 5320 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU30S1**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 99.0

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71472

Analytical Run #: 159920

ICAL Calibration #:

Sample #: 265271

Parent Sample #: 257656

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 23:18 | 20 | 3.3 | | 3.2 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU30S1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.0
Concentration Units: mg/kg
Analytical Prep Batch # 2
Analytical Preparation Date/Time 71472
Analytical Run #: 159920
ICAL Calibration #:
Sample #: 265271
Parent Sample #: 257656

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 12:51 | 20 | 5100 | | 4530 | | 12 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2A-SU04**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 97.4
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71472
Analytical Run #: 159920
ICAL Calibration #:
Sample #: 265272
Parent Sample #: 258274

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/24/2019 | 01:15 | 20 | 10.2 | | 10.3 | | 1 | | P |
| Manganese | 04/24/2019 | 01:15 | 20 | 835 | | 690 | | 19 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2A-SU04**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 97.4
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71472
Analytical Run #: 159920
ICAL Calibration #:
Sample #: 265273
Parent Sample #: 258274

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/24/2019 | 01:20 | 20 | 10.2 | | 10 | | 2 | | P |
| Manganese | 04/24/2019 | 01:20 | 20 | 835 | | 772 | | 8 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2A-SU10**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 97.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71472
Analytical Run #: 159920
ICAL Calibration #:
Sample #: 265286
Parent Sample #: 258269

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/24/2019 | 00:30 | 20 | 21.4 | | 21.2 | | 1 | | P |
| Manganese | 04/24/2019 | 00:30 | 20 | 1910 | | 2010 | | 5 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2B-SU10**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 98.7
Concentration Units: mg/kg

Analytical Prep Batch # 1
Analytical Preparation Date/Time 71473
Analytical Run #: 159931
ICAL Calibration #:
Sample #: 265289
Parent Sample #: 258271

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 17:24 | 20 | 2.1 | | 2.4 | | 13 | | P |
| Manganese | 04/23/2019 | 17:24 | 20 | 587 | | 547 | | 7 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU18**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.3
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71469
Analytical Run #: 159809
ICAL Calibration #:
Sample #: 266418
Parent Sample #: 256803

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 | 14:16 | 20 | 55.1 | | 60.3 | | 9 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU18**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 99.3

Concentration Units: mg/kg

Analytical Prep Batch # 2

Analytical Preparation Date/Time 71469

Analytical Run #: 159809

ICAL Calibration #:

Sample #: 266418

Parent Sample #: 256803

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/29/2019 | 16:51 | 20 | 17900 | | 22000 | | 21 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU18**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.3
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71469
Analytical Run #: 159809
ICAL Calibration #:
Sample #: 266419
Parent Sample #: 256803

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 | 14:22 | 20 | 55.1 | | 60.6 | | 10 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU18**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.3
Concentration Units: mg/kg
Analytical Prep Batch # 2
Analytical Preparation Date/Time 71469
Analytical Run #: 159809
ICAL Calibration #:
Sample #: 266419
Parent Sample #: 256803

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/29/2019 | 16:58 | 20 | 17900 | | 22000 | | 21 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU44R1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.1
Concentration Units: mg/kg
Analytical Prep Batch #: 1
Analytical Preparation Date/Time 71761
Analytical Run #: 160412
ICAL Calibration #: 05022019
Sample #: 274296
Parent Sample #: 257647

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Time | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 15:01 | 20 | 0.39 | J | 0.73 | J | 61 | | AA | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU44R1**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.1
Concentration Units: mg/kg
Analytical Prep Batch #: 1
Analytical Preparation Date/Time 71761
Analytical Run #: 160412
ICAL Calibration #: 05022019
Sample #: 274297
Parent Sample #: 257647

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Time | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 15:07 | 20 | 0.39 | J | 0.90 | | 79 | | AA | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description: **DU2B-SU02R2**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143765

% Solid for Sample: 99.4 | Concentration Units: mg/kg

Analytical Prep Batch #: 71284 | Analytical Preparation Date/Time: 04/03/2019 14:25

Analytical Run #: 159388 | ICAL Calibration #:

Sample #: 260081 | Parent Sample #: 260080

Analysis Type: *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 | 13:57 | 20 | 434 | | 455 | | 6 | | P |
| Manganese | 04/05/2019 | 13:57 | 20 | 593 | | 615 | | 5 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU2A-SU10**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143765

% Solid for Sample: 97.8 | Concentration Units: mg/kg

Analytical Prep Batch #: 71472 | Analytical Preparation Date/Time: 04/19/2019 12:26

Analytical Run #: 159920 | ICAL Calibration #:

Sample #: 265288 | Parent Sample #: 265287

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/24/2019 | 00:42 | 20 | 516 | | 516 | | 0 | | P |
| Manganese | 04/24/2019 | 00:42 | 20 | 2120 | | 2330 | | 10 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU2B-SU10**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143765

% Solid for Sample: 98.7 | Concentration Units: mg/kg

Analytical Prep Batch #: 71473 | Analytical Preparation Date/Time: 04/21/2019 14:36

Analytical Run #: 159931 | ICAL Calibration #:

Sample #: 265291 | Parent Sample #: 265290

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 17:35 | 20 | 499 | | 493 | | 2 | | P |
| Manganese | 04/23/2019 | 17:35 | 20 | 1060 | | 1160 | | 9 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description: **DU1A-SU44R1**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143765

% Solid for Sample: 99.1 | Concentration Units: mg/kg

Analytical Prep Batch #: 71761 | Analytical Preparation Date/Time: 05/01/2019 12:35

Analytical Run #: 160412 | ICAL Calibration #: 05022019

Sample #: 274299 | Parent Sample #: 274298

Analysis Type: *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 | 15:30 | 20 | 1.3 | | 1.2 | | 8 | | AA |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 159294  Sample No.:#: 258583

Analytical Prep Batch #: 71263  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 05:50 | 82-111 | 48.0 | | 50.5 | 95 | | P |
| Manganese | 04/04/2019 05:50 | 84-114 | 56.6 | | 50.5 | 112 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 159293  Sample No.:#: 258597

Analytical Prep Batch #: 71264  Preparation Date/Time: 04/01/2019 11:12

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/04/2019 10:54 | 82-111 | 51.5 | | 51.0 | 101 | | P |
| Manganese | 04/04/2019 10:54 | 84-114 | 55.9 | | 51.0 | 110 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 159388 Sample No.:#: 260074

Analytical Prep Batch #: 71284 Preparation Date/Time: 04/03/2019 14:25

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/05/2019 10:19 | 82-111 | 47.5 | | 50.0 | 95 | | P |
| Manganese | 04/05/2019 10:19 | 84-114 | 51.5 | | 50.0 | 103 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 159809  Sample No.:#: 265241

Analytical Prep Batch #: 71469  Preparation Date/Time: 04/15/2019 12:18

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 07:42 | 82-111 | 46.5 | | 50.0 | 93 | | P |
| Manganese | 04/19/2019 07:42 | 84-114 | 48.8 | | 50.0 | 98 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 159920  Sample No.:#: 265269

Analytical Prep Batch #: 71472  Preparation Date/Time: 04/19/2019 12:26

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 21:46 | 82-111 | 48.7 | | 50.8 | 96 | | P |
| Manganese | 04/23/2019 21:46 | 84-114 | 50.3 | | 50.8 | 99 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 159931  Sample No.:#: 265277

Analytical Prep Batch #: 71473  Preparation Date/Time: 04/21/2019 14:36

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 17:03 | 82-111 | 51.5 | | 49.8 | 103 | | P |
| Manganese | 04/23/2019 17:03 | 84-114 | 53.4 | | 49.8 | 107 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143765

Concentration Units: mg/kg

Analytical Run #: 160412  Sample No.:#: 274295

Analytical Prep Batch #: 71761  Preparation Date/Time: 05/01/2019 12:35

ICAL Calibration #: 05022019

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:23 | 80-120 | 0.37 | | 0.38 | 97 | | AA |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU2A-SU10**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143765

Concentration Units: ug/L

Sample No.: 271011 Parent Sample No.: 258269

LIMS Run #: 159920 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/24/2019 00:25 | 73250. | | 81800 | | 12 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1B-SU15**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143765

Concentration Units: ug/L

Sample No.: 273059 Parent Sample No.: 256798

LIMS Run #: 159809 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/19/2019 08:52 | 303. | | 405 | | 34 | | P | *INVALID* |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***GFAA SERIAL DILUTION***

Sample Description

**DU1A-SU44R1**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143765

Concentration Units: ug/L

Sample No.: 276687 Parent Sample No.: 257647

LIMS Run #: 160412 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M | |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:55 | 3.1758 | | 17.3435 | | 446 | | AA | *INVALID* |

CT LABORATORIES
delivering more than data from your environmental analyses

10

***METHOD DETECTION LIMITS (ANNUALLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TJA SDG No.: 143765

Matrix: SOLID

| Analyte | Wavelength (nm) | Background | CRDL (ug/L) | MDL ( mg/k) | M |
|---|---|---|---|---|---|
| Arsenic | 193.7 | | | 0.13 | P |
| Manganese | 257.61 | | | 0.025 | P |

CT LABORATORIES
delivering more than data from your environmental analyses

10

***METHOD DETECTION LIMITS (ANNUALLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143765

Matrix: SOLID

| Analyte | Wavelength (nm) | Background | CRDL (ug/L) | MDL ( mg/k) | M |
|---|---|---|---|---|---|
| Arsenic | 193.7 | | | 0.04 | AA |

## ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
## ICP ID NUMBER: TA ICAP6000 / ICAP6500

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 2 | Fe | 0.000006 | 0.000000 | No |
| | | | Ce | 0.000000 | 0.000000 | No |
| Ag 338.289 {100} | ☒ | 1 | Fe | 0.000906 | 0.000000 | No |
| Al 167.079 {501} | ☒ | None | | | | |
| Al 308.215 {109} | ☒ | None | | | | |
| Al 396.152 { 85} | ☒ | None | | | | |
| As 193.759 {474} | ☒ | 1 | Al | 0.001713 | 0.000000 | No |
| As 197.262 {471} | ☒ | 1 | Al | -0.000113 | 0.000000 | No |
| Ba 233.527 {445} | ☒ | 3 | Fe | -0.000038 | 0.000000 | No |
| | | | V | 0.000180 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Fe | 0.000002 | 0.000000 | No |
| Ba 493.409 { 68} | ☒ | 1 | Fe | 0.000029 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 1 | Fe | 0.000000 | 0.000000 | No |
| Be 234.861 {144} | ☒ | 1 | Fe | -0.000016 | 0.000000 | No |
| Ca 315.887 {107} | ☒ | None | | | | |
| Ca 317.933 {106} | ☒ | None | | | | |
| Ca 393.366 { 86} | ☒ | 1 | Cu | 0.000000 | 0.000000 | No |
| Ca 396.847 { 85} | ☒ | None | | | | |
| Cd 226.502 {449} | ☒ | 2 | Fe | 0.000090 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cd 228.802 {147} | ☒ | None | | | | |
| Co 228.616 {447} | ☒ | 5 | Fe | 0.000009 | 0.000000 | No |
| | | | Ti | 0.003000 | 0.000000 | No |
| | | | Ba | -0.001300 | 0.000000 | No |
| | | | Ni | 0.000040 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| Co 238.892 {141} | ☒ | 1 | Fe | 0.000188 | 0.000000 | No |
| Cr 205.560 {464} | ☒ | 1 | Fe | -0.000004 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 1 | Fe | -0.000014 | 0.000000 | No |
| Cu 224.700 {450} | ☒ | 5 | Fe | 0.000274 | 0.000000 | No |
| | | | Mo | 0.001320 | 0.000000 | No |
| | | | Ni | -0.006000 | 0.000000 | No |
| | | | Pb | 0.003030 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 1 | Fe | -0.000136 | 0.000000 | No |
| Cu 327.396 {103} | ☒ | 1 | Fe | 0.000069 | 0.000000 | No |
| Fe 234.349 {144} | ☒ | None | | | | |
| Fe 239.562 {140} | ☒ | None | | | | |
| Fe 259.940 {129} | ☒ | None | | | | |
| Mg 202.582 {466} | ☒ | None | | | | |
| Mg 279.079 {121} | ☒ | None | | | | |
| Mg 280.270 {120} | ☒ | None | | | | |
| Mn 257.610 {131} | ☒ | 1 | Al | -0.000086 | 0.000000 | No |

## ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
## ICP ID NUMBER: TA ICAP6000 / ICAP6500

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Mn 259.373 {130} | ☒ | 1 | Mg | 0.001339 | 0.000000 | No |
| Mo 202.030 {466} | ☒ | 1 | Fe | -0.000011 | 0.000000 | No |
| Mo 203.844 {465} | ☒ | 1 | Fe | -0.000020 | 0.000000 | No |
| Mo 204.598 {464} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ni 221.647 {452} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ni 231.604 {445} | ☒ | 3 | Fe | 0.000012 | 0.000000 | No |
| | | | Co | 0.000000 | 0.000000 | No |
| | | | Mo | 0.000000 | 0.000000 | No |
| Pb 216.999 {455} | ☒ | 2 | Al | 0.001241 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 3 | Si | 0.000000 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Fe | 0.000018 | 0.000000 | No |
| Pb 220.353 {153} | ☒ | 1 | Al | -0.000040 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 1 | Fe | 0.000009 | 0.000000 | No |
| Sb 217.581 {455} | ☒ | 3 | Fe | -0.000069 | 0.000000 | No |
| | | | V | 0.002070 | 0.000000 | No |
| | | | Pb | -0.001040 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 1 | Fe | -0.000360 | 0.000000 | No |
| Se 206.279 {463} | ☒ | 1 | Fe | 0.001308 | 0.000000 | No |
| Tl 190.856 {476} | ☒ | 5 | Fe | 0.000024 | 0.000000 | No |
| | | | Be | -0.000013 | 0.000000 | No |
| | | | Ti | 0.000050 | 0.000000 | No |
| | | | Cr | 0.000251 | 0.000000 | No |
| | | | V | -0.003800 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 1 | Fe | -0.000048 | 0.000000 | No |
| V 290.882 {116} | ☒ | 1 | Fe | 0.000073 | 0.000000 | No |
| V 292.402 {115} | ☒ | 3 | Fe | 0.000020 | 0.000000 | No |
| | | | Cr | -0.000400 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Zn 202.548 {466} | ☒ | 1 | Fe | -0.000239 | 0.000000 | No |
| Zn 206.200 {463} | ☒ | 1 | Fe | -0.000003 | 0.000000 | No |
| Zn 213.856 {457} | ☒ | 2 | Fe | 0.000167 | 0.000000 | No |
| | | | Cu | 0.007413 | 0.000000 | No |
| Y 324.228 {104}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| Na 588.995 { 57} | ☒ | 1 | Fe | 0.000106 | 0.000000 | No |
| Si 251.611 {134} | ☒ | 2 | Fe | -0.000105 | 0.000000 | No |
| | | | Mo | 0.005400 | 0.000000 | No |
| Ti 323.452 {104} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ti 334.941 {101} | ☒ | 1 | Fe | 0.000052 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |
| Sr 421.552 { 80} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |

**ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)**
**ICP ID NUMBER: TA ICAP6000 / ICAP6500**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Sn 189.989 {477} | ☒ | 1 | Fe | 0.000013 | 0.000000 | No |
| B 249.678 {135} | ☒ | 2 | Fe | 0.000001 | 0.000000 | No |
| | | | Co | 0.003970 | 0.000000 | No |
| B 249.773 {135} | ☒ | 1 | Fe | 0.000357 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 1 | Fe | 0.000011 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 1 | Fe | 0.000216 | 0.000000 | No |
| P 213.618 {457} | ☒ | 1 | Fe | -0.000079 | 0.000000 | No |
| S 182.034 {485} | ☒ | 1 | Mg | 0.000100 | 0.000000 | No |
| Hg 184.950 {482} | ☒ | 1 | Fe | 0.000001 | 0.000000 | No |
| Ce 404.076 { 83} | ☒ | 1 | Fe | 0.000227 | 0.000000 | No |

***ICP LINEAR RANGES (QUARTERLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TA SDG No.: 143765

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | M |
|---|---|---|---|
| Aluminum | 15.00 | 1000000 | P |
| Antimony | 15.00 | 10000 | P |
| Arsenic | 15.00 | 10000 | P |
| Barium | 15.00 | 10000 | P |
| Beryllium | 15.00 | 1000 | P |
| Boron | 15.00 | 1000 | P |
| Cadmium | 15.00 | 1000 | P |
| Calcium | 15.00 | 1000000 | P |
| Chromium | 15.00 | 100000 | P |
| Cobalt | 15.00 | 10000 | P |
| Copper | 15.00 | 100000 | P |
| Iron | 15.00 | 1000000 | P |
| Lead | 15.00 | 100000 | P |
| Lithium | 15.00 | 10000 | P |
| Magnesium | 15.00 | 1000000 | P |
| Manganese | 15.00 | 100000 | P |
| Molybdenum | 15.00 | 10000 | P |
| Nickel | 15.00 | 10000 | P |
| Potassium | 15.00 | 200000 | P |
| Selenium | 15.00 | 10000 | P |
| Silicon | 15.00 | 1000 | P |
| Silver | 15.00 | 100 | P |
| Sodium | 15.00 | 200000 | P |
| Strontium | 15.00 | 10000 | P |
| Thallium | 15.00 | 10000 | P |
| Tin | 15.00 | 10000 | P |
| Titanium | 15.00 | 1000 | P |
| Tungsten | 15.00 | 10000 | P |
| Vanadium | 15.00 | 10000 | P |
| Zinc | 15.00 | 100000 | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143765

Preparation Batch #: 71263

Preparation Date/Time: 04/01/2019 / 11:12

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 254597 | Normal Sample | DU1A-SU45 | SOIL | 1.92 |
| 254598 | Normal Sample | DU1B-SU45 | SOIL | 2.06 |
| 254599 | Normal Sample | DU1A-SU42 | SOIL | 1.92 |
| 254600 | Normal Sample | DU1B-SU42 | SOIL | 2.02 |
| 254601 | Normal Sample | DU3A-SU01 | SOIL | 1.92 |
| 254602 | Normal Sample | DU3B-SU01 | SOIL | 1.93 |
| 254603 | Normal Sample | DU3A-SU02 | SOIL | 1.91 |
| 254604 | Normal Sample | DU3B-SU02 | SOIL | 2.06 |
| 254605 | Normal Sample | DU3A-SU04 | SOIL | 1.90 |
| 254606 | Normal Sample | DU3B-SU04 | SOIL | 1.95 |
| 254959 | Normal Sample | DU1A-SU50 | SOIL | 1.93 |
| 254961 | Normal Sample | DU1B-SU50 | SOIL | 1.92 |
| 254962 | Normal Sample | DU1A-SU59 | SOIL | 1.95 |
| 254963 | Normal Sample | DU1B-SU59 | SOIL | 1.93 |
| 254966 | Normal Sample | DU1A-SU47 | SOIL | 1.94 |
| 254968 | Normal Sample | DU1A-SU49 | SOIL | 1.99 |
| 254969 | Normal Sample | DU1B-SU49 | SOIL | 1.96 |
| 255833 | Normal Sample | DU3A-SU03R1 | SOIL | 1.96 |
| 255853 | Normal Sample | DU3B-SU03R1 | SOIL | 2.09 |
| 255854 | Normal Sample | DU3A-SU07 | SOIL | 2.01 |
| 258582 | Method Blank | | SOLID | 1.99 |
| 258583 | Lab Control Spike | | SOLID | 1.98 |
| 258588 | Lab Duplicate | DU3A-SU01 | SOIL | 1.92 |
| 258589 | Lab Duplicate | DU3A-SU01 | SOIL | 1.93 |
| 258590 | Matrix Spike | DU3A-SU01 | SOIL | 1.91 |
| 258591 | Matrix Spike Duplicate | DU3A-SU01 | SOIL | 1.93 |
| 258592 | Lab Duplicate | DU3B-SU01 | SOIL | 1.92 |
| 258593 | Lab Duplicate | DU3B-SU01 | SOIL | 1.94 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71263 | Preparation Date/Time: 04/01/2019 / 11:12

| | | | | |
|---|---|---|---|---|
| 258594 | Matrix Spike | DU3B-SU01 | SOIL | 1.92 |
| 258595 | Matrix Spike Duplicate | DU3B-SU01 | SOIL | 1.93 |
| 264656 | Lab Duplicate | DU1B-SU42 | SOIL | 2.01 |
| 264657 | Lab Duplicate | DU1B-SU42 | SOIL | 2.02 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143765

Preparation Batch #: 71264

Preparation Date/Time: 04/01/2019 / 11:12

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 254964 | Normal Sample | DU1A-SU56 | SOIL | 1.91 |
| 254965 | Normal Sample | DU1B-SU56 | SOIL | 1.91 |
| 254967 | Normal Sample | DU1B-SU47 | SOIL | 1.90 |
| 255855 | Normal Sample | DU3B-SU07 | SOIL | 1.96 |
| 255856 | Normal Sample | DU3A-SU03R2 | SOIL | 2.08 |
| 255857 | Normal Sample | DU3B-SU03R2 | SOIL | 1.93 |
| 255858 | Normal Sample | DU3A-SU03R3 | SOIL | 2.06 |
| 255859 | Normal Sample | DU3B-SU03R3 | SOIL | 1.91 |
| 255860 | Normal Sample | DU2A-SU07R1 | SOIL | 1.92 |
| 255861 | Normal Sample | DU2B-SU07R1 | SOIL | 1.93 |
| 255880 | Normal Sample | DU1A-SU32 | SOIL | 1.94 |
| 255881 | Normal Sample | DU1B-SU32 | SOIL | 2.03 |
| 255882 | Normal Sample | DU1A-SU33 | SOIL | 1.95 |
| 255883 | Normal Sample | DU1B-SU33 | SOIL | 1.91 |
| 255884 | Normal Sample | DU3A-SU09 | SOIL | 1.92 |
| 255885 | Normal Sample | DU3B-SU09 | SOIL | 1.93 |
| 255886 | Normal Sample | DU3A-SU10 | SOIL | 1.94 |
| 255887 | Normal Sample | DU3B-SU10 | SOIL | 1.91 |
| 255888 | Normal Sample | DU3A-SU05 | SOIL | 1.96 |
| 255889 | Normal Sample | DU3B-SU05 | SOIL | 2.01 |
| 258596 | Method Blank | | SOLID | 1.90 |
| 258597 | Lab Control Spike | | SOLID | 1.96 |
| 258599 | Lab Duplicate | DU1A-SU56 | SOIL | 1.92 |
| 258600 | Matrix Spike | DU1A-SU56 | SOIL | 1.92 |
| 258601 | Matrix Spike Duplicate | DU1A-SU56 | SOIL | 1.92 |
| 258602 | Lab Duplicate | DU1B-SU56 | SOIL | 1.91 |
| 258603 | Matrix Spike | DU1B-SU56 | SOIL | 1.91 |
| 258604 | Matrix Spike Duplicate | DU1B-SU56 | SOIL | 1.92 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71264 | Preparation Date/Time: 04/01/2019 / 11:12

| | | | | |
|---|---|---|---|---|
| 258605 | Lab Duplicate | DU1B-SU47 | SOIL | 1.90 |
| 258606 | Lab Duplicate | DU1B-SU47 | SOIL | 1.90 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143765

Preparation Batch #: 71284

Preparation Date/Time: 04/03/2019 / 14:25

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 255901 | Normal Sample | DU1A-SU46 | SOIL | 1.93 |
| 255903 | Normal Sample | DU1B-SU46 | SOIL | 1.97 |
| 255904 | Normal Sample | DU1A-SU38 | SOIL | 1.98 |
| 255905 | Normal Sample | DU1B-SU38 | SOIL | 2.03 |
| 255906 | Normal Sample | DU1A-SU40 | SOIL | 1.91 |
| 255907 | Normal Sample | DU1B-SU40 | SOIL | 2.02 |
| 255908 | Normal Sample | DU1A-SU35 | SOIL | 1.91 |
| 255909 | Normal Sample | DU1B-SU35 | SOIL | 2.01 |
| 255910 | Normal Sample | DU1A-SU31 | SOIL | 2.07 |
| 255911 | Normal Sample | DU1B-SU31 | SOIL | 2.02 |
| 255912 | Normal Sample | DU2A-SU07R2 | SOIL | 2.00 |
| 255913 | Normal Sample | DU2B-SU07R2 | SOIL | 1.92 |
| 255914 | Normal Sample | DU2A-SU07R3 | SOIL | 2.06 |
| 255915 | Normal Sample | DU2B-SU07R3 | SOIL | 1.94 |
| 255916 | Normal Sample | DU2A-SU02R1 | SOIL | 1.90 |
| 255917 | Normal Sample | DU2B-SU02R1 | SOIL | 1.95 |
| 255918 | Normal Sample | DU2A-SU02R2 | SOIL | 1.99 |
| 255919 | Normal Sample | DU2B-SU02R2 | SOIL | 1.91 |
| 255920 | Normal Sample | DU2A-SU02R3 | SOIL | 1.96 |
| 256795 | Normal Sample | DU1A-SU25 | SOIL | 2.01 |
| 260073 | Method Blank | | SOLID | 2.00 |
| 260074 | Lab Control Spike | | SOLID | 2.00 |
| 260075 | Lab Duplicate | DU1A-SU38 | SOIL | 1.98 |
| 260076 | Lab Duplicate | DU1A-SU38 | SOIL | 1.98 |
| 260078 | Lab Duplicate | DU2B-SU02R2 | SOIL | 1.92 |
| 260079 | Lab Duplicate | DU2B-SU02R2 | SOIL | 1.91 |
| 260080 | Matrix Spike | DU2B-SU02R2 | SOIL | 1.96 |
| 260081 | Matrix Spike Duplicate | DU2B-SU02R2 | SOIL | 1.98 |

CT LABORATORIES
delivering more than data from your environmental analyses

13

***PREPARATION LOG***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Project: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Method: | EPA 3050B | SDG No.: | 143765 |
| Preparation Batch #: | 71284 | Preparation Date/Time: | 04/03/2019 / 14:25 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71469 | Preparation Date/Time: 04/15/2019 / 12:18

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 255921 | Normal Sample | DU2B-SU02R3 | SOIL | 2.01 |
| 256767 | Normal Sample | DU1A-SU24 | SOIL | 2.05 |
| 256794 | Normal Sample | DU1B-SU24 | SOIL | 1.99 |
| 256796 | Normal Sample | DU1B-SU25 | SOIL | 1.90 |
| 256797 | Normal Sample | DU1A-SU15 | SOIL | 1.91 |
| 256798 | Normal Sample | DU1B-SU15 | SOIL | 1.93 |
| 256799 | Normal Sample | DU3A-SU08 | SOIL | 2.01 |
| 256800 | Normal Sample | DU3B-SU08 | SOIL | 1.91 |
| 256801 | Normal Sample | DU3A-SU06 | SOIL | 1.95 |
| 256802 | Normal Sample | DU3B-SU06 | SOIL | 1.95 |
| 256803 | Normal Sample | DU1A-SU18 | SOIL | 2.03 |
| 256804 | Normal Sample | DU1B-SU18 | SOIL | 2.07 |
| 256805 | Normal Sample | DU1A-SU22 | SOIL | 2.07 |
| 256806 | Normal Sample | DU1B-SU22 | SOIL | 1.94 |
| 256807 | Normal Sample | DU1A-SU17 | SOIL | 1.91 |
| 256808 | Normal Sample | DU1B-SU17 | SOIL | 1.96 |
| 257642 | Normal Sample | DU1B-SU16 | SOIL | 1.94 |
| 257643 | Normal Sample | DU1A-SU16 | SOIL | 1.91 |
| 257644 | Normal Sample | DU1B-SU26 | SOIL | 1.92 |
| 257645 | Normal Sample | DU1A-SU20 | SOIL | 1.98 |
| 265240 | Method Blank | | SOLID | 2.07 |
| 265241 | Lab Control Spike | | SOLID | 2.00 |
| 265264 | Lab Duplicate | DU1B-SU15 | SOIL | 1.92 |
| 265265 | Lab Duplicate | DU1B-SU15 | SOIL | 1.94 |
| 265266 | Matrix Spike | DU1B-SU15 | SOIL | 1.93 |
| 265267 | Matrix Spike Duplicate | DU1B-SU15 | SOIL | 1.93 |
| 266418 | Lab Duplicate | DU1A-SU18 | SOIL | 2.03 |
| 266419 | Lab Duplicate | DU1A-SU18 | SOIL | 2.02 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Project: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Method: | EPA 3050B | SDG No.: | 143765 |
| Preparation Batch #: | 71469 | Preparation Date/Time: | 04/15/2019 / 12:18 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71472 | Preparation Date/Time: 04/19/2019 / 12:26

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 257646 | Normal Sample | DU1B-SU20 | SOIL | 2.00 |
| 257647 | Normal Sample | DU1A-SU44R1 | SOIL | 1.95 |
| 257648 | Normal Sample | DU1B-SU44R1 | SOIL | 1.97 |
| 257649 | Normal Sample | DU1A-SU44R2 | SOIL | 2.04 |
| 257650 | Normal Sample | DU1B-SU44R2 | SOIL | 1.98 |
| 257651 | Normal Sample | DU1A-SU44R3 | SOIL | 1.97 |
| 257652 | Normal Sample | DU1B-SU44R3 | SOIL | 1.91 |
| 257653 | Normal Sample | DU1A-SU48 | SOIL | 1.95 |
| 257654 | Normal Sample | DU1B-SU48 | SOIL | 1.95 |
| 257655 | Normal Sample | DU1A-SU26 | SOIL | 1.90 |
| 257656 | Normal Sample | DU1A-SU30S1 | SOIL | 1.91 |
| 257657 | Normal Sample | DU1B-SU30S1 | SOIL | 1.92 |
| 257658 | Normal Sample | DU1A-SU30S2 | SOIL | 1.96 |
| 257659 | Normal Sample | DU1B-SU30S2 | SOIL | 1.97 |
| 257660 | Normal Sample | DU1A-SU30S3 | SOIL | 1.96 |
| 257661 | Normal Sample | DU1B-SU30S3 | SOIL | 1.94 |
| 257662 | Normal Sample | DU2A-SU18 | SOIL | 1.92 |
| 257663 | Normal Sample | DU2B-SU18 | SOIL | 1.96 |
| 258269 | Normal Sample | DU2A-SU10 | SOIL | 1.96 |
| 258274 | Normal Sample | DU2A-SU04 | SOIL | 1.90 |
| 265268 | Method Blank | | SOLID | 1.93 |
| 265269 | Lab Control Spike | | SOLID | 1.97 |
| 265270 | Lab Duplicate | DU1A-SU30S1 | SOIL | 1.90 |
| 265271 | Lab Duplicate | DU1A-SU30S1 | SOIL | 1.90 |
| 265272 | Lab Duplicate | DU2A-SU04 | SOIL | 1.90 |
| 265273 | Lab Duplicate | DU2A-SU04 | SOIL | 1.90 |
| 265286 | Lab Duplicate | DU2A-SU10 | SOIL | 1.95 |
| 265287 | Matrix Spike | DU2A-SU10 | SOIL | 1.96 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71472 | Preparation Date/Time: 04/19/2019 / 12:26

| | | | | |
|---|---|---|---|---|
| 265288 | Matrix Spike Duplicate | DU2A-SU10 | SOIL | 1.96 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143765

Preparation Batch #: 71473

Preparation Date/Time: 04/21/2019 / 14:36

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 258271 | Normal Sample | DU2B-SU10 | SOIL | 1.93 |
| 258272 | Normal Sample | DU2A-SU05 | SOIL | 1.99 |
| 258273 | Normal Sample | DU2B-SU05 | SOIL | 2.04 |
| 258275 | Normal Sample | DU2B-SU04 | SOIL | 1.98 |
| 258276 | Normal Sample | DU2A-SU03 | SOIL | 1.95 |
| 258277 | Normal Sample | DU2B-SU03 | SOIL | 2.05 |
| 259433 | Normal Sample | DU1A-SU13 | SOIL | 1.91 |
| 259434 | Normal Sample | DU1B-SU13 | SOIL | 1.95 |
| 259435 | Normal Sample | DU1A-SU14 | SOIL | 1.96 |
| 259436 | Normal Sample | DU1B-SU14 | SOIL | 2.03 |
| 259437 | Normal Sample | DU1A-SU19 | SOIL | 1.92 |
| 259459 | Normal Sample | DU1B-SU19 | SOIL | 1.91 |
| 259460 | Normal Sample | DU1A-SU12 | SOIL | 1.95 |
| 259462 | Normal Sample | DU1B-SU12 | SOIL | 1.99 |
| 259463 | Normal Sample | DU1A-SU36R1 | SOIL | 2.05 |
| 259464 | Normal Sample | DU1B-SU36R1 | SOIL | 2.00 |
| 259465 | Normal Sample | DU1A-SU36R2 | SOIL | 1.95 |
| 259466 | Normal Sample | DU1B-SU36R2 | SOIL | 2.05 |
| 259467 | Normal Sample | DU1A-SU36R3 | SOIL | 1.90 |
| 259468 | Normal Sample | DU1B-SU36R3 | SOIL | 1.94 |
| 265276 | Method Blank | | SOLID | 1.95 |
| 265277 | Lab Control Spike | | SOLID | 2.01 |
| 265278 | Lab Duplicate | DU1B-SU13 | SOIL | 1.95 |
| 265279 | Lab Duplicate | DU1B-SU13 | SOIL | 1.96 |
| 265280 | Matrix Spike | DU1B-SU13 | SOIL | 1.96 |
| 265281 | Matrix Spike Duplicate | DU1B-SU13 | SOIL | 1.95 |
| 265282 | Lab Duplicate | DU1A-SU36R2 | SOIL | 1.95 |
| 265283 | Lab Duplicate | DU1A-SU36R2 | SOIL | 1.94 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71473 | Preparation Date/Time: 04/21/2019 / 14:36

| | | | | |
|---|---|---|---|---|
| 265289 | Lab Duplicate | DU2B-SU10 | SOIL | 1.92 |
| 265290 | Matrix Spike | DU2B-SU10 | SOIL | 1.93 |
| 265291 | Matrix Spike Duplicate | DU2B-SU10 | SOIL | 1.92 |
| 265292 | Lab Duplicate | DU1A-SU13 | SOIL | 1.91 |
| 265293 | Matrix Spike | DU1A-SU13 | SOIL | 1.91 |
| 265294 | Matrix Spike Duplicate | DU1A-SU13 | SOIL | 1.90 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143765

Preparation Batch #: 71761

Preparation Date/Time: / 12:35

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 257647 | Normal Sample | DU1A-SU44R1 | SOIL | 2.04 |
| 257648 | Normal Sample | DU1B-SU44R1 | SOIL | 1.99 |
| 257649 | Normal Sample | DU1A-SU44R2 | SOIL | 1.95 |
| 257650 | Normal Sample | DU1B-SU44R2 | SOIL | 1.90 |
| 257651 | Normal Sample | DU1A-SU44R3 | SOIL | 1.93 |
| 257652 | Normal Sample | DU1B-SU44R3 | SOIL | 2.00 |
| 257653 | Normal Sample | DU1A-SU48 | SOIL | 1.97 |
| 257654 | Normal Sample | DU1B-SU48 | SOIL | 2.06 |
| 257655 | Normal Sample | DU1A-SU26 | SOIL | 1.90 |
| 257657 | Normal Sample | DU1B-SU30S1 | SOIL | 1.95 |
| 257659 | Normal Sample | DU1B-SU30S2 | SOIL | 1.92 |
| 257661 | Normal Sample | DU1B-SU30S3 | SOIL | 1.95 |
| 259436 | Normal Sample | DU1B-SU14 | SOIL | 2.08 |
| 260475 | Normal Sample | DU4B-SU05 | SOIL | 1.90 |
| 274294 | Method Blank | | SOLID | 1.94 |
| 274295 | Lab Control Spike | | SOLID | 2.00 |
| 274296 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.05 |
| 274297 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.04 |
| 274298 | Matrix Spike | DU1A-SU44R1 | SOIL | 2.05 |
| 274299 | Matrix Spike Duplicate | DU1A-SU44R1 | SOIL | 2.03 |
| 274300 | Lab Duplicate | DU1B-SU14 | SOIL | 2.08 |
| 274301 | Lab Duplicate | DU1B-SU14 | SOIL | 2.07 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143765

Preparation Batch #: 71761 | Preparation Date/Time: 05/01/2019 / 12:35

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 257647 | Normal Sample | DU1A-SU44R1 | SOIL | 2.04 |
| 257648 | Normal Sample | DU1B-SU44R1 | SOIL | 1.99 |
| 257649 | Normal Sample | DU1A-SU44R2 | SOIL | 1.95 |
| 257650 | Normal Sample | DU1B-SU44R2 | SOIL | 1.90 |
| 257651 | Normal Sample | DU1A-SU44R3 | SOIL | 1.93 |
| 257652 | Normal Sample | DU1B-SU44R3 | SOIL | 2.00 |
| 257653 | Normal Sample | DU1A-SU48 | SOIL | 1.97 |
| 257654 | Normal Sample | DU1B-SU48 | SOIL | 2.06 |
| 257655 | Normal Sample | DU1A-SU26 | SOIL | 1.90 |
| 257657 | Normal Sample | DU1B-SU30S1 | SOIL | 1.95 |
| 257659 | Normal Sample | DU1B-SU30S2 | SOIL | 1.92 |
| 257661 | Normal Sample | DU1B-SU30S3 | SOIL | 1.95 |
| 259436 | Normal Sample | DU1B-SU14 | SOIL | 2.08 |
| 260475 | Normal Sample | DU4B-SU05 | SOIL | 1.90 |
| 274294 | Method Blank | | SOLID | 1.94 |
| 274295 | Lab Control Spike | | SOLID | 2.00 |
| 274296 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.05 |
| 274297 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.04 |
| 274298 | Matrix Spike | DU1A-SU44R1 | SOIL | 2.05 |
| 274299 | Matrix Spike Duplicate | DU1A-SU44R1 | SOIL | 2.03 |
| 274300 | Lab Duplicate | DU1B-SU14 | SOIL | 2.08 |
| 274301 | Lab Duplicate | DU1B-SU14 | SOIL | 2.07 |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264608 | ICV | 1.00 | 4/03 15:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264609 | ICVLL | 1.00 | 4/03 15:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264610 | ICB | 1.00 | 4/03 16:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264611 | ICSA | 1.00 | 4/03 16:17 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264612 | ICSAB | 1.00 | 4/03 16:24 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264613 | CCV1 | 1.00 | 4/04 10:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264614 | CCV2 | 1.00 | 4/04 10:16 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264615 | CCB | 1.00 | 4/04 10:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258597 | LCSS | 1.00 | 4/04 10:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258596 | MBS | 1.00 | 4/04 11:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254964 | Initial | 1.00 | 4/04 11:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264616 | L | 5 | 4/04 11:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258599 | DUP | 1.00 | 4/04 11:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258600 | MSS | 1.00 | 4/04 11:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264617 | CCV1 | 1.00 | 4/04 11:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264618 | CCV2 | 1.00 | 4/04 11:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264619 | CCB | 1.00 | 4/04 11:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258601 | MSDS | 1.00 | 4/04 11:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254965 | Initial | 1.00 | 4/04 11:58 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264620 | PDSS | 1.00 | 4/04 12:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258602 | DUP | 1.00 | 4/04 12:11 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264621 | L | 5 | 4/04 12:17 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258603 | MSS | 1.00 | 4/04 12:30 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258604 | MSDS | 1.00 | 4/04 12:36 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264622 | PDSS | 1.00 | 4/04 12:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254967 | Initial | 1.00 | 4/04 12:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264623 | CCV1 | 1.00 | 4/04 12:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264624 | CCV2 | 1.00 | 4/04 13:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264625 | CCB | 1.00 | 4/04 13:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258605 | DUP | 1.00 | 4/04 13:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258606 | DUP | 1.00 | 4/04 13:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255855 | Initial | 1.00 | 4/04 13:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255856 | Initial | 1.00 | 4/04 13:33 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255857 | Initial | 1.00 | 4/04 13:39 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255858 | Re-Analysis | 1.00 | 4/04 13:45 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255859 | Initial | 1.00 | 4/04 13:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255860 | Initial | 1.00 | 4/04 13:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255861 | Initial | 1.00 | 4/04 14:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255880 | Initial | 1.00 | 4/04 14:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264626 | CCV1 | 1.00 | 4/04 14:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264627 | CCV2 | 1.00 | 4/04 14:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264628 | CCB | 1.00 | 4/04 14:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266034 | ICV | 1.00 | 4/05 08:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266036 | ICVLL | 1.00 | 4/05 09:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266037 | ICB | 1.00 | 4/05 09:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266039 | ICSA | 1.00 | 4/05 09:29 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 266050 | ICSAB | 1.00 | 4/05 09:35 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 266041 | CCV1 | 1.00 | 4/05 16:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266042 | CCV2 | 1.00 | 4/05 16:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266043 | CCB | 1.00 | 4/05 16:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266044 | CCV1 | 1.00 | 4/05 17:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266045 | CCV2 | 1.00 | 4/05 17:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266046 | CCB | 1.00 | 4/05 17:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255858 | Initial | 20.00 | 4/05 17:58 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255882 | Initial | 1.00 | 4/05 18:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255883 | Initial | 1.00 | 4/05 18:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255884 | Initial | 1.00 | 4/05 18:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255885 | Initial | 1.00 | 4/05 18:24 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255886 | Initial | 1.00 | 4/05 18:31 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255887 | Initial | 1.00 | 4/05 18:38 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255888 | Initial | 1.00 | 4/05 18:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255889 | Initial | 1.00 | 4/05 18:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266047 | CCV1 | 1.00 | 4/05 19:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266048 | CCV2 | 1.00 | 4/05 19:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 266049 | CCB | 1.00 | 4/05 19:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273309 | ICV | 1.00 | 4/25 15:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273310 | ICVLL | 1.00 | 4/25 15:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273311 | ICB | 1.00 | 4/25 16:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273312 | ICSA | 1.00 | 4/25 16:16 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 273313 | ICSAB | 1.00 | 4/25 16:22 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 273315 | CCV1 | 1.00 | 4/25 19:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273316 | CCV2 | 1.00 | 4/25 19:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273317 | CCB | 1.00 | 4/25 19:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 254965 | Re-Analysis | 10.00 | 4/25 19:57 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264621 | L | 5 | 4/25 20:03 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258602 | DUP | 10.00 | 4/25 20:09 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258603 | MSS | 10.00 | 4/25 20:15 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273318 | CCV1 | 1.00 | 4/25 20:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273319 | CCV2 | 1.00 | 4/25 20:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273320 | CCB | 1.00 | 4/25 20:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258604 | MSDS | 10.00 | 4/25 20:39 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 264622 | PDSS | 10.00 | 4/25 20:45 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255856 | Re-Analysis | 10.00 | 4/25 20:51 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 255857 | Re-Analysis | 10.00 | 4/25 20:57 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159293

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255881 | Initial | 3.00 | 4/25 21:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255884 | Re-Analysis | 10.00 | 4/25 21:10 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255885 | Re-Analysis | 10.00 | 4/25 21:17 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255887 | Re-Analysis | 10.00 | 4/25 21:29 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273321 | CCV1 | 1.00 | 4/25 21:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273322 | CCV2 | 1.00 | 4/25 21:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273323 | CCB | 1.00 | 4/25 21:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273326 | ICV | 1.00 | 4/29 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273327 | ICVLL | 1.00 | 4/29 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273328 | ICB | 1.00 | 4/29 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273329 | ICSA | 1.00 | 4/29 16:26 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273330 | ICSAB | 1.00 | 4/29 16:33 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 255886 | Re-Analysis | 100.00 | 4/29 17:24 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273331 | CCV1 | 1.00 | 4/29 17:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273332 | CCV2 | 1.00 | 4/29 17:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273333 | CCB | 1.00 | 4/29 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264629 | ICV | 1.00 | 4/03 15:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264630 | ICVLL | 1.00 | 4/03 15:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264631 | ICB | 1.00 | 4/03 16:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264632 | ICSA | 1.00 | 4/03 16:17 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264633 | ICSAB | 1.00 | 4/03 16:24 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 264634 | CCV1 | 1.00 | 4/04 04:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264635 | CCV2 | 1.00 | 4/04 04:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264636 | CCB | 1.00 | 4/04 04:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258583 | LCSS | 1.00 | 4/04 05:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258582 | MBS | 1.00 | 4/04 05:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264637 | CCV1 | 1.00 | 4/04 06:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264638 | CCV2 | 1.00 | 4/04 06:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264639 | CCB | 1.00 | 4/04 06:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254597 | Initial | 1.00 | 4/04 06:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254598 | Initial | 1.00 | 4/04 06:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254599 | Initial | 1.00 | 4/04 06:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254600 | Initial | 1.00 | 4/04 06:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264656 | DUP | 1.00 | 4/04 06:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264657 | DUP | 1.00 | 4/04 06:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254601 | Initial | 1.00 | 4/04 06:59 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264640 | L | 5 | 4/04 07:06 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258589 | DUP | 1.00 | 4/04 07:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258588 | DUP | 1.00 | 4/04 07:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264641 | CCV1 | 1.00 | 4/04 07:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264642 | CCV2 | 1.00 | 4/04 07:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264643 | CCB | 1.00 | 4/04 07:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258590 | MSS | 1.00 | 4/04 07:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258591 | MSDS | 1.00 | 4/04 07:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264644 | PDSS | 1.00 | 4/04 07:55 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254602 | Initial | 1.00 | 4/04 08:02 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264645 | L | 5 | 4/04 08:08 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258592 | DUP | 1.00 | 4/04 08:15 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258593 | DUP | 1.00 | 4/04 08:21 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258594 | MSS | 1.00 | 4/04 08:27 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258595 | MSDS | 1.00 | 4/04 08:33 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264646 | PDSS | 1.00 | 4/04 08:40 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264647 | CCV1 | 1.00 | 4/04 08:47 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 264648 | CCV2 | 1.00 | 4/04 08:52 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 264649 | CCB | 1.00 | 4/04 08:58 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254603 | Initial | 1.00 | 4/04 09:04 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254604 | Initial | 1.00 | 4/04 09:11 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254605 | Initial | 1.00 | 4/04 09:18 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254606 | Initial | 1.00 | 4/04 09:25 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254959 | Initial | 1.00 | 4/04 09:31 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254961 | Initial | 1.00 | 4/04 09:38 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254962 | Initial | 1.00 | 4/04 09:45 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254963 | Initial | 1.00 | 4/04 09:51 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254966 | Initial | 1.00 | 4/04 09:58 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254968 | Initial | 1.00 | 4/04 10:04 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 264650 | CCV1 | 1.00 | 4/04 10:10 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 264651 | CCV2 | 1.00 | 4/04 10:16 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 264652 | CCB | 1.00 | 4/04 10:22 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 254969 | Initial | 1.00 | 4/04 10:28 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 255833 | Initial | 1.00 | 4/04 10:34 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255853 | Initial | 1.00 | 4/04 10:41 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255854 | Initial | 1.00 | 4/04 10:47 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264653 | CCV1 | 1.00 | 4/04 11:33 | | | X | | | | | | | | | | | | | X | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264654 | CCV2 | 1.00 | 4/04 11:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264655 | CCB | 1.00 | 4/04 11:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273252 | ICV | 1.00 | 4/25 15:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273253 | ICVLL | 1.00 | 4/25 15:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273254 | ICB | 1.00 | 4/25 16:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273255 | ICSA | 1.00 | 4/25 16:16 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273256 | ICSAB | 1.00 | 4/25 16:22 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 254601 | Re-Analysis | 10.00 | 4/25 17:06 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264640 | L | 5 | 4/25 17:12 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258589 | DUP | 10.00 | 4/25 17:19 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258588 | DUP | 10.00 | 4/25 17:25 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258590 | MSS | 10.00 | 4/25 17:32 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273258 | CCV1 | 1.00 | 4/25 17:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273259 | CCV2 | 1.00 | 4/25 17:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273260 | CCB | 1.00 | 4/25 17:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258591 | MSDS | 10.00 | 4/25 17:56 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264644 | PDSS | 10.00 | 4/25 18:03 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264645 | L | 5 | 4/25 18:15 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258592 | DUP | 10.00 | 4/25 18:22 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258593 | DUP | 10.00 | 4/25 18:28 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258594 | MSS | 10.00 | 4/25 18:35 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258595 | MSDS | 10.00 | 4/25 18:41 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 264646 | PDSS | 10.00 | 4/25 18:48 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254603 | Re-Analysis | 10.00 | 4/25 18:54 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273261 | CCV1 | 1.00 | 4/25 19:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273262 | CCV2 | 1.00 | 4/25 19:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273263 | CCB | 1.00 | 4/25 19:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254604 | Re-Analysis | 10.00 | 4/25 19:18 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/03/2019 to 04/29/2019 | Analytical Run #: 159294

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 254606 | Re-Analysis | 10.00 | 4/25 19:31 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255833 | Re-Analysis | 10.00 | 4/25 19:38 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255853 | Re-Analysis | 10.00 | 4/25 19:44 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255854 | Re-Analysis | 10.00 | 4/25 19:51 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273264 | CCV1 | 1.00 | 4/25 20:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273265 | CCV2 | 1.00 | 4/25 20:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273266 | CCB | 1.00 | 4/25 20:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273289 | ICV | 1.00 | 4/29 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273290 | ICVLL | 1.00 | 4/29 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273291 | ICB | 1.00 | 4/29 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273292 | ICSA | 1.00 | 4/29 16:26 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273293 | ICSAB | 1.00 | 4/29 16:33 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 254602 | Re-Analysis | 10.00 | 4/29 17:30 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 254605 | Re-Analysis | 100.00 | 4/29 17:37 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273294 | CCV1 | 1.00 | 4/29 17:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273295 | CCV2 | 1.00 | 4/29 17:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273296 | CCB | 1.00 | 4/29 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/05/2019 to 04/05/2019 | Analytical Run #: 159388

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 265992 | ICV | 1.00 | 4/05 08:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265994 | ICVLL | 1.00 | 4/05 09:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265995 | ICB | 1.00 | 4/05 09:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265997 | ICSA | 1.00 | 4/05 09:29 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 266013 | ICSAB | 1.00 | 4/05 09:35 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 260074 | LCSS | 1.00 | 4/05 10:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260073 | MBS | 1.00 | 4/05 10:26 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255901 | Initial | 1.00 | 4/05 10:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255903 | Initial | 1.00 | 4/05 10:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255904 | Initial | 1.00 | 4/05 10:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265999 | CCV1 | 1.00 | 4/05 10:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266000 | CCV2 | 1.00 | 4/05 10:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266001 | CCB | 1.00 | 4/05 11:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260075 | DUP | 1.00 | 4/05 11:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260076 | DUP | 1.00 | 4/05 11:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255905 | Initial | 1.00 | 4/05 11:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255906 | Initial | 1.00 | 4/05 11:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255907 | Initial | 1.00 | 4/05 11:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255908 | Initial | 1.00 | 4/05 11:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255909 | Initial | 1.00 | 4/05 11:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255910 | Initial | 1.00 | 4/05 11:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255911 | Initial | 1.00 | 4/05 12:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255912 | Initial | 1.00 | 4/05 12:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266002 | CCV1 | 1.00 | 4/05 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266003 | CCV2 | 1.00 | 4/05 12:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266004 | CCB | 1.00 | 4/05 12:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255913 | Initial | 1.00 | 4/05 12:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255914 | Initial | 1.00 | 4/05 12:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255915 | Initial | 1.00 | 4/05 12:43 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/05/2019 to 04/05/2019 | Analytical Run #: 159388

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255916 | Initial | 1.00 | 4/05 12:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255917 | Initial | 1.00 | 4/05 12:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255918 | Initial | 1.00 | 4/05 13:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255919 | Initial | 1.00 | 4/05 13:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266005 | L | 5 | 4/05 13:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260078 | DUP | 1.00 | 4/05 13:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260079 | DUP | 1.00 | 4/05 13:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266006 | CCV1 | 1.00 | 4/05 13:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266007 | CCV2 | 1.00 | 4/05 13:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266008 | CCB | 1.00 | 4/05 13:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260080 | MSS | 1.00 | 4/05 13:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260081 | MSDS | 1.00 | 4/05 13:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266009 | PDSS | 1.00 | 4/05 14:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255920 | Initial | 1.00 | 4/05 14:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256795 | Initial | 1.00 | 4/05 14:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266010 | CCV1 | 1.00 | 4/05 14:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266011 | CCV2 | 1.00 | 4/05 15:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266012 | CCB | 1.00 | 4/05 15:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/18/2019 to 04/29/2019 | Analytical Run #: 159809

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 273038 | ICV | 1.00 | 4/18 16:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273039 | ICVLL | 1.00 | 4/18 16:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273040 | ICB | 1.00 | 4/18 16:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273041 | ICSA | 1.00 | 4/18 16:40 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273042 | ICSAB | 1.00 | 4/18 16:46 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273043 | CCV1 | 1.00 | 4/19 06:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273044 | CCV2 | 1.00 | 4/19 06:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273048 | CCB | 1.00 | 4/19 06:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265241 | LCSS | 1.00 | 4/19 07:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270334 | CCV1 | 1.00 | 4/19 07:48 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273046 | CCV2 | 1.00 | 4/19 07:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270336 | CCB | 1.00 | 4/19 08:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265240 | MBS | 1.00 | 4/19 08:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 255921 | Initial | 1.00 | 4/19 08:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256767 | Initial | 1.00 | 4/19 08:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 256794 | Initial | 1.00 | 4/19 08:26 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256796 | Initial | 1.00 | 4/19 08:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256797 | Initial | 1.00 | 4/19 08:38 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 256798 | Initial | 1.00 | 4/19 08:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273059 | L | 5 | 4/19 08:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265264 | DUP | 1.00 | 4/19 08:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265265 | DUP | 1.00 | 4/19 09:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273064 | CCV1 | 1.00 | 4/19 09:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270335 | CCV2 | 1.00 | 4/19 09:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273045 | CCB | 1.00 | 4/19 09:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270322 | ICV | 1.00 | 4/19 12:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270323 | ICVLL | 1.00 | 4/19 12:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270324 | ICB | 1.00 | 4/19 12:59 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/18/2019 to 04/29/2019 | Analytical Run #: 159809

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270325 | ICSA | 1.00 | 4/19 13:11 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 270326 | ICSAB | 1.00 | 4/19 13:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 265266 | MSS | 4.00 | 4/19 13:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270327 | PDSS | 4.00 | 4/19 13:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256799 | Initial | 3.00 | 4/19 13:43 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256800 | Initial | 3.00 | 4/19 13:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256801 | Initial | 5.00 | 4/19 13:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256802 | Initial | 1.00 | 4/19 14:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256803 | Initial | 1.00 | 4/19 14:09 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 266418 | DUP | 1.00 | 4/19 14:16 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 266419 | DUP | 1.00 | 4/19 14:22 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 256804 | Initial | 1.00 | 4/19 14:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270328 | CCV1 | 1.00 | 4/19 14:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270329 | CCV2 | 1.00 | 4/19 14:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270330 | CCB | 1.00 | 4/19 14:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256805 | Initial | 1.00 | 4/19 14:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256806 | Initial | 1.00 | 4/19 14:59 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256807 | Initial | 1.00 | 4/19 15:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256808 | Initial | 1.00 | 4/19 15:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257642 | Initial | 1.00 | 4/19 15:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257643 | Initial | 1.00 | 4/19 15:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257644 | Initial | 1.00 | 4/19 15:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257645 | Initial | 1.00 | 4/19 15:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270331 | CCV1 | 1.00 | 4/19 15:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270332 | CCV2 | 1.00 | 4/19 16:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270333 | CCB | 1.00 | 4/19 16:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273471 | ICV | 1.00 | 4/29 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273472 | ICVLL | 1.00 | 4/29 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL

SDG No.: 143765

Instrument ID Number: TJA

Method Number: P

Start & End Date: 04/18/2019 to 04/29/2019

Analytical Run #: 159809

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 273473 | ICB | 1.00 | 4/29 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273474 | ICSA | 1.00 | 4/29 16:26 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273475 | ICSAB | 1.00 | 4/29 16:33 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 256803 | Re-Analysis | 100.00 | 4/29 16:45 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266418 | DUP | 100.00 | 4/29 16:51 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 266419 | DUP | 100.00 | 4/29 16:58 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256767 | Re-Analysis | 100.00 | 4/29 17:04 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 256797 | Re-Analysis | 100.00 | 4/29 17:11 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273476 | CCV1 | 1.00 | 4/29 17:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273477 | CCV2 | 1.00 | 4/29 17:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273478 | CCB | 1.00 | 4/29 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/25/2019 | Analytical Run #: 159920

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271470 | ICV | 1.00 | 4/23 16:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270998 | ICVLL | 1.00 | 4/23 16:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270999 | ICB | 1.00 | 4/23 16:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271000 | ICSA | 1.00 | 4/23 16:40 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 271001 | ICSAB | 1.00 | 4/23 16:46 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 271002 | CCV1 | 1.00 | 4/23 21:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271003 | CCV2 | 1.00 | 4/23 21:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271004 | CCB | 1.00 | 4/23 21:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265269 | LCSS | 1.00 | 4/23 21:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265268 | MBS | 1.00 | 4/23 21:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257646 | Initial | 1.00 | 4/23 21:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257647 | Initial | 1.00 | 4/23 22:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257648 | Initial | 1.00 | 4/23 22:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257649 | Initial | 1.00 | 4/23 22:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257650 | Initial | 1.00 | 4/23 22:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257651 | Initial | 1.00 | 4/23 22:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271005 | CCV1 | 1.00 | 4/23 22:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271006 | CCV2 | 1.00 | 4/23 22:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271007 | CCB | 1.00 | 4/23 22:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257652 | Initial | 1.00 | 4/23 22:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257653 | Initial | 1.00 | 4/23 22:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257654 | Initial | 1.00 | 4/23 22:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257655 | Initial | 1.00 | 4/23 23:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257656 | Initial | 1.00 | 4/23 23:06 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265270 | DUP | 1.00 | 4/23 23:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265271 | DUP | 1.00 | 4/23 23:18 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257657 | Initial | 1.00 | 4/23 23:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 257658 | Initial | 1.00 | 4/23 23:29 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257659 | Initial | 1.00 | 4/23 23:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/25/2019 | Analytical Run #: 159920

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271008 | CCV1 | 1.00 | 4/23 23:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271009 | CCV2 | 1.00 | 4/23 23:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271010 | CCB | 1.00 | 4/23 23:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257660 | Initial | 1.00 | 4/23 23:56 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257661 | Initial | 1.00 | 4/24 00:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257662 | Initial | 1.00 | 4/24 00:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257663 | Initial | 1.00 | 4/24 00:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258269 | Initial | 1.00 | 4/24 00:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271011 | L | 5 | 4/24 00:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265286 | DUP | 1.00 | 4/24 00:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265287 | MSS | 1.00 | 4/24 00:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265288 | MSDS | 1.00 | 4/24 00:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271012 | PDSS | 1.00 | 4/24 00:48 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271013 | CCV1 | 1.00 | 4/24 00:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271014 | CCV2 | 1.00 | 4/24 00:59 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271015 | CCB | 1.00 | 4/24 01:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 258274 | Initial | 1.00 | 4/24 01:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265272 | DUP | 1.00 | 4/24 01:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265273 | DUP | 1.00 | 4/24 01:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271016 | CCV1 | 1.00 | 4/24 01:31 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271017 | CCV2 | 1.00 | 4/24 01:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271018 | CCB | 1.00 | 4/24 01:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271943 | ICV | 1.00 | 4/25 11:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271944 | ICVLL | 1.00 | 4/25 12:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271945 | ICB | 1.00 | 4/25 12:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271946 | MRL | 1.00 | 4/25 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271947 | ICSA | 1.00 | 4/25 12:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/25/2019 | Analytical Run #: 159920

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271948 | ICSAB | 1.00 | 4/25 12:23 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 257656 | Re-Analysis | 5.00 | 4/25 12:41 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265270 | DUP | 5.00 | 4/25 12:46 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265271 | DUP | 5.00 | 4/25 12:51 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257658 | Re-Analysis | 5.00 | 4/25 12:56 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 257660 | Re-Analysis | 5.00 | 4/25 13:01 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271949 | CCV1 | 1.00 | 4/25 13:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271950 | CCV2 | 1.00 | 4/25 13:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271951 | CCB | 1.00 | 4/25 13:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019 | Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271472 | ICV | 1.00 | 4/23 16:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270958 | ICVLL | 1.00 | 4/23 16:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270959 | ICB | 1.00 | 4/23 16:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270960 | ICSA | 1.00 | 4/23 16:40 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 270961 | ICSAB | 1.00 | 4/23 16:46 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 265277 | LCSS | 1.00 | 4/23 17:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265276 | MBS | 1.00 | 4/23 17:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258271 | Initial | 1.00 | 4/23 17:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270962 | L | 5 | 4/23 17:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265289 | DUP | 1.00 | 4/23 17:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265290 | MSS | 1.00 | 4/23 17:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265291 | MSDS | 1.00 | 4/23 17:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270963 | PDSS | 1.00 | 4/23 17:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270964 | CCV1 | 1.00 | 4/23 17:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270965 | CCV2 | 1.00 | 4/23 17:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270966 | CCB | 1.00 | 4/23 17:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258272 | Initial | 1.00 | 4/23 18:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258273 | Initial | 1.00 | 4/23 18:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258275 | Initial | 1.00 | 4/23 18:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258276 | Initial | 1.00 | 4/23 18:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258277 | Initial | 1.00 | 4/23 18:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259433 | Initial | 1.00 | 4/23 18:29 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270967 | L | 5 | 4/23 18:34 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265292 | DUP | 1.00 | 4/23 18:40 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265293 | MSS | 1.00 | 4/23 18:45 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265294 | MSDS | 1.00 | 4/23 18:51 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270968 | CCV1 | 1.00 | 4/23 18:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270969 | CCV2 | 1.00 | 4/23 19:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270970 | CCB | 1.00 | 4/23 19:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143765

Instrument ID Number: TJA
Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019
Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270971 | PDSS | 1.00 | 4/23 19:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259434 | Initial | 1.00 | 4/23 19:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270972 | L | 5 | 4/23 19:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265278 | DUP | 1.00 | 4/23 19:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265279 | DUP | 1.00 | 4/23 19:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265280 | MSS | 1.00 | 4/23 19:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265281 | MSDS | 1.00 | 4/23 19:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270973 | PDSS | 1.00 | 4/23 19:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259435 | Initial | 1.00 | 4/23 19:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259436 | Initial | 1.00 | 4/23 20:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270974 | CCV1 | 1.00 | 4/23 20:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270975 | CCV2 | 1.00 | 4/23 20:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270976 | CCB | 1.00 | 4/23 20:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259437 | Initial | 1.00 | 4/23 20:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259459 | Initial | 1.00 | 4/23 20:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259460 | Initial | 1.00 | 4/23 20:35 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259462 | Initial | 1.00 | 4/23 20:41 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259463 | Initial | 1.00 | 4/23 20:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259464 | Initial | 1.00 | 4/23 20:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259465 | Initial | 1.00 | 4/23 20:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265282 | DUP | 1.00 | 4/23 21:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265283 | DUP | 1.00 | 4/23 21:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259466 | Initial | 1.00 | 4/23 21:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270977 | CCV1 | 1.00 | 4/23 21:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270978 | CCV2 | 1.00 | 4/23 21:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270979 | CCB | 1.00 | 4/23 21:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259467 | Initial | 1.00 | 4/23 21:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259468 | Initial | 1.00 | 4/23 21:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270980 | CCV1 | 1.00 | 4/23 22:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143765

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019 | Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270981 | CCV2 | 1.00 | 4/23 22:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270982 | CCB | 1.00 | 4/23 22:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271952 | ICV | 1.00 | 4/25 11:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271953 | ICVLL | 1.00 | 4/25 12:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271954 | ICB | 1.00 | 4/25 12:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271955 | MRL | 1.00 | 4/25 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271956 | ICSA | 1.00 | 4/25 12:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 271957 | ICSAB | 1.00 | 4/25 12:23 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 259433 | Re-Analysis | 10.00 | 4/25 13:07 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272087 | L | 5 | 4/25 13:12 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265292 | DUP | 10.00 | 4/25 13:17 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271958 | CCV1 | 1.00 | 4/25 13:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271959 | CCV2 | 1.00 | 4/25 13:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271960 | CCB | 1.00 | 4/25 13:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265293 | MSS | 10.00 | 4/25 13:38 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265294 | MSDS | 10.00 | 4/25 13:44 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272088 | PDSS | 1.00 | 4/25 13:49 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259462 | Re-Analysis | 10.00 | 4/25 14:00 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271961 | CCV1 | 1.00 | 4/25 14:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271962 | CCV2 | 1.00 | 4/25 14:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271963 | CCB | 1.00 | 4/25 14:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271964 | CCV1 | 1.00 | 4/26 01:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271965 | CCV2 | 1.00 | 4/26 01:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271966 | CCB | 1.00 | 4/26 01:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259460 | Re-Analysis | 30.00 | 4/26 01:26 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271967 | CCV1 | 1.00 | 4/26 01:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271968 | CCV2 | 1.00 | 4/26 01:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL

SDG No.: 143765

Instrument ID Number: TJA

Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019

Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271969 | CCB | 1.00 | 4/26 01:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143765

Instrument ID Number: SIMAA
Method Number: AA

Start & End Date: 05/02/2019 to 05/02/2019
Analytical Run #: 160412

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 276689 | CCVLL | 1.00 | 5/02 13:38 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276544 | ICV | 1.00 | 5/02 14:11 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276545 | CCB | 1.00 | 5/02 14:17 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274295 | LCSS | 1.00 | 5/02 14:23 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274294 | MBS | 1.00 | 5/02 14:29 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276687 | L | 5 | 5/02 14:55 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274296 | DUP | 5.00 | 5/02 15:01 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274297 | DUP | 5.00 | 5/02 15:07 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274298 | MSS | 5.00 | 5/02 15:13 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276546 | CCV | 1.00 | 5/02 15:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276547 | CCB | 1.00 | 5/02 15:25 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274299 | MSDS | 5.00 | 5/02 15:30 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257648 | Initial | 5.00 | 5/02 15:36 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257649 | Initial | 5.00 | 5/02 15:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257650 | Initial | 5.00 | 5/02 15:49 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257651 | Initial | 5.00 | 5/02 15:55 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257652 | Initial | 5.00 | 5/02 16:01 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257653 | Initial | 5.00 | 5/02 16:07 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257654 | Initial | 5.00 | 5/02 16:13 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276548 | CCV | 1.00 | 5/02 16:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276549 | CCB | 1.00 | 5/02 16:25 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257655 | Initial | 5.00 | 5/02 16:31 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257657 | Initial | 5.00 | 5/02 16:37 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257659 | Initial | 5.00 | 5/02 16:42 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257661 | Initial | 5.00 | 5/02 16:48 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259436 | Initial | 5.00 | 5/02 16:54 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274300 | DUP | 5.00 | 5/02 17:00 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274301 | DUP | 5.00 | 5/02 17:06 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 260475 | Initial | 5.00 | 5/02 17:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143765

Instrument ID Number: SIMAA
Method Number: AA

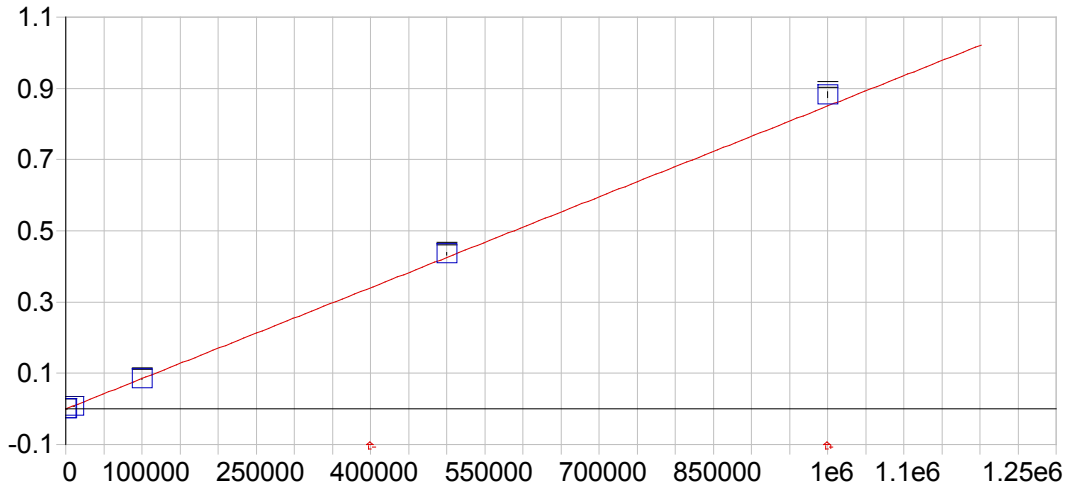
Start & End Date: 05/02/2019 to 05/02/2019
Analytical Run #: 160412

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 257647 | Initial | 5.00 | 5/02 17:18 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276688 | PDSS | 1.00 | 5/02 17:24 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276550 | CCV | 1.00 | 5/02 17:30 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276551 | CCB | 1.00 | 5/02 17:36 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

# METALS
# RAW DATA
# DOCUMENTS

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al 396.152 { 85} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | -0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999987 | 0.000008 | 9.452004 | 31.506680 |
| As 193.759 {474} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000001 | 2.996771 | 9.989237 |
| As 197.262 {471} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999949 | 0.000000 | 6.659778 | 22.199260 |
| Ca 315.887 {107} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | 0.000051 | 0.000000 | 0.000000 | 1.000000 | 0.999990 | 0.000004 | 5.169510 | 17.231699 |
| Fe 234.349 {144} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Linear | None | 0.004994 | 0.000000 | 0.000000 | 1.000000 | 0.993972 | 0.017709 | 2.206195 | 7.353985 |
| Fe 239.562 {141} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Linear | 1/Conc | 0.000011 | 0.000000 | 0.000000 | 1.000000 | 0.999747 | 0.000010 | 2.210323 | 7.367744 |
| Mg 279.079 {121} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999888 | 0.000002 | 17.673622 | 58.912073 |
| Pb 216.999 {455} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999684 | 0.000000 | 6.776495 | 22.588316 |
| Pb 220.353 {153} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999550 | 0.000005 | 4.497435 | 14.991449 |
| Pb 220.353 {453} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999766 | 0.000000 | 2.106772 | 7.022574 |
| Y 324.228 {104}* | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 224.306 {451} | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Mn 257.610 {131} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000009 | 0.000003 | 0.000000 | 1.000000 | 0.999586 | 0.000011 | 0.340524 | 1.135080 |
| Mn 259.373 {130} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.418686 | 1.395621 |

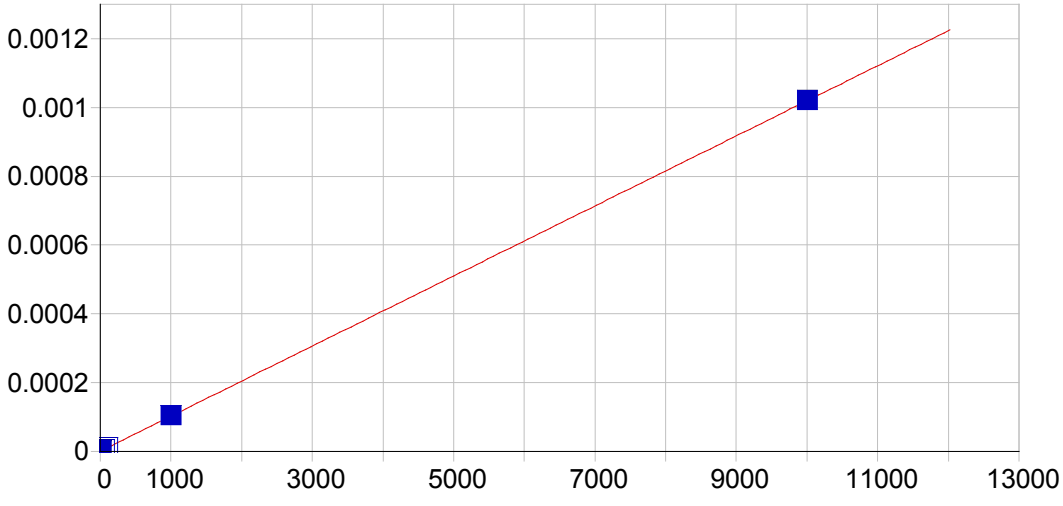
| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK | 1.000000 | 0.000000 | 1 | 0 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000007 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999987 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 9.452004 | | | | |
| Predicted MQL: | 31.506680 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00197 | .002 | .000 | -.00001 | .000 | 1 |
| CalStd14-10 | 1000000. | 1037300. | 37300. | 3.73 | .88206 | .008 | 1 |
| CalStd13=50 | 500000. | 512210. | 12200. | 2.44 | .43556 | .003 | 1 |
| CalStd10=10 | 10000. | 9580.3 | -420. | -4.20 | .00814 | .000 | 1 |
| CalStd12-10 | 100000. | 99360. | -640. | -.640 | .08448 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1046.7 | 46.7 | 4.67 | .00088 | .000 | 1 |

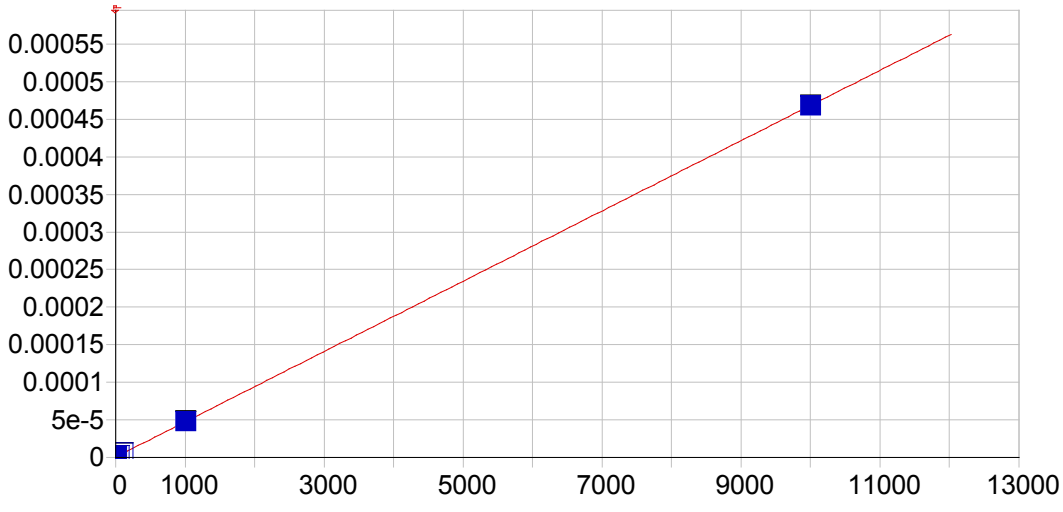



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.996771 | | |
| Predicted MQL: | 9.989237 | | |

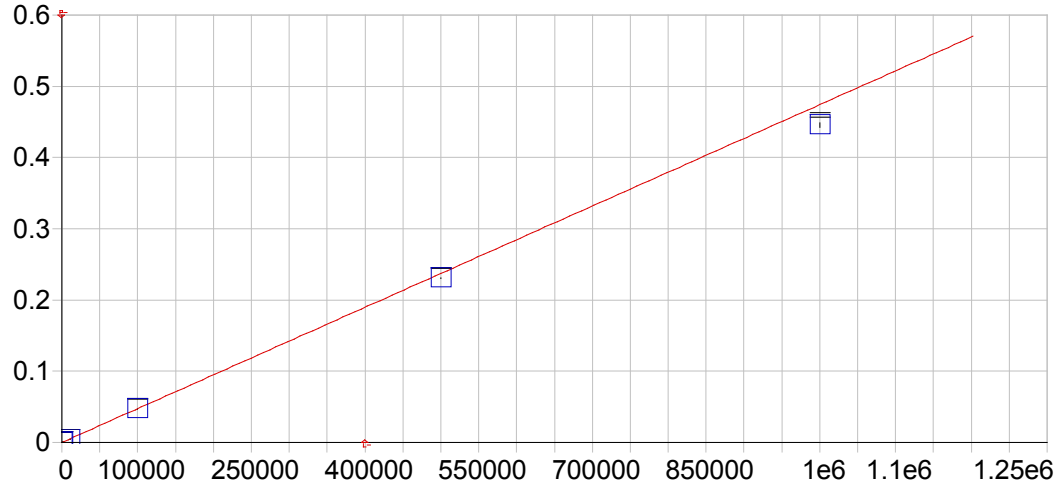
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.6859 | 7.69 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.9 | 13.9 | 1.39 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.195 | -3.80 | -7.61 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.1121 | -1.89 | -18.9 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.84 | 4.84 | 4.84 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9999.4 | -.647 | -.006 | .00102 | .000 | 1 |




**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999949 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 6.659778 | | | | |
| Predicted MQL: | 22.199260 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.690 | 11.7 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.5 | 9.49 | .949 | .00005 | .000 | 1 |
| CalStd7=50 | 50.000 | 44.360 | -5.64 | -11.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.980 | 3.98 | 39.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.59 | 9.59 | 9.59 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9992.9 | -7.14 | -.071 | .00047 | .000 | 1 |

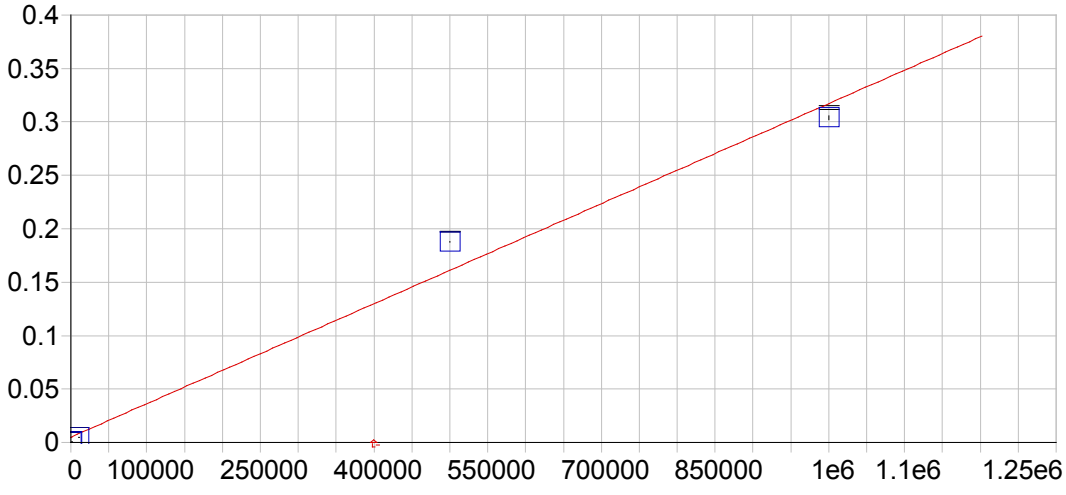



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 5.169510 | | |
| Predicted MQL: | 17.231699 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03647 | .036 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9498.3 | -502. | -5.02 | .00456 | .000 | 1 |
| CalStd13=50 | 500000. | 486470. | -13500. | -2.71 | .23074 | .001 | 1 |
| CalStd14-10 | 1000000. | 939610. | -60400. | -6.04 | .44562 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1013.4 | 13.4 | 1.34 | .00053 | .000 | 1 |
| CalStd12-10 | 100000. | 99155. | -845. | -.845 | .04707 | .001 | 1 |

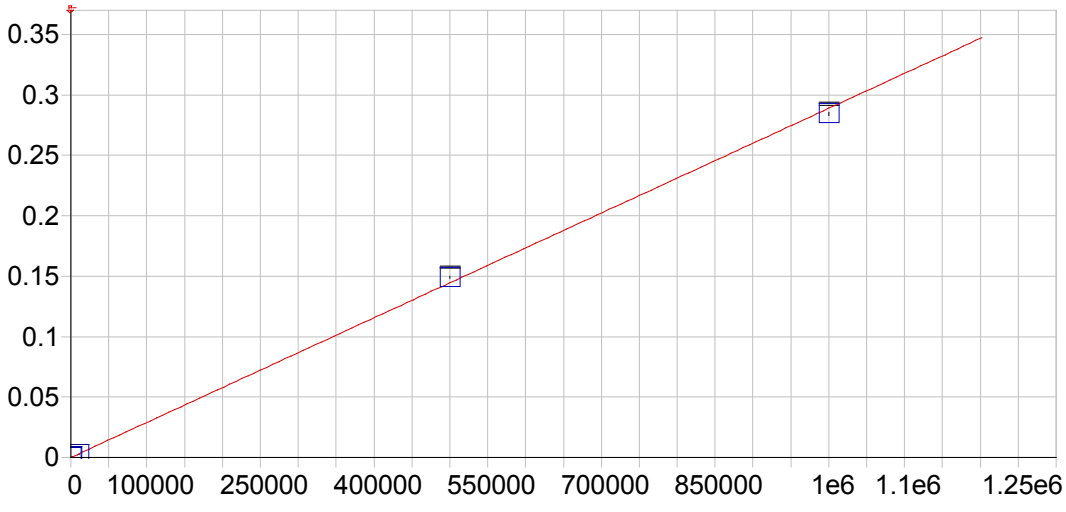



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004994 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.993972 | Status: | OK. |
| Std Error of Est: | 0.017709 | | |
| Predicted MDL: | 2.206195 | | |
| Predicted MQL: | 7.353985 | | |

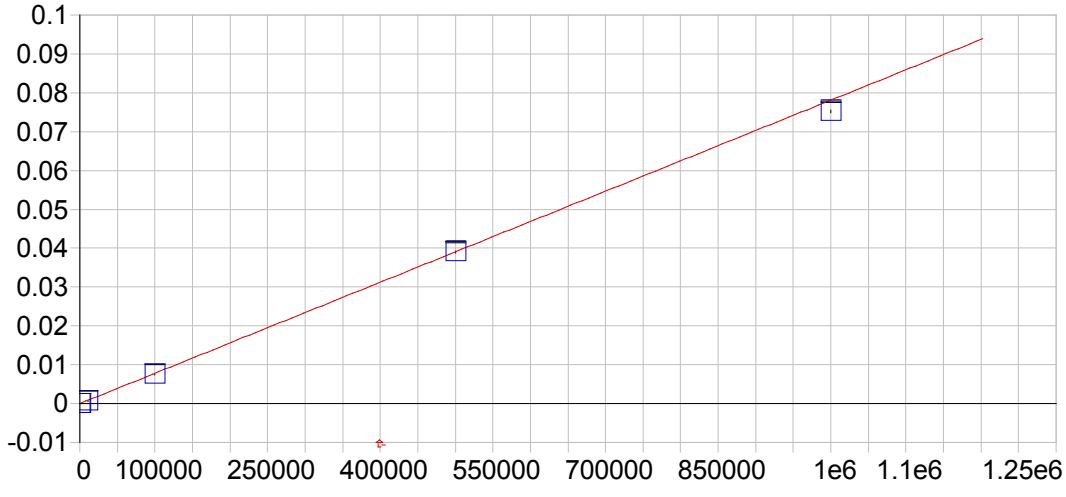
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15916. | -15900. | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | -1352.1 | -11400. | -114. | .00457 | .000 | 1 |
| CalStd13=50 | 500000. | 585060. | 85100. | 17.0 | .18765 | .000 | 1 |
| CalStd14-10 | 1000000. | 957600. | -42400. | -4.24 | .30395 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14391. | -15400. | -1540. | .00050 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000011 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999747 | | Status: | OK. | |
| Std Error of Est: | 0.000010 | | | | |
| Predicted MDL: | 2.210323 | | | | |
| Predicted MQL: | 7.367744 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01961 | .020 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.9 | -201. | -2.01 | .00284 | .000 | 1 |
| CalStd13=50 | 500000. | 515990. | 16000. | 3.20 | .14908 | .001 | 1 |
| CalStd14-10 | 1000000. | 984230. | -15800. | -1.58 | .28437 | .001 | 1 |
| CalStd9=100 | 1000.0 | 984.29 | -15.7 | -1.57 | .00030 | .000 | 1 |

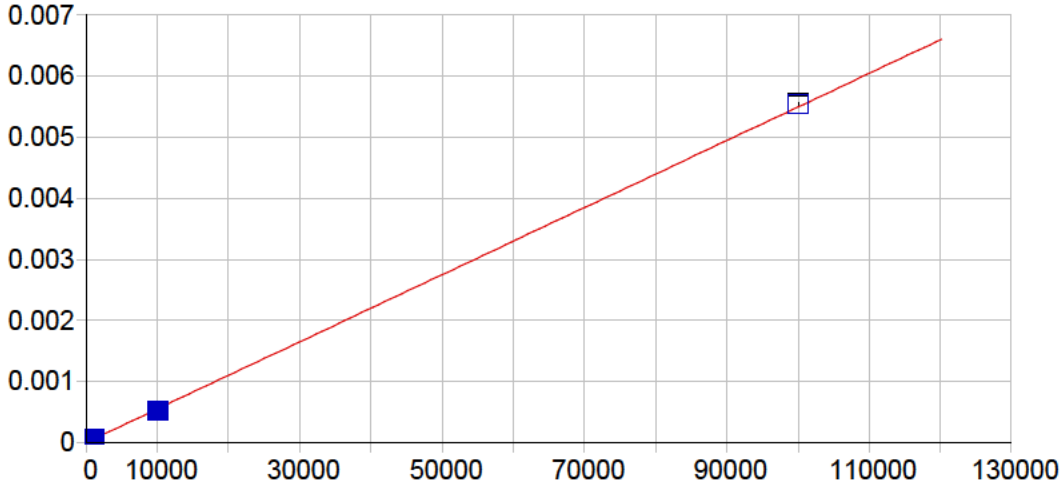



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999888 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 17.673622 | | |
| Predicted MQL: | 58.912073 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13294 | .133 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 499630. | -365. | -.073 | .03902 | .000 | 1 |
| CalStd10=10 | 10000. | 9080.3 | -920. | -9.20 | .00071 | .000 | 1 |
| CalStd14-10 | 1000000. | 962880. | -37100. | -3.71 | .07520 | .000 | 1 |
| CalStd12-10 | 100000. | 96249. | -3750. | -3.75 | .00752 | .000 | 1 |
| CalStd9=100 | 1000.0 | 980.47 | -19.5 | -1.95 | .00008 | .000 | 1 |

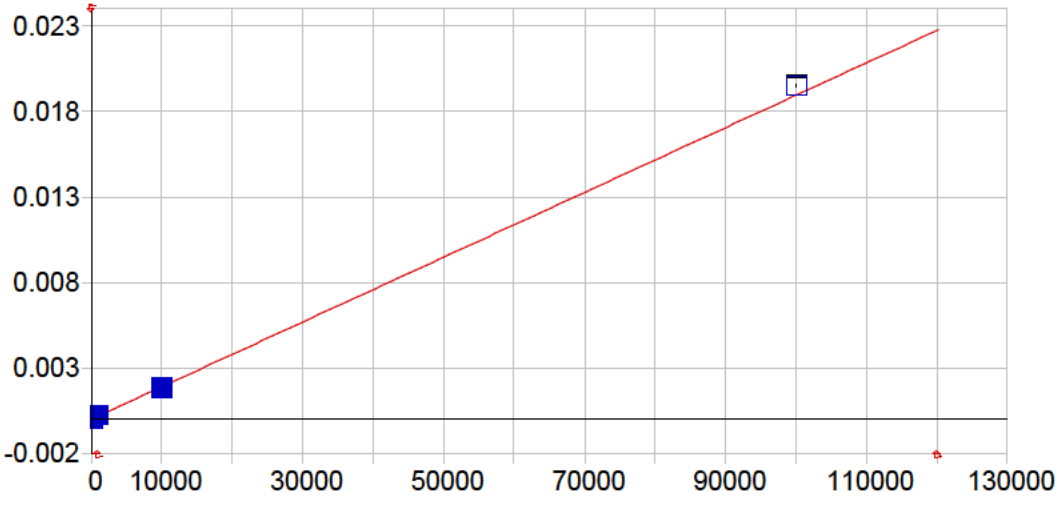



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999684 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.776495 | | |
| Predicted MQL: | 22.588316 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00239 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 983.89 | -16.1 | -1.61 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9224.0 | -776. | -7.76 | .00051 | .000 | 1 |
| CalStd11-10 | 100000. | 100770. | 773. | .773 | .00554 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.94 | 18.9 | 18.9 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.355 | 1.35 | 13.5 | .00000 | .000 | 1 |

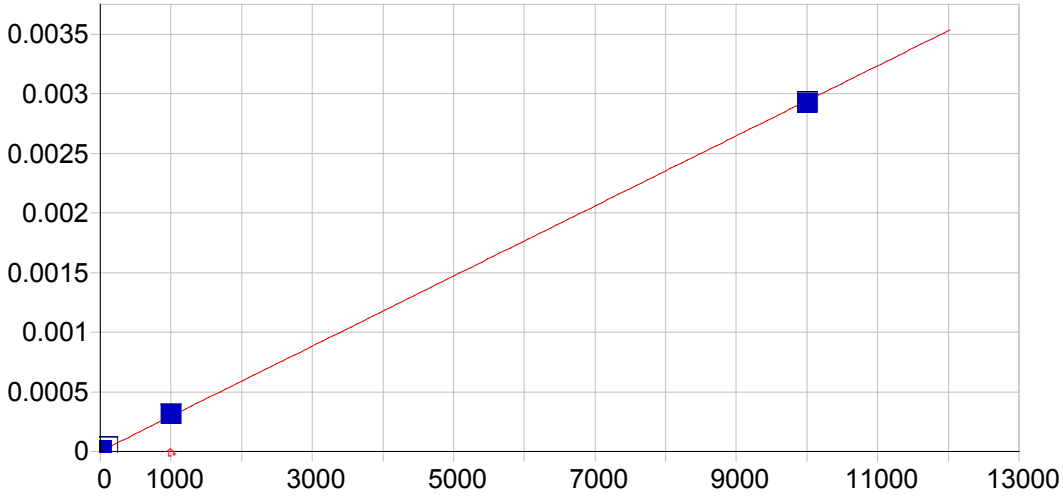



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999550 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 4.497435 | | |
| Predicted MQL: | 14.991449 | | |

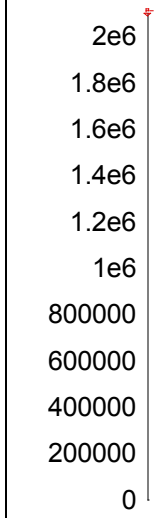
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1808 | -3.18 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.25 | .425 | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9545.6 | -454. | -4.54 | .00181 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.45 | 7.45 | 7.45 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 102850. | 2850. | 2.85 | .01949 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000002 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999766 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.106772 | | | | |
| Predicted MQL: | 7.022574 | | | | |

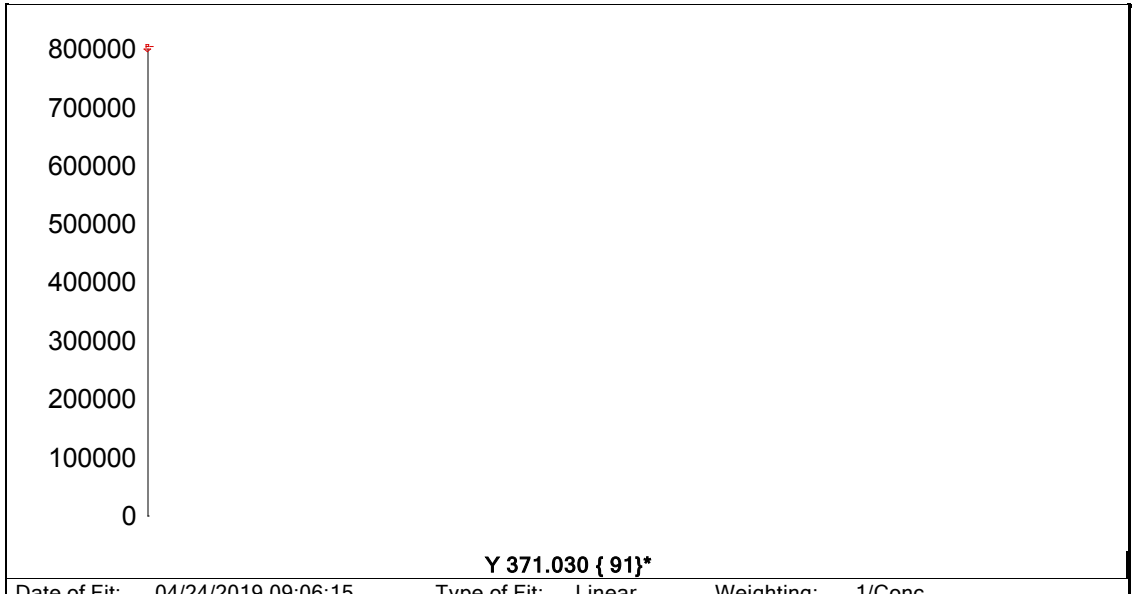
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00206 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.054 | 1.05 | 10.5 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.28 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5265 | .526 | 10.5 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9937.6 | -62.4 | -.624 | .00292 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

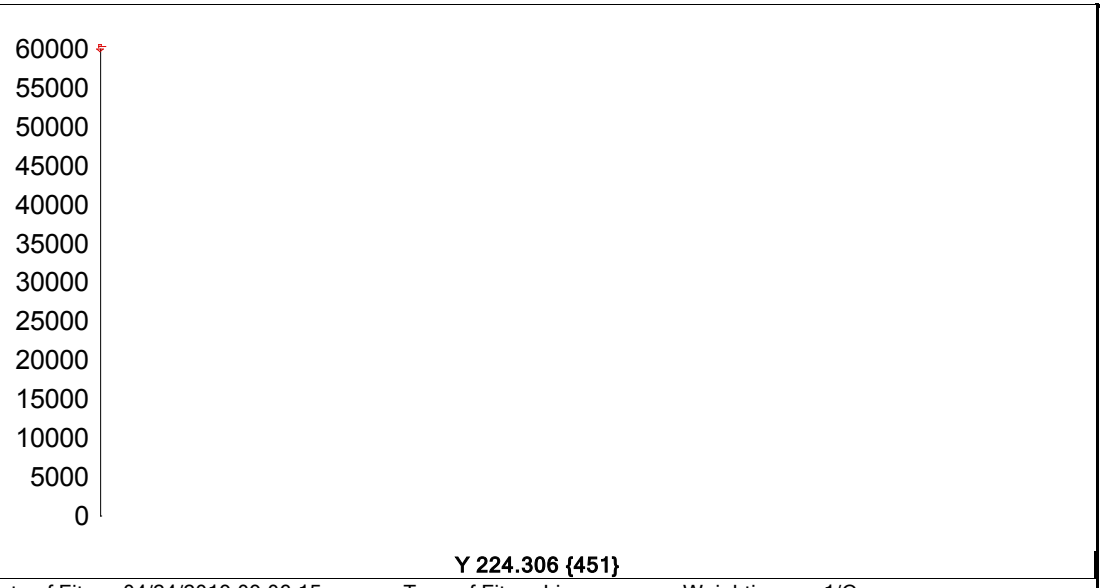
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1926400. | 5600. | 1 |




**Y 371.030 { 91}***

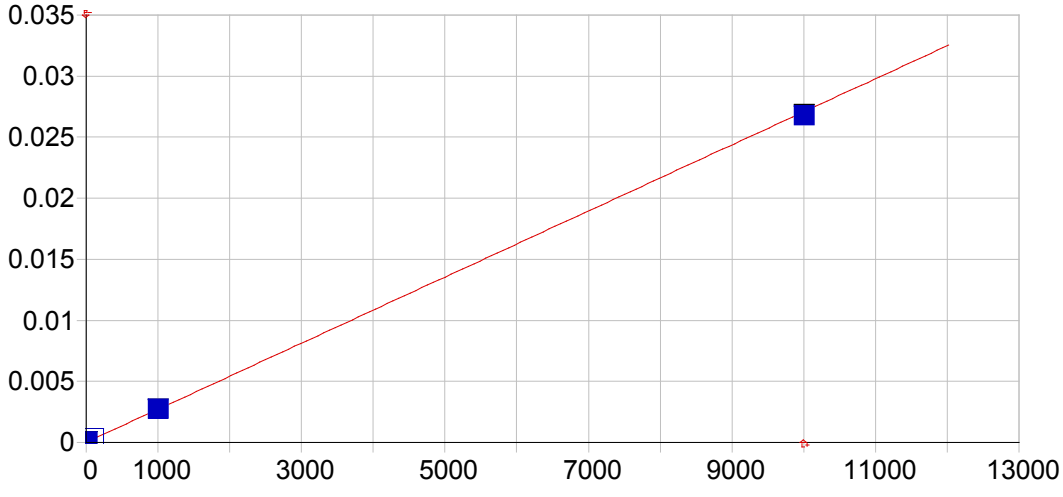
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 726180. | 7510. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 56128. | 140. | 1 |

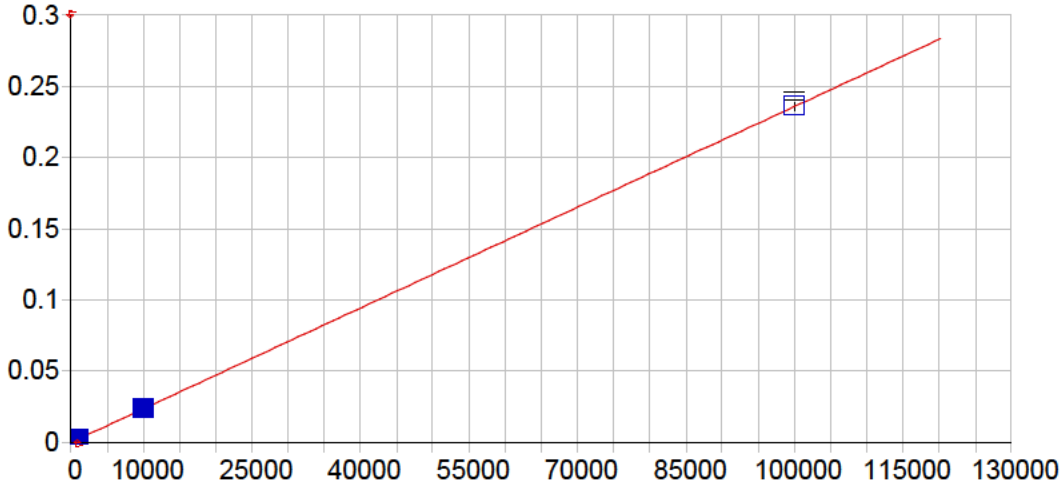



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999586 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.340524 | | |
| Predicted MQL: | 1.135080 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5705 | -2.57 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9883.0 | -117. | -1.17 | .02676 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.79 | -9.21 | -.921 | .00269 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.27 | 5.27 | 5.27 | .00029 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1375 | -.863 | -8.63 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.418686 | | |
| Predicted MQL: | 1.395621 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00984 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 100010. | 13.5 | .013 | .23581 | .003 | 1 |
| CalStd10=10 | 10000. | 9970.1 | -29.9 | -.299 | .02354 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.1 | 7.09 | .709 | .00238 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.41 | 9.41 | 9.41 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/23/2019 15:08:47 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.0000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 |
| %RSD | 154. | 11.4 | 5.84 | 19.2 | 46.8 | 127. | 42.7 | 48.4 | 15.45 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1926400.** | **726180.** |
| Stddev | 5596. | 7507. |
| %RSD | .29049 | 1.0338 |

Sample Name: CalStd4=5 Acquired: 04/23/2019 15:14:05 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Pb2203 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 22.9 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1938800. |
| Stddev | 7689. |
| %RSD | .39658 |

Sample Name: CalStd5=10 Acquired: 04/23/2019 15:19:26 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Pb2203 | Mn2576 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 6.89 | 7.32 | 3.24 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1930300.** |
| Stddev | 3168. |
| %RSD | .16414 |

Sample Name: CalStd7=50 Acquired: 04/23/2019 15:24:48 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | **.000** |
| Stddev | .000 |
| %RSD | 1.99 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1938800.** |
| Stddev | 5540. |
| %RSD | .28575 |

Sample Name: CalStd8=100 Acquired: 04/23/2019 15:30:10 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Pb2203 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.0002** |
| Stddev | .000 | .000 | .000 | .000 | .0000 |
| %RSD | .884 | 3.09 | 1.80 | .478 | .3100 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1930400.** |
| Stddev | 9897. |
| %RSD | .51272 |

Sample Name: CalStd9=1000 Acquired: 04/23/2019 15:35:32 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.32 | .477 | .925 | .859 | 2.53 | .395 | .584 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1931700.** | **722250.** |
| Stddev | 4338. | 6589. |
| %RSD | .22459 | .91221 |

Sample Name: CalStd10=10000 Acquired: 04/23/2019 15:40:50 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.008** | **.001** | **.005** | **.003** | **.001** | **.027** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .921 | .034 | .922 | .158 | 1.11 | .304 | .230 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1879700.** | **722730.** |
| Stddev | 1173. | 6537. |
| %RSD | .06239 | .90442 |

Sample Name: CalStd11-100k Acquired: 04/23/2019 15:45:55 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Pb2203 | Mn2593 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.019** | **.1422** |
| Stddev | .000 | .0018 |
| %RSD | .419 | 1.239 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1897000.** |
| Stddev | 4518. |
| %RSD | .23818 |

Sample Name: CalStd12-100000 Acquired: 04/23/2019 15:51:32 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.084** | **.047** | **.008** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.28 | 1.28 | 1.25 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **719940.** |
| Stddev | 8398. |
| %RSD | 1.1664 |

Sample Name: CalStd13=500000 Acquired: 04/23/2019 15:56:46 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.436** | **.231** | **.149** | **.039** |
| Stddev | .003 | .001 | .001 | .000 |
| %RSD | .740 | .256 | .379 | .601 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1718200.** | **688310.** |
| Stddev | 4508. | 3752. |
| %RSD | .26235 | .54511 |

Sample Name: CalStd14-1000k Acquired: 04/23/2019 16:02:34 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.882** | **.446** | **.284** | **.075** |
| Stddev | .008 | .003 | .001 | .000 |
| %RSD | .919 | .637 | .456 | .388 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1550600.** | **652080.** |
| Stddev | 5135. | 2846. |
| %RSD | .33116 | .43650 |

Sample Name: ICV2 Acquired: 04/23/2019 16:19:15 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11300.** | **2170.** | **9540.** | **5010.** | **9220.** | **518.** |
| Stddev | 118. | 6. | 99. | 20. | 85. | 3. |
| %RSD | 1.04 | .293 | 1.04 | .407 | .919 | .515 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1909900.** | **717390.** |
| Stddev | 10237. | 7908. |
| %RSD | .53601 | 1.1024 |

Sample Name: ICVLL Acquired: 04/23/2019 16:24:30 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1280.** | **67.8** | **1610.** | **1020.** | **1560.** | **32.2** |
| Stddev | 6. | 2.5 | 3. | 12. | 10. | .1 |
| %RSD | .442 | 3.73 | .193 | 1.20 | .653 | .398 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1913200.** | **718730.** |
| Stddev | 13136. | 3114. |
| %RSD | .68661 | .43330 |

Sample Name: icb Acquired: 04/23/2019 16:29:49 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-6.02** | **-6.02** | **-5.16** | **-22.5** | **4.71** | **-3.20** |
| Stddev | 10.1 | 1.51 | 2.83 | .4 | 13.7 | .14 |
| %RSD | 168. | 25.1 | 54.8 | 1.64 | 291. | 4.34 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1939800.** | **725810.** |
| Stddev | 7029. | 9306. |
| %RSD | .36234 | 1.2821 |

Sample Name: icsa Acquired: 04/23/2019 16:40:33 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **469000.** | **-.001** | **443000.** | **466000.** | **454000.** | **-.006** |
| Stddev | 6370. | 9.91 | 1240. | 1480. | 2940. | .302 |
| %RSD | 1.36 | 815000. | .280 | .318 | .647 | 5400. |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1731100.** | **695020.** |
| Stddev | 5148. | 4382. |
| %RSD | .29740 | .63045 |

Sample Name: icsab Acquired: 04/23/2019 16:46:21 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **530000.** | **581.** | **497000.** | **527000.** | **515000.** | **589.** |
| Stddev | 4530. | 6. | 2900. | 5110. | 2960. | 8. |
| %RSD | .856 | .979 | .584 | .971 | .575 | 1.30 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1718800.** | **694130.** |
| Stddev | 9619. | 4233. |
| %RSD | .55965 | .60979 |

Sample Name: ccv1 Acquired: 04/23/2019 21:19:28 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4780.** | **5190.** | **4580.** | **4840.** | F **4420.** | **4760.** | **4850.** |
| Stddev | 44. | 13. | 44. | 29. | 39. | 34. | 30. |
| %RSD | .912 | .244 | .967 | .608 | .886 | .723 | .612 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1875400.** | **709940.** |
| Stddev | 8262. | 6476. |
| %RSD | .44057 | .91225 |

Sample Name: ccv2 Acquired: 04/23/2019 21:24:37 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **511.** | **461.** | **457.** | **463.** | **472.** |
| Stddev | 9. | 4. | 4. | 5. | 6. | 2. |
| %RSD | 1.95 | .736 | .792 | 1.18 | 1.33 | .411 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1934300.** | **706890.** |
| Stddev | 6082. | 7019. |
| %RSD | .31442 | .99294 |

Sample Name: ccb Acquired: 04/23/2019 21:29:57 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-7.85** | **-6.79** | **-7.49** | **-23.3** | **11.1** | **-2.83** |
| Stddev | 7.25 | 3.00 | 3.35 | 1.5 | 18.9 | .22 |
| %RSD | 92.4 | 44.2 | 44.6 | 6.36 | 170. | 7.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1940700.** | **703640.** |
| Stddev | 8304. | 2610. |
| %RSD | .42790 | .37089 |

Sample Name: lcss71472 Acquired: 04/23/2019 21:46:07 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **672.** | **1920.** | **19800.** | **10400.** | **6050.** | **16.3** | **1940.** | **1982.** |
| Stddev | 12. | 10. | 216. | 59. | 65. | 1.2 | 9. | 7. |
| %RSD | 1.82 | .519 | 1.10 | .569 | 1.07 | 7.31 | .467 | .3750 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1872900.** | **694970.** |
| Stddev | 10433. | 5958. |
| %RSD | .55703 | .85732 |

Sample Name: mbs71472 Acquired: 04/23/2019 21:51:22 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1840.** | **-9.73** | **29500.** | **15000.** | **6290.** | **19.3** | **197.** |
| Stddev | 11. | 1.13 | 158. | 40. | 49. | 2.8 | 1. |
| %RSD | .614 | 11.6 | .534 | .267 | .785 | 14.6 | .408 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1875100.** | **687130.** |
| Stddev | 6687. | 2880. |
| %RSD | .35663 | .41912 |

Sample Name: 257646 Acquired: 04/23/2019 21:56:36 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **418000.** | **304.** | **43400.** | **433000.** | **36300.** | **716.** | **26300.** |
| Stddev | 4590. | 5. | 289. | 1160. | 256. | 5. | 97. |
| %RSD | 1.10 | 1.71 | .664 | .267 | .708 | .691 | .3686 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1830800.** | **707610.** |
| Stddev | 9318. | 5734. |
| %RSD | .50893 | .81037 |

Sample Name: 257647 Acquired: 04/23/2019 22:02:14 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **254000.** | **17.3** | **8960.** | **365000.** | **31000.** | **455.** | **4630.** | **5164.** |
| Stddev | 3060. | 7.9 | 114. | 1240. | 374. | 2. | 14. | 18. |
| %RSD | 1.21 | 45.4 | 1.28 | .339 | 1.21 | .431 | .312 | .3536 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1854700.** | **700290.** |
| Stddev | 3891. | 9661. |
| %RSD | .20980 | 1.3796 |

Sample Name: 257648 Acquired: 04/23/2019 22:07:40 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **235000.** | **22.2** | **7200.** | **347000.** | **24100.** | **371.** | **3320.** | **3828.** |
| Stddev | 3390. | 7.5 | 93. | 476. | 390. | 2. | 8. | 10. |
| %RSD | 1.44 | 33.9 | 1.30 | .137 | 1.62 | .594 | .251 | .2531 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1857900.** | **697690.** |
| Stddev | 6309. | 8793. |
| %RSD | .33961 | 1.2603 |

Sample Name: 257649 Acquired: 04/23/2019 22:13:07 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **248000.** | **15.5** | **9390.** | **361000.** | **28500.** | **448.** | **5650.** | **6175.** |
| Stddev | 426. | 6.3 | 33. | 1660. | 105. | 2. | 18. | 21. |
| %RSD | .171 | 40.7 | .348 | .459 | .368 | .492 | .321 | .3353 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1853900.** | **699130.** |
| Stddev | 6458. | 3205. |
| %RSD | .34832 | .45847 |

Sample Name: 257650 Acquired: 04/23/2019 22:18:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **257000.** | **23.4** | **5670.** | **374000.** | **24600.** | **334.** | **4140.** | **4688.** |
| Stddev | 1390. | 5.4 | 36. | 565. | 131. | 2. | 12. | 9. |
| %RSD | .541 | 23.2 | .639 | .151 | .530 | .643 | .290 | .1864 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1849100.** | **697200.** |
| Stddev | 2935. | 2441. |
| %RSD | .15872 | .35016 |

Sample Name: 257651 Acquired: 04/23/2019 22:23:58 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **242000.** | **56.0** | **10900.** | **357000.** | **26800.** | **367.** | **4090.** | **4611.** |
| Stddev | 2080. | 2.0 | 87. | 1090. | 196. | 2. | 24. | 23. |
| %RSD | .859 | 3.49 | .795 | .304 | .731 | .578 | .594 | .5065 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1861500.** | **701730.** |
| Stddev | 9246. | 5530. |
| %RSD | .49666 | .78808 |

Sample Name: ccv1 Acquired: 04/23/2019 22:29:24 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4790.** | **5190.** | **4600.** | **4790.** | F **4460.** | **4690.** | **4780.** |
| Stddev | 59. | 26. | 56. | 25. | 38. | 16. | 21. |
| %RSD | 1.23 | .500 | 1.22 | .526 | .851 | .350 | .431 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1884500.** | **704740.** |
| Stddev | 8204. | 5935. |
| %RSD | .43532 | .84219 |

Sample Name: ccv2 Acquired: 04/23/2019 22:34:32 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **514.** | **460.** | **454.** | **455.** | **470.** |
| Stddev | 20. | 3. | 8. | 2. | 9. | 3. |
| %RSD | 4.20 | .642 | 1.73 | .330 | 1.91 | .572 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1937200.** | **703590.** |
| Stddev | 2895. | 8084. |
| %RSD | .14946 | 1.1489 |

Sample Name: ccb Acquired: 04/23/2019 22:39:52 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1.27** | **-7.86** | **-9.50** | **-25.4** | **-2.09** | **-2.77** |
| Stddev | 6.65 | 3.58 | 2.56 | 2.3 | 17.3 | .29 |
| %RSD | 524. | 45.5 | 26.9 | 9.21 | 825. | 10.6 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1940900.** | **707680.** |
| Stddev | 7823. | 4689. |
| %RSD | .40306 | .66260 |

Sample Name: 257652 Acquired: 04/23/2019 22:45:14 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **225000.** | **12.0** | **6280.** | **328000.** | **22200.** | **234.** | **2650.** | **3131.** |
| Stddev | 3220. | 6.3 | 86. | 1150. | 298. | 2. | 7. | 7. |
| %RSD | 1.44 | 52.5 | 1.38 | .351 | 1.34 | .918 | .251 | .2319 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1855900.** | **694990.** |
| Stddev | 2304. | 10343. |
| %RSD | .12413 | 1.4882 |

Sample Name: 257653 Acquired: 04/23/2019 22:50:40 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **209000.** | **16.7** | **10700.** | **297000.** | **19400.** | **727.** | **5420.** | **5844.** |
| Stddev | 1800. | 4.8 | 80. | 1150. | 109. | 4. | 13. | 21. |
| %RSD | .861 | 28.7 | .746 | .388 | .563 | .483 | .241 | .3664 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1856200.** | **698730.** |
| Stddev | 4519. | 4024. |
| %RSD | .24345 | .57597 |

Sample Name: 257654 Acquired: 04/23/2019 22:56:06 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **268000.** | **7.21** | **8300.** | **357000.** | **24600.** | **342.** | **2760.** | **3277.** |
| Stddev | 2830. | 2.27 | 75. | 365. | 237. | 4. | 7. | 6. |
| %RSD | 1.05 | 31.5 | .907 | .102 | .963 | 1.04 | .265 | .1892 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1859000.** | **707080.** |
| Stddev | 5994. | 5599. |
| %RSD | .32242 | .79183 |

Sample Name: 257655 Acquired: 04/23/2019 23:01:31 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **273000.** | **29.8** | **10900.** | **380000.** | **24400.** | **562.** | **6140.** | **6684.** |
| Stddev | 1630. | 3.3 | 44. | 1320. | 121. | 2. | 14. | 18. |
| %RSD | .599 | 11.1 | .407 | .348 | .495 | .426 | .224 | .2674 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1857900.** | **706370.** |
| Stddev | 5714. | 4073. |
| %RSD | .30756 | .57664 |

Sample Name: 257656 Acquired: 04/23/2019 23:06:57 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **326000.** | **125.** | **114000.** | **578000.** | **60100.** | **1840.** | **148700.** |
| Stddev | 1910. | 11. | 515. | 616. | 286. | 4. | 1248. |
| %RSD | .585 | 8.58 | .453 | .107 | .475 | .224 | .8394 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1792400.** | **691840.** |
| Stddev | 3680. | 3313. |
| %RSD | .20533 | .47886 |

Sample Name: dup257656 Acquired: 04/23/2019 23:12:45 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **312000.** | **150.** | **107000.** | **546000.** | **57200.** | **3120.** | **170800.** |
| Stddev | 1290. | 6. | 573. | 2500. | 272. | 11. | 1657. |
| %RSD | .414 | 3.78 | .534 | .457 | .475 | .357 | .9706 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1793800.** | **694570.** |
| Stddev | 4736. | 4750. |
| %RSD | .26400 | .68380 |

Sample Name: trip257656 Acquired: 04/23/2019 23:18:30 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **278000.** | **122.** | **88300.** | **474000.** | **48000.** | **1170.** | **121200.** |
| Stddev | 2000. | 6. | 668. | 1250. | 402. | 4. | 729. |
| %RSD | .720 | 4.90 | .756 | .263 | .837 | .366 | .6012 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1813100.** | **696540.** |
| Stddev | 5153. | 6315. |
| %RSD | .28420 | .90662 |

Sample Name: 257657 Acquired: 04/23/2019 23:24:18 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **357000.** | **22.6** | **174000.** | **564000.** | **84500.** | **297.** | **16180.** |
| Stddev | 3300. | 5.3 | 1320. | 1970. | 588. | 4. | 33. |
| %RSD | .926 | 23.5 | .760 | .350 | .696 | 1.40 | .2032 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1791400.** | **692010.** |
| Stddev | 5374. | 4760. |
| %RSD | .29997 | .68777 |

Sample Name: 257658 Acquired: 04/23/2019 23:29:44 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **350000.** | **226.** | **150000.** | **503000.** | **66800.** | **2140.** | **157900.** |
| Stddev | 2180. | 6. | 1070. | 1650. | 516. | 12. | 870. |
| %RSD | .622 | 2.55 | .715 | .328 | .772 | .564 | .5508 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1784700.** | **687830.** |
| Stddev | 4421. | 5143. |
| %RSD | .24771 | .74766 |

Sample Name: 257659 Acquired: 04/23/2019 23:35:31 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **384000.** | **27.5** | **129000.** | **634000.** | **74400.** | **377.** | **13820.** |
| Stddev | 2190. | 11.0 | 716. | 5140. | 501. | 1. | 33. |
| %RSD | .570 | 40.2 | .557 | .811 | .674 | .312 | .2422 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789800.** | **690310.** |
| Stddev | 5771. | 4726. |
| %RSD | .32246 | .68459 |

Sample Name: ccv1 Acquired: 04/23/2019 23:41:09 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4820.** | **5210.** | **4580.** | **4840.** | F **4430.** | **4730.** | **4820.** |
| Stddev | 29. | 4. | 21. | 16. | 29. | 7. | 13. |
| %RSD | .604 | .071 | .458 | .331 | .650 | .143 | .260 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1883200.** | **708570.** |
| Stddev | 3479. | 3685. |
| %RSD | .18475 | .51999 |

Sample Name: ccv2 Acquired: 04/23/2019 23:46:17 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **516.** | **454.** | **457.** | **460.** | **467.** |
| Stddev | 12. | 6. | 4. | 5. | 12. | 1. |
| %RSD | 2.46 | 1.13 | .826 | .992 | 2.59 | .245 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1928700.** | **709140.** |
| Stddev | 4021. | 5957. |
| %RSD | .20845 | .84002 |

Sample Name: ccb Acquired: 04/23/2019 23:51:37 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1.42** | **-7.26** | **-11.3** | **-23.0** | **12.2** | **-2.92** |
| Stddev | 6.74 | 1.93 | 3.2 | 2.6 | 10.0 | .15 |
| %RSD | 475. | 26.5 | 28.3 | 11.3 | 82.1 | 5.05 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1935800.** | **709770.** |
| Stddev | 12428. | 7302. |
| %RSD | .64199 | 1.0287 |

Sample Name: 257660 Acquired: 04/23/2019 23:56:59 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **309000.** | **189.** | **141000.** | **485000.** | **62200.** | **1310.** | **115200.** |
| Stddev | 1890. | 6. | 1100. | 915. | 529. | 14. | 916. |
| %RSD | .611 | 3.05 | .782 | .189 | .851 | 1.10 | .7952 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789900.** | **684160.** |
| Stddev | 6204. | 5228. |
| %RSD | .34661 | .76420 |

Sample Name: 257661 Acquired: 04/24/2019 00:02:47 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **328000.** | **22.8** | **166000.** | **556000.** | **78600.** | **320.** | **13240.** |
| Stddev | 1100. | 2.1 | 523. | 3160. | 246. | 2. | 94. |
| %RSD | .335 | 9.38 | .315 | .568 | .313 | .621 | .7072 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1783900.** | **687750.** |
| Stddev | 12227. | 2068. |
| %RSD | .68541 | .30074 |

Sample Name: 257662 Acquired: 04/24/2019 00:08:14 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **243000.** | **580.** | **404000.** | **371000.** | **205000.** | **1020.** | **22280.** |
| Stddev | 1490. | 8. | 4950. | 1790. | 1400. | 10. | 83. |
| %RSD | .613 | 1.41 | 1.23 | .484 | .683 | .995 | .3704 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1745800.** | **682150.** |
| Stddev | 3553. | 5461. |
| %RSD | .20350 | .80050 |

Sample Name: 257663 Acquired: 04/24/2019 00:13:45 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **277000.** | **166.** | **252000.** | **487000.** | **116000.** | **336.** | **13430.** |
| Stddev | 5190. | 4. | 4220. | 2520. | 1800. | 2. | 52. |
| %RSD | 1.87 | 2.35 | 1.68 | .517 | 1.56 | .606 | .3886 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1767600.** | **683850.** |
| Stddev | 5554. | 10604. |
| %RSD | .31419 | 1.5506 |

Sample Name: 258269 Acquired: 04/24/2019 00:19:11 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **416000.** | **822.** | **1030000.** | **645000.** | **215000.** | **9810.** | **73250.** |
| Stddev | 3950. | 8. | 9020. | 2420. | 1610. | 31. | 347. |
| %RSD | .950 | .969 | .880 | .376 | .749 | .311 | .4740 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1673400.** | **665590.** |
| Stddev | 6137. | 3567. |
| %RSD | .36671 | .53598 |

Sample Name: I258269 Acquired: 04/24/2019 00:25:07 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **92100.** | **132.** | **245000.** | **150000.** | **49700.** | **2270.** | **16360.** |
| Stddev | 4690. | 5. | 11600. | 7580. | 2410. | 46. | 821. |
| %RSD | 5.09 | 4.09 | 4.74 | 5.06 | 4.86 | 2.04 | 5.020 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1845000.** | **697780.** |
| Stddev | 12106. | 1952. |
| %RSD | .65616 | .27975 |

Sample Name: dup258269 Acquired: 04/24/2019 00:30:21 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **403000.** | **807.** | **1020000.** | **610000.** | **201000.** | **8890.** | **76510.** |
| Stddev | 4580. | 39. | 8310. | 3660. | 2170. | 38. | 1019. |
| %RSD | 1.14 | 4.83 | .817 | .599 | 1.08 | .431 | 1.332 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1670200.** | **669910.** |
| Stddev | 5364. | 6647. |
| %RSD | .32119 | .99226 |

Sample Name: mss258269 Acquired: 04/24/2019 00:36:23 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **360000.** | **19800.** | **923000.** | **560000.** | **183000.** | **9050.** | **81190.** |
| Stddev | 3720. | 17. | 15500. | 1330. | 2410. | 57. | 922. |
| %RSD | 1.03 | .086 | 1.68 | .237 | 1.32 | .630 | 1.136 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1681300.** | **678800.** |
| Stddev | 3957. | 7956. |
| %RSD | .23532 | 1.1721 |

Sample Name: msds258269 Acquired: 04/24/2019 00:42:16 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **391000.** | **19800.** | **944000.** | **590000.** | **200000.** | **9930.** | **89440.** |
| Stddev | 6980. | 72. | 11700. | 4330. | 3090. | 28. | 432. |
| %RSD | 1.78 | .362 | 1.24 | .734 | 1.55 | .284 | .4828 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1680900.** | **671320.** |
| Stddev | 6970. | 8528. |
| %RSD | .41464 | 1.2703 |

Sample Name: pdss258269 Acquired: 04/24/2019 00:48:15 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **406000.** | **22000.** | **1000000.** | **634000.** | **209000.** | **9750.** | **91100.** |
| Stddev | 4990. | 100. | 13400. | 2050. | 2040. | 34. | 479. |
| %RSD | 1.23 | .457 | 1.34 | .323 | .978 | .349 | .5255 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1666200.** | **670180.** |
| Stddev | 5508. | 7146. |
| %RSD | .33060 | 1.0662 |

Sample Name: ccv1 Acquired: 04/24/2019 00:54:09 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4830.** | **5250.** | **4600.** | **4780.** | F **4440.** | **4670.** | **4780.** |
| Stddev | 39. | 18. | 35. | 17. | 40. | 23. | 21. |
| %RSD | .810 | .349 | .761 | .362 | .889 | .486 | .439 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1879700.** | **699210.** |
| Stddev | 6871. | 5242. |
| %RSD | .36554 | .74975 |

Sample Name: ccv2 Acquired: 04/24/2019 00:59:17 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **489.** | **516.** | **470.** | **446.** | **454.** | **460.** |
| Stddev | 5. | 4. | 8. | 4. | 20. | 1. |
| %RSD | .938 | .798 | 1.75 | .864 | 4.30 | .292 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1927500.** | **698840.** |
| Stddev | 2046. | 6746. |
| %RSD | .10615 | .96529 |

Sample Name: ccb Acquired: 04/24/2019 01:04:36 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-7.31** | **-5.35** | **8.71** | **-25.6** | **19.3** | **-3.02** |
| Stddev | 14.6 | 1.61 | 3.29 | 1.5 | 13.2 | .34 |
| %RSD | 200. | 30.0 | 37.7 | 5.78 | 68.4 | 11.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1925200.** | **700030.** |
| Stddev | 904. | 8480. |
| %RSD | .04697 | 1.2113 |

Sample Name: 258274 Acquired: 04/24/2019 01:09:58 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **267000.** | **377.** | **244000.** | **438000.** | **55900.** | **4210.** | **30920.** |
| Stddev | 943. | 7. | 971. | 3710. | 246. | 25. | 223. |
| %RSD | .353 | 1.85 | .398 | .847 | .440 | .604 | .7205 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1769400.** | **688450.** |
| Stddev | 9334. | 2651. |
| %RSD | .52753 | .38507 |

Sample Name: dup258274 Acquired: 04/24/2019 01:15:22 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **271000.** | **381.** | **249000.** | **446000.** | **62200.** | **4750.** | **25540.** |
| Stddev | 2480. | 10. | 1860. | 348. | 442. | 23. | 79. |
| %RSD | .915 | 2.64 | .746 | .078 | .710 | .487 | .3076 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1773800.** | **680060.** |
| Stddev | 4831. | 4782. |
| %RSD | .27236 | .70311 |

Sample Name: trip258274 Acquired: 04/24/2019 01:20:45 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **246000.** | **370.** | **235000.** | **406000.** | **56800.** | **6610.** | **28570.** |
| Stddev | 1530. | 4. | 2170. | 1530. | 633. | 32. | 98. |
| %RSD | .622 | 1.11 | .925 | .378 | 1.12 | .483 | .3440 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1781000.** | **685130.** |
| Stddev | 3269. | 7023. |
| %RSD | .18353 | 1.0251 |

Sample Name: ccv1 Acquired: 04/24/2019 01:31:28 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4830.** | **5230.** | **4580.** | **4740.** | F **4410.** | **4660.** | **4770.** |
| Stddev | 67. | 10. | 57. | 37. | 36. | 24. | 25. |
| %RSD | 1.39 | .193 | 1.24 | .790 | .805 | .513 | .532 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1870200.** | **697490.** |
| Stddev | 5171. | 6914. |
| %RSD | .27650 | .99132 |

Sample Name: ccv2 Acquired: 04/24/2019 01:36:36 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **491.** | **515.** | **471.** | **445.** | **469.** | **462.** |
| Stddev | 3. | 3. | 6. | 3. | 18. | 2. |
| %RSD | .693 | .633 | 1.26 | .660 | 3.78 | .530 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1925300.** | **698640.** |
| Stddev | 5684. | 2958. |
| %RSD | .29521 | .42333 |

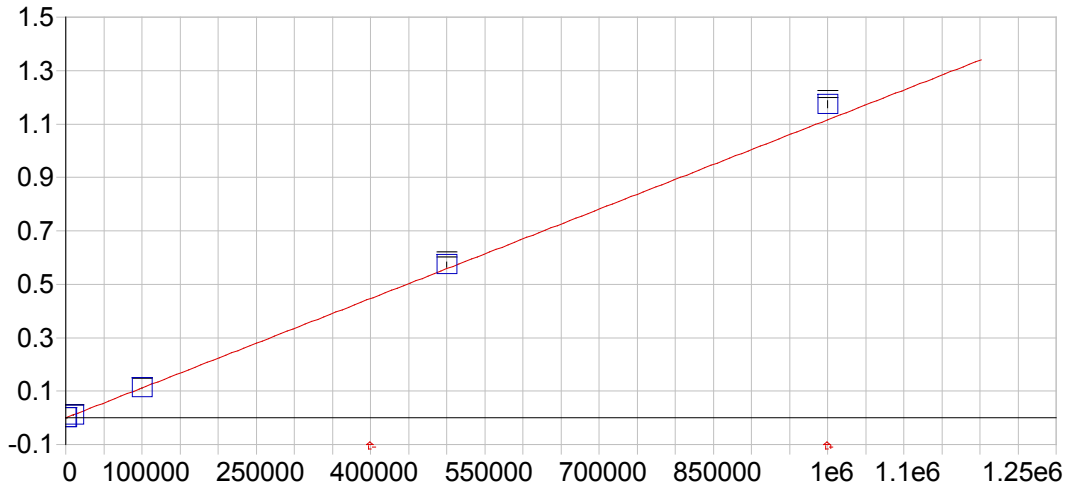
Sample Name: ccb Acquired: 04/24/2019 01:41:54 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-9.07** | **-8.21** | **6.93** | **-25.2** | **4.99** | **-3.11** |
| Stddev | 2.42 | 1.26 | 4.09 | 1.5 | 16.3 | .30 |
| %RSD | 26.7 | 15.3 | 59.0 | 6.07 | 327. | 9.62 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1926600.** | **695670.** |
| Stddev | 8039. | 6159. |
| %RSD | .41728 | .88528 |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999998 | 0.000004 | 9.943596 | 33.145320 |
| | As 193.759 {474} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000001 | 2.923645 | 9.745483 |
| | As 197.262 {471} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 21.884844 | 72.949480 |
| | Ca 315.887 {107} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000055 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000006 | 6.003072 | 20.010240 |
| | Fe 234.349 {144} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | None | 0.004816 | 0.000000 | 0.000000 | 1.000000 | 0.994129 | 0.016975 | 2.351614 | 7.838712 |
| | Fe 239.562 {141} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.999829 | 0.000008 | 2.269530 | 7.565100 |
| | Mg 279.079 {121} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999983 | 0.000001 | 19.513946 | 65.046487 |
| | Pb 216.999 {455} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999795 | 0.000000 | 6.807207 | 22.690691 |
| | Pb 220.353 {153} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Var | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999702 | 0.000003 | 4.483850 | 14.946168 |
| | Pb 220.353 {453} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999726 | 0.000000 | 2.144750 | 7.149168 |
| | Y 324.228 {104}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999561 | 0.000006 | 0.362333 | 1.207777 |
| | Mn 259.373 {130} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999960 | 0.000003 | 0.429061 | 1.430205 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |

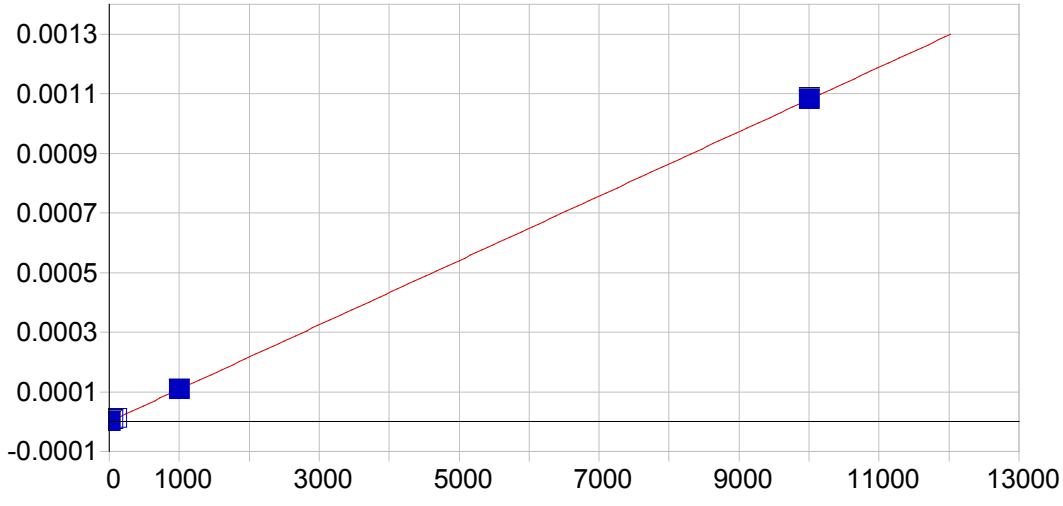



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 9.943596 | | |
| Predicted MQL: | 33.145320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02779 | -.028 | .000 | .00000 | .000 | 1 |
| CalStd14-10 | 1000000. | 1052300. | 52300. | 5.23 | 1.1740 | .013 | 1 |
| CalStd13=50 | 500000. | 513940. | 13900. | 2.79 | .57338 | .010 | 1 |
| CalStd10=10 | 10000. | 9873.1 | -127. | -1.27 | .01102 | .000 | 1 |
| CalStd12-10 | 100000. | 100190. | 193. | .193 | .11178 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00117 | .000 | 1 |

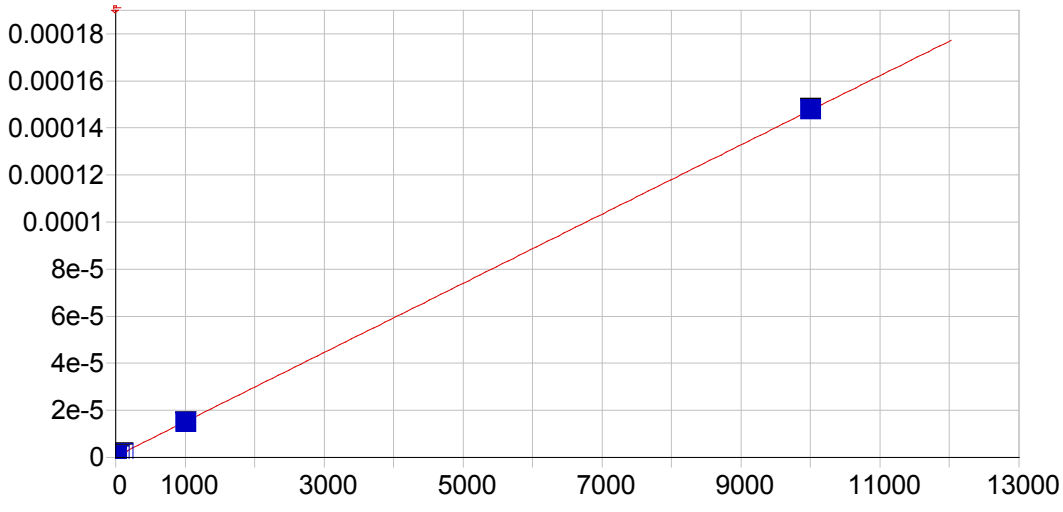



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.923645 | | |
| Predicted MQL: | 9.745483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.7572 | -3.76 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.40 | -2.60 | -.260 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.984 | 2.98 | 5.97 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8190 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.82 | 6.82 | 6.82 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 5.29 | .053 | .00108 | .000 | 1 |

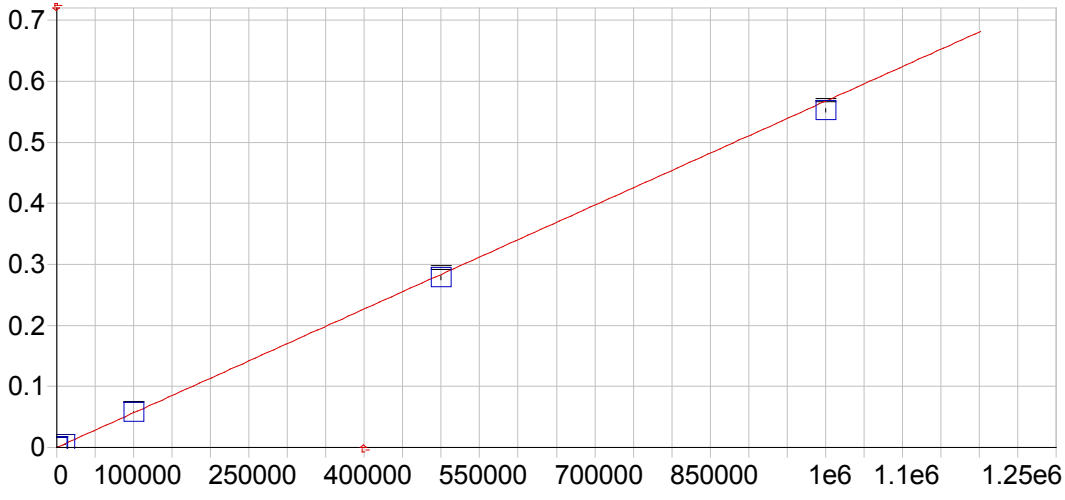



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.884844 | | |
| Predicted MQL: | 72.949480 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.3371 | 2.34 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 974.29 | -25.7 | -2.57 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 31.834 | -18.2 | -36.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | -4.8874 | -14.9 | -149. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 81.761 | -18.2 | -18.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.84 | .058 | .00015 | .000 | 1 |

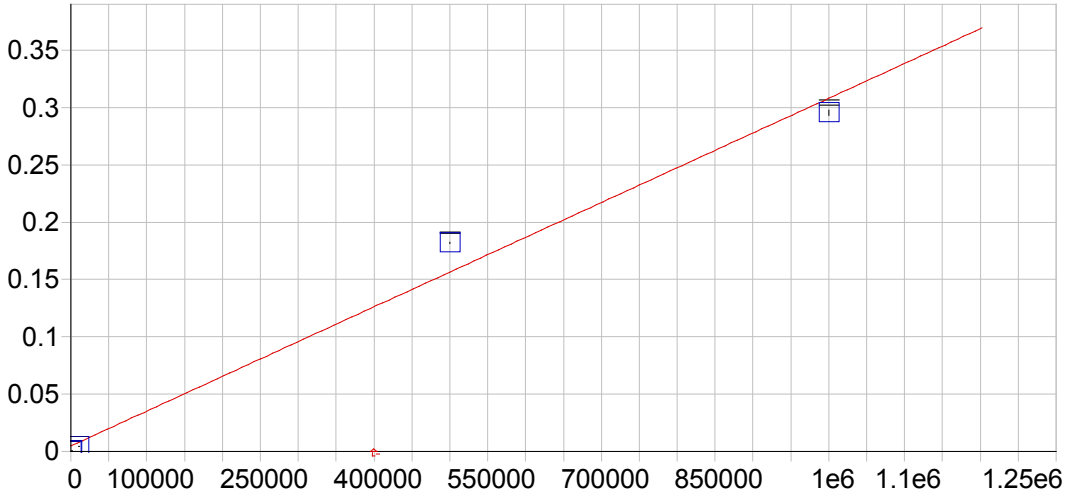



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 6.003072 | | |
| Predicted MQL: | 20.010240 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05815 | -.058 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9882.5 | -118. | -1.18 | .00566 | .000 | 1 |
| CalStd13=50 | 500000. | 489950. | -10100. | -2.01 | .27790 | .003 | 1 |
| CalStd14-10 | 1000000. | 973540. | -26500. | -2.65 | .55215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00065 | .000 | 1 |
| CalStd12-10 | 100000. | 101510. | 1510. | 1.51 | .05762 | .001 | 1 |

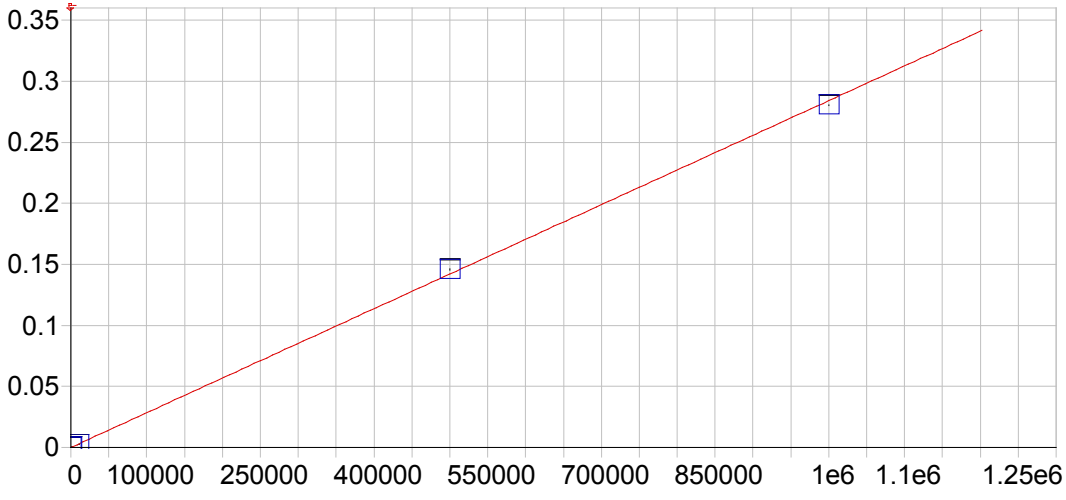



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004816 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994129 | Status: | OK. |
| Std Error of Est: | 0.016975 | | |
| Predicted MDL: | 2.351614 | | |
| Predicted MQL: | 7.838712 | | |

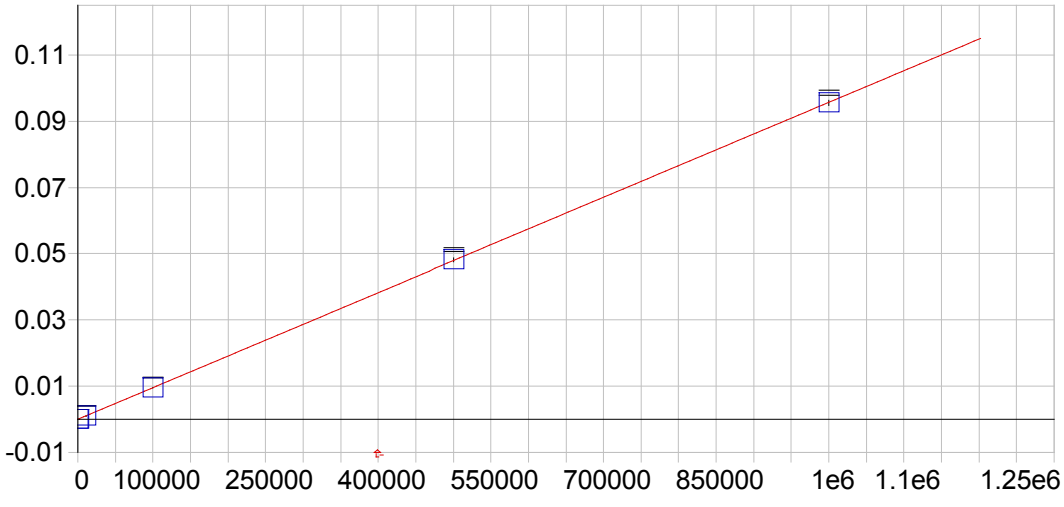
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15823. | -15800. | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | -1005.7 | -11000. | -110. | .00451 | .000 | 1 |
| CalStd13=50 | 500000. | 583930. | 83900. | 16.8 | .18189 | .001 | 1 |
| CalStd14-10 | 1000000. | 958160. | -41800. | -4.18 | .29538 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14264. | -15300. | -1530. | .00049 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999829 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 2.269530 | | | | |
| Predicted MQL: | 7.565100 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03580 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.0 | .400 | .00286 | .000 | 1 |
| CalStd13=50 | 500000. | 513100. | 13100. | 2.62 | .14577 | .001 | 1 |
| CalStd14-10 | 1000000. | 986850. | -13200. | -1.32 | .28036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00029 | .000 | 1 |

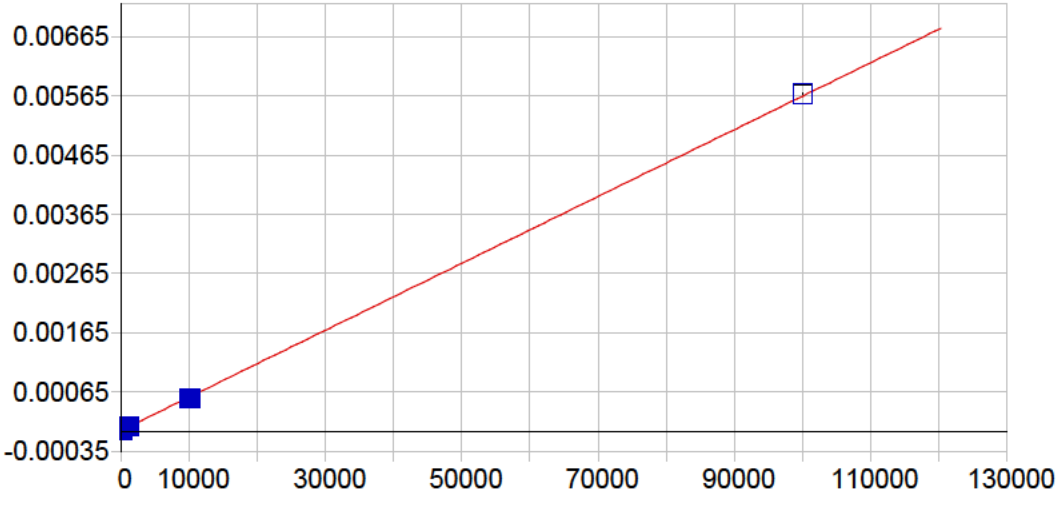



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 19.513946 | | |
| Predicted MQL: | 65.046487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06559 | .066 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 502930. | 2930. | .586 | .04815 | .001 | 1 |
| CalStd10=10 | 10000. | 9538.6 | -461. | -4.61 | .00091 | .000 | 1 |
| CalStd14-10 | 1000000. | 998520. | -1480. | -.148 | .09559 | .001 | 1 |
| CalStd12-10 | 100000. | 98875. | -1120. | -1.12 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.23 | -12.8 | -1.28 | .00009 | .000 | 1 |

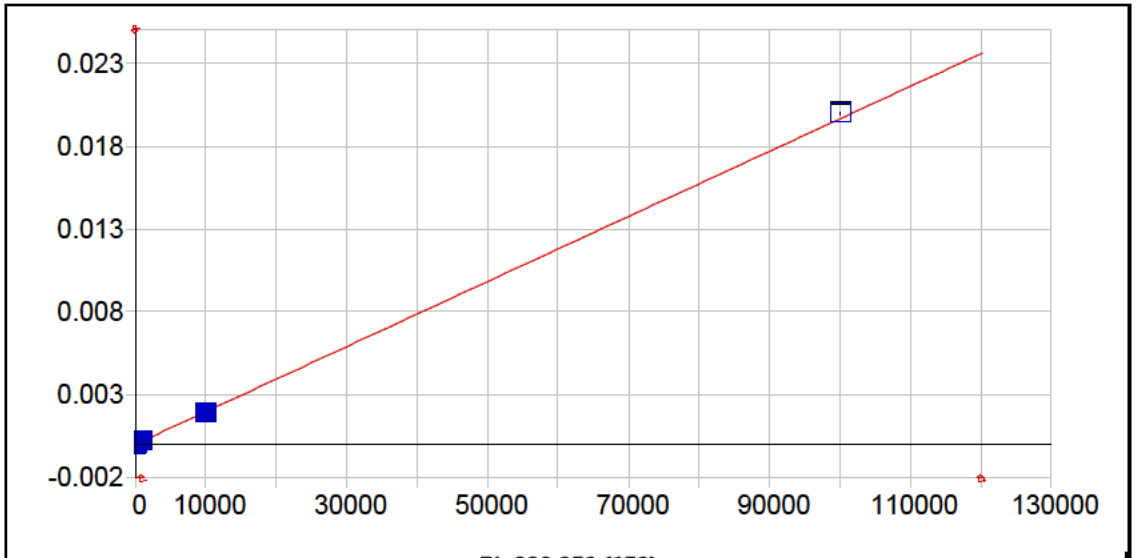



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999795 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.807207 | | |
| Predicted MQL: | 22.690691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00716 | -.007 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.48 | -1.52 | -.152 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9404.6 | -595. | -5.95 | .00053 | .000 | 1 |
| CalStd11-10 | 100000. | 100570. | 574. | .574 | .00568 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.54 | 18.5 | 18.5 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.860 | 5.86 | 58.6 | .00000 | .000 | 1 |

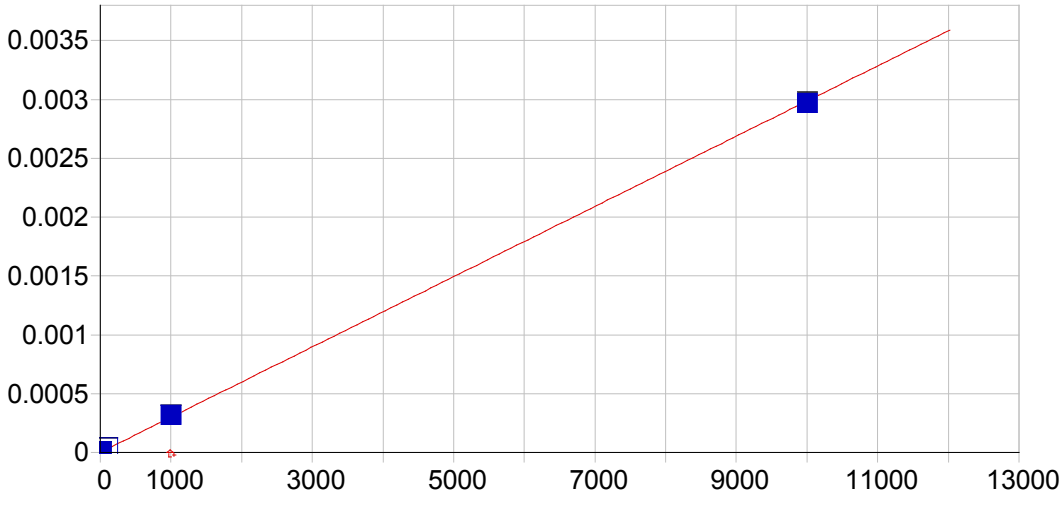



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 4.483850 | | |
| Predicted MQL: | 14.946168 | | |

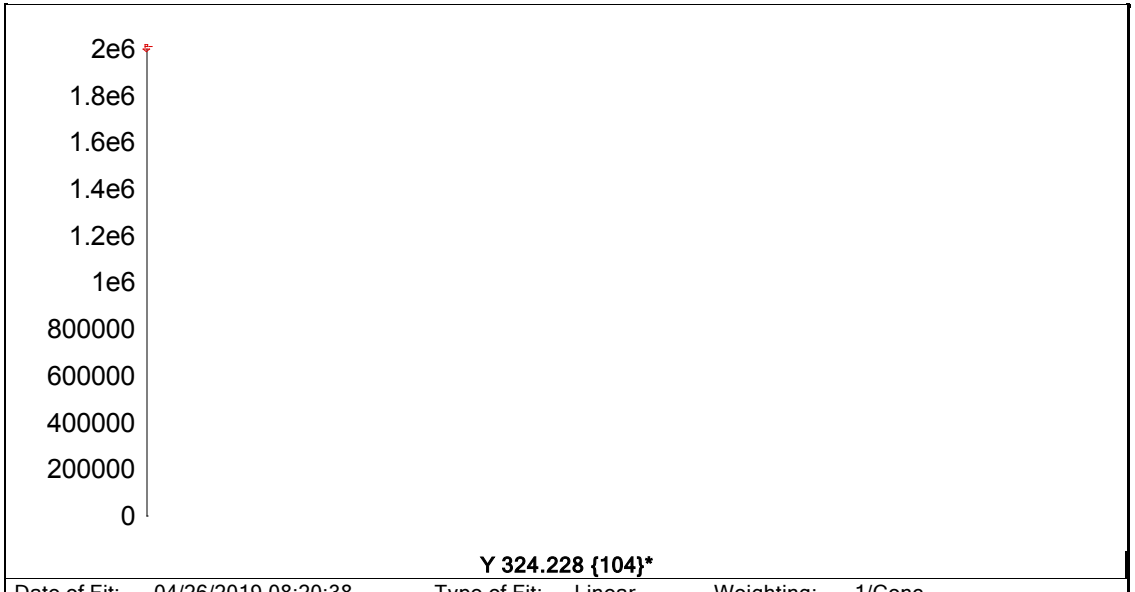
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.891 | -10.9 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.46 | -10.5 | -1.05 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9612.3 | -388. | -3.88 | .00189 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.81 | 1.81 | 1.81 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 101710. | 1710. | 1.71 | .01999 | .000 | 1 |




**Pb 220.353 {453}**

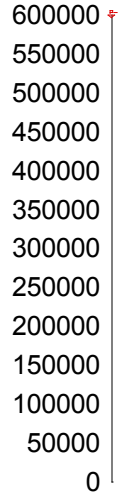
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999726 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.144750 | | | | |
| Predicted MQL: | 7.149168 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.444 | 2.44 | 24.4 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.27 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.5643 | 1.56 | 31.3 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.0 | 44.0 | 4.40 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.7 | -64.3 | -.643 | .00297 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

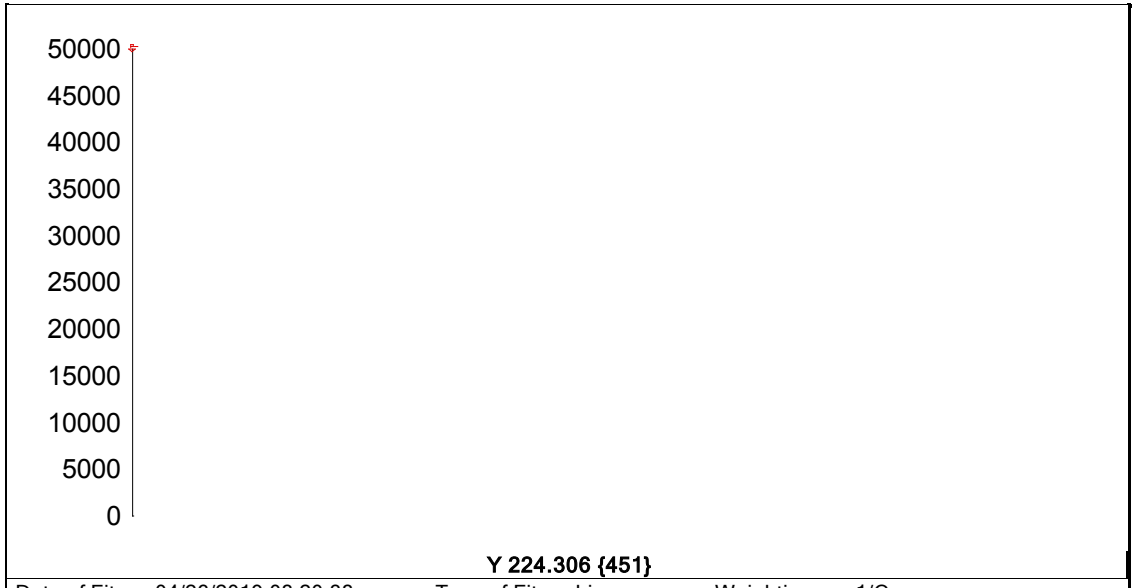
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1838300. | 3910. | 1 |




**Y 371.030 { 91}***

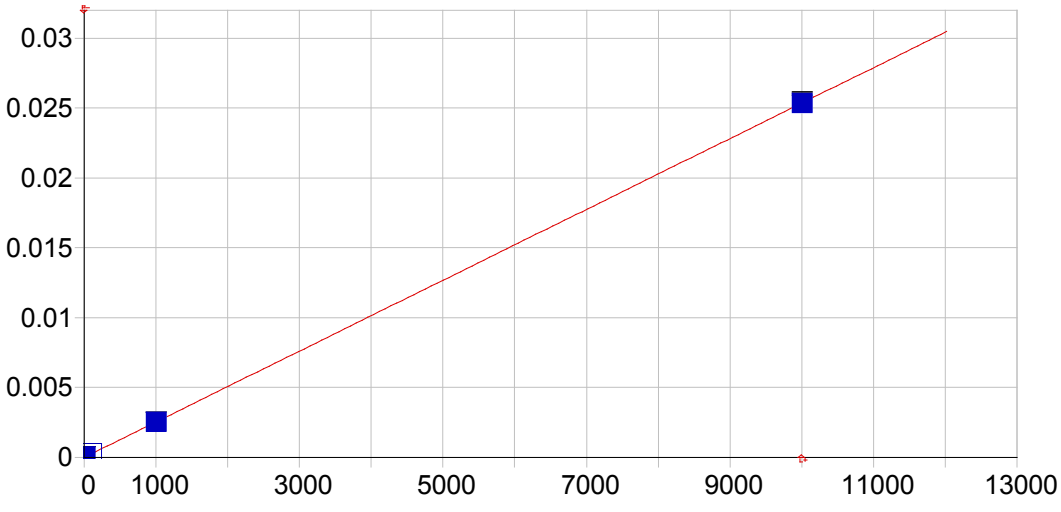
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 517290. | 3060. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 47117. | 95.3 | 1 |

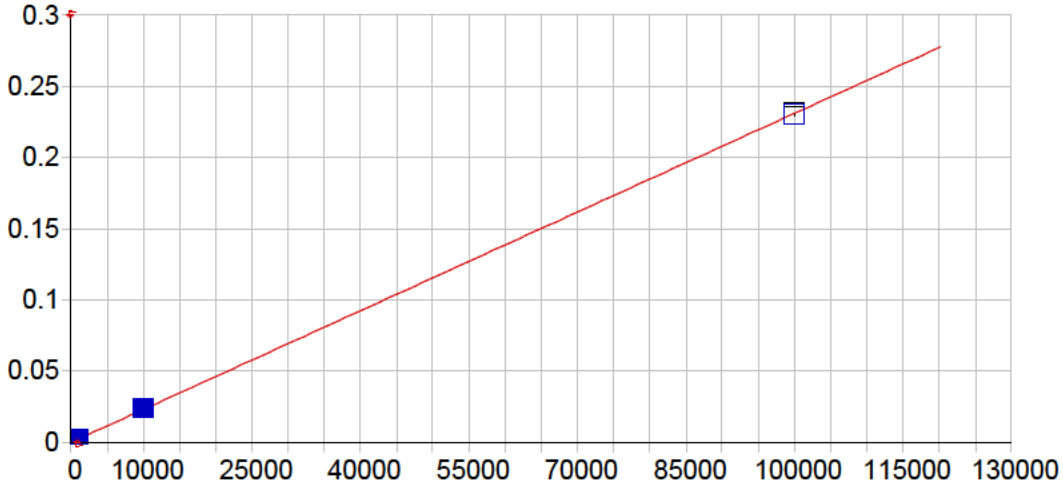



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999561 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.362333 | | |
| Predicted MQL: | 1.207777 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.82619 | -.826 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.63 | -12.4 | -1.24 | .00251 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.323 | .323 | 3.23 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.429061 | | |
| Predicted MQL: | 1.430205 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01566 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 99717. | -283. | -.283 | .23028 | .001 | 1 |
| CalStd10=10 | 10000. | 10252. | 252. | 2.52 | .02371 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00236 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.55 | 11.5 | 11.5 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 10:46:25 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 539. | 178. | 4.24 | 5.00 | 80.5 | 22.9 | 52.3 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1838300.** | **517290.** |
| Stddev | 3912. | 3064. |
| %RSD | .21280 | .59225 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 10:51:43 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| | |
|---|---|
| Int. Std. | Y_3242 |
| Units | Cts/S |
| Avg | **1841800.** |
| Stddev | 7568. |
| %RSD | .41090 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 10:57:05 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 18.8 | 1.51 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1848400.** |
| Stddev | 954. |
| %RSD | .05159 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 11:02:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 6.76 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1846900. |
| Stddev | 8226. |
| %RSD | .44538 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 11:07:48 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 | Mn2593 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | .413 | .850 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1851300.** |
| Stddev | 7813. |
| %RSD | .42201 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 11:13:10 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.52 | .514 | .950 | .537 | 1.59 | .192 | .259 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1839100.** | **528940.** |
| Stddev | 3631. | 3970. |
| %RSD | .19743 | .75046 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 11:18:27 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.001** | **.006** | **.003** | **.001** | **.025** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .322 | 1.20 | .397 | 1.36 | .532 | .421 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789300.** | **527900.** |
| Stddev | 6317. | 6066. |
| %RSD | .35307 | 1.1491 |

Sample Name: CalStd11-100k Acquired: 04/25/2019 11:23:35 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Mn2593 |
|---|---|
| Units | Cts/S |
| Avg | **.230** |
| Stddev | .001 |
| %RSD | .611 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1816500.** |
| Stddev | 4728. |
| %RSD | .26025 |

Sample Name: CalStd12-100000 Acquired: 04/25/2019 11:29:11 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.112** | **.058** | **.009** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.17 | 1.10 | 1.01 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **523370.** |
| Stddev | 5416. |
| %RSD | 1.0348 |

Sample Name: CalStd13=500000 Acquired: 04/25/2019 11:34:26 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.573** | **.278** | **.146** | **.048** |
| Stddev | .010 | .003 | .001 | .001 |
| %RSD | 1.66 | 1.17 | .383 | 1.34 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1640000.** | **514060.** |
| Stddev | 5264. | 6838. |
| %RSD | .32096 | 1.3302 |

Sample Name: CalStd14-1000k  Acquired: 04/25/2019 11:40:14  Type: Cal
Method: As & Pb & Mn(v5)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6000:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.552** | **.280** | **.096** |
| Stddev | .01 | .003 | .000 | .001 |
| %RSD | 1.10 | .512 | .134 | .816 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1478800.** | **472860.** |
| Stddev | 1412. | 4250. |
| %RSD | .09548 | .89880 |

Sample Name: ICV2 Acquired: 04/25/2019 11:56:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11500.** | **2110.** | **9840.** | **5010.** | **9500.** | **511.** |
| Stddev | 248. | 18. | 202. | 21. | 218. | 4. |
| %RSD | 2.16 | .846 | 2.06 | .415 | 2.29 | .742 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1821400.** | **519330.** |
| Stddev | 8077. | 10917. |
| %RSD | .44345 | 2.1021 |

Sample Name: ICVLL Acquired: 04/25/2019 12:02:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1320.** | **69.5** | **1680.** | **1030.** | **1620.** | **33.7** |
| Stddev | 13. | 3.3 | 25. | 3. | 9. | .1 |
| %RSD | 1.02 | 4.79 | 1.51 | .317 | .536 | .372 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825000.** | **519800.** |
| Stddev | 7373. | 6574. |
| %RSD | .40399 | 1.2647 |

Sample Name: icb Acquired: 04/25/2019 12:07:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-3.37** | **-2.12** | **35.3** | **.654** | **3.46** | **-.816** |
| Stddev | 2.12 | .41 | 5.4 | 1.37 | 6.99 | .147 |
| %RSD | 63.0 | 19.4 | 15.2 | 209. | 202. | 18.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842700.** | **527560.** |
| Stddev | 2154. | 3142. |
| %RSD | .11691 | .59558 |

Sample Name: MRL Acquired: 04/25/2019 12:12:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **412.** | **17.0** | **541.** | **336.** | **510.** | **10.5** |
| Stddev | 13. | 1.5 | 10. | 3. | 21. | .3 |
| %RSD | 3.19 | 8.55 | 1.91 | 1.02 | 4.02 | 2.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1823400.** | **528440.** |
| Stddev | 7276. | 7292. |
| %RSD | .39904 | 1.3799 |

Sample Name: icsa Acquired: 04/25/2019 12:18:12 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **465000.** | **.006** | **448000.** | **463000.** | **459000.** | **-3.69** |
| Stddev | 6730. | 6.40 | 3260. | 1190. | 3440. | .65 |
| %RSD | 1.45 | 107000. | .728 | .257 | .749 | 17.6 |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1642700.** | **513560.** |
| Stddev | 4085. | 3635. |
| %RSD | .24870 | .70770 |

Sample Name: icsab Acquired: 04/25/2019 12:23:48 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **537000.** | **577.** | **511000.** | **527000.** | **526000.** | **589.** |
| Stddev | 4350. | 11. | 2880. | 4130. | 2140. | 5. |
| %RSD | .810 | 1.94 | .563 | .784 | .406 | .838 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1623800.** | **508300.** |
| Stddev | 10217. | 1528. |
| %RSD | .62923 | .30065 |

Sample Name: 257656 Acquired: 04/25/2019 12:41:04 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 5
Comment: 71472 reruns

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **79000.** | **32.3** | **29200.** | **149000.** | **15400.** | **38600.** |
| Stddev | 4360. | 2.4 | 1520. | 7750. | 801. | 2050. |
| %RSD | 5.52 | 7.40 | 5.22 | 5.20 | 5.19 | 5.32 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1796800.** | **530580.** |
| Stddev | 3318. | 2128. |
| %RSD | .18465 | .40106 |

Sample Name: dup257656 Acquired: 04/25/2019 12:46:17 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 5
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **68200.** | **35.3** | **25100.** | **125000.** | **13400.** | **40000.** |
| Stddev | 3690. | 4.0 | 1290. | 6380. | 681. | 1980. |
| %RSD | 5.41 | 11.2 | 5.15 | 5.10 | 5.08 | 4.96 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1808100.** | **523870.** |
| Stddev | 3376. | 3973. |
| %RSD | .18669 | .75839 |

Sample Name: trip257656 Acquired: 04/25/2019 12:51:30 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 5
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **72900.** | **21.7** | **24600.** | **131000.** | **13400.** | **34100.** |
| Stddev | 3540. | 5.4 | 1190. | 5780. | 605. | 1540. |
| %RSD | 4.86 | 25.0 | 4.82 | 4.43 | 4.53 | 4.53 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1807900.** | **526770.** |
| Stddev | 5296. | 4975. |
| %RSD | .29294 | .94445 |

Sample Name: 257658 Acquired: 04/25/2019 12:56:43 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 5
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **80400.** | **50.7** | **36700.** | **123000.** | **16400.** | **39600.** |
| Stddev | 4180. | 2.8 | 1980. | 6020. | 859. | 1910. |
| %RSD | 5.20 | 5.48 | 5.39 | 4.88 | 5.25 | 4.82 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1802900.** | **532210.** |
| Stddev | 4867. | 3876. |
| %RSD | .26997 | .72821 |

Sample Name: 257660 Acquired: 04/25/2019 13:01:56 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 5
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **73700.** | **38.3** | **35800.** | **123000.** | **15900.** | **30000.** |
| Stddev | 3840. | 3.9 | 1800. | 5760. | 791. | 1400. |
| %RSD | 5.22 | 10.1 | 5.03 | 4.67 | 4.99 | 4.67 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1801500.** | **529370.** |
| Stddev | 5640. | 3053. |
| %RSD | .31309 | .57665 |

Sample Name: ccv1 Acquired: 04/25/2019 13:22:55 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4850.** | **4990.** | **4730.** | **4870.** | **4600.** | **4810.** | **4940.** |
| Stddev | 62. | 11. | 46. | 18. | 58. | 15. | 16. |
| %RSD | 1.27 | .229 | .966 | .359 | 1.26 | .308 | .327 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781900.** | **517270.** |
| Stddev | 3288. | 6419. |
| %RSD | .18453 | 1.2409 |

Sample Name: ccv2 Acquired: 04/25/2019 13:28:06 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **488.** | **505.** | **497.** | **489.** | **474.** | **486.** |
| Stddev | 3. | 3. | 12. | 2. | 26. | 2. |
| %RSD | .666 | .501 | 2.34 | .372 | 5.47 | .408 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825600.** | **527470.** |
| Stddev | 4040. | 9874. |
| %RSD | .22130 | 1.8721 |

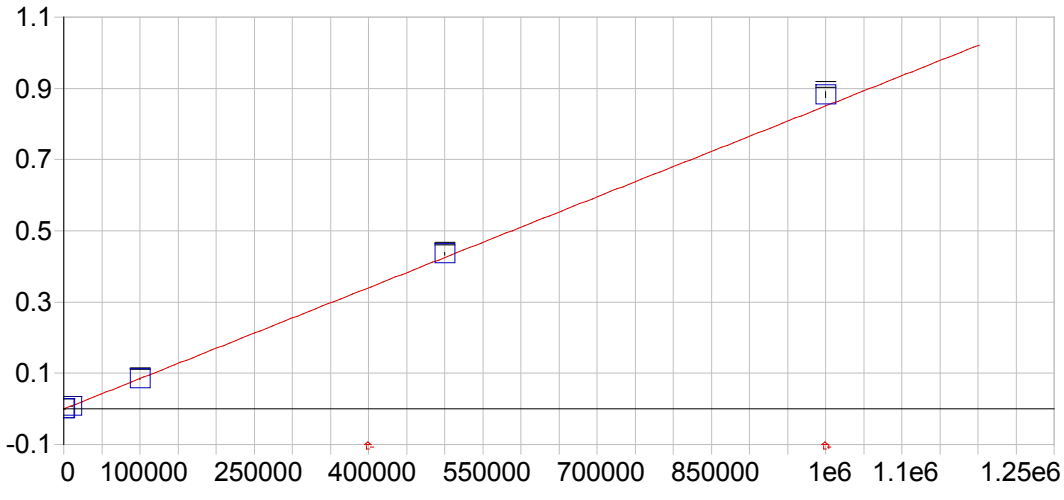
Sample Name: ccb Acquired: 04/25/2019 13:33:26 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-5.45** | **-6.15** | **1.64** | **-6.32** | **-.992** | **-1.16** |
| Stddev | 9.43 | 3.17 | 4.74 | .57 | 16.2 | .59 |
| %RSD | 173. | 51.5 | 289. | 8.99 | 1630. | 50.9 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841200.** | **510940.** |
| Stddev | 2776. | 4679. |
| %RSD | .15080 | .91578 |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | -0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999987 | 0.000008 | 9.452004 | 31.506680 |
| | As 193.759 {474} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000001 | 2.996771 | 9.989237 |
| | As 197.262 {471} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999949 | 0.000000 | 6.659778 | 22.199260 |
| | Ca 315.887 {107} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | 0.000051 | 0.000000 | 0.000000 | 1.000000 | 0.999990 | 0.000004 | 5.169510 | 17.231699 |
| | Fe 234.349 {144} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Linear | None | 0.004994 | 0.000000 | 0.000000 | 1.000000 | 0.993972 | 0.017709 | 2.206195 | 7.353985 |
| | Fe 239.562 {141} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Linear | 1/Conc | 0.000011 | 0.000000 | 0.000000 | 1.000000 | 0.999747 | 0.000010 | 2.210323 | 7.367744 |
| | Mg 279.079 {121} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999888 | 0.000002 | 17.673622 | 58.912073 |
| | Pb 216.999 {455} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999684 | 0.000000 | 6.776495 | 22.588316 |
| | Pb 220.353 {153} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999550 | 0.000005 | 4.497435 | 14.991449 |
| | Pb 220.353 {453} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999766 | 0.000000 | 2.106772 | 7.022574 |
| | Y 324.228 {104}* | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000009 | 0.000003 | 0.000000 | 1.000000 | 0.999586 | 0.000011 | 0.340524 | 1.135080 |
| | Mn 259.373 {130} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.418686 | 1.395621 |

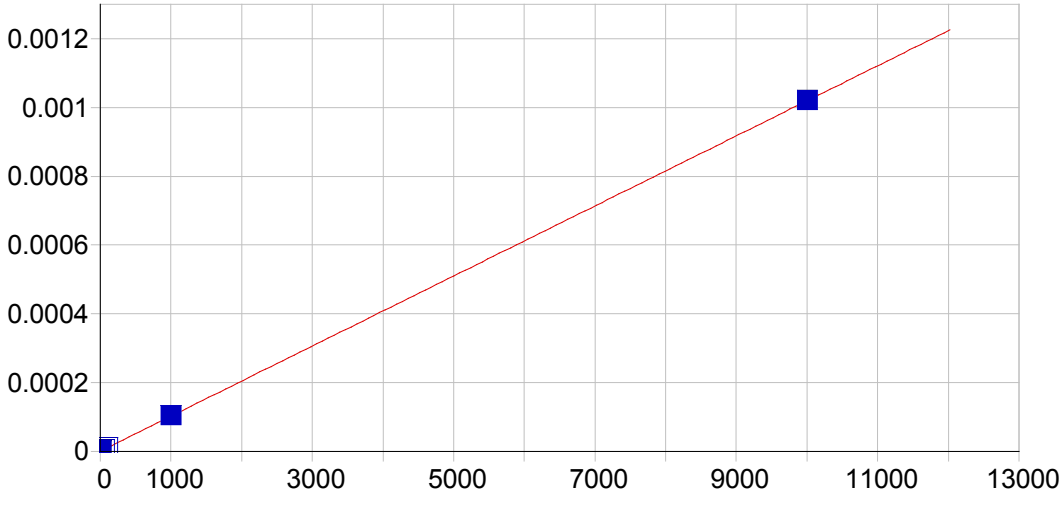
| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK | 1.000000 | 0.000000 | 1 | 0 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000007 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999987 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 9.452004 | | | | |
| Predicted MQL: | 31.506680 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00197 | .002 | .000 | -.00001 | .000 | 1 |
| CalStd14-10 | 1000000. | 1037300. | 37300. | 3.73 | .88206 | .008 | 1 |
| CalStd13=50 | 500000. | 512210. | 12200. | 2.44 | .43556 | .003 | 1 |
| CalStd10=10 | 10000. | 9580.3 | -420. | -4.20 | .00814 | .000 | 1 |
| CalStd12-10 | 100000. | 99360. | -640. | -.640 | .08448 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1046.7 | 46.7 | 4.67 | .00088 | .000 | 1 |

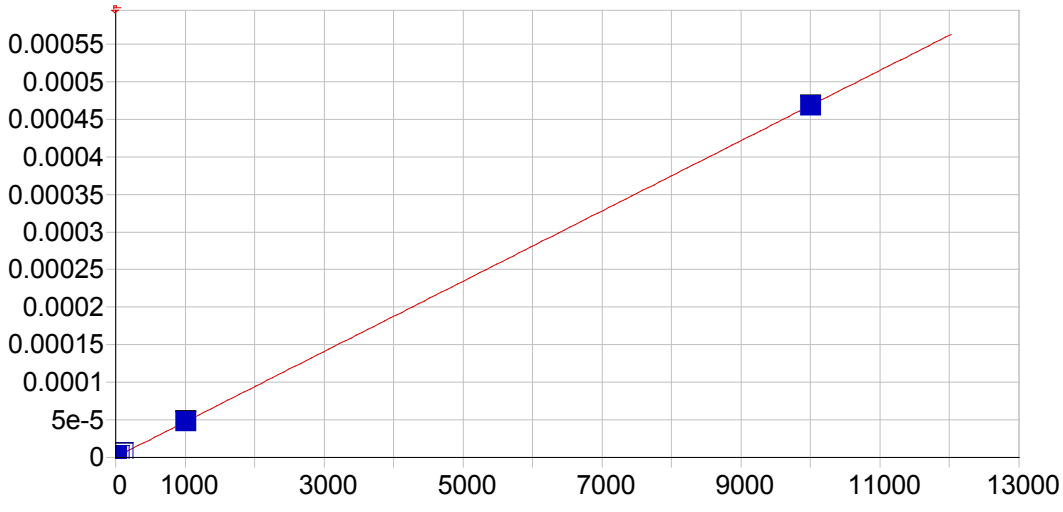



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.996771 | | |
| Predicted MQL: | 9.989237 | | |

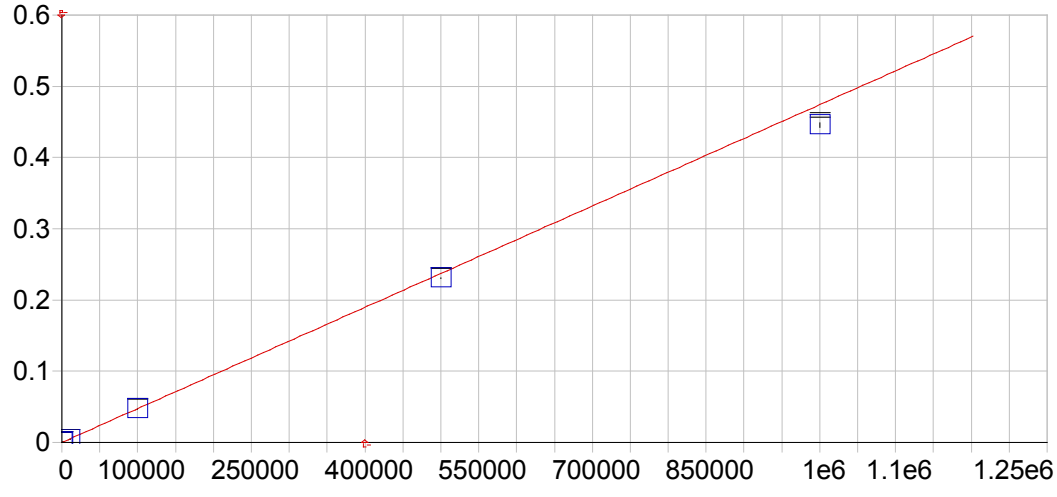
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.6859 | 7.69 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.9 | 13.9 | 1.39 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.195 | -3.80 | -7.61 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.1121 | -1.89 | -18.9 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.84 | 4.84 | 4.84 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9999.4 | -.647 | -.006 | .00102 | .000 | 1 |




**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999949 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 6.659778 | | | | |
| Predicted MQL: | 22.199260 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.690 | 11.7 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.5 | 9.49 | .949 | .00005 | .000 | 1 |
| CalStd7=50 | 50.000 | 44.360 | -5.64 | -11.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.980 | 3.98 | 39.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.59 | 9.59 | 9.59 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9992.9 | -7.14 | -.071 | .00047 | .000 | 1 |

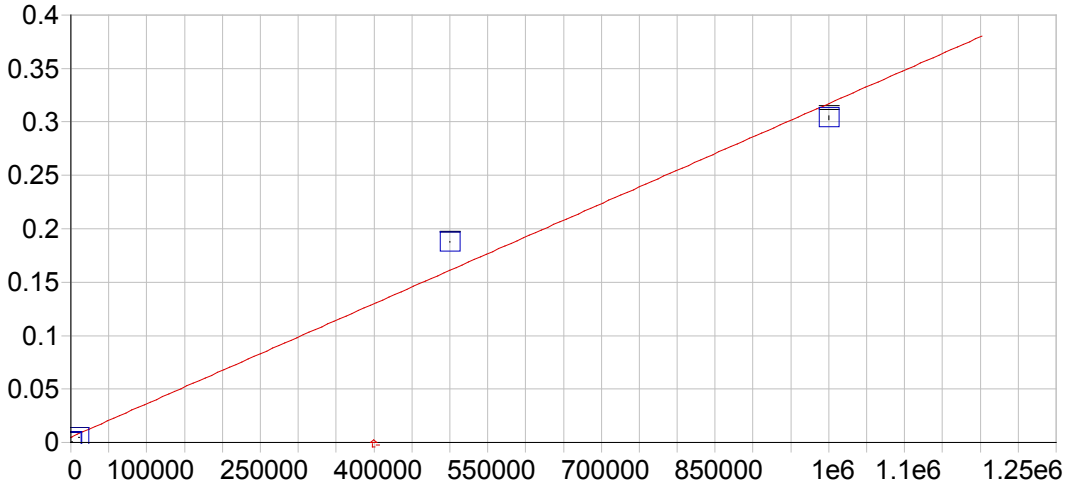



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 5.169510 | | |
| Predicted MQL: | 17.231699 | | |

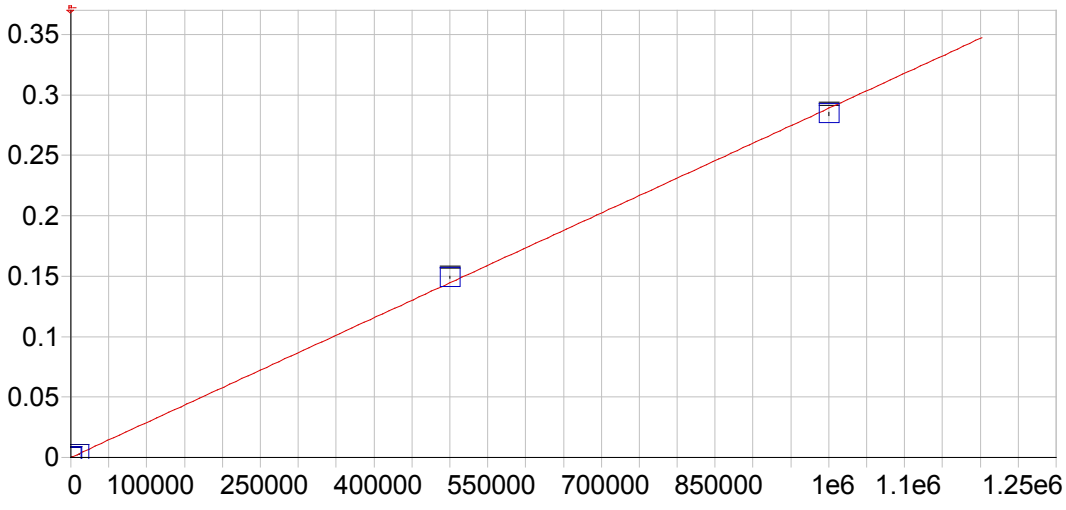
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03647 | .036 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9498.3 | -502. | -5.02 | .00456 | .000 | 1 |
| CalStd13=50 | 500000. | 486470. | -13500. | -2.71 | .23074 | .001 | 1 |
| CalStd14-10 | 1000000. | 939610. | -60400. | -6.04 | .44562 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1013.4 | 13.4 | 1.34 | .00053 | .000 | 1 |
| CalStd12-10 | 100000. | 99155. | -845. | -.845 | .04707 | .001 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | None |
| A0 (Offset): | 0.004994 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.993972 | | Status: | OK. | |
| Std Error of Est: | 0.017709 | | | | |
| Predicted MDL: | 2.206195 | | | | |
| Predicted MQL: | 7.353985 | | | | |

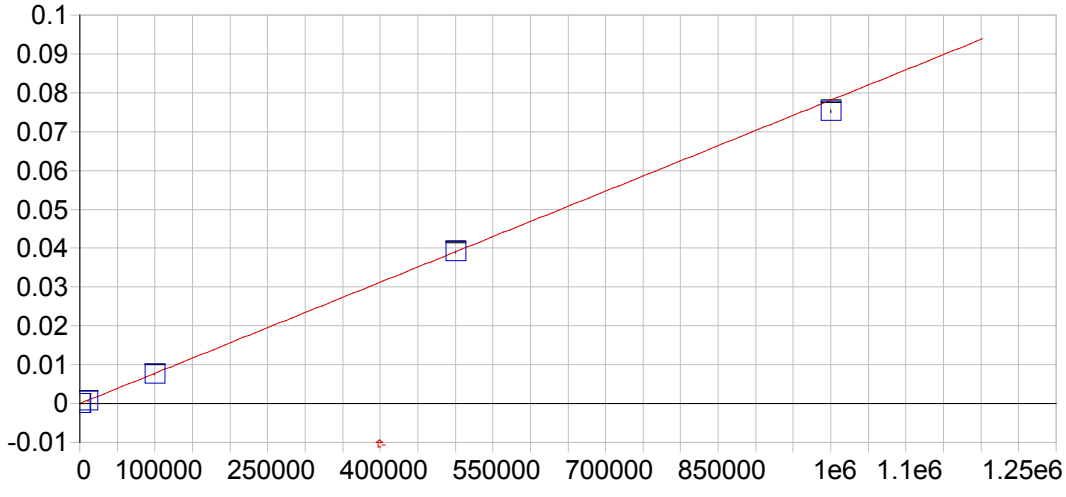
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15916. | -15900. | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | -1352.1 | -11400. | -114. | .00457 | .000 | 1 |
| CalStd13=50 | 500000. | 585060. | 85100. | 17.0 | .18765 | .000 | 1 |
| CalStd14-10 | 1000000. | 957600. | -42400. | -4.24 | .30395 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14391. | -15400. | -1540. | .00050 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000011 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999747 | | Status: | OK. | |
| Std Error of Est: | 0.000010 | | | | |
| Predicted MDL: | 2.210323 | | | | |
| Predicted MQL: | 7.367744 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01961 | .020 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.9 | -201. | -2.01 | .00284 | .000 | 1 |
| CalStd13=50 | 500000. | 515990. | 16000. | 3.20 | .14908 | .001 | 1 |
| CalStd14-10 | 1000000. | 984230. | -15800. | -1.58 | .28437 | .001 | 1 |
| CalStd9=100 | 1000.0 | 984.29 | -15.7 | -1.57 | .00030 | .000 | 1 |

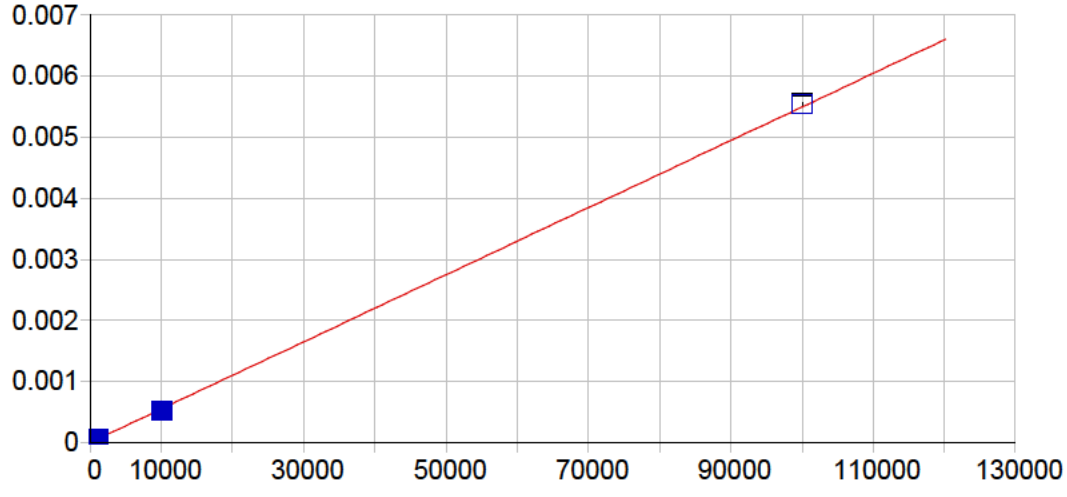



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999888 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 17.673622 | | |
| Predicted MQL: | 58.912073 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13294 | .133 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 499630. | -365. | -.073 | .03902 | .000 | 1 |
| CalStd10=10 | 10000. | 9080.3 | -920. | -9.20 | .00071 | .000 | 1 |
| CalStd14-10 | 1000000. | 962880. | -37100. | -3.71 | .07520 | .000 | 1 |
| CalStd12-10 | 100000. | 96249. | -3750. | -3.75 | .00752 | .000 | 1 |
| CalStd9=100 | 1000.0 | 980.47 | -19.5 | -1.95 | .00008 | .000 | 1 |

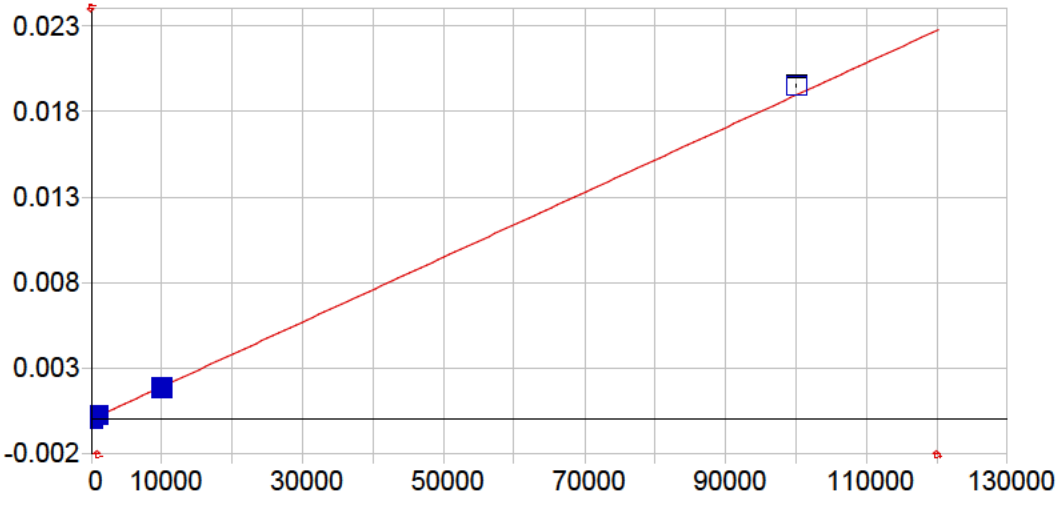



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999684 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.776495 | | |
| Predicted MQL: | 22.588316 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00239 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 983.89 | -16.1 | -1.61 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9224.0 | -776. | -7.76 | .00051 | .000 | 1 |
| CalStd11-10 | 100000. | 100770. | 773. | .773 | .00554 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.94 | 18.9 | 18.9 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.355 | 1.35 | 13.5 | .00000 | .000 | 1 |

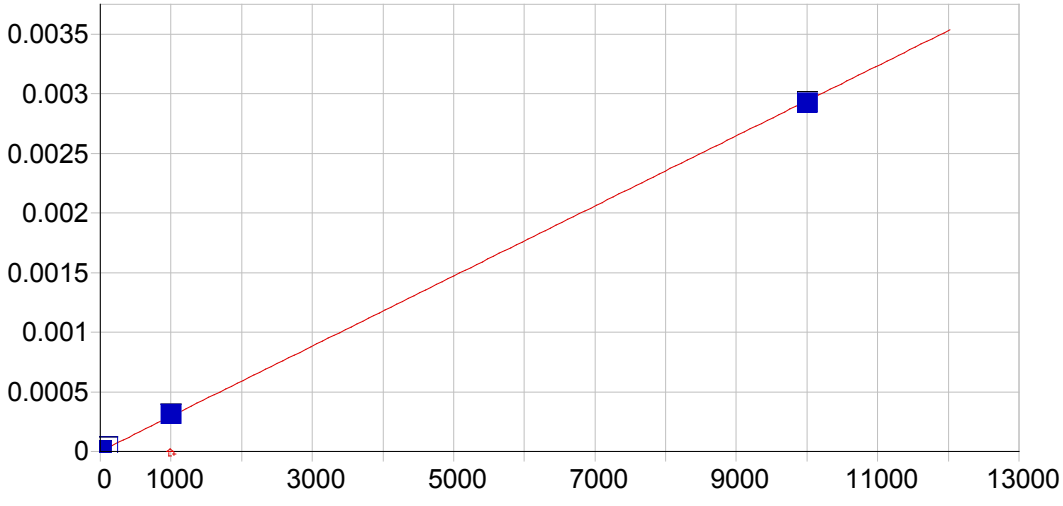



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999550 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 4.497435 | | |
| Predicted MQL: | 14.991449 | | |

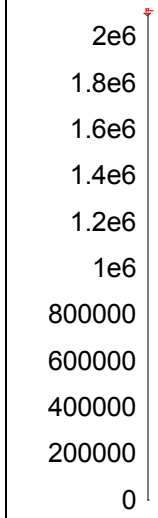
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1808 | -3.18 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.25 | .425 | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9545.6 | -454. | -4.54 | .00181 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.45 | 7.45 | 7.45 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 102850. | 2850. | 2.85 | .01949 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000002 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999766 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.106772 | | | | |
| Predicted MQL: | 7.022574 | | | | |

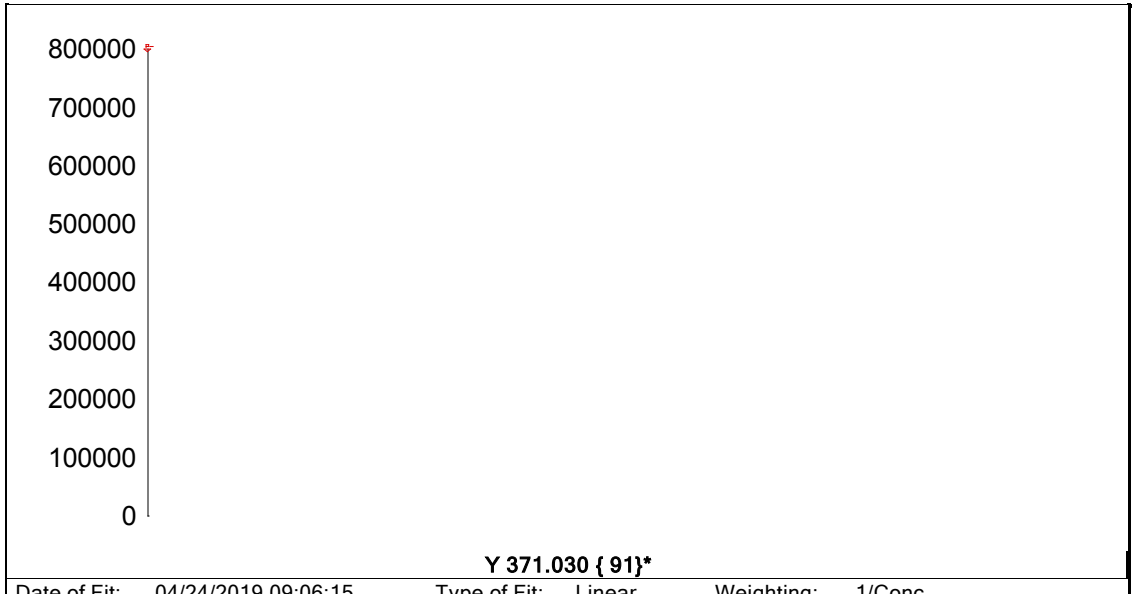
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00206 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.054 | 1.05 | 10.5 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.28 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5265 | .526 | 10.5 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9937.6 | -62.4 | -.624 | .00292 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

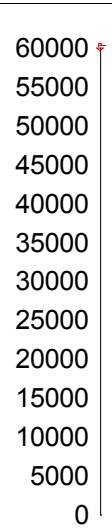
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1926400. | 5600. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

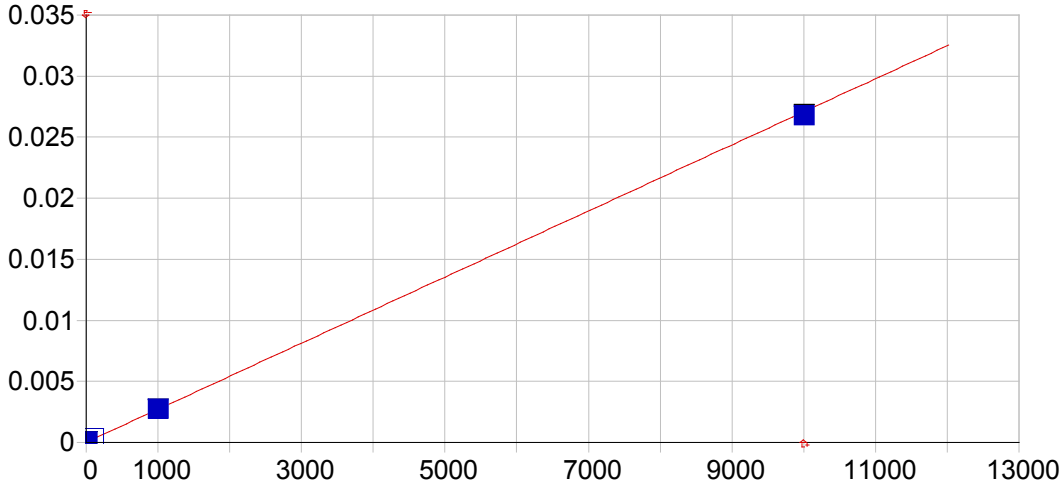
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 726180. | 7510. | 1 |




**Y 224.306 {451}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

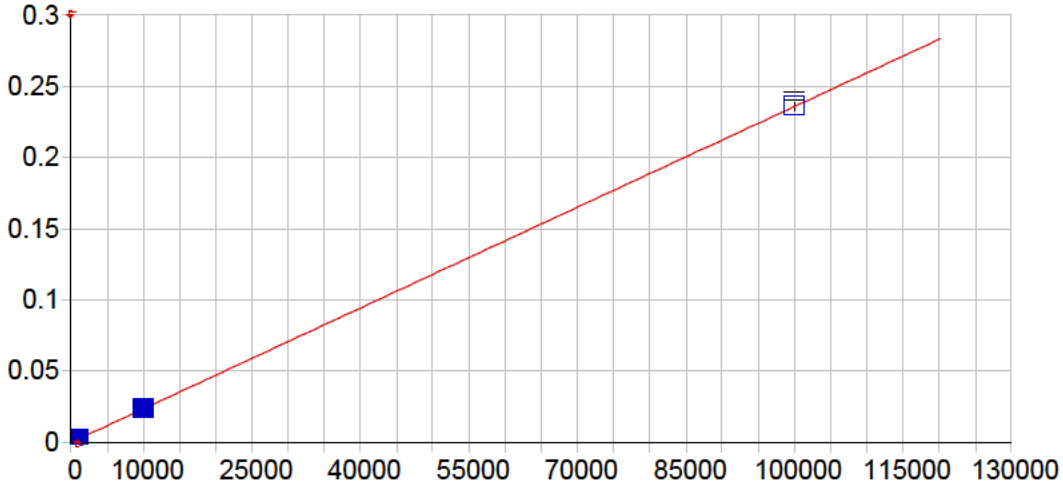
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 56128. | 140. | 1 |




**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000009 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000003 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999586 | | Status: | OK. | |
| Std Error of Est: | 0.000011 | | | | |
| Predicted MDL: | 0.340524 | | | | |
| Predicted MQL: | 1.135080 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5705 | -2.57 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9883.0 | -117. | -1.17 | .02676 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.79 | -9.21 | -.921 | .00269 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.27 | 5.27 | 5.27 | .00029 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1375 | -.863 | -8.63 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.418686 | | |
| Predicted MQL: | 1.395621 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00984 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 100010. | 13.5 | .013 | .23581 | .003 | 1 |
| CalStd10=10 | 10000. | 9970.1 | -29.9 | -.299 | .02354 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.1 | 7.09 | .709 | .00238 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.41 | 9.41 | 9.41 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/23/2019 15:08:47 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.0000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 |
| %RSD | 154. | 11.4 | 5.84 | 19.2 | 46.8 | 127. | 42.7 | 48.4 | 15.45 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1926400.** | **726180.** |
| Stddev | 5596. | 7507. |
| %RSD | .29049 | 1.0338 |

Sample Name: CalStd4=5 Acquired: 04/23/2019 15:14:05 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Pb2203 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 22.9 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1938800. |
| Stddev | 7689. |
| %RSD | .39658 |

Sample Name: CalStd5=10 Acquired: 04/23/2019 15:19:26 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Pb2203 | Mn2576 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 6.89 | 7.32 | 3.24 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1930300.** |
| Stddev | 3168. |
| %RSD | .16414 |

Sample Name: CalStd7=50 Acquired: 04/23/2019 15:24:48 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | **.000** |
| Stddev | .000 |
| %RSD | 1.99 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1938800.** |
| Stddev | 5540. |
| %RSD | .28575 |

Sample Name: CalStd8=100 Acquired: 04/23/2019 15:30:10 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Pb2203 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.0002** |
| Stddev | .000 | .000 | .000 | .000 | .0000 |
| %RSD | .884 | 3.09 | 1.80 | .478 | .3100 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1930400.** |
| Stddev | 9897. |
| %RSD | .51272 |

Sample Name: CalStd9=1000 Acquired: 04/23/2019 15:35:32 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.32 | .477 | .925 | .859 | 2.53 | .395 | .584 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1931700.** | **722250.** |
| Stddev | 4338. | 6589. |
| %RSD | .22459 | .91221 |

Sample Name: CalStd10=10000 Acquired: 04/23/2019 15:40:50 Type: Cal

Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.008** | **.001** | **.005** | **.003** | **.001** | **.027** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .921 | .034 | .922 | .158 | 1.11 | .304 | .230 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1879700.** | **722730.** |
| Stddev | 1173. | 6537. |
| %RSD | .06239 | .90442 |

Sample Name: CalStd11-100k Acquired: 04/23/2019 15:45:55 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Pb2203 | Mn2593 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.019** | **.1422** |
| Stddev | .000 | .0018 |
| %RSD | .419 | 1.239 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1897000.** |
| Stddev | 4518. |
| %RSD | .23818 |

Sample Name: CalStd12-100000 Acquired: 04/23/2019 15:51:32 Type: Cal

Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.084** | **.047** | **.008** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.28 | 1.28 | 1.25 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **719940.** |
| Stddev | 8398. |
| %RSD | 1.1664 |

Sample Name: CalStd13=500000 Acquired: 04/23/2019 15:56:46 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.436** | **.231** | **.149** | **.039** |
| Stddev | .003 | .001 | .001 | .000 |
| %RSD | .740 | .256 | .379 | .601 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1718200.** | **688310.** |
| Stddev | 4508. | 3752. |
| %RSD | .26235 | .54511 |

Sample Name: CalStd14-1000k Acquired: 04/23/2019 16:02:34 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.882** | **.446** | **.284** | **.075** |
| Stddev | .008 | .003 | .001 | .000 |
| %RSD | .919 | .637 | .456 | .388 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1550600.** | **652080.** |
| Stddev | 5135. | 2846. |
| %RSD | .33116 | .43650 |

Sample Name: ICV2 Acquired: 04/23/2019 16:19:15 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11300.** | **2170.** | **9540.** | **5010.** | **9220.** | **518.** |
| Stddev | 118. | 6. | 99. | 20. | 85. | 3. |
| %RSD | 1.04 | .293 | 1.04 | .407 | .919 | .515 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1909900.** | **717390.** |
| Stddev | 10237. | 7908. |
| %RSD | .53601 | 1.1024 |

Sample Name: ICVLL Acquired: 04/23/2019 16:24:30 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1280.** | **67.8** | **1610.** | **1020.** | **1560.** | **32.2** |
| Stddev | 6. | 2.5 | 3. | 12. | 10. | .1 |
| %RSD | .442 | 3.73 | .193 | 1.20 | .653 | .398 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1913200.** | **718730.** |
| Stddev | 13136. | 3114. |
| %RSD | .68661 | .43330 |

Sample Name: icb Acquired: 04/23/2019 16:29:49 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-6.02** | **-6.02** | **-5.16** | **-22.5** | **4.71** | **-3.20** |
| Stddev | 10.1 | 1.51 | 2.83 | .4 | 13.7 | .14 |
| %RSD | 168. | 25.1 | 54.8 | 1.64 | 291. | 4.34 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1939800.** | **725810.** |
| Stddev | 7029. | 9306. |
| %RSD | .36234 | 1.2821 |

Sample Name: icsa Acquired: 04/23/2019 16:40:33 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **469000.** | **-.001** | **443000.** | **466000.** | **454000.** | **-.006** |
| Stddev | 6370. | 9.91 | 1240. | 1480. | 2940. | .302 |
| %RSD | 1.36 | 815000. | .280 | .318 | .647 | 5400. |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1731100.** | **695020.** |
| Stddev | 5148. | 4382. |
| %RSD | .29740 | .63045 |

Sample Name: icsab Acquired: 04/23/2019 16:46:21 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **530000.** | **581.** | **497000.** | **527000.** | **515000.** | **589.** |
| Stddev | 4530. | 6. | 2900. | 5110. | 2960. | 8. |
| %RSD | .856 | .979 | .584 | .971 | .575 | 1.30 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1718800.** | **694130.** |
| Stddev | 9619. | 4233. |
| %RSD | .55965 | .60979 |

Sample Name: lcss71473 Acquired: 04/23/2019 17:03:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **693.** | **2070.** | **20000.** | **9510.** | **6250.** | **18.2** | **2090.** | **2147.** |
| Stddev | 11. | 7. | 238. | 53. | 49. | 2.1 | 13. | 11. |
| %RSD | 1.59 | .354 | 1.19 | .556 | .790 | 11.6 | .595 | .5147 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1895200.** | **716740.** |
| Stddev | 5391. | 8485. |
| %RSD | .28445 | 1.1838 |

Sample Name: mbs71473 Acquired: 04/23/2019 17:08:46 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1850.** | **-10.6** | **28600.** | **13900.** | **6060.** | **21.3** | **188.** |
| Stddev | 24. | 1.6 | 232. | 69. | 65. | 1.6 | 1. |
| %RSD | 1.30 | 15.4 | .814 | .492 | 1.08 | 7.71 | .672 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1887400.** | **697400.** |
| Stddev | 6352. | 5612. |
| %RSD | .33654 | .80476 |

Sample Name: 258271 Acquired: 04/23/2019 17:13:59 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **273000.** | **80.9** | **215000.** | **371000.** | **51800.** | **1110.** | **22350.** |
| Stddev | 1910. | 3.4 | 1200. | 2020. | 256. | 12. | 131. |
| %RSD | .700 | 4.23 | .559 | .543 | .494 | 1.05 | .5858 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1813900.** | **704640.** |
| Stddev | 6341. | 4351. |
| %RSD | .34959 | .61741 |

Sample Name: I258271 Acquired: 04/23/2019 17:19:23 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **67100.** | **4.81** | **54600.** | **94300.** | **13200.** | **264.** | **5360.** | **5559.** |
| Stddev | 1910. | 1.82 | 1540. | 2200. | 372. | 13. | 119. | 121. |
| %RSD | 2.85 | 37.9 | 2.83 | 2.33 | 2.83 | 4.93 | 2.22 | 2.167 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1904600.** | **723560.** |
| Stddev | 7950. | 4356. |
| %RSD | .41741 | .60205 |

Sample Name: dup258271 Acquired: 04/23/2019 17:24:37 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294000.** | **91.3** | **299000.** | **353000.** | **53200.** | **1150.** | **20720.** |
| Stddev | 3420. | 8.5 | 2750. | 2750. | 456. | 12. | 215. |
| %RSD | 1.16 | 9.32 | .923 | .779 | .857 | 1.08 | 1.039 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1799100.** | **699700.** |
| Stddev | 6903. | 5347. |
| %RSD | .38368 | .76417 |

Sample Name: mss258271 Acquired: 04/23/2019 17:30:00 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **293000.** | **19000.** | **242000.** | **341000.** | **63200.** | **1100.** | **40290.** |
| Stddev | 4010. | 109. | 3190. | 1710. | 826. | 7. | 241. |
| %RSD | 1.37 | .575 | 1.32 | .500 | 1.31 | .643 | .5973 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1802600.** | **697780.** |
| Stddev | 10667. | 8740. |
| %RSD | .59174 | 1.2526 |

Sample Name: msds258271 Acquired: 04/23/2019 17:35:21 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **289000.** | **18700.** | **201000.** | **363000.** | **55700.** | **1340.** | **43930.** |
| Stddev | 3660. | 135. | 2620. | 2840. | 776. | 9. | 309. |
| %RSD | 1.26 | .722 | 1.31 | .780 | 1.39 | .687 | .7027 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815000.** | **700380.** |
| Stddev | 11093. | 8794. |
| %RSD | .61119 | 1.2556 |

Sample Name: pdss258271 Acquired: 04/23/2019 17:40:42 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **270000.** | **21000.** | **212000.** | **369000.** | **51200.** | **1110.** | **43270.** |
| Stddev | 4580. | 59. | 3330. | 1370. | 856. | 7. | 224. |
| %RSD | 1.70 | .282 | 1.57 | .372 | 1.67 | .668 | .5177 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1801400.** | **701510.** |
| Stddev | 4946. | 10433. |
| %RSD | .27456 | 1.4872 |

Sample Name: ccv1 Acquired: 04/23/2019 17:46:02 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4910.** | **5260.** | **4720.** | **5020.** | **4580.** | **4970.** | **5110.** |
| Stddev | 50. | 14. | 49. | 13. | 34. | 13. | 15. |
| %RSD | 1.01 | .260 | 1.03 | .258 | .736 | .267 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1867800.** | **710100.** |
| Stddev | 2816. | 6382. |
| %RSD | .15074 | .89872 |

Sample Name: ccv2 Acquired: 04/23/2019 17:51:10 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **490.** | **511.** | **469.** | **467.** | **463.** | **482.** |
| Stddev | 10. | 1. | 5. | 5. | 6. | 1. |
| %RSD | 1.97 | .287 | .993 | .977 | 1.34 | .265 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1924100.** | **706540.** |
| Stddev | 2565. | 6317. |
| %RSD | .13333 | .89405 |

Sample Name: ccb Acquired: 04/23/2019 17:56:31 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-9.86** | **-5.62** | **-9.31** | **-25.5** | **6.34** | **-3.21** |
| Stddev | 2.13 | 2.53 | 1.63 | 1.4 | 9.88 | .17 |
| %RSD | 21.6 | 45.0 | 17.5 | 5.52 | 156. | 5.30 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1927900.** | **702460.** |
| Stddev | 4138. | 7766. |
| %RSD | .21461 | 1.1056 |

Sample Name: 258272 Acquired: 04/23/2019 18:01:53 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **223000.** | **237.** | **313000.** | **354000.** | **97500.** | **2210.** | **26920.** |
| Stddev | 1800. | 9. | 2780. | 743. | 915. | 4. | 39. |
| %RSD | .806 | 3.82 | .889 | .210 | .938 | .162 | .1434 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1786300.** | **701510.** |
| Stddev | 3777. | 6268. |
| %RSD | .21143 | .89343 |

Sample Name: 258273 Acquired: 04/23/2019 18:07:17 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **171000.** | **240.** | **133000.** | **388000.** | **42600.** | **915.** | **960.** | **13200.** |
| Stddev | 1710. | 8. | 1340. | 898. | 460. | 11. | 2. | 39. |
| %RSD | 1.00 | 3.22 | 1.01 | .231 | 1.08 | 1.22 | .250 | .2941 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828900.** | **698710.** |
| Stddev | 6337. | 6463. |
| %RSD | .34648 | .92504 |

Sample Name: 258275 Acquired: 04/23/2019 18:12:42 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **219000.** | **85.8** | **111000.** | **339000.** | **36400.** | **1790.** | **12830.** |
| Stddev | 1590. | 7.7 | 482. | 1670. | 175. | 5. | 74. |
| %RSD | .724 | 8.97 | .433 | .492 | .480 | .278 | .5741 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1833900.** | **704870.** |
| Stddev | 2527. | 3232. |
| %RSD | .13779 | .45856 |

Sample Name: 258276 Acquired: 04/23/2019 18:18:06 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **259000.** | **1370.** | **586000.** | **550000.** | **95100.** | **5890.** | **55680.** |
| Stddev | 2810. | 9. | 3790. | 1960. | 963. | 36. | 259. |
| %RSD | 1.09 | .626 | .646 | .356 | 1.01 | .610 | .4644 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1742400.** | **702310.** |
| Stddev | 5450. | 8018. |
| %RSD | .31278 | 1.1416 |

Sample Name: 258277 Acquired: 04/23/2019 18:23:38 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **233000.** | **889.** | **329000.** | **490000.** | **51100.** | **1860.** | **24800.** |
| Stddev | 3390. | 6. | 4340. | 1950. | 680. | 8. | 120. |
| %RSD | 1.45 | .620 | 1.32 | .398 | 1.33 | .431 | .4845 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1795700.** | **700170.** |
| Stddev | 6524. | 8321. |
| %RSD | .36330 | 1.1885 |

Sample Name: 259433 Acquired: 04/23/2019 18:29:01 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **144000.** | **689.** | **104000.** | **184000.** | **27000.** | **4600.** | **325000.** |
| Stddev | 2490. | 7. | 1520. | 1200. | 375. | 43. | 2510. |
| %RSD | 1.73 | .948 | 1.46 | .649 | 1.39 | .925 | .774 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828300.** | **705330.** |
| Stddev | 8406. | 9481. |
| %RSD | .45975 | 1.3442 |

Sample Name: I259433 Acquired: 04/23/2019 18:34:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **36600.** | **125.** | **27400.** | **46900.** | **7130.** | **1040.** | **970.** | **94080.** |
| Stddev | 3450. | 3. | 2540. | 4440. | 676. | 34. | 20. | 8551. |
| %RSD | 9.44 | 2.64 | 9.28 | 9.45 | 9.49 | 3.24 | 2.01 | 9.089 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1927300.** | **715030.** |
| Stddev | 4699. | 3423. |
| %RSD | .24382 | .47865 |

Sample Name: dup259433 Acquired: 04/23/2019 18:40:08 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **164000.** | **509.** | **180000.** | **181000.** | **42800.** | **1400.** | **203000.** |
| Stddev | 1450. | 5. | 1640. | 1070. | 454. | 16. | 1530. |
| %RSD | .883 | .977 | .912 | .593 | 1.06 | 1.15 | .751 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815100.** | **704840.** |
| Stddev | 7909. | 6821. |
| %RSD | .43576 | .96770 |

Sample Name: mss259433 Acquired: 04/23/2019 18:45:44 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **163000.** | **20000.** | **103000.** | **207000.** | **27400.** | **4140.** | **226000.** |
| Stddev | 2100. | 39. | 1200. | 744. | 277. | 10. | 3390. |
| %RSD | 1.29 | .197 | 1.16 | .359 | 1.01 | .234 | 1.50 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1832500.** | **704980.** |
| Stddev | 4664. | 7763. |
| %RSD | .25450 | 1.1012 |

Sample Name: msds259433 Acquired: 04/23/2019 18:51:25 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **151000.** | **19100.** | **102000.** | **191000.** | **26100.** | **1700.** | **220000.** |
| Stddev | 1200. | 63. | 717. | 706. | 161. | 8. | 842. |
| %RSD | .795 | .330 | .700 | .369 | .615 | .497 | .383 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1844300.** | **701950.** |
| Stddev | 6063. | 3395. |
| %RSD | .32878 | .48367 |

Sample Name: ccv1 Acquired: 04/23/2019 18:56:57 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4760.** | **5140.** | **4610.** | **4800.** | F **4470.** | **4710.** | **4840.** |
| Stddev | 32. | 29. | 36. | 30. | 15. | 43. | 43. |
| %RSD | .662 | .572 | .781 | .615 | .332 | .905 | .891 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1885600.** | **705480.** |
| Stddev | 7921. | 3673. |
| %RSD | .42010 | .52063 |

Sample Name: ccv2 Acquired: 04/23/2019 19:02:06 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **479.** | **511.** | **465.** | **459.** | **466.** | **479.** |
| Stddev | 12. | 3. | 10. | 3. | 19. | 1. |
| %RSD | 2.49 | .569 | 2.07 | .702 | 4.03 | .303 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1943300.** | **711250.** |
| Stddev | 5128. | 9969. |
| %RSD | .26388 | 1.4016 |

Sample Name: ccb Acquired: 04/23/2019 19:07:25 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-13.9** | **-6.17** | **-8.07** | **-25.8** | **4.76** | **-3.43** |
| Stddev | 7.4 | 1.92 | 6.08 | 2.6 | 14.6 | .17 |
| %RSD | 53.5 | 31.0 | 75.4 | 10.2 | 308. | 4.83 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1941600.** | **708470.** |
| Stddev | 4836. | 5880. |
| %RSD | .24906 | .82998 |

Sample Name: pdss259433 Acquired: 04/23/2019 19:12:47 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **138000.** | **21300.** | **101000.** | **176000.** | **26100.** | **4500.** | **325000.** |
| Stddev | 1780. | 60. | 1290. | 741. | 382. | 27. | 5030. |
| %RSD | 1.29 | .281 | 1.28 | .421 | 1.47 | .589 | 1.55 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828600.** | **702990.** |
| Stddev | 4329. | 9117. |
| %RSD | .23674 | 1.2969 |

Sample Name: 259434 Acquired: 04/23/2019 19:18:18 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **166000.** | **267.** | **101000.** | **222000.** | **21300.** | **699.** | **93080.** |
| Stddev | 1230. | 8. | 890. | 1310. | 154. | 2. | 1227. |
| %RSD | .739 | 3.08 | .879 | .590 | .723 | .262 | 1.318 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1853800.** | **699240.** |
| Stddev | 7427. | 5050. |
| %RSD | .40063 | .72223 |

Sample Name: I259434 Acquired: 04/23/2019 19:24:06 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **32800.** | **38.1** | **20500.** | **44700.** | **4340.** | **143.** | **18760.** |
| Stddev | 368. | 4.6 | 248. | 379. | 52. | 1. | 131. |
| %RSD | 1.12 | 12.0 | 1.21 | .848 | 1.21 | .832 | .6995 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1935900.** | **715110.** |
| Stddev | 7888. | 4277. |
| %RSD | .40744 | .59811 |

Sample Name: dup259434 Acquired: 04/23/2019 19:29:24 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **164000.** | **308.** | **73200.** | **231000.** | **19900.** | **819.** | **67240.** |
| Stddev | 2900. | 5. | 1190. | 1030. | 313. | 4. | 511. |
| %RSD | 1.77 | 1.73 | 1.62 | .446 | 1.57 | .442 | .7607 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1858300.** | **714180.** |
| Stddev | 8945. | 9340. |
| %RSD | .48134 | 1.3078 |

Sample Name: trip259434 Acquired: 04/23/2019 19:35:12 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **169000.** | **263.** | **93700.** | **220000.** | **21700.** | **640.** | **62540.** |
| Stddev | 1300. | 8. | 709. | 760. | 140. | 4. | 189. |
| %RSD | .765 | 2.92 | .757 | .345 | .644 | .644 | .3027 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1854000.** | **696780.** |
| Stddev | 3962. | 5584. |
| %RSD | .21367 | .80142 |

Sample Name: mss259434 Acquired: 04/23/2019 19:40:49 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **174000.** | **19200.** | **76100.** | **217000.** | **20700.** | **701.** | **88520.** |
| Stddev | 3450. | 75. | 1450. | 654. | 367. | 2. | 1164. |
| %RSD | 1.99 | .389 | 1.91 | .302 | 1.77 | .222 | 1.315 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1852200.** | **700800.** |
| Stddev | 5502. | 12614. |
| %RSD | .29704 | 1.8000 |

Sample Name: msds259434 Acquired: 04/23/2019 19:46:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **172000.** | **19200.** | **82400.** | **211000.** | **21700.** | **830.** | **89490.** |
| Stddev | 1680. | 78. | 833. | 453. | 181. | 4. | 470. |
| %RSD | .977 | .406 | 1.01 | .215 | .833 | .541 | .5249 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1862100.** | **705550.** |
| Stddev | 6797. | 7624. |
| %RSD | .36502 | 1.0806 |

Sample Name: pdss259434 Acquired: 04/23/2019 19:52:17 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **162000.** | **21000.** | **98800.** | **218000.** | **20800.** | **687.** | **110300.** |
| Stddev | 1270. | 68. | 820. | 168. | 183. | 5. | 208. |
| %RSD | .783 | .325 | .830 | .077 | .879 | .700 | .1884 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1855100.** | **703840.** |
| Stddev | 3537. | 7282. |
| %RSD | .19067 | 1.0346 |

Sample Name: 259435 Acquired: 04/23/2019 19:58:02 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **268000.** | **113.** | **79900.** | **469000.** | **29700.** | **1420.** | **43990.** |
| Stddev | 3190. | 7. | 948. | 2030. | 381. | 11. | 144. |
| %RSD | 1.19 | 5.89 | 1.19 | .434 | 1.28 | .796 | .3267 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1831700.** | **703910.** |
| Stddev | 6780. | 7628. |
| %RSD | .37013 | 1.0836 |

Sample Name: 259436 Acquired: 04/23/2019 20:03:26 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **303000.** | **18.8** | **58700.** | **471000.** | **33100.** | **940.** | **999.** | **30850.** |
| Stddev | 3580. | 6.6 | 662. | 4210. | 408. | 8. | 4. | 236. |
| %RSD | 1.18 | 35.1 | 1.13 | .894 | 1.23 | .902 | .373 | .7651 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1841500.** | **707160.** |
| Stddev | 14958. | 7290. |
| %RSD | .81230 | 1.0309 |

Sample Name: ccv1 Acquired: 04/23/2019 20:08:50 Type: QC

Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4790.** | **5150.** | **4630.** | **4840.** | F **4480.** | **4770.** | **4870.** |
| Stddev | 40. | 35. | 25. | 31. | 23. | 23. | 23. |
| %RSD | .841 | .674 | .548 | .635 | .521 | .480 | .462 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1884400.** | **706530.** |
| Stddev | 6094. | 4244. |
| %RSD | .32340 | .60064 |

Sample Name: ccv2 Acquired: 04/23/2019 20:13:58 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **481.** | **512.** | **464.** | **456.** | **460.** | **474.** |
| Stddev | 3. | 5. | 7. | 4. | 10. | 3. |
| %RSD | .619 | .933 | 1.52 | .943 | 2.07 | .654 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1935500.** | **708440.** |
| Stddev | 7855. | 6674. |
| %RSD | .40581 | .94201 |

Sample Name: ccb Acquired: 04/23/2019 20:19:18 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-16.2** | **-6.32** | **-12.1** | **-25.7** | **-4.36** | **-3.08** |
| Stddev | 2.3 | 1.71 | 2.3 | 2.7 | 14.1 | .34 |
| %RSD | 14.0 | 27.1 | 19.0 | 10.5 | 324. | 11.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1944700.** | **713000.** |
| Stddev | 7711. | 4210. |
| %RSD | .39652 | .59041 |

Sample Name: 259437 Acquired: 04/23/2019 20:24:39 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **256000.** | **1500.** | **19100.** | **369000.** | **28100.** | **904.** | **947.** | **16360.** |
| Stddev | 3080. | 5. | 191. | 1580. | 284. | 7. | 2. | 75. |
| %RSD | 1.20 | .360 | 1.00 | .429 | 1.01 | .764 | .247 | .4570 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1865500.** | **703360.** |
| Stddev | 3123. | 7105. |
| %RSD | .16741 | 1.0102 |

Sample Name: 259459 Acquired: 04/23/2019 20:30:04 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **313000.** | **1470.** | **16500.** | **457000.** | **33500.** | **665.** | **11910.** |
| Stddev | 3790. | 10. | 156. | 868. | 264. | 3. | 40. |
| %RSD | 1.21 | .710 | .942 | .190 | .788 | .462 | .3357 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1857700.** | **713170.** |
| Stddev | 9157. | 3986. |
| %RSD | .49295 | .55893 |

Sample Name: 259460 Acquired: 04/23/2019 20:35:27 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **187000.** | **441.** | **53500.** | **354000.** | **25900.** | **5340.** | **671000.** |
| Stddev | 563. | 7. | 133. | 306. | 49. | 15. | 1370. |
| %RSD | .301 | 1.66 | .249 | .086 | .189 | .279 | .205 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1802200.** | **697780.** |
| Stddev | 3525. | 1740. |
| %RSD | .19559 | .24931 |

Sample Name: 259462 Acquired: 04/23/2019 20:41:12 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **230000.** | **507.** | **47500.** | **462000.** | **25800.** | **2060.** | **282000.** |
| Stddev | 1940. | 5. | 342. | 1760. | 229. | 9. | 2870. |
| %RSD | .846 | 1.06 | .720 | .381 | .888 | .435 | 1.02 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1824500.** | **699730.** |
| Stddev | 6548. | 6429. |
| %RSD | .35889 | .91882 |

Sample Name: 259463 Acquired: 04/23/2019 20:46:59 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **278000.** | **240.** | **67500.** | **375000.** | **30900.** | **1120.** | **20540.** |
| Stddev | 3850. | 8. | 819. | 2230. | 357. | 10. | 130. |
| %RSD | 1.38 | 3.14 | 1.21 | .596 | 1.16 | .863 | .6349 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1847800.** | **703210.** |
| Stddev | 8647. | 7473. |
| %RSD | .46794 | 1.0628 |

Sample Name: 259464 Acquired: 04/23/2019 20:52:24 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **269000.** | **113.** | **70300.** | **375000.** | **30500.** | **722.** | **12820.** |
| Stddev | 1810. | 3. | 518. | 1720. | 214. | 3. | 43. |
| %RSD | .674 | 2.83 | .736 | .458 | .701 | .458 | .3357 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1857900.** | **699050.** |
| Stddev | 3884. | 5774. |
| %RSD | .20904 | .82595 |

Sample Name: 259465 Acquired: 04/23/2019 20:57:50 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **264000.** | **119.** | **55100.** | **349000.** | **29800.** | **920.** | **973.** | **16020.** |
| Stddev | 1820. | 4. | 364. | 1540. | 223. | 8. | 2. | 56. |
| %RSD | .688 | 3.56 | .659 | .442 | .748 | .914 | .224 | .3507 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1845900.** | **698400.** |
| Stddev | 4510. | 4796. |
| %RSD | .24432 | .68676 |

Sample Name: dup259465 Acquired: 04/23/2019 21:03:14 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **216000.** | **107.** | **45500.** | **293000.** | **25100.** | **910.** | **14910.** |
| Stddev | 2260. | 9. | 551. | 1120. | 318. | 4. | 42. |
| %RSD | 1.05 | 7.96 | 1.21 | .384 | 1.27 | .386 | .2815 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1862600.** | **707690.** |
| Stddev | 7635. | 8680. |
| %RSD | .40994 | 1.2266 |

Sample Name: trip259465 Acquired: 04/23/2019 21:08:39 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **254000.** | **178.** | **54800.** | **368000.** | **28200.** | **978.** | **19200.** |
| Stddev | 1900. | 3. | 420. | 1360. | 200. | 6. | 76. |
| %RSD | .747 | 1.82 | .767 | .371 | .707 | .636 | .3970 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1853800.** | **708820.** |
| Stddev | 1243. | 4791. |
| %RSD | .06704 | .67586 |

Sample Name: 259466 Acquired: 04/23/2019 21:14:03 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294000.** | **136.** | **102000.** | **428000.** | **34700.** | **775.** | **14880.** |
| Stddev | 3100. | 10. | 1040. | 820. | 388. | 5. | 29. |
| %RSD | 1.05 | 7.31 | 1.02 | .191 | 1.12 | .626 | .1937 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1837100.** | **698430.** |
| Stddev | 1625. | 6053. |
| %RSD | .08848 | .86670 |

Sample Name: ccv1 Acquired: 04/23/2019 21:19:28 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4780.** | **5190.** | **4580.** | **4840.** | F **4420.** | **4760.** | **4850.** |
| Stddev | 44. | 13. | 44. | 29. | 39. | 34. | 30. |
| %RSD | .912 | .244 | .967 | .608 | .886 | .723 | .612 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1875400.** | **709940.** |
| Stddev | 8262. | 6476. |
| %RSD | .44057 | .91225 |

Sample Name: ccv2 Acquired: 04/23/2019 21:24:37 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **511.** | **461.** | **457.** | **463.** | **472.** |
| Stddev | 9. | 4. | 4. | 5. | 6. | 2. |
| %RSD | 1.95 | .736 | .792 | 1.18 | 1.33 | .411 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1934300.** | **706890.** |
| Stddev | 6082. | 7019. |
| %RSD | .31442 | .99294 |

Sample Name: ccb Acquired: 04/23/2019 21:29:57 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-7.85** | **-6.79** | **-7.49** | **-23.3** | **11.1** | **-2.83** |
| Stddev | 7.25 | 3.00 | 3.35 | 1.5 | 18.9 | .22 |
| %RSD | 92.4 | 44.2 | 44.6 | 6.36 | 170. | 7.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1940700.** | **703640.** |
| Stddev | 8304. | 2610. |
| %RSD | .42790 | .37089 |

Sample Name: 259467 Acquired: 04/23/2019 21:35:18 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **250000.** | **133.** | **59000.** | **353000.** | **28500.** | **1030.** | **17310.** |
| Stddev | 1600. | 7. | 474. | 697. | 227. | 4. | 13. |
| %RSD | .640 | 5.39 | .803 | .198 | .796 | .427 | .0771 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1850300.** | **709620.** |
| Stddev | 4954. | 6920. |
| %RSD | .26773 | .97519 |

Sample Name: 259468 Acquired: 04/23/2019 21:40:42 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **262000.** | **198.** | **57000.** | **386000.** | **28400.** | **622.** | **13830.** |
| Stddev | 3060. | 6. | 691. | 1190. | 350. | 1. | 18. |
| %RSD | 1.17 | 3.00 | 1.21 | .307 | 1.23 | .180 | .1329 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1849500.** | **709670.** |
| Stddev | 3766. | 9083. |
| %RSD | .20364 | 1.2799 |

Sample Name: ccv1 Acquired: 04/23/2019 22:29:24 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4790.** | **5190.** | **4600.** | **4790.** | F **4460.** | **4690.** | **4780.** |
| Stddev | 59. | 26. | 56. | 25. | 38. | 16. | 21. |
| %RSD | 1.23 | .500 | 1.22 | .526 | .851 | .350 | .431 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1884500.** | **704740.** |
| Stddev | 8204. | 5935. |
| %RSD | .43532 | .84219 |

Sample Name: ccv2 Acquired: 04/23/2019 22:34:32 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **514.** | **460.** | **454.** | **455.** | **470.** |
| Stddev | 20. | 3. | 8. | 2. | 9. | 3. |
| %RSD | 4.20 | .642 | 1.73 | .330 | 1.91 | .572 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1937200.** | **703590.** |
| Stddev | 2895. | 8084. |
| %RSD | .14946 | 1.1489 |

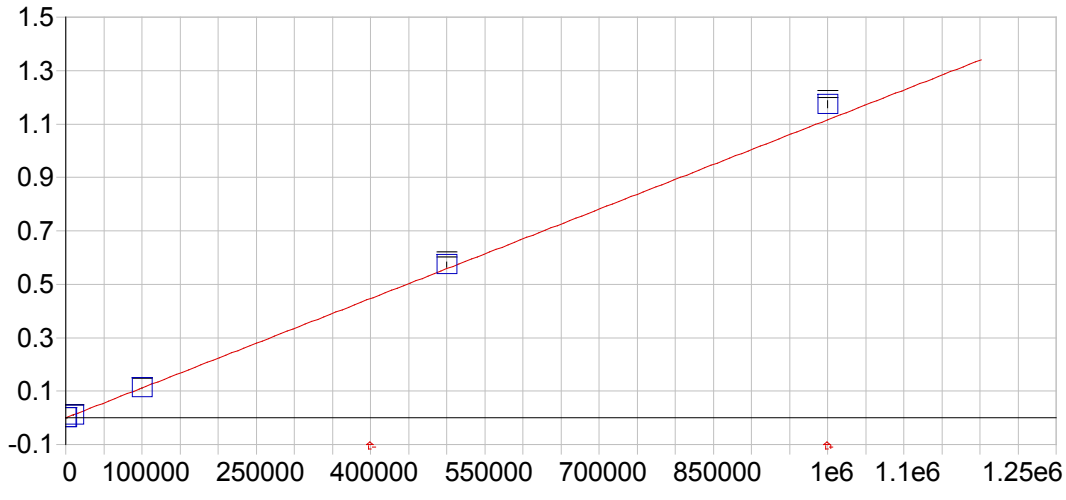
Sample Name: ccb Acquired: 04/23/2019 22:39:52 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1.27** | **-7.86** | **-9.50** | **-25.4** | **-2.09** | **-2.77** |
| Stddev | 6.65 | 3.58 | 2.56 | 2.3 | 17.3 | .29 |
| %RSD | 524. | 45.5 | 26.9 | 9.21 | 825. | 10.6 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1940900.** | **707680.** |
| Stddev | 7823. | 4689. |
| %RSD | .40306 | .66260 |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999998 | 0.000004 | 9.943596 | 33.145320 |
| | As 193.759 {474} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000001 | 2.923645 | 9.745483 |
| | As 197.262 {471} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 21.884844 | 72.949480 |
| | Ca 315.887 {107} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000055 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000006 | 6.003072 | 20.010240 |
| | Fe 234.349 {144} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | None | 0.004816 | 0.000000 | 0.000000 | 1.000000 | 0.994129 | 0.016975 | 2.351614 | 7.838712 |
| | Fe 239.562 {141} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.999829 | 0.000008 | 2.269530 | 7.565100 |
| | Mg 279.079 {121} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999983 | 0.000001 | 19.513946 | 65.046487 |
| | Pb 216.999 {455} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999795 | 0.000000 | 6.807207 | 22.690691 |
| | Pb 220.353 {153} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Var | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999702 | 0.000003 | 4.483850 | 14.946168 |
| | Pb 220.353 {453} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999726 | 0.000000 | 2.144750 | 7.149168 |
| | Y 324.228 {104}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999561 | 0.000006 | 0.362333 | 1.207777 |
| | Mn 259.373 {130} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999960 | 0.000003 | 0.429061 | 1.430205 |

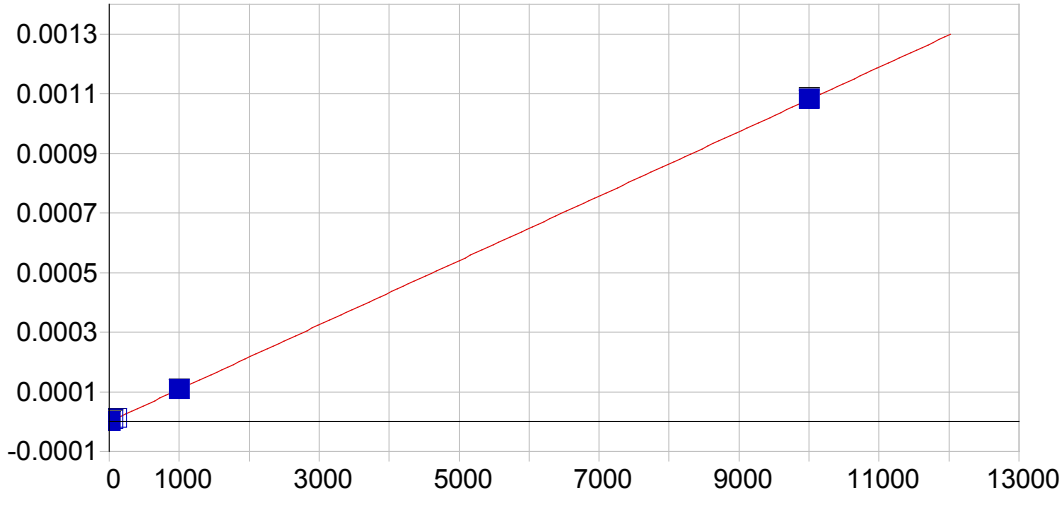
| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000002 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999998 | | Status: | OK. | |
| Std Error of Est: | 0.000004 | | | | |
| Predicted MDL: | 9.943596 | | | | |
| Predicted MQL: | 33.145320 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02779 | -.028 | .000 | .00000 | .000 | 1 |
| CalStd14-10 | 1000000. | 1052300. | 52300. | 5.23 | 1.1740 | .013 | 1 |
| CalStd13=50 | 500000. | 513940. | 13900. | 2.79 | .57338 | .010 | 1 |
| CalStd10=10 | 10000. | 9873.1 | -127. | -1.27 | .01102 | .000 | 1 |
| CalStd12-10 | 100000. | 100190. | 193. | .193 | .11178 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00117 | .000 | 1 |

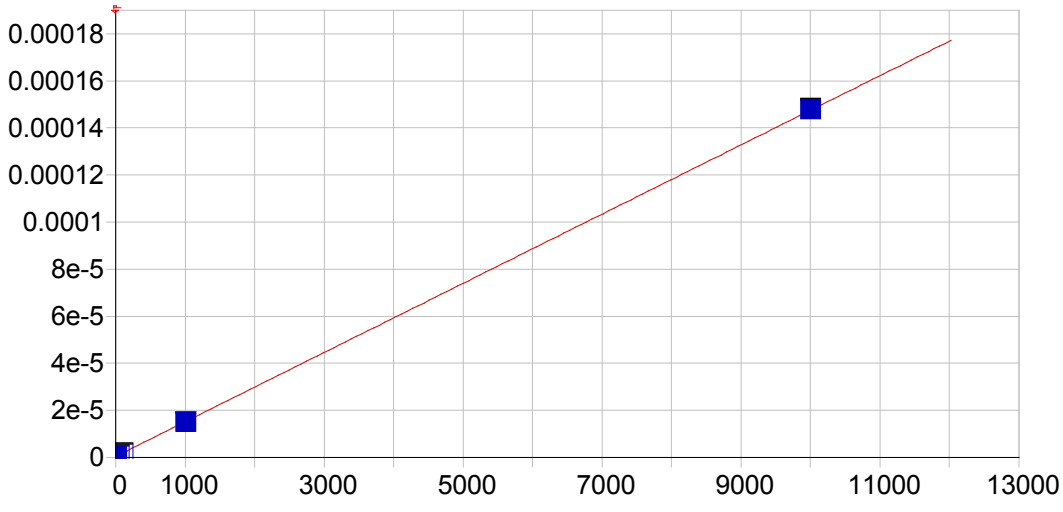



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.923645 | | |
| Predicted MQL: | 9.745483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.7572 | -3.76 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.40 | -2.60 | -.260 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.984 | 2.98 | 5.97 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8190 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.82 | 6.82 | 6.82 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 5.29 | .053 | .00108 | .000 | 1 |

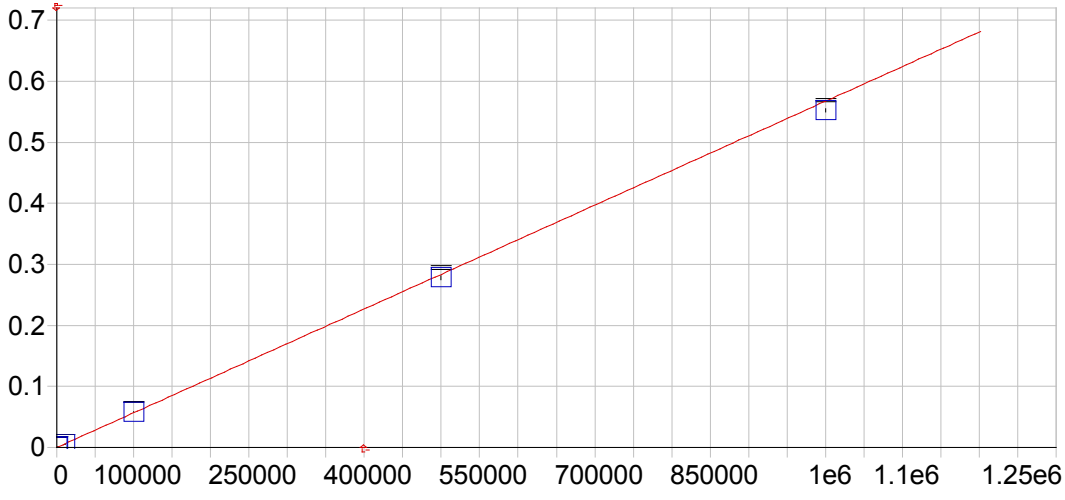



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.884844 | | |
| Predicted MQL: | 72.949480 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.3371 | 2.34 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 974.29 | -25.7 | -2.57 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 31.834 | -18.2 | -36.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | -4.8874 | -14.9 | -149. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 81.761 | -18.2 | -18.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.84 | .058 | .00015 | .000 | 1 |

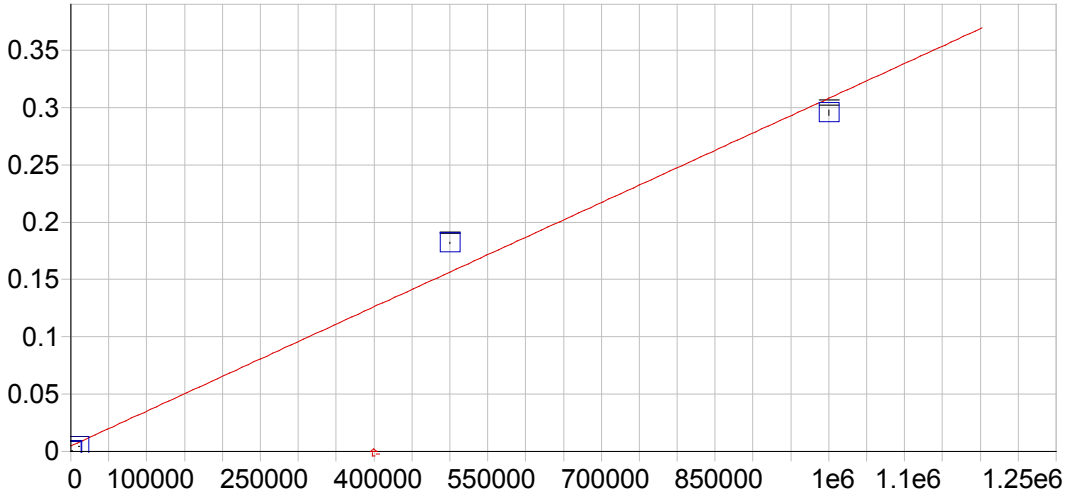



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 6.003072 | | |
| Predicted MQL: | 20.010240 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05815 | -.058 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9882.5 | -118. | -1.18 | .00566 | .000 | 1 |
| CalStd13=50 | 500000. | 489950. | -10100. | -2.01 | .27790 | .003 | 1 |
| CalStd14-10 | 1000000. | 973540. | -26500. | -2.65 | .55215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00065 | .000 | 1 |
| CalStd12-10 | 100000. | 101510. | 1510. | 1.51 | .05762 | .001 | 1 |

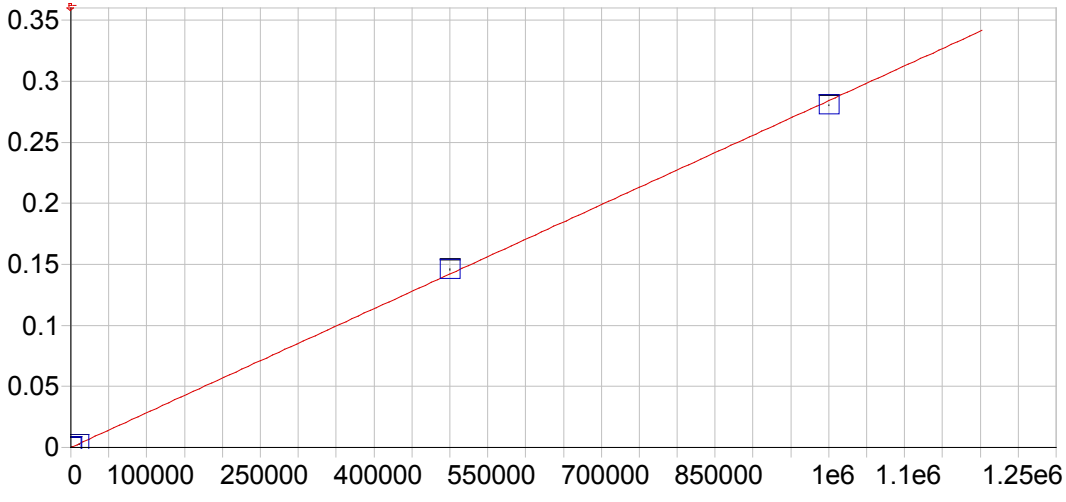



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004816 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994129 | Status: | OK. |
| Std Error of Est: | 0.016975 | | |
| Predicted MDL: | 2.351614 | | |
| Predicted MQL: | 7.838712 | | |

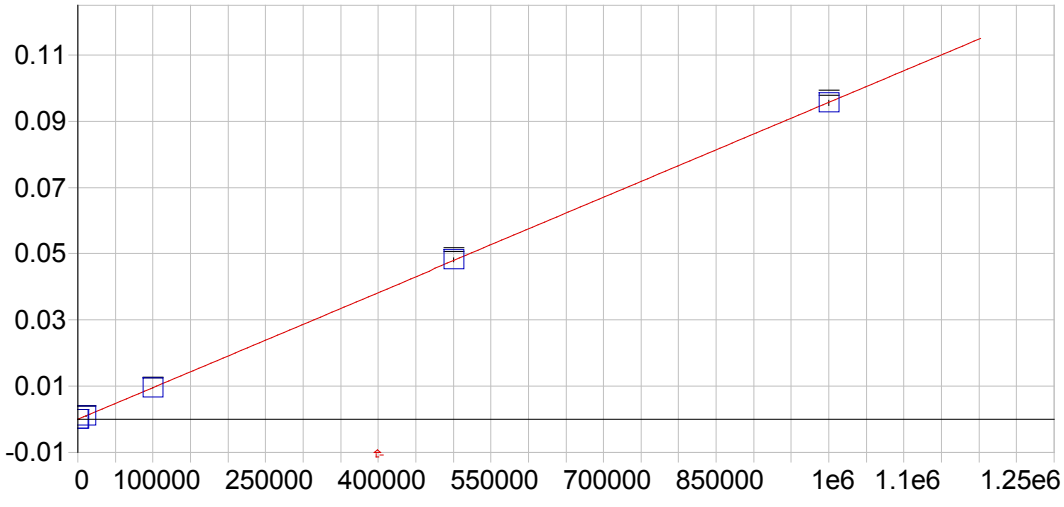
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15823. | -15800. | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | -1005.7 | -11000. | -110. | .00451 | .000 | 1 |
| CalStd13=50 | 500000. | 583930. | 83900. | 16.8 | .18189 | .001 | 1 |
| CalStd14-10 | 1000000. | 958160. | -41800. | -4.18 | .29538 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14264. | -15300. | -1530. | .00049 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999829 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 2.269530 | | | | |
| Predicted MQL: | 7.565100 | | | | |

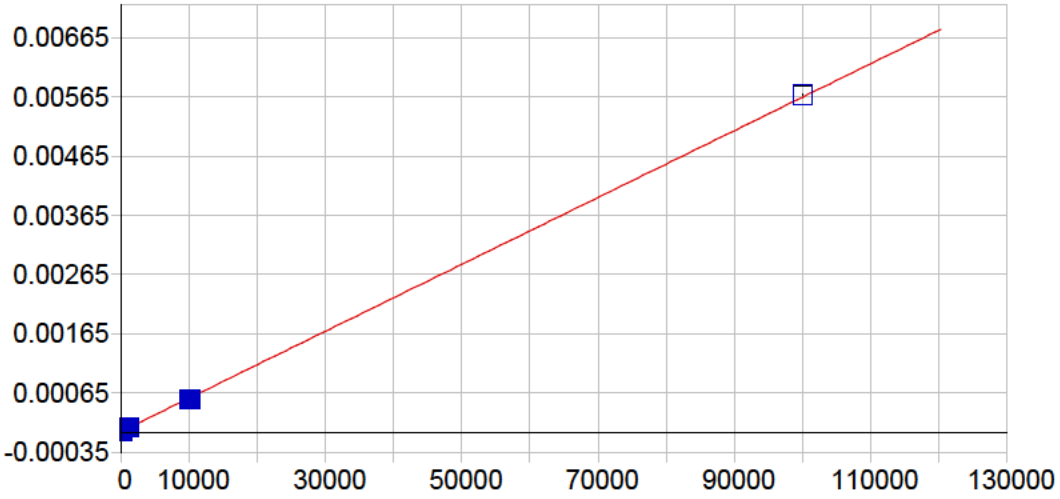
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03580 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.0 | .400 | .00286 | .000 | 1 |
| CalStd13=50 | 500000. | 513100. | 13100. | 2.62 | .14577 | .001 | 1 |
| CalStd14-10 | 1000000. | 986850. | -13200. | -1.32 | .28036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00029 | .000 | 1 |




**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999983 | | Status: | OK. | |
| Std Error of Est: | 0.000001 | | | | |
| Predicted MDL: | 19.513946 | | | | |
| Predicted MQL: | 65.046487 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06559 | .066 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 502930. | 2930. | .586 | .04815 | .001 | 1 |
| CalStd10=10 | 10000. | 9538.6 | -461. | -4.61 | .00091 | .000 | 1 |
| CalStd14-10 | 1000000. | 998520. | -1480. | -.148 | .09559 | .001 | 1 |
| CalStd12-10 | 100000. | 98875. | -1120. | -1.12 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.23 | -12.8 | -1.28 | .00009 | .000 | 1 |

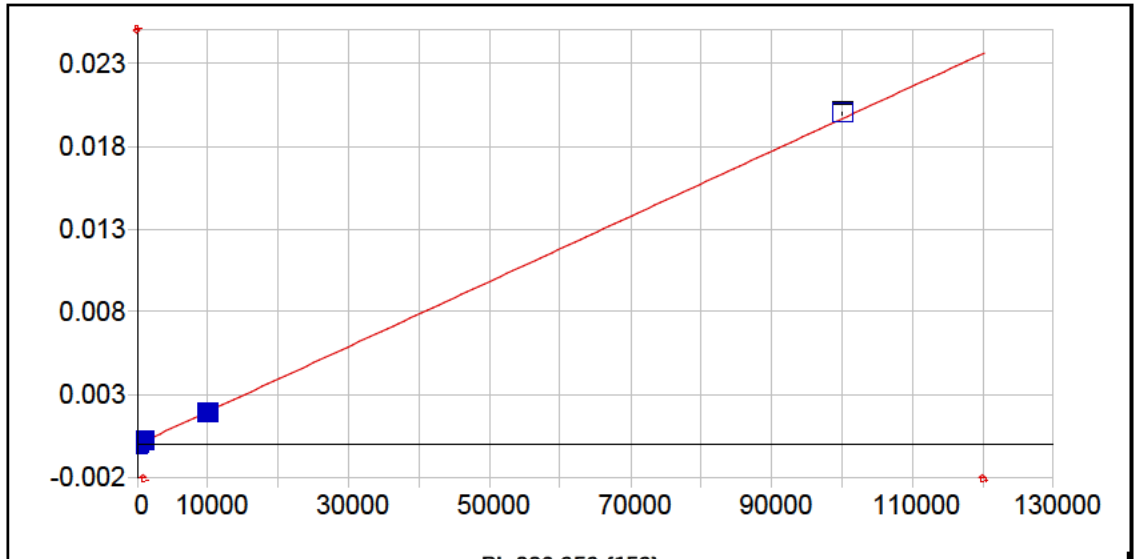



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999795 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.807207 | | |
| Predicted MQL: | 22.690691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00716 | -.007 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.48 | -1.52 | -.152 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9404.6 | -595. | -5.95 | .00053 | .000 | 1 |
| CalStd11-10 | 100000. | 100570. | 574. | .574 | .00568 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.54 | 18.5 | 18.5 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.860 | 5.86 | 58.6 | .00000 | .000 | 1 |

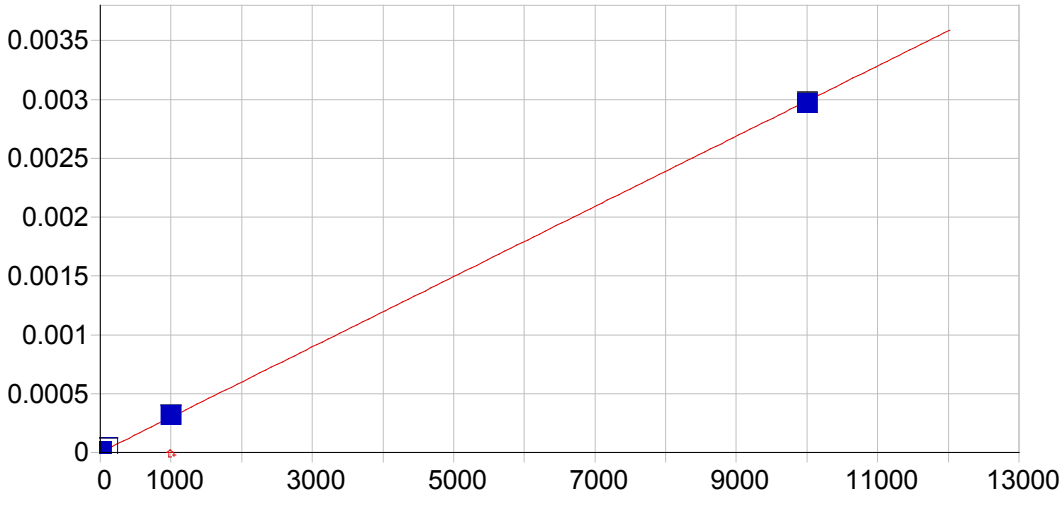



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 4.483850 | | |
| Predicted MQL: | 14.946168 | | |

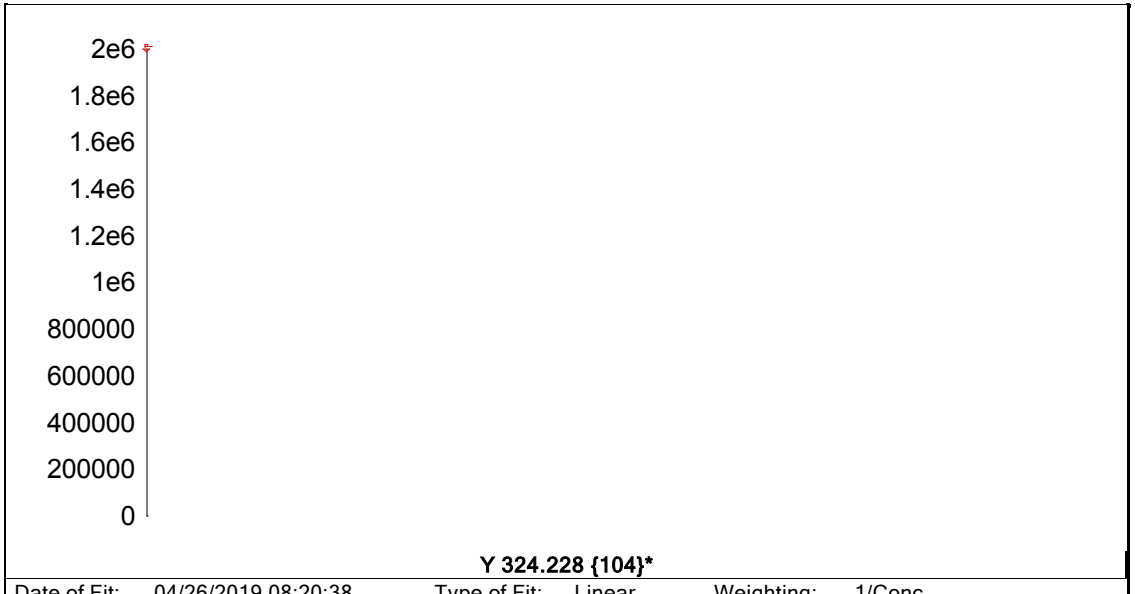
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.891 | -10.9 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.46 | -10.5 | -1.05 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9612.3 | -388. | -3.88 | .00189 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.81 | 1.81 | 1.81 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 101710. | 1710. | 1.71 | .01999 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999726 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.144750 | | | | |
| Predicted MQL: | 7.149168 | | | | |

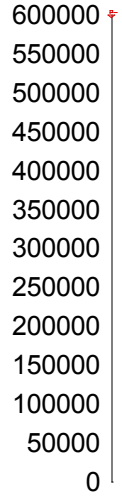
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.444 | 2.44 | 24.4 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.27 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.5643 | 1.56 | 31.3 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.0 | 44.0 | 4.40 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.7 | -64.3 | -.643 | .00297 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

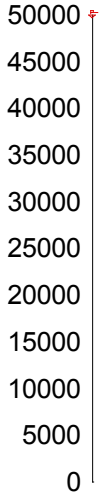
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1838300. | 3910. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

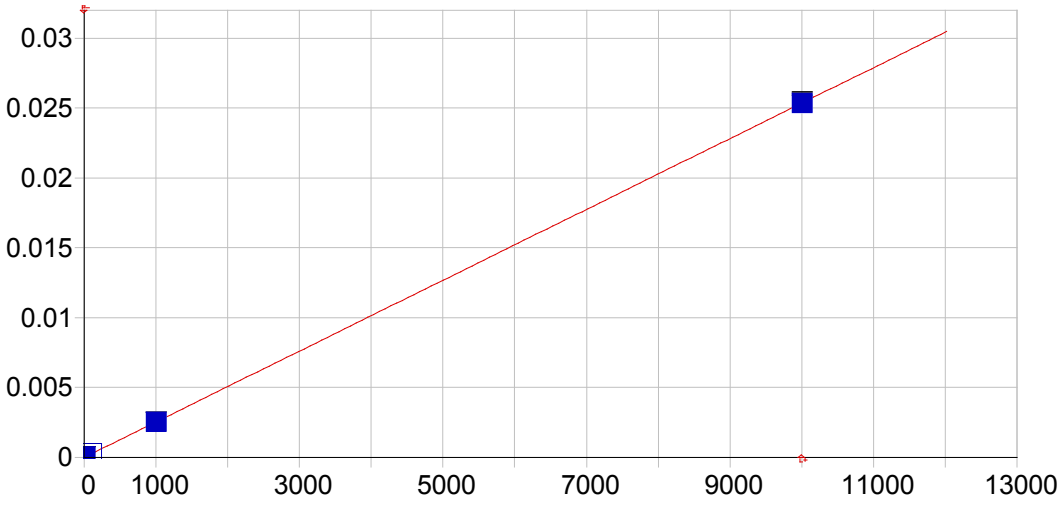
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 517290. | 3060. | 1 |




**Y 224.306 {451}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 47117. | 95.3 | 1 |

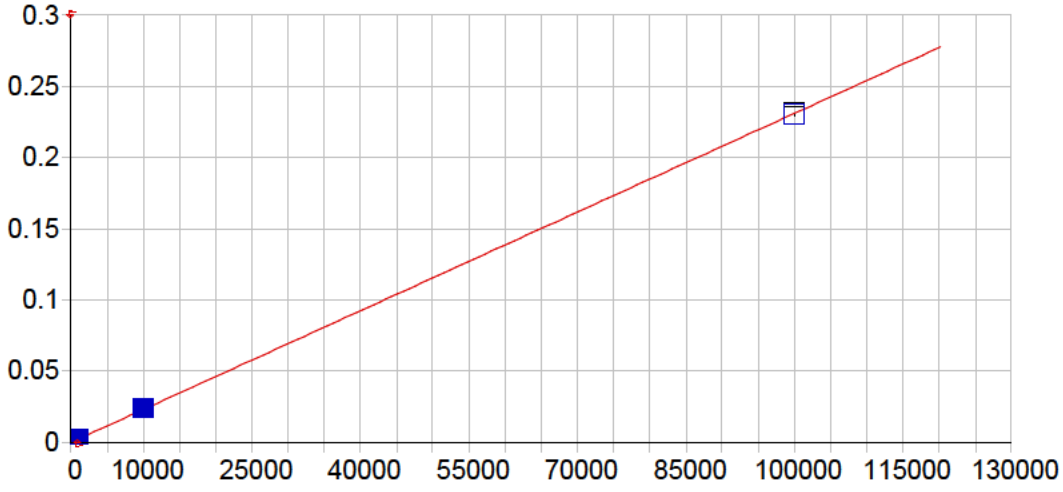



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999561 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.362333 | | |
| Predicted MQL: | 1.207777 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.82619 | -.826 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.63 | -12.4 | -1.24 | .00251 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.323 | .323 | 3.23 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.429061 | | |
| Predicted MQL: | 1.430205 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01566 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 99717. | -283. | -.283 | .23028 | .001 | 1 |
| CalStd10=10 | 10000. | 10252. | 252. | 2.52 | .02371 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00236 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.55 | 11.5 | 11.5 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 10:46:25 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 539. | 178. | 4.24 | 5.00 | 80.5 | 22.9 | 52.3 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1838300.** | **517290.** |
| Stddev | 3912. | 3064. |
| %RSD | .21280 | .59225 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 10:51:43 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| | |
|---|---|
| Int. Std. | Y_3242 |
| Units | Cts/S |
| Avg | **1841800.** |
| Stddev | 7568. |
| %RSD | .41090 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 10:57:05 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 18.8 | 1.51 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1848400.** |
| Stddev | 954. |
| %RSD | .05159 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 11:02:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | **.000** |
| Stddev | .000 |
| %RSD | 6.76 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1846900.** |
| Stddev | 8226. |
| %RSD | .44538 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 11:07:48 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 | Mn2593 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | .413 | .850 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1851300.** |
| Stddev | 7813. |
| %RSD | .42201 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 11:13:10 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.52 | .514 | .950 | .537 | 1.59 | .192 | .259 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1839100.** | **528940.** |
| Stddev | 3631. | 3970. |
| %RSD | .19743 | .75046 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 11:18:27 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.001** | **.006** | **.003** | **.001** | **.025** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .322 | 1.20 | .397 | 1.36 | .532 | .421 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789300.** | **527900.** |
| Stddev | 6317. | 6066. |
| %RSD | .35307 | 1.1491 |

Sample Name: CalStd11-100k Acquired: 04/25/2019 11:23:35 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Mn2593 |
|---|---|
| Units | Cts/S |
| Avg | **.230** |
| Stddev | .001 |
| %RSD | .611 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1816500.** |
| Stddev | 4728. |
| %RSD | .26025 |

Sample Name: CalStd12-100000 Acquired: 04/25/2019 11:29:11 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.112** | **.058** | **.009** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.17 | 1.10 | 1.01 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **523370.** |
| Stddev | 5416. |
| %RSD | 1.0348 |

Sample Name: CalStd13=500000 Acquired: 04/25/2019 11:34:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.573** | **.278** | **.146** | **.048** |
| Stddev | .010 | .003 | .001 | .001 |
| %RSD | 1.66 | 1.17 | .383 | 1.34 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1640000.** | **514060.** |
| Stddev | 5264. | 6838. |
| %RSD | .32096 | 1.3302 |

Sample Name: CalStd14-1000k Acquired: 04/25/2019 11:40:14 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.552** | **.280** | **.096** |
| Stddev | .01 | .003 | .000 | .001 |
| %RSD | 1.10 | .512 | .134 | .816 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1478800.** | **472860.** |
| Stddev | 1412. | 4250. |
| %RSD | .09548 | .89880 |

Sample Name: ICV2 Acquired: 04/25/2019 11:56:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11500.** | **2110.** | **9840.** | **5010.** | **9500.** | **511.** |
| Stddev | 248. | 18. | 202. | 21. | 218. | 4. |
| %RSD | 2.16 | .846 | 2.06 | .415 | 2.29 | .742 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1821400.** | **519330.** |
| Stddev | 8077. | 10917. |
| %RSD | .44345 | 2.1021 |

Sample Name: ICVLL Acquired: 04/25/2019 12:02:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1320.** | **69.5** | **1680.** | **1030.** | **1620.** | **33.7** |
| Stddev | 13. | 3.3 | 25. | 3. | 9. | .1 |
| %RSD | 1.02 | 4.79 | 1.51 | .317 | .536 | .372 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825000.** | **519800.** |
| Stddev | 7373. | 6574. |
| %RSD | .40399 | 1.2647 |

Sample Name: icb Acquired: 04/25/2019 12:07:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-3.37** | **-2.12** | **35.3** | **.654** | **3.46** | **-.816** |
| Stddev | 2.12 | .41 | 5.4 | 1.37 | 6.99 | .147 |
| %RSD | 63.0 | 19.4 | 15.2 | 209. | 202. | 18.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842700.** | **527560.** |
| Stddev | 2154. | 3142. |
| %RSD | .11691 | .59558 |

Sample Name: MRL Acquired: 04/25/2019 12:12:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **412.** | **17.0** | **541.** | **336.** | **510.** | **10.5** |
| Stddev | 13. | 1.5 | 10. | 3. | 21. | .3 |
| %RSD | 3.19 | 8.55 | 1.91 | 1.02 | 4.02 | 2.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1823400.** | **528440.** |
| Stddev | 7276. | 7292. |
| %RSD | .39904 | 1.3799 |

Sample Name: icsa Acquired: 04/25/2019 12:18:12 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **465000.** | **.006** | **448000.** | **463000.** | **459000.** | **-3.69** |
| Stddev | 6730. | 6.40 | 3260. | 1190. | 3440. | .65 |
| %RSD | 1.45 | 107000. | .728 | .257 | .749 | 17.6 |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1642700.** | **513560.** |
| Stddev | 4085. | 3635. |
| %RSD | .24870 | .70770 |

Sample Name: icsab Acquired: 04/25/2019 12:23:48 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **537000.** | **577.** | **511000.** | **527000.** | **526000.** | **589.** |
| Stddev | 4350. | 11. | 2880. | 4130. | 2140. | 5. |
| %RSD | .810 | 1.94 | .563 | .784 | .406 | .838 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1623800.** | **508300.** |
| Stddev | 10217. | 1528. |
| %RSD | .62923 | .30065 |

Sample Name: 259433 Acquired: 04/25/2019 13:07:10 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment: 71473 reruns

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **16000.** | **75.2** | **12000.** | **20500.** | **3120.** | **40600.** |
| Stddev | 120. | 1.0 | 88. | 89. | 36. | 122. |
| %RSD | .748 | 1.36 | .732 | .433 | 1.16 | .300 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828000.** | **527500.** |
| Stddev | 5307. | 4745. |
| %RSD | .29030 | .89944 |

Sample Name: I259433 Acquired: 04/25/2019 13:12:26 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3420.** | **11.9** | **2550.** | **4260.** | **681.** | **8340.** | **8450.** |
| Stddev | 56. | 2.2 | 50. | 18. | 20. | 20. | 21. |
| %RSD | 1.65 | 18.1 | 1.97 | .421 | 2.96 | .244 | .247 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1858700.** | **523530.** |
| Stddev | 5538. | 7796. |
| %RSD | .29797 | 1.4890 |

Sample Name: dup259433 Acquired: 04/25/2019 13:17:41 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **20800.** | **53.1** | **24100.** | **22900.** | **5680.** | **28200.** |
| Stddev | 1110. | 3.9 | 1250. | 1350. | 294. | 1670. |
| %RSD | 5.32 | 7.40 | 5.19 | 5.91 | 5.17 | 5.93 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1829500.** | **525460.** |
| Stddev | 7456. | 8412. |
| %RSD | .40752 | 1.6009 |

Sample Name: ccv1 Acquired: 04/25/2019 13:22:55 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4850.** | **4990.** | **4730.** | **4870.** | **4600.** | **4810.** | **4940.** |
| Stddev | 62. | 11. | 46. | 18. | 58. | 15. | 16. |
| %RSD | 1.27 | .229 | .966 | .359 | 1.26 | .308 | .327 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781900.** | **517270.** |
| Stddev | 3288. | 6419. |
| %RSD | .18453 | 1.2409 |

Sample Name: ccv2 Acquired: 04/25/2019 13:28:06 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **488.** | **505.** | **497.** | **489.** | **474.** | **486.** |
| Stddev | 3. | 3. | 12. | 2. | 26. | 2. |
| %RSD | .666 | .501 | 2.34 | .372 | 5.47 | .408 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825600.** | **527470.** |
| Stddev | 4040. | 9874. |
| %RSD | .22130 | 1.8721 |

Sample Name: ccb Acquired: 04/25/2019 13:33:26 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-5.45** | **-6.15** | **1.64** | **-6.32** | **-.992** | **-1.16** |
| Stddev | 9.43 | 3.17 | 4.74 | .57 | 16.2 | .59 |
| %RSD | 173. | 51.5 | 289. | 8.99 | 1630. | 50.9 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841200.** | **510940.** |
| Stddev | 2776. | 4679. |
| %RSD | .15080 | .91578 |

Sample Name: mss259433 Acquired: 04/25/2019 13:38:48 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **19100.** | **2070.** | **12600.** | **24100.** | **3340.** | **29000.** |
| Stddev | 496. | 33. | 337. | 513. | 108. | 603. |
| %RSD | 2.60 | 1.58 | 2.68 | 2.13 | 3.23 | 2.08 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1819600.** | **522350.** |
| Stddev | 8756. | 1594. |
| %RSD | .48118 | .30514 |

Sample Name: msds259433 Acquired: 04/25/2019 13:44:05 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **18500.** | **1870.** | **13200.** | **23700.** | **3340.** | **30000.** |
| Stddev | 1090. | 41. | 774. | 1160. | 197. | 1500. |
| %RSD | 5.91 | 2.18 | 5.88 | 4.89 | 5.90 | 4.98 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1822700.** | **527240.** |
| Stddev | 7780. | 4358. |
| %RSD | .42684 | .82662 |

Sample Name: pdss259433 Acquired: 04/25/2019 13:49:21 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **16100.** | **20000.** | **12000.** | **20500.** | **3140.** | **62500.** |
| Stddev | 157. | 145. | 132. | 76. | 35. | 1870. |
| %RSD | .976 | .726 | 1.10 | .370 | 1.10 | 2.99 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1807500.** | **523140.** |
| Stddev | 9116. | 5437. |
| %RSD | .50432 | 1.0394 |

Sample Name: 259460 Acquired: 04/25/2019 13:54:44 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **24500.** | **50.1** | **7280.** | **46800.** | **3570.** | **117000.** |
| Stddev | 1030. | 2.3 | 291. | 2110. | 141. | 4450. |
| %RSD | 4.22 | 4.63 | 4.00 | 4.52 | 3.95 | 3.80 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1816700.** | **518770.** |
| Stddev | 2935. | 2584. |
| %RSD | .16158 | .49802 |

Sample Name: 259462 Acquired: 04/25/2019 14:00:22 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **27000.** | **53.2** | **5860.** | **55700.** | **3190.** | **37900.** |
| Stddev | 1140. | 1.1 | 248. | 2620. | 116. | 1800. |
| %RSD | 4.22 | 2.08 | 4.24 | 4.70 | 3.64 | 4.74 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1827500.** | **526360.** |
| Stddev | 4953. | 3633. |
| %RSD | .27102 | .69022 |

Sample Name: ccv1 Acquired: 04/25/2019 14:32:07 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4930.** | **5090.** | **4810.** | **4970.** | **4650.** | **4920.** | **5060.** |
| Stddev | 92. | 14. | 112. | 30. | 116. | 20. | 19. |
| %RSD | 1.87 | .266 | 2.34 | .596 | 2.49 | .403 | .379 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781100.** | **517640.** |
| Stddev | 3702. | 10205. |
| %RSD | .20784 | 1.9714 |

Sample Name: ccv2 Acquired: 04/25/2019 14:37:18 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **509.** | **512.** | **506.** | **491.** | **491.** | **495.** |
| Stddev | 5. | 6. | 5. | 3. | 21. | 1. |
| %RSD | .939 | 1.16 | .978 | .529 | 4.27 | .250 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825400.** | **513110.** |
| Stddev | 3176. | 2897. |
| %RSD | .17399 | .56460 |

Sample Name: ccb Acquired: 04/25/2019 14:42:38 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **3.42** | **-3.15** | **-4.62** | **-3.31** | **2.13** | **-.814** |
| Stddev | 7.42 | 2.85 | 1.11 | 1.26 | 6.87 | .136 |
| %RSD | 217. | 90.7 | 24.0 | 37.9 | 322. | 16.7 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841700.** | **508650.** |
| Stddev | 5284. | 6429. |
| %RSD | .28690 | 1.2639 |

Sample Name: ccv1 Acquired: 04/26/2019 01:04:47 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5210.** | **5320.** | **4910.** | **4950.** | **4780.** | **4860.** | **4930.** |
| Stddev | 40. | 16. | 47. | 34. | 52. | 21. | 11. |
| %RSD | .765 | .308 | .961 | .687 | 1.08 | .427 | .213 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1747000.** | **489160.** |
| Stddev | 3603. | 3778. |
| %RSD | .20624 | .77233 |

Sample Name: ccv2 Acquired: 04/26/2019 01:09:57 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **506.** | **528.** | **501.** | **487.** | **484.** | **482.** |
| Stddev | 13. | 4. | 7. | 4. | 27. | 1. |
| %RSD | 2.66 | .734 | 1.46 | .735 | 5.64 | .287 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1803900.** | **494630.** |
| Stddev | 6241. | 8248. |
| %RSD | .34598 | 1.6676 |

Sample Name: ccb Acquired: 04/26/2019 01:15:16 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-23.0** | **-3.48** | **9.44** | **-.007** | **4.63** | **-.791** |
| Stddev | 6.8 | 3.00 | 3.28 | .962 | 9.06 | .318 |
| %RSD | 29.6 | 86.3 | 34.7 | 14000. | 196. | 40.2 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1809900.** | **492870.** |
| Stddev | 9938. | 1783. |
| %RSD | .54907 | .36185 |

Sample Name: 259460 Acquired: 04/26/2019 01:26:06 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 30
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7790.** | **14.6** | **2240.** | **14000.** | **1120.** | **35400.** |
| Stddev | 147. | 1.7 | 44. | 80. | 24. | 63. |
| %RSD | 1.89 | 11.7 | 1.95 | .572 | 2.11 | .178 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815700.** | **495500.** |
| Stddev | 2791. | 8951. |
| %RSD | .15372 | 1.8065 |

Sample Name: ccv1 Acquired: 04/26/2019 01:36:45 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5190.** | **5270.** | **4900.** | **4870.** | **4760.** | **4820.** | **4910.** |
| Stddev | 61. | 29. | 30. | 27. | 30. | 13. | 19. |
| %RSD | 1.17 | .557 | .613 | .548 | .623 | .266 | .381 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1749500.** | **488170.** |
| Stddev | 6973. | 3755. |
| %RSD | .39856 | .76913 |

Sample Name: ccv2 Acquired: 04/26/2019 01:41:55 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **509.** | **528.** | **503.** | **496.** | **480.** | **484.** |
| Stddev | 6. | 2. | 7. | 5. | 14. | 1. |
| %RSD | 1.25 | .354 | 1.45 | .932 | 2.85 | .304 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1788700.** | **495990.** |
| Stddev | 6651. | 2865. |
| %RSD | .37180 | .57767 |

Sample Name: ccb Acquired: 04/26/2019 01:47:14 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-25.6** | **-2.35** | **10.2** | **1.53** | **.941** | **-.612** |
| Stddev | 6.2 | 2.41 | 3.8 | 1.07 | 23.8 | .290 |
| %RSD | 24.3 | 103. | 37.5 | 69.9 | 2530. | 47.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

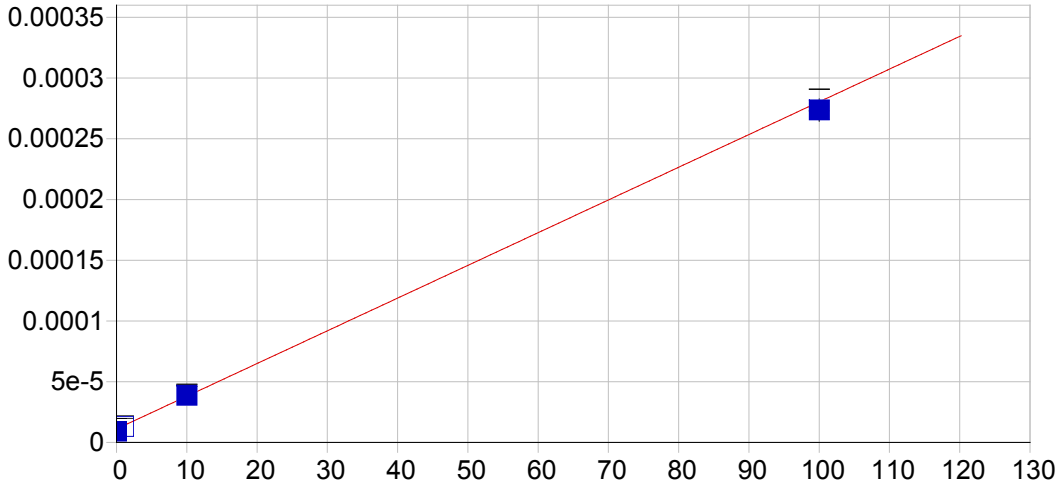
| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1793100.** | **495050.** |
| Stddev | 10720. | 7356. |
| %RSD | .59787 | 1.4860 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/12/2019 12:30:12 | 04/03/2019 14:55:03 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.998948 | 0.000002 | 0.840534 | 2.801781 |
| Ag 338.289 {100} | 04/12/2019 12:30:12 | 04/03/2019 15:00:39 | Linear | 1/Conc | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.469763 | 31.565876 |
| Al 167.079 {501} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | None | 0.000038 | 0.000005 | 0.000000 | 1.000000 | 0.999974 | 0.000020 | 0.710137 | 2.367124 |
| Al 308.215 {109} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Linear | 1/Var | 0.000061 | 0.000000 | 0.000000 | 1.000000 | 0.999866 | 0.000013 | 29.257129 | 97.523765 |
| Al 396.152 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:34:05 | Curvili | 1/Conc | -0.000025 | 0.000001 | 0.000000 | 1.000000 | 0.999969 | 0.000016 | 14.461269 | 48.204230 |
| As 193.759 {474} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Var | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999984 | 0.000002 | 3.702299 | 12.340998 |
| As 197.262 {471} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | -0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 8.640076 | 28.800254 |
| Ba 233.527 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Conc | -0.000000 | 0.000014 | 0.000000 | 1.000000 | 0.999978 | 0.000000 | 0.385605 | 1.285350 |
| Ba 455.403 { 74} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.000059 | 0.000044 | 0.000000 | 1.000000 | 0.999967 | 0.000001 | 0.386546 | 1.288486 |
| Ba 493.409 { 68} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Var | 0.008860 | 0.000040 | 0.000000 | 1.000000 | 0.999994 | 0.000024 | 1.031177 | 3.437257 |
| Be 313.042 {108} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000024 | 0.000054 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.038732 | 0.129107 |
| Be 234.861 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999985 | 0.000000 | 1.063490 | 3.544965 |
| Ca 315.887 {107} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000073 | 0.000000 | 0.000000 | 1.000000 | 0.999814 | 0.000026 | 12.703344 | 42.344479 |
| Ca 317.933 {106} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.003777 | 0.000001 | 0.000000 | 1.000000 | 0.999902 | 0.000015 | 7.356272 | 24.520908 |
| Ca 393.366 { 86} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Var | 0.005182 | 0.000159 | 0.000000 | 1.000000 | 0.995263 | 0.005641 | 0.080763 | 0.269209 |
| Ca 396.847 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.017159 | 0.000120 | 0.000000 | 1.000000 | 0.994122 | 0.000616 | 0.099859 | 0.332864 |
| Cd 226.502 {449} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000013 | 0.000034 | 0.000000 | 1.000000 | 0.999928 | 0.000000 | 0.235113 | 0.783710 |
| Cd 228.802 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:00:42 | Linear | 1/Conc | 0.000028 | 0.000062 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 0.164609 | 0.548698 |
| Co 228.616 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000006 | 0.000029 | 0.000000 | 1.000000 | 0.999923 | 0.000001 | 0.387286 | 1.290953 |
| Co 238.892 {141} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999986 | 0.000001 | 0.807762 | 2.692542 |
| Cr 205.560 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Var | 0.000020 | 0.000016 | 0.000000 | 1.000000 | 0.997587 | 0.000066 | 0.368554 | 1.228514 |
| Cr 267.716 {126} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.932952 | 3.109840 |
| Cu 224.700 {450} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999685 | 0.000011 | 0.487339 | 1.624464 |
| Cu 324.754 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | 198.71895 | 0.845033 | 0.000000 | 1.000000 | 0.999907 | 0.442229 | 3.237496 | 10.791653 |
| Cu 327.396 {103} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 7.283647 | 0.431855 | 0.000000 | 1.000000 | 0.999882 | 0.176994 | 8.308669 | 27.695563 |
| Fe 234.349 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Curvili | 1/Var | 0.000019 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000000 | 1.712355 | 5.707849 |
| Fe 239.562 {140} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000029 | 0.000000 | 0.000000 | 1.000000 | 0.998865 | 0.000064 | 11.697136 | 38.990454 |
| Fe 259.940 {129} | 04/12/2019 12:30:12 | 04/03/2019 15:26:42 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.998255 | 0.000033 | 3.951315 | 13.171051 |
| Mg 202.582 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000058 | 0.000003 | 0.000000 | 1.000000 | 0.999028 | 0.000109 | 2.561991 | 8.539971 |
| Mg 279.079 {121} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Full Fit | 1/Conc | -0.000003 | 0.000000 | 0.000000 | 1.030000 | 0.999974 | 0.000001 | 87.004312 | 290.01437 |
| Mg 280.270 {120} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | 0.000148 | 0.000027 | 0.000000 | 1.000000 | 0.999796 | 0.000033 | 0.040780 | 0.135933 |
| Mn 257.610 {131} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Conc | 0.000001 | 0.000009 | 0.000000 | 1.000000 | 0.999926 | 0.000001 | 0.120880 | 0.402933 |
| Mn 259.373 {130} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999853 | 0.000026 | 1.336755 | 4.455850 |
| Mo 202.030 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:00:43 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.468446 | 1.561488 |
| Mo 203.844 {465} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Var | 0.000008 | 0.000008 | 0.000000 | 1.000000 | 0.999951 | 0.000008 | 0.885886 | 2.952955 |
| Mo 204.598 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | -0.000007 | 0.000007 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 0.880737 | 2.935789 |
| Ni 221.647 {452} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999923 | 0.000009 | 0.659772 | 2.199241 |
| Ni 231.604 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000031 | 0.000017 | 0.000000 | 1.000000 | 0.999914 | 0.000001 | 0.636840 | 2.122800 |
| Pb 216.999 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999755 | 0.000022 | 5.202291 | 17.340971 |
| Pb 220.353 {453} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Conc | 0.000030 | 0.000004 | 0.000000 | 1.000000 | 0.999244 | 0.000000 | 2.562058 | 8.540192 |
| Pb 220.353 {153} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999906 | 0.000000 | 6.767648 | 22.558828 |
| Sb 206.833 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000007 | 0.000003 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 2.380937 | 7.936456 |
| Sb 217.581 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999893 | 0.000000 | 2.579773 | 8.599243 |
| Se 196.090 {472} | 04/12/2019 12:30:12 | 04/03/2019 15:00:45 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999018 | 0.000000 | 4.530040 | 15.100132 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Curvili | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999905 | 0.000000 | 23.155478 | 77.184928 |
| Tl 190.856 {476} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999705 | 0.000001 | 2.323578 | 7.745262 |
| Tl 190.856 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999828 | 0.000000 | 5.817160 | 19.390533 |
| V 290.882 {116} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 5.979888 | 19.932959 |
| V 292.402 {115} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 0.564743 | 1.882477 |
| Zn 206.200 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000041 | 0.000024 | 0.000000 | 1.000000 | 0.997616 | 0.000150 | 0.362951 | 1.209837 |
| Zn 213.856 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:00:46 | Linear | 1/Conc | 0.000072 | 0.000044 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.176452 | 0.588174 |
| Y 224.306 {450}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:38 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.004390 | 0.000005 | 0.000000 | 1.000000 | 1.000000 | 0.000001 | 8.191976 | 27.306587 |
| Na 589.592 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000051 | 0.000003 | 0.000000 | 1.000000 | 1.000000 | 0.000003 | 9.323428 | 31.078092 |
| Si 251.611 {134} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.092998 | 0.072976 | 0.000000 | 1.000000 | 0.998832 | 1.671194 | 19.062042 | 63.540140 |
| Ti 323.452 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000253 | 0.000008 | 0.000000 | 1.000000 | 0.999959 | 0.000001 | 1.317547 | 4.391824 |
| Ti 334.941 {101} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000002 | 0.000005 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 1.513558 | 5.045195 |
| Sr 407.771 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000066 | 0.000090 | 0.000000 | 1.000000 | 0.999998 | 0.000001 | 0.170987 | 0.569955 |
| Sr 421.552 { 80} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000007 | 0.000084 | 0.000000 | 1.000000 | 0.999990 | 0.000001 | 0.184340 | 0.614467 |
| Sn 189.989 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999932 | 0.000001 | 1.392712 | 4.642373 |
| B 249.678 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 1.807993 | 6.026642 |
| B 249.773 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999987 | 0.000001 | 0.680433 | 2.268110 |
| Li 670.784 { 50} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000001 | 0.000034 | 0.000000 | 1.000000 | 0.999980 | 0.000015 | 1.018434 | 3.394779 |
| K 766.490 { 44} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000066 | 0.000002 | 0.000000 | 1.000000 | 1.000000 | 0.000002 | 27.773860 | 92.579535 |
| P 213.618 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:07:20 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.557307 | 15.191024 |
| S 182.034 {485} | 04/12/2019 12:30:12 | 04/03/2019 15:34:07 | Curvili | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.132317 | 20.441056 |
| Hg 184.950 {482} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000009 | 0.000005 | 0.000000 | 1.000000 | 0.999910 | 0.000001 | 1.117100 | 3.723667 |
| Ce 404.076 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 21.843516 | 72.811721 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

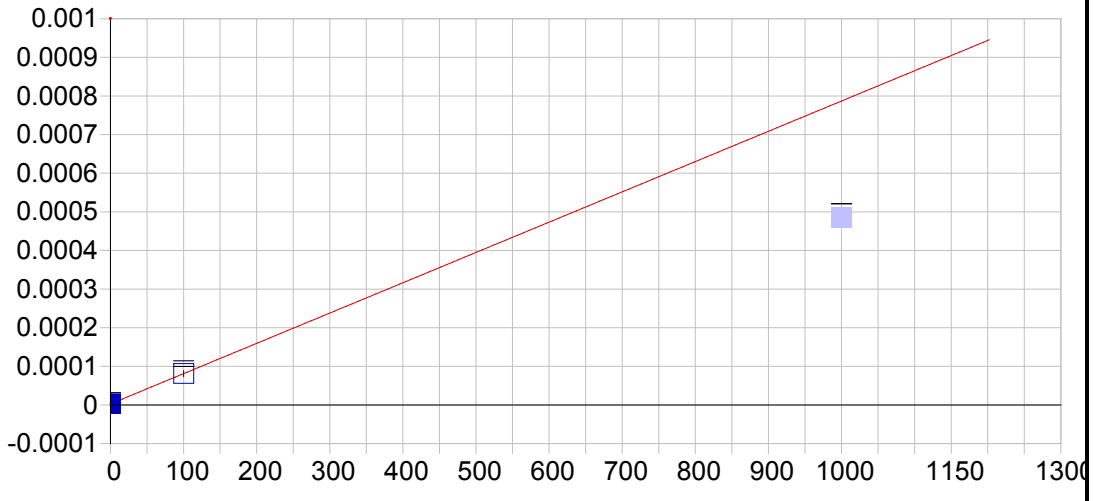



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998948 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.840534 | | |
| Predicted MQL: | 2.801781 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.69812 | -.698 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.271 | .271 | 2.71 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.483 | -2.52 | -2.52 | .00027 | .000 | 1 |
| CalStd3=1 | 1.0000 | .69860 | -.301 | -30.1 | .00001 | .000 | 1 |

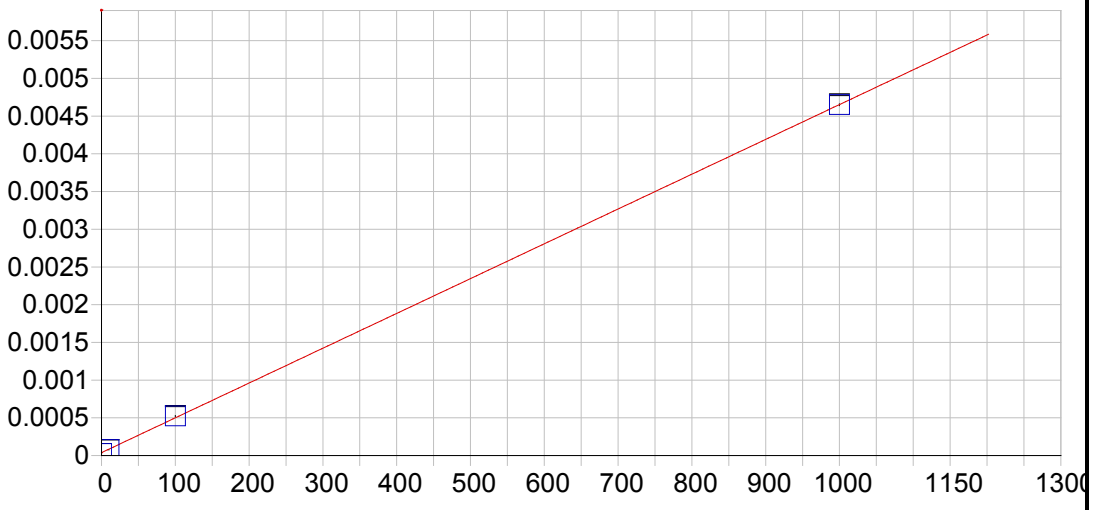



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.469763 | | |
| Predicted MQL: | 31.565876 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.00 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 614.67 | -385. | -38.5 | .00048 | .000 | 0 |

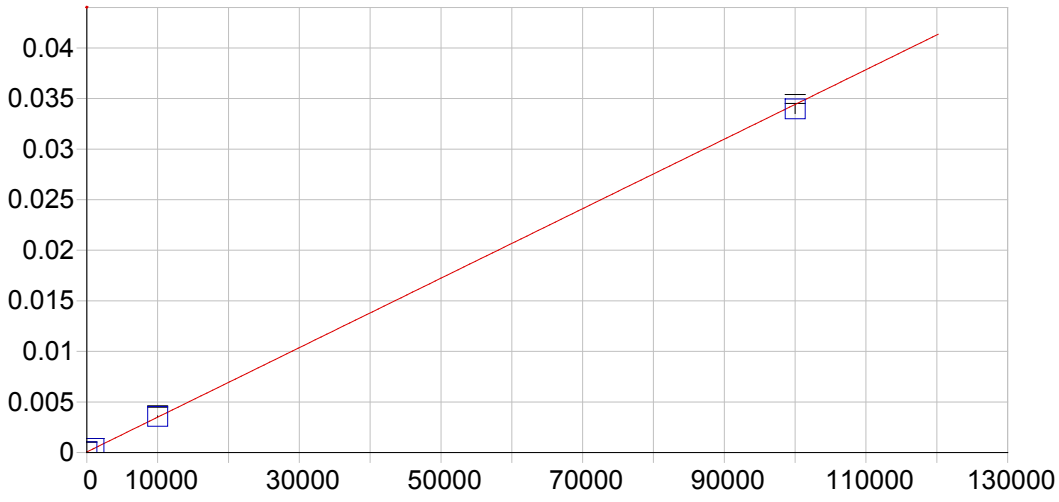



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 0.710137 | | |
| Predicted MQL: | 2.367124 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.9331 | -2.93 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.51 | -.488 | -.049 | .00465 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3797 | -1.62 | -16.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.04 | 5.04 | 5.04 | .00052 | .000 | 1 |

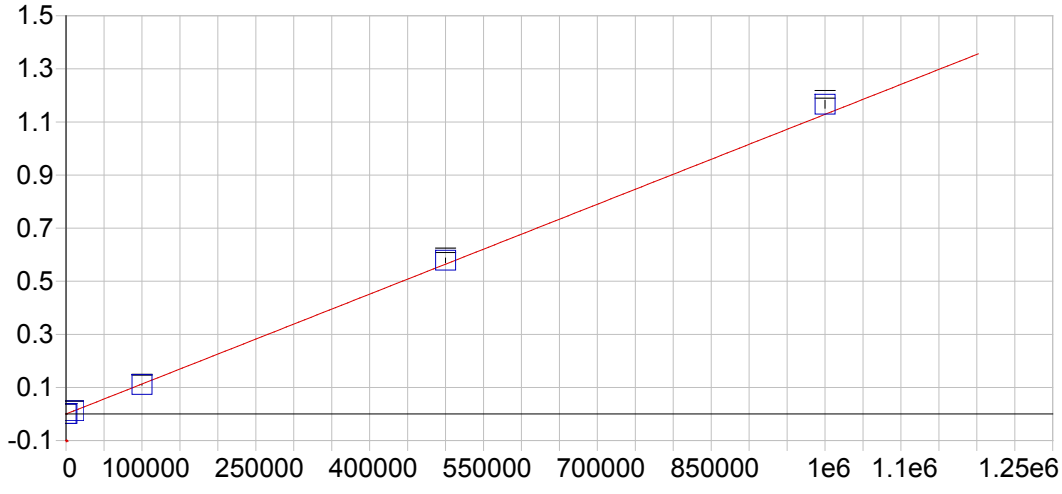



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 29.257129 | | |
| Predicted MQL: | 97.523765 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -11.568 | -11.6 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10191. | 191. | 1.91 | .00356 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.7 | 6.70 | .670 | .00041 | .000 | 1 |
| CalStd13=10 | 100000. | 98668. | -1330. | -1.33 | .03396 | .000 | 1 |

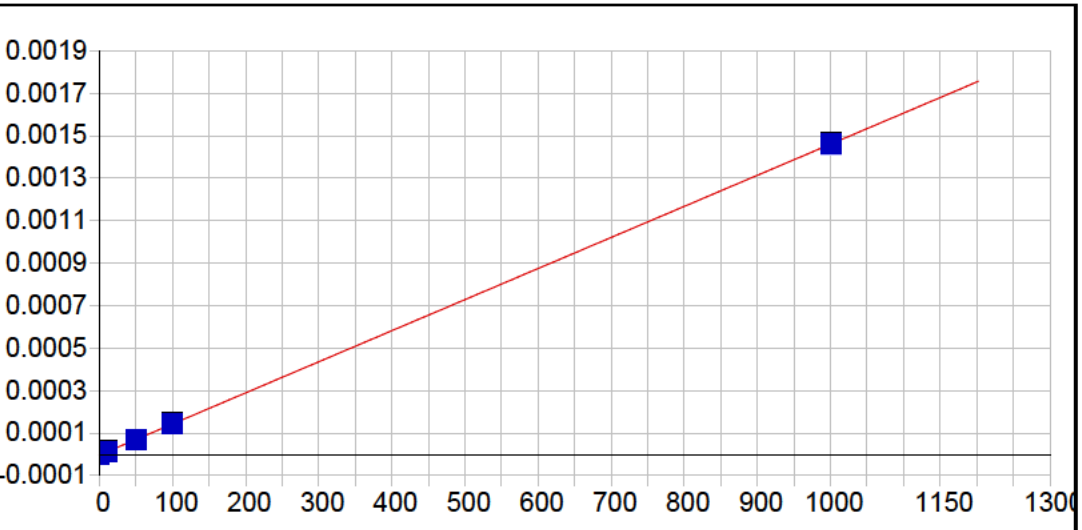



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 14.461269 | | |
| Predicted MQL: | 48.204230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02340 | -.023 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 512920. | 12900. | 2.58 | .57884 | .009 | 1 |
| CalStd13=10 | 100000. | 97807. | -2190. | -2.19 | .11036 | .002 | 1 |
| CalStd10=10 | 10000. | 10194. | 194. | 1.94 | .01148 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.3 | 23.3 | 2.33 | .00113 | .000 | 1 |
| CalibStd15= | 1000000. | 1033300. | 33300. | 3.33 | 1.1661 | .014 | 1 |

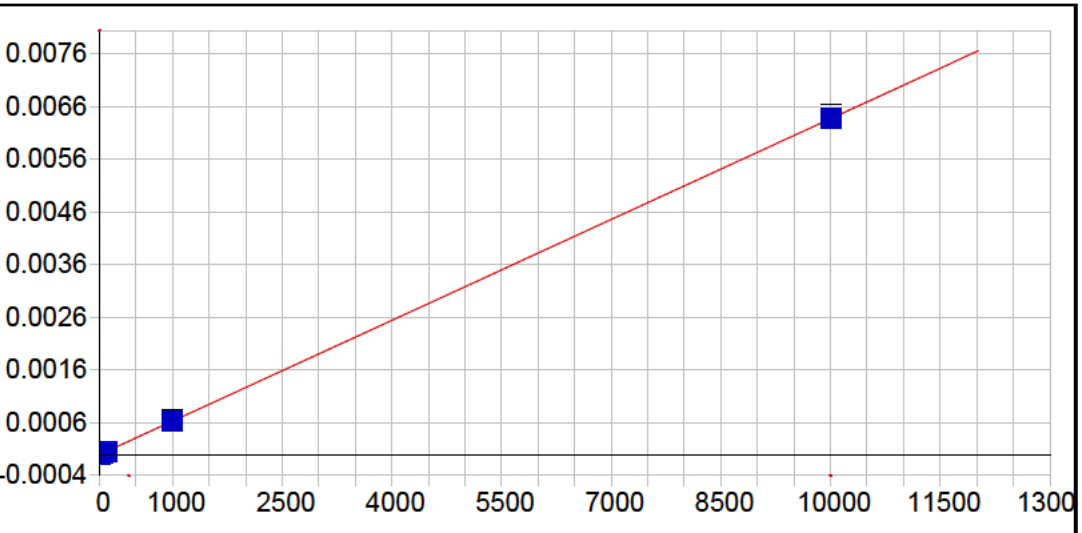



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 3.702299 | | |
| Predicted MQL: | 12.340998 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.7697 | 1.77 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .522 | .052 | .00146 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.090 | -.910 | -1.82 | .00007 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.885 | .885 | 8.85 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.42 | .418 | .418 | .00014 | .000 | 1 |

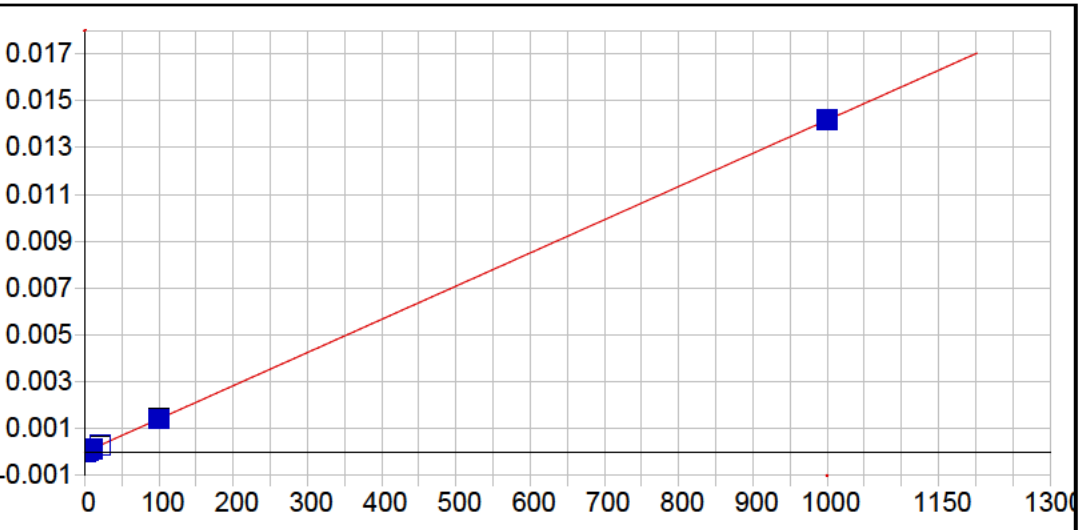



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.640076 | | |
| Predicted MQL: | 28.800254 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00220 | .002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.1 | 8.14 | .814 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.623 | -1.38 | -2.75 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7994 | -2.20 | -22.0 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.98 | 1.98 | 1.98 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.4 | -6.56 | -.066 | .00641 | .000 | 1 |

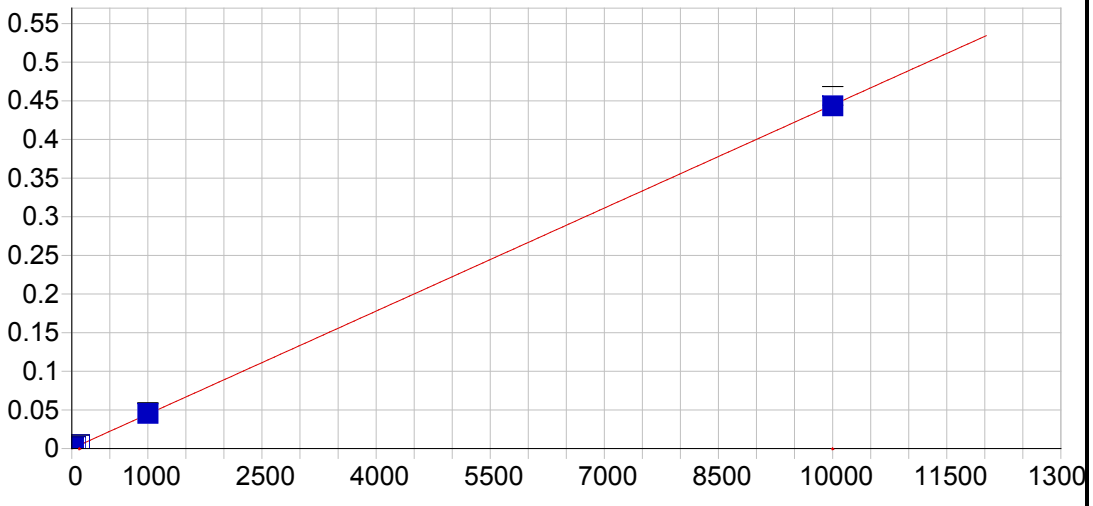



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.385605 | | |
| Predicted MQL: | 1.285350 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00007 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.489 | .489 | 4.89 | .00015 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.897 | -.103 | -.514 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00141 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6838 | -.316 | -6.32 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .462 | .046 | .01418 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95385 | -.046 | -4.62 | .00001 | .000 | 1 |

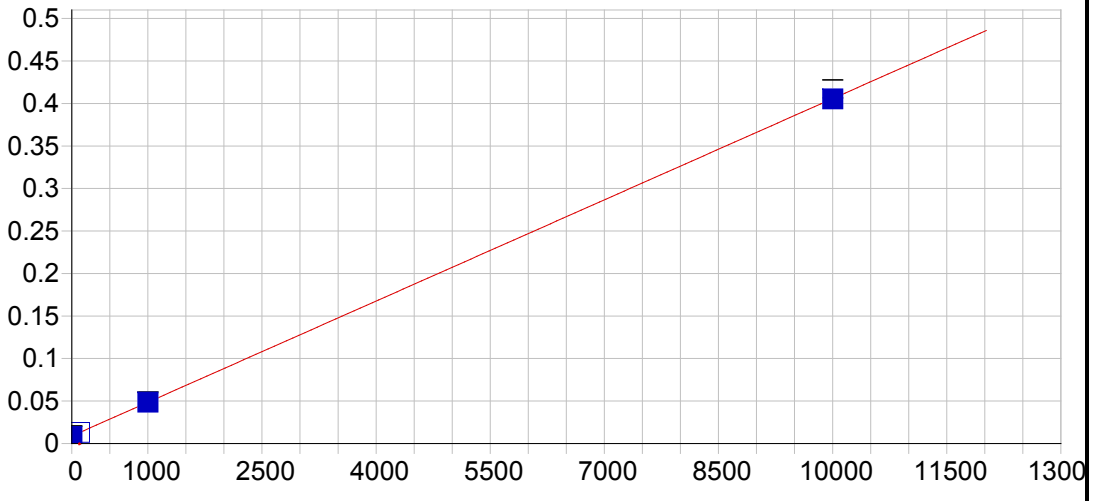



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.386546 | | |
| Predicted MQL: | 1.288486 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.643 | .643 | 1.29 | .00231 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.735 | .735 | 7.35 | .00054 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.036 | .036 | .179 | .00095 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.69 | 3.69 | 3.69 | .00467 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9429 | -.057 | -1.14 | .00028 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.5 | 21.5 | 2.15 | .04547 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0828 | .083 | 8.28 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9973.4 | -26.6 | -.266 | .44343 | .012 | 1 |

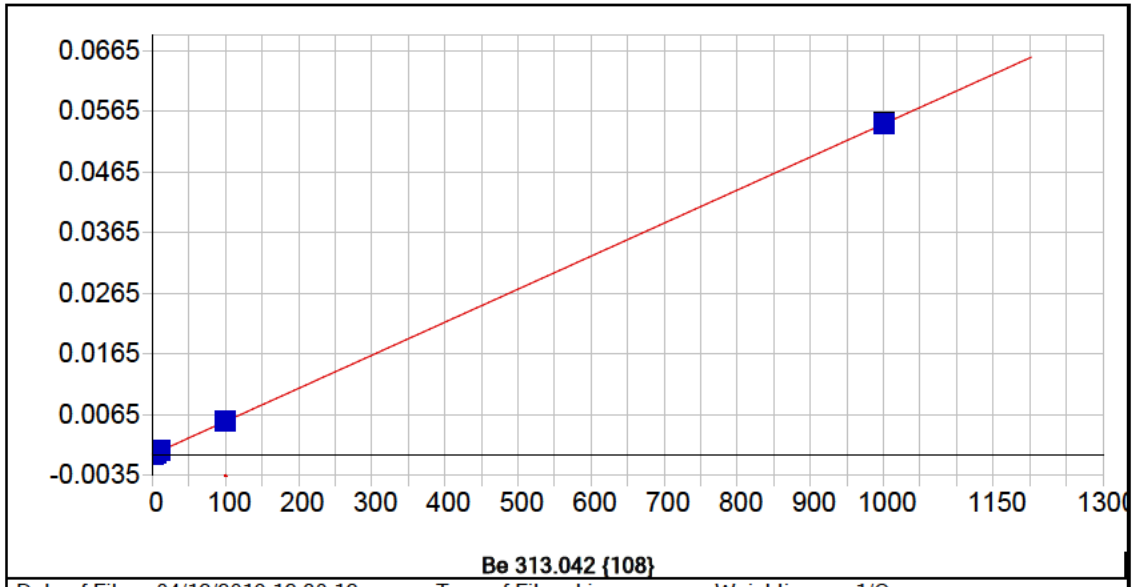



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008860 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000040 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 1.031177 | | |
| Predicted MQL: | 3.437257 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05731 | -.057 | .000 | .00886 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.74 | -.258 | -.026 | .04854 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.90 | 2.90 | 2.90 | .01294 | .000 | 1 |
| CalStd10=10 | 10000. | 9990.0 | -9.96 | -.100 | .40536 | .011 | 1 |

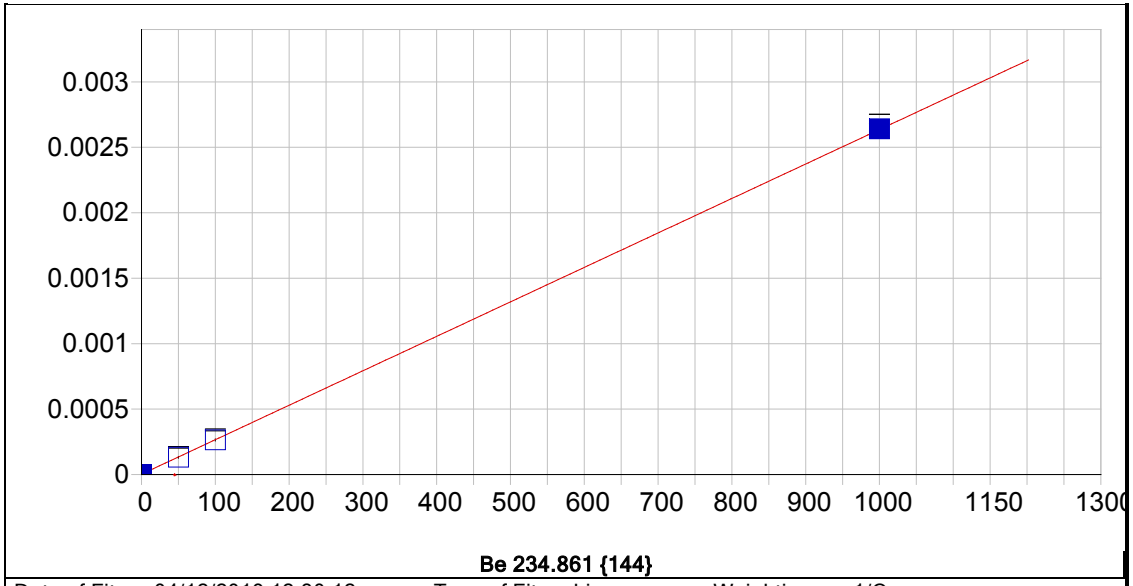



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.038732 | | |
| Predicted MQL: | 0.129107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00002 | .000 | .000 | -.00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.342 | .342 | 3.42 | .00054 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.895 | -1.11 | -1.11 | .00536 | .000 | 1 |
| CalStd2=0.5 | .50000 | .49707 | -.003 | -.586 | .00000 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8966 | -.103 | -2.07 | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .913 | .091 | .05447 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95674 | -.043 | -4.33 | .00003 | .000 | 1 |

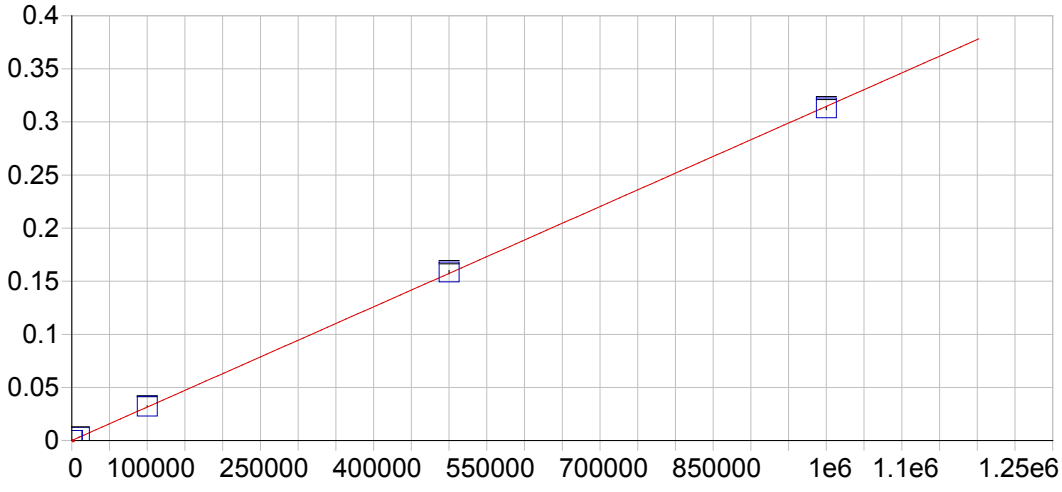



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.063490 | | |
| Predicted MQL: | 3.544965 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00139 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.312 | -.688 | -.688 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00013 | .000 | 1 |

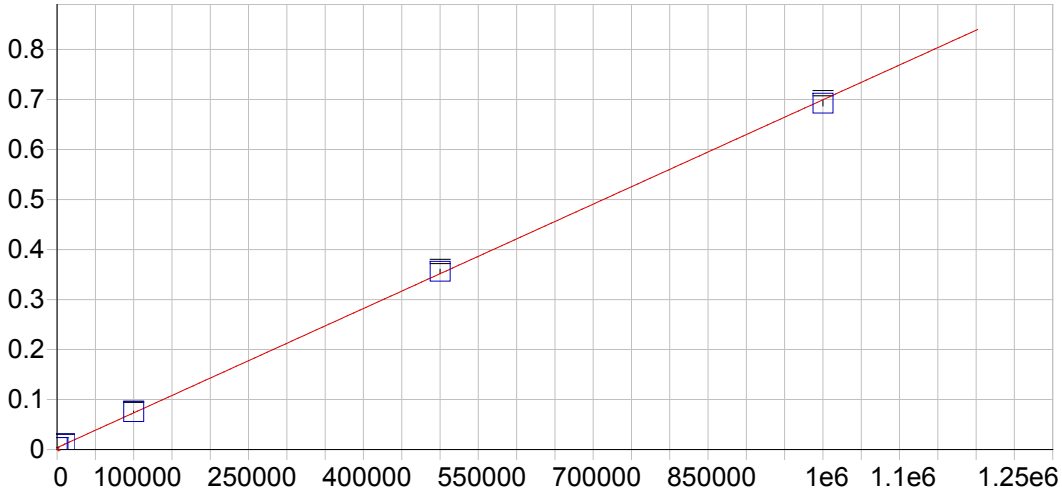



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000073 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999814 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 12.703344 | | |
| Predicted MQL: | 42.344479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 49.256 | 49.3 | .000 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 10409. | 409. | 4.09 | .00335 | .000 | 1 |
| CalStd13=10 | 100000. | 102410. | 2410. | 2.41 | .03229 | .000 | 1 |
| CalStd14=50 | 500000. | 503620. | 3620. | .724 | .15852 | .002 | 1 |
| CalStd9=100 | 1000.0 | 954.41 | -45.6 | -4.56 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 994810. | -5190. | -.519 | .31306 | .001 | 1 |

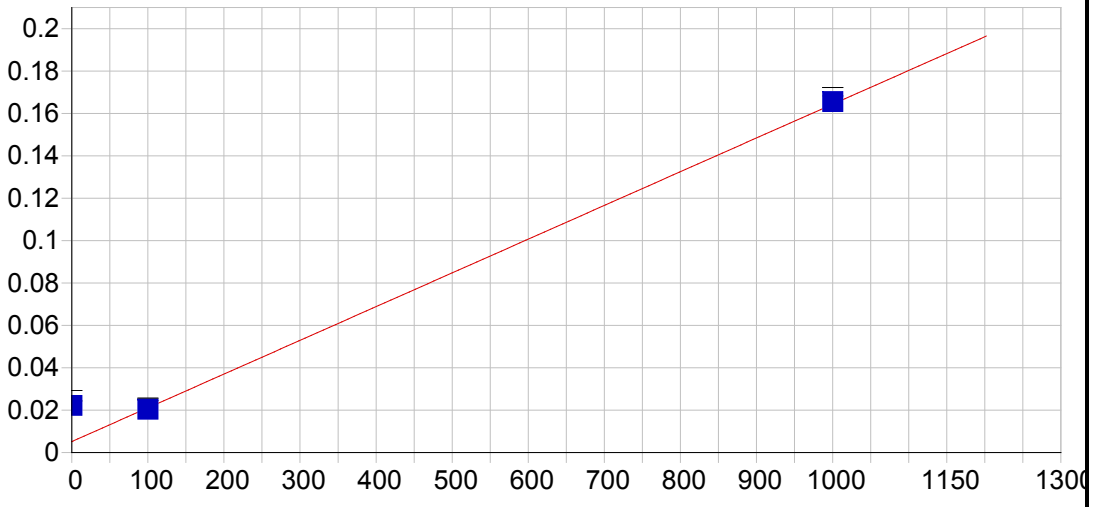



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003777 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999902 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 7.356272 | | |
| Predicted MQL: | 24.520908 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02441 | .024 | .000 | .00378 | .000 | 1 |
| CalStd10=10 | 10000. | 10475. | 475. | 4.75 | .01106 | .000 | 1 |
| CalStd13=10 | 100000. | 103110. | 3110. | 3.11 | .07551 | .001 | 1 |
| CalStd14=50 | 500000. | 506500. | 6500. | 1.30 | .35615 | .004 | 1 |
| CalStd9=100 | 1000.0 | 893.99 | -106. | -10.6 | .00440 | .000 | 1 |
| CalibStd15= | 1000000. | 990030. | -9970. | -.997 | .69254 | .005 | 1 |

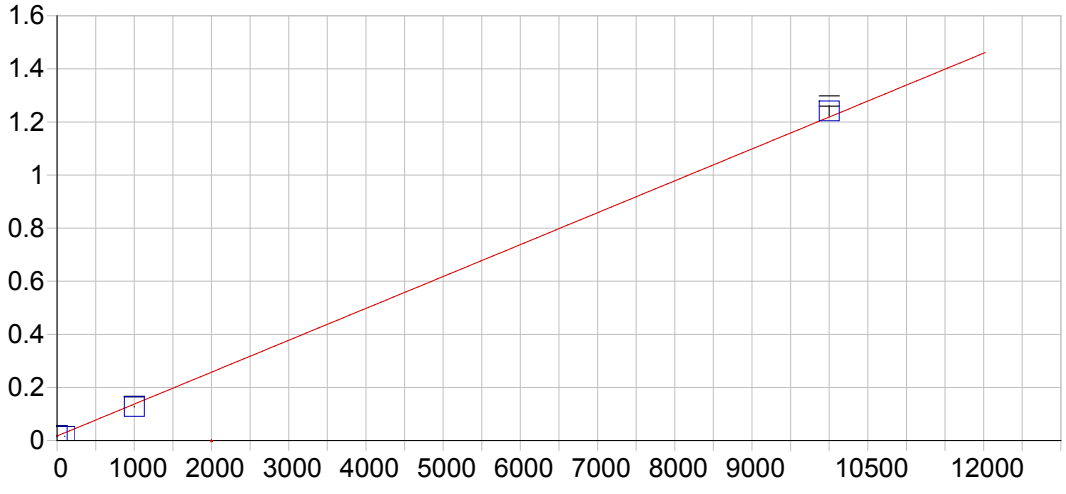



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005182 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000159 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995263 | Status: | OK. |
| Std Error of Est: | 0.005641 | | |
| Predicted MDL: | 0.080763 | | |
| Predicted MQL: | 0.269209 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 106.57 | 107. | .000 | .02215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1007.3 | 7.32 | .732 | .16553 | .002 | 1 |
| CalStd8=100 | 100.00 | 95.448 | -4.55 | -4.55 | .02038 | .000 | 1 |

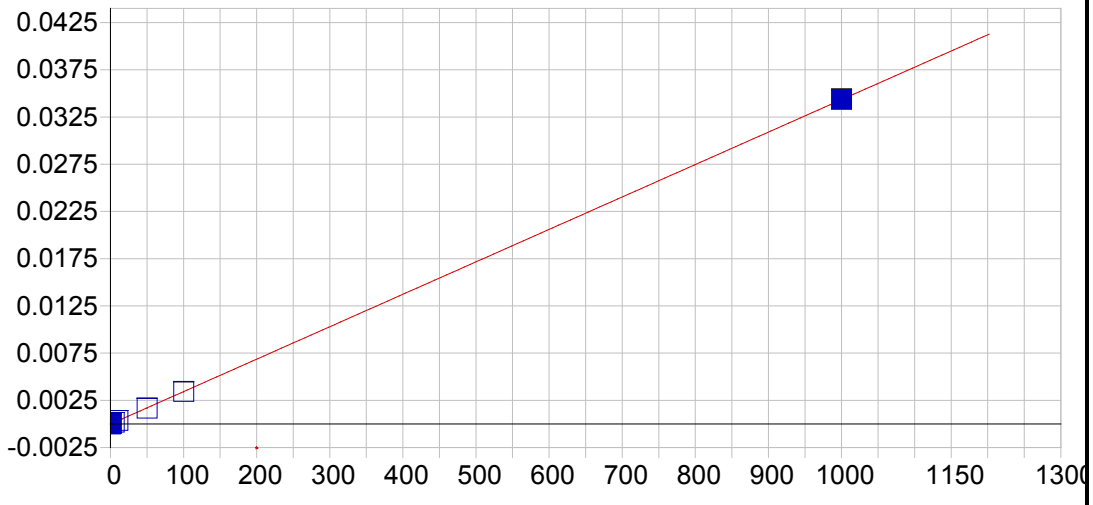



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.017159 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000120 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994122 | Status: | OK. |
| Std Error of Est: | 0.000616 | | |
| Predicted MDL: | 0.099859 | | |
| Predicted MQL: | 0.332864 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11631 | .116 | .000 | .01717 | .002 | 1 |
| CalStd10=10 | 10000. | 10188. | 188. | 1.88 | 1.2411 | .019 | 1 |
| CalStd8=100 | 100.00 | -10.442 | -110. | -110. | .01590 | .000 | 1 |
| CalStd9=100 | 1000.0 | 922.57 | -77.4 | -7.74 | .12800 | .001 | 1 |

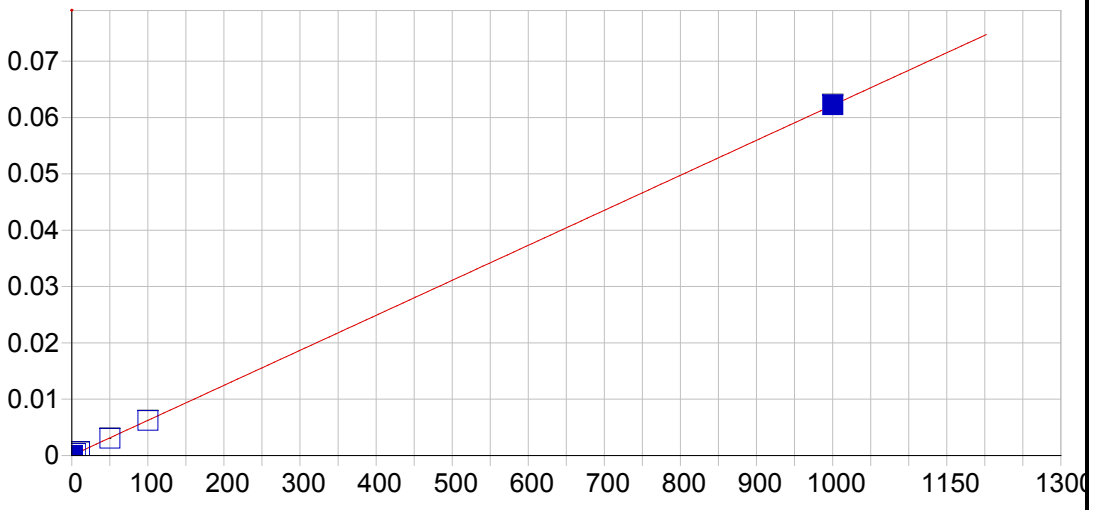



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.235113 | | |
| Predicted MQL: | 0.783710 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00026 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.536 | -1.46 | -2.93 | .00165 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1985 | .199 | 19.9 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .62555 | .126 | 25.1 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0937 | .094 | 1.87 | .00016 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.923 | -.077 | -.077 | .00342 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.717 | .717 | 7.17 | .00035 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .406 | .041 | .03435 | .000 | 1 |

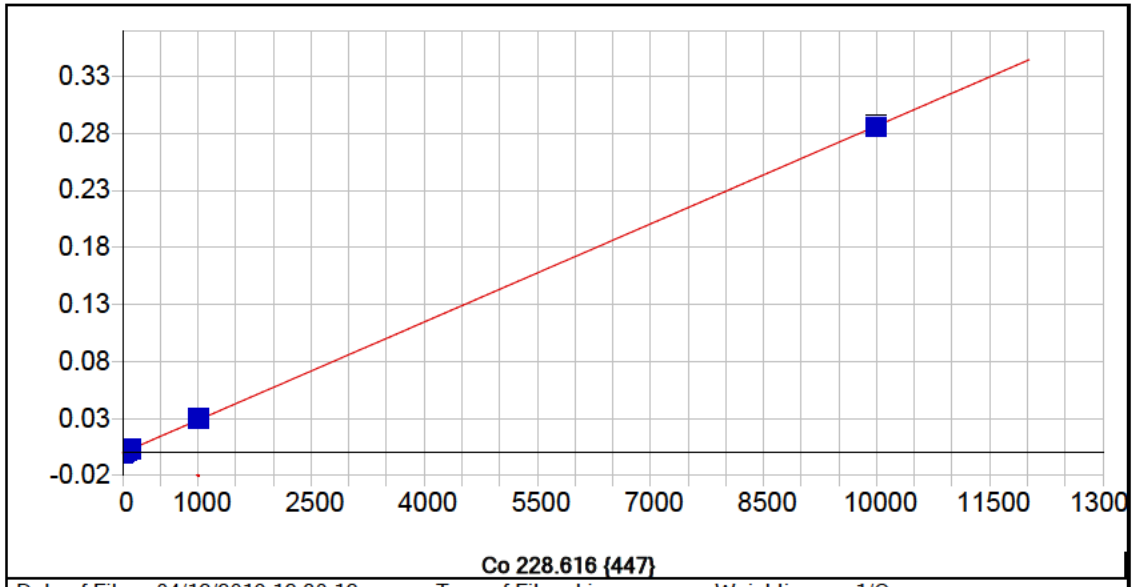



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.164609 | | |
| Predicted MQL: | 0.548698 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00007 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.735 | -1.26 | -2.53 | .00306 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0788 | .079 | 7.88 | .00010 | .000 | 1 |
| CalStd2=0.5 | .50000 | .53614 | .036 | 7.23 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9219 | -.078 | -1.56 | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.720 | -.280 | -.280 | .00623 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.327 | .327 | 3.27 | .00067 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.2 | 1.18 | .118 | .06225 | .000 | 1 |

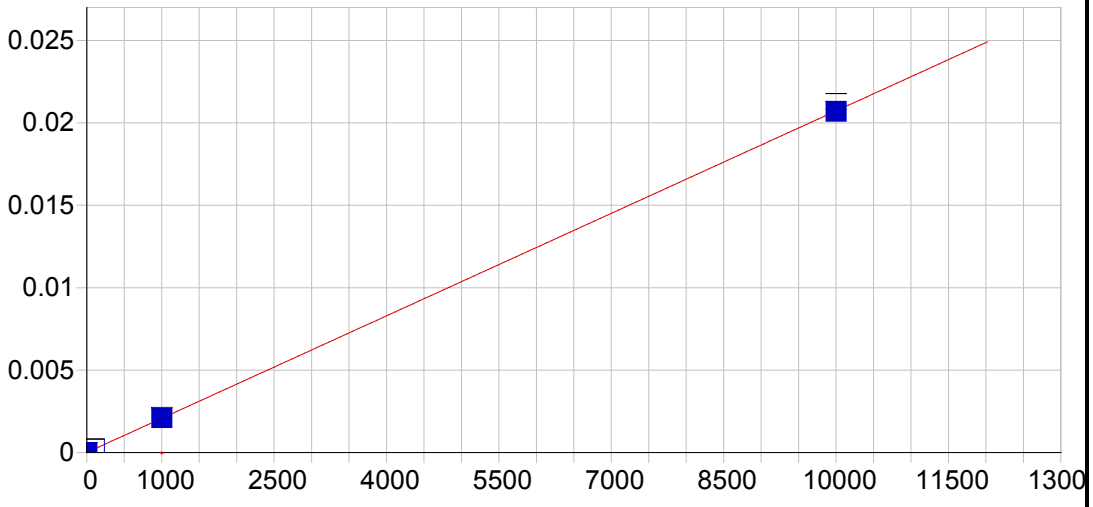



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000029 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.387286 | | |
| Predicted MQL: | 1.290953 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00075 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.263 | 1.26 | 2.53 | .00148 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.964 | .964 | 9.64 | .00032 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6897 | .690 | 13.8 | .00017 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.99 | 3.99 | 3.99 | .00299 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.7 | 31.7 | 3.17 | .02958 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4274 | .427 | 42.7 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9961.0 | -39.0 | -.390 | .28586 | .002 | 1 |

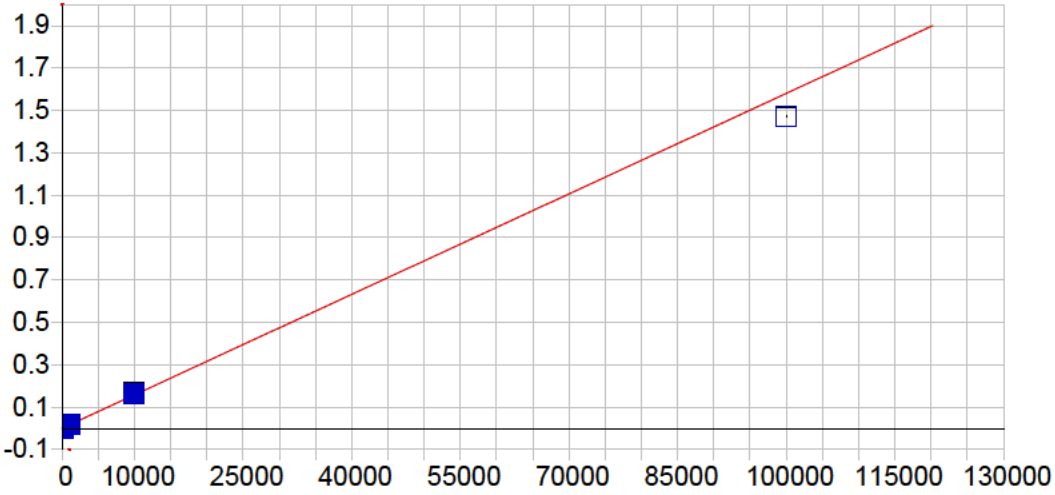



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.807762 | | |
| Predicted MQL: | 2.692542 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00322 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.0 | 16.0 | 1.60 | .00211 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.2 | -17.8 | -.178 | .02070 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.80 | 1.80 | 1.80 | .00021 | .000 | 1 |

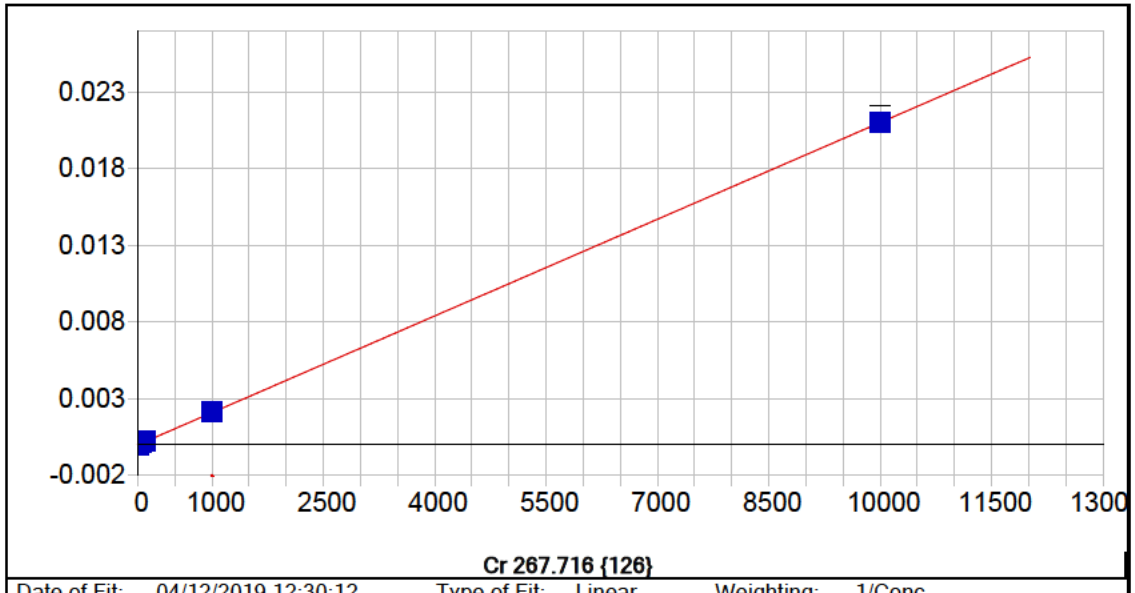



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997587 | Status: | OK. |
| Std Error of Est: | 0.000066 | | |
| Predicted MDL: | 0.368554 | | |
| Predicted MQL: | 1.228514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8471 | -1.85 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4526 | -.547 | -5.47 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.308 | .308 | .615 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1079.6 | 79.6 | 7.96 | .01708 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | .00166 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8868 | -1.11 | -22.3 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -.73498 | -1.73 | -173. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10462. | 462. | 4.62 | .16539 | .001 | 1 |
| CalStd12=10 | 100000. | 93104. | -6900. | -6.90 | 1.4716 | .004 | 1 |

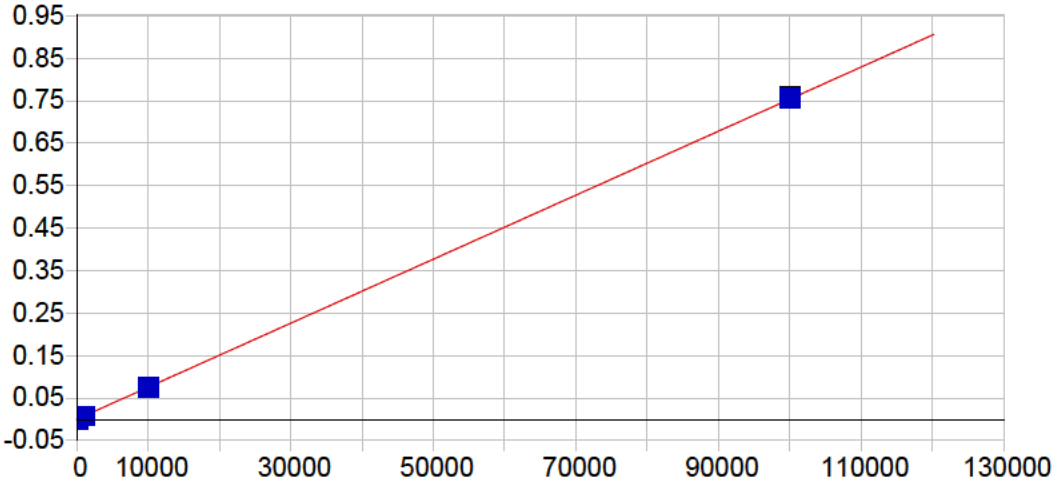



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.932952 | | |
| Predicted MQL: | 3.109840 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00114 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.003 | 1.00 | 10.0 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.830 | -.170 | -.339 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.7 | 9.72 | .972 | .00212 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.836 | -.164 | -.164 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6215 | .621 | 12.4 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.0 | -11.0 | -.110 | .02098 | .000 | 1 |

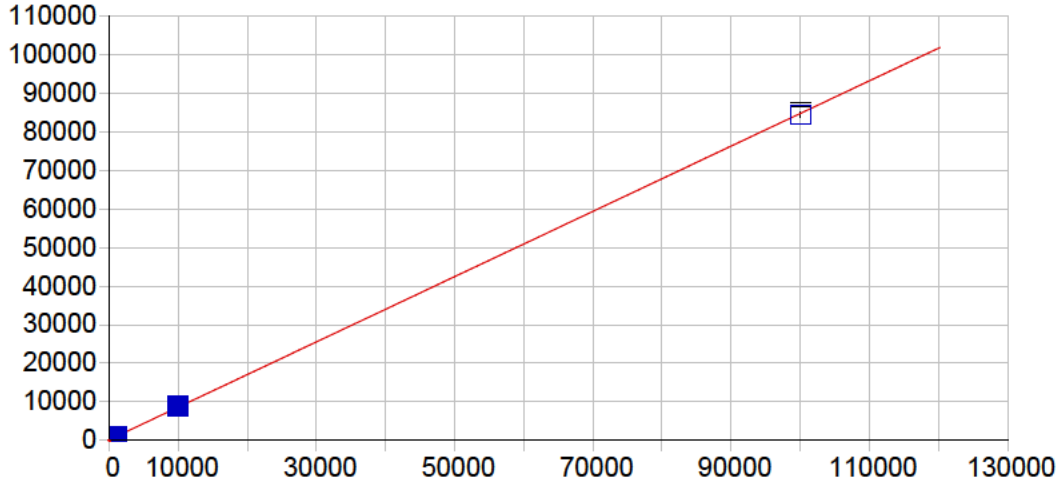



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999685 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.487339 | | |
| Predicted MQL: | 1.624464 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .04243 | .042 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 975.82 | -24.2 | -2.42 | .00735 | .000 | 1 |
| CalStd7=50 | 50.000 | 10.378 | -39.6 | -79.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 50.380 | -49.6 | -49.6 | .00038 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.8599 | -16.1 | -80.7 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100160. | 162. | .162 | .75474 | .006 | 1 |
| CalStd10=10 | 10000. | 9967.6 | -32.4 | -.324 | .07511 | .001 | 1 |

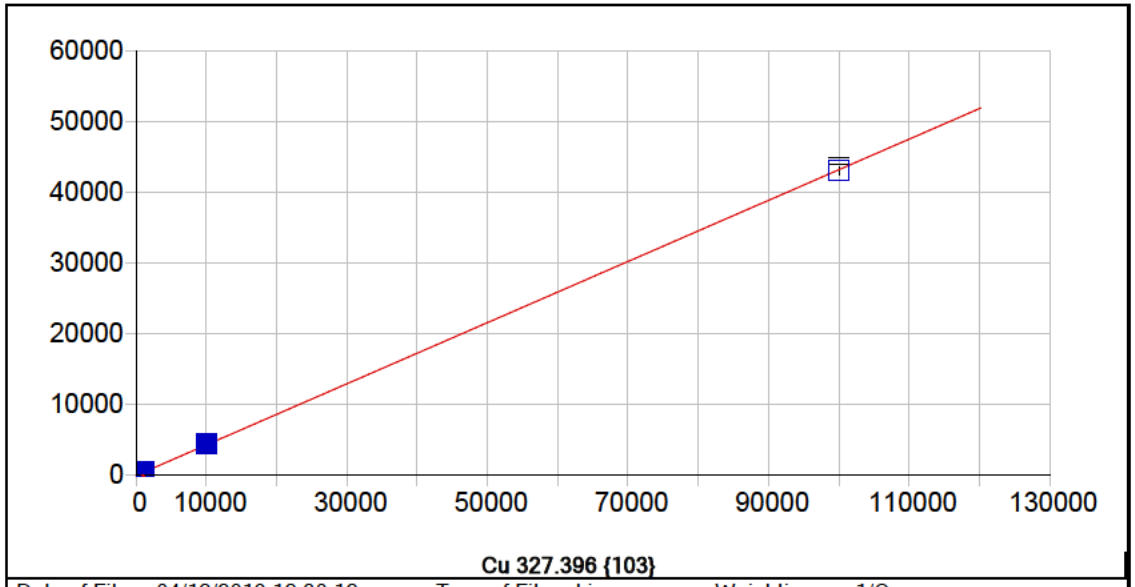



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 198.718958 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.845033 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999907 | Status: | OK. |
| Std Error of Est: | 0.442229 | | |
| Predicted MDL: | 3.237496 | | |
| Predicted MQL: | 10.791653 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00638 | .006 | .000 | 198.72 | 2.77 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | 1082.6 | 11.6 | 1 |
| CalStd8=100 | 100.00 | 100.50 | .505 | .505 | 283.65 | 4.53 | 1 |
| CalStd10=10 | 10000. | 10367. | 367. | 3.67 | 8958.9 | 92.7 | 1 |
| CalStd12=10 | 100000. | 99602. | -398. | -.398 | 84365. | 667. | 1 |
| CalStd5=10 | 10.000 | 6.5763 | -3.42 | -34.2 | 204.28 | 2.61 | 1 |
| CalStd6=20 | 20.000 | 15.469 | -4.53 | -22.7 | 211.79 | 2.62 | 1 |
| CalStd7=50 | 50.000 | 42.368 | -7.63 | -15.3 | 234.52 | .971 | 1 |

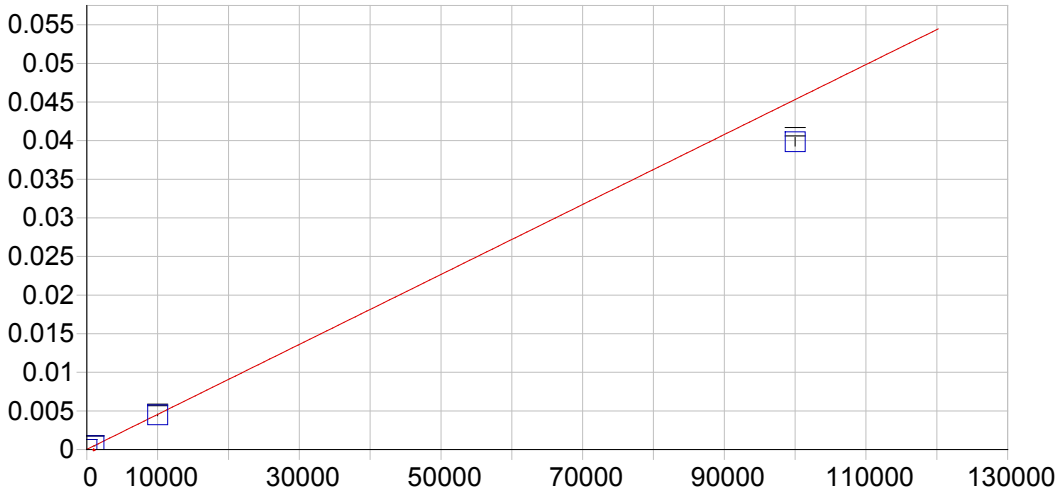



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.283647 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.431855 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.176994 | | |
| Predicted MDL: | 8.308669 | | |
| Predicted MQL: | 27.695563 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00942 | -.009 | .000 | 7.2796 | 1.90 | 1 |
| CalStd6=20 | 20.000 | 25.187 | 5.19 | 25.9 | 18.156 | 2.77 | 1 |
| CalStd7=50 | 50.000 | 51.906 | 1.91 | 3.81 | 29.687 | 2.69 | 1 |
| CalStd8=100 | 100.00 | 108.69 | 8.69 | 8.69 | 54.196 | 2.95 | 1 |
| CalStd9=100 | 1000.0 | 1048.4 | 48.4 | 4.84 | 459.79 | 5.77 | 1 |
| CalStd10=10 | 10000. | 10300. | 300. | 3.00 | 4455.6 | 59.3 | 1 |
| CalStd12=10 | 100000. | 99623. | -377. | -.377 | 43030. | 510. | 1 |
| CalStd4=5 | 5.0000 | 7.0329 | 2.03 | 40.7 | 10.320 | 4.08 | 1 |
| CalStd5=10 | 10.000 | 20.184 | 10.2 | 102. | 15.998 | 2.74 | 1 |

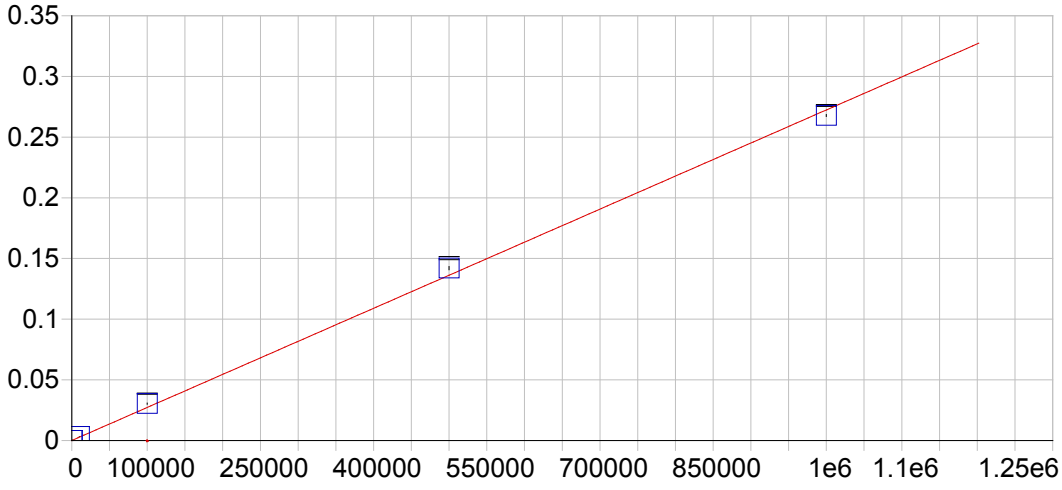



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.712355 | | |
| Predicted MQL: | 5.707849 | | |

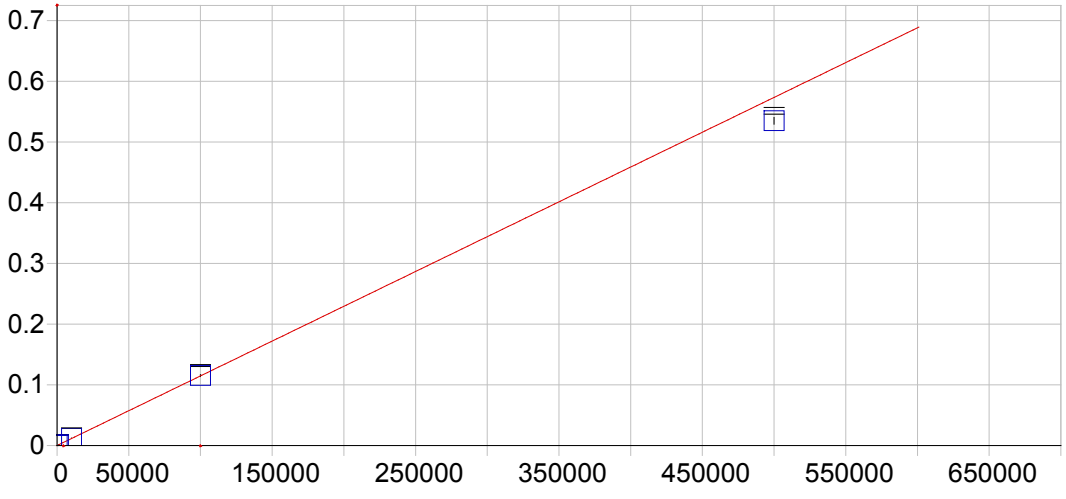
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00371 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9842.6 | -157. | -1.57 | .00448 | .000 | 1 |
| CalStd13=10 | 100000. | 87917. | -12100. | -12.1 | .03984 | .001 | 1 |
| CalStd9=100 | 1000.0 | 999.28 | -.719 | -.072 | .00047 | .000 | 1 |




**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000029 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.998865 | | Status: | OK. | |
| Std Error of Est: | 0.000064 | | | | |
| Predicted MDL: | 11.697136 | | | | |
| Predicted MQL: | 38.990454 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -86.800 | -86.8 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11756. | 1760. | 17.6 | .00323 | .000 | 1 |
| CalStd13=10 | 100000. | 111610. | 11600. | 11.6 | .03043 | .000 | 1 |
| CalStd14=50 | 500000. | 521270. | 21300. | 4.25 | .14200 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1098.5 | 98.5 | 9.85 | .00033 | .000 | 1 |
| CalibStd15= | 1000000. | 983110. | -16900. | -1.69 | .26778 | .001 | 1 |

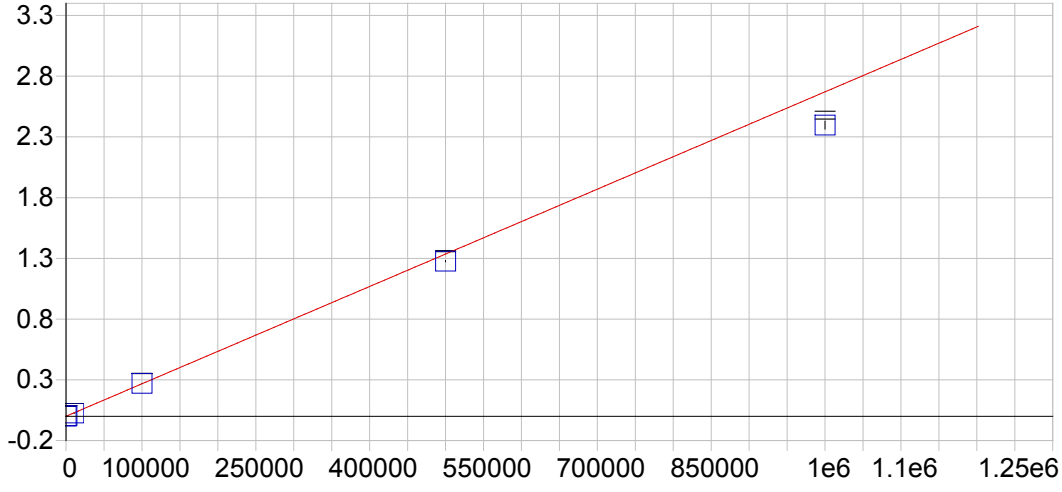



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998255 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 3.951315 | | |
| Predicted MQL: | 13.171051 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0632 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10666. | 666. | 6.66 | .01225 | .000 | 1 |
| CalStd13=10 | 100000. | 100420. | 420. | .420 | .11519 | .001 | 1 |
| CalStd14=50 | 500000. | 466320. | -33700. | -6.74 | .53486 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1063.7 | 63.7 | 6.37 | .00123 | .000 | 1 |

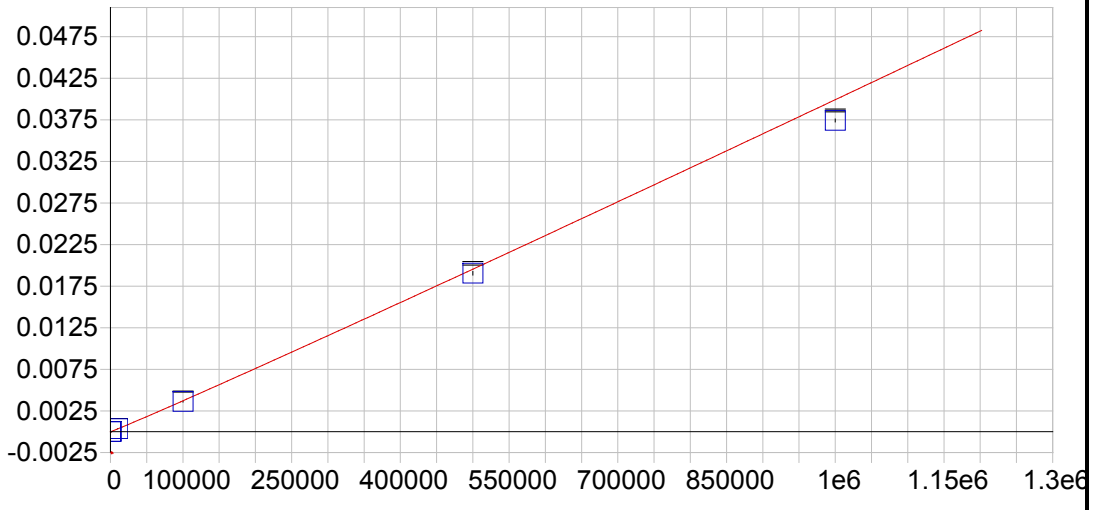



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999028 | Status: | OK. |
| Std Error of Est: | 0.000109 | | |
| Predicted MDL: | 2.561991 | | |
| Predicted MQL: | 8.539971 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -21.852 | -21.9 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 100950. | 947. | .947 | .26969 | .002 | 1 |
| CalStd10=10 | 10000. | 9590.2 | -410. | -4.10 | .02567 | .000 | 1 |
| CalStd14=50 | 500000. | 477840. | -22200. | -4.43 | 1.2764 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1022.1 | 22.1 | 2.21 | .00279 | .000 | 1 |
| CalibStd15= | 1000000. | 897240. | -103000. | -10.3 | 2.3966 | .032 | 1 |

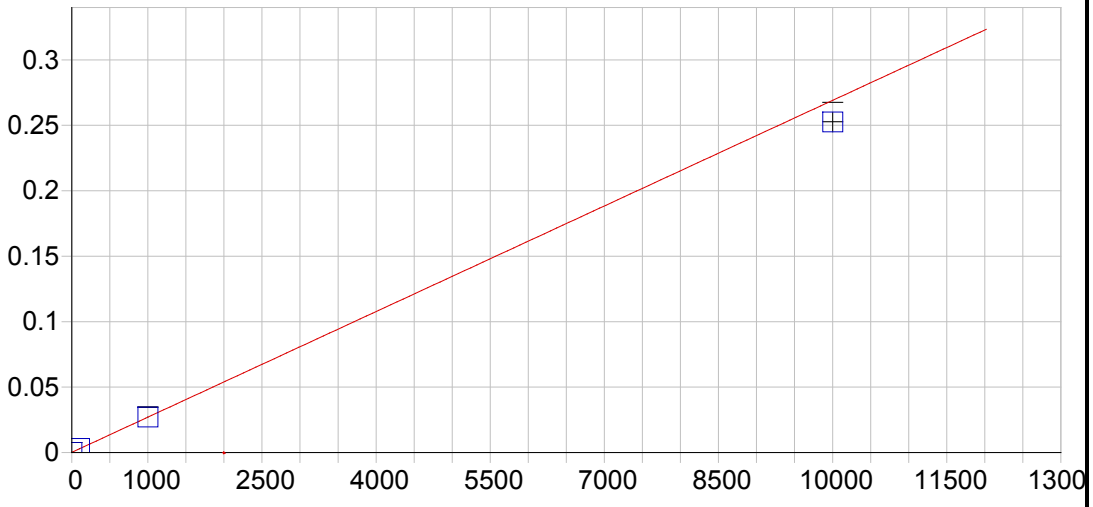



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.030000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 87.004312 | | |
| Predicted MQL: | 290.014373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97451. | -2550. | -2.55 | .00363 | .000 | 1 |
| CalStd10=10 | 10000. | 10451. | 451. | 4.51 | .00036 | .000 | 1 |
| CalStd14=50 | 500000. | 487720. | -12300. | -2.46 | .01905 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1117.3 | 117. | 11.7 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 939270. | -60700. | -6.07 | .03742 | .000 | 1 |

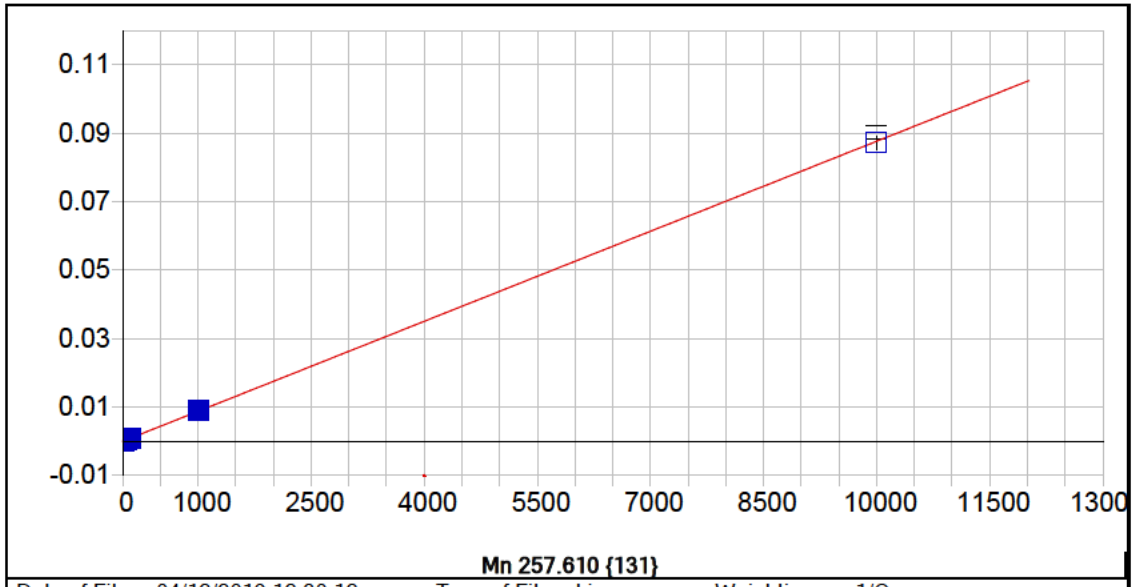



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000148 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999796 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 0.040780 | | |
| Predicted MQL: | 0.135933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.06296 | -.063 | .000 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.06 | -.935 | -.094 | .02701 | .000 | 1 |
| CalStd10=10 | 10000. | 9383.2 | -617. | -6.17 | .25247 | .007 | 1 |
| CalStd8=100 | 100.00 | 107.03 | 7.03 | 7.03 | .00303 | .000 | 1 |

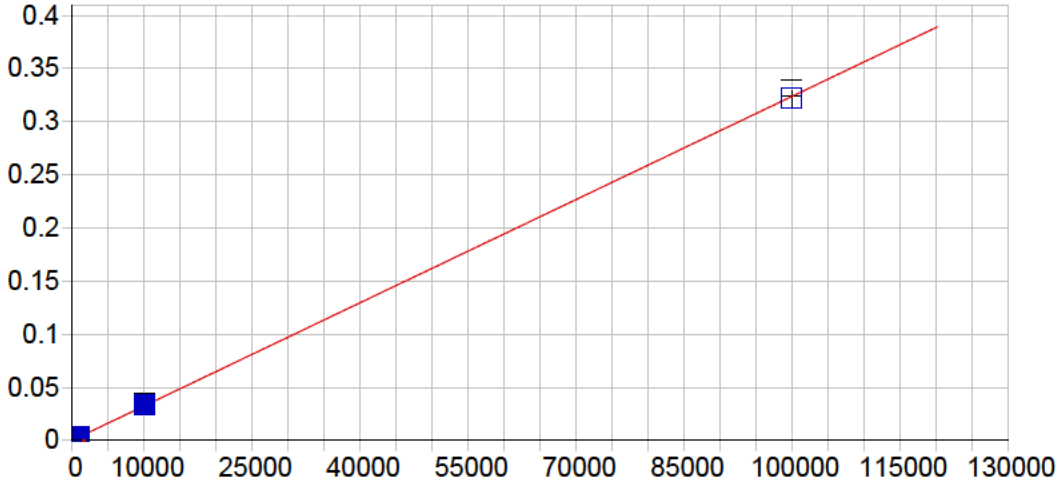



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999926 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.120880 | | |
| Predicted MQL: | 0.402933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00125 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.773 | .773 | 7.73 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.792 | .792 | 1.58 | .00045 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.275 | .275 | 1.38 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.73 | 3.73 | 3.73 | .00091 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3757 | .376 | 7.51 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.3 | 35.3 | 3.53 | .00908 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.7 | -41.3 | -.413 | .08729 | .002 | 1 |

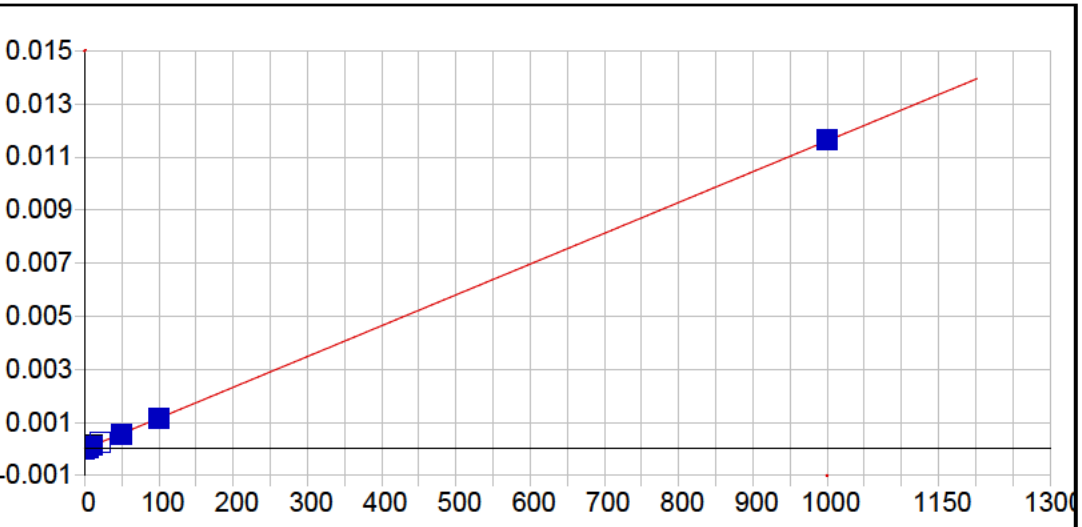



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999853 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 1.336755 | | |
| Predicted MQL: | 4.455850 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09654 | -.097 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10518. | 518. | 5.18 | .03410 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1050.4 | 50.4 | 5.04 | .00341 | .000 | 1 |
| CalStd12=10 | 100000. | 99431. | -569. | -.569 | .32194 | .007 | 1 |

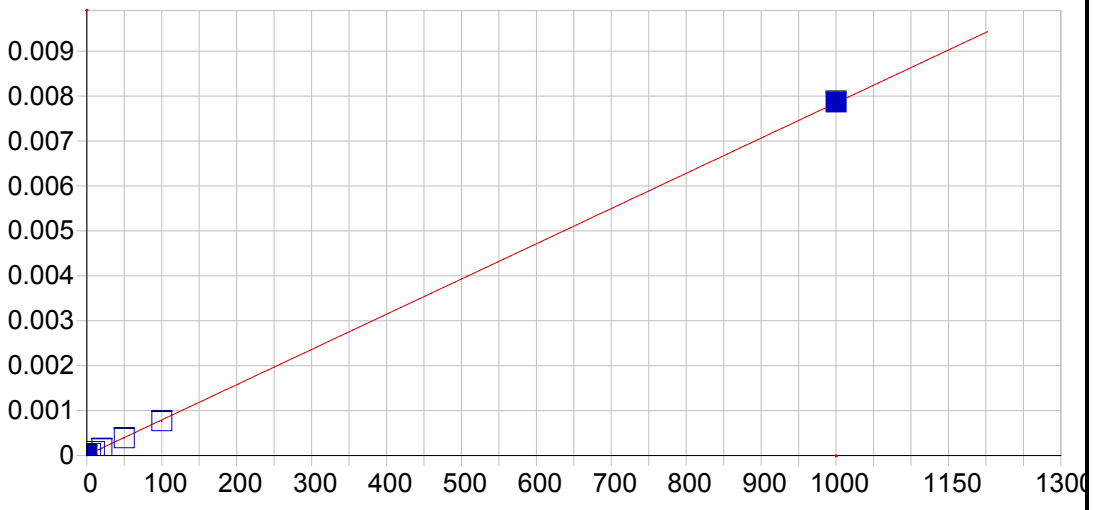



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.468446 | | |
| Predicted MQL: | 1.561488 | | |

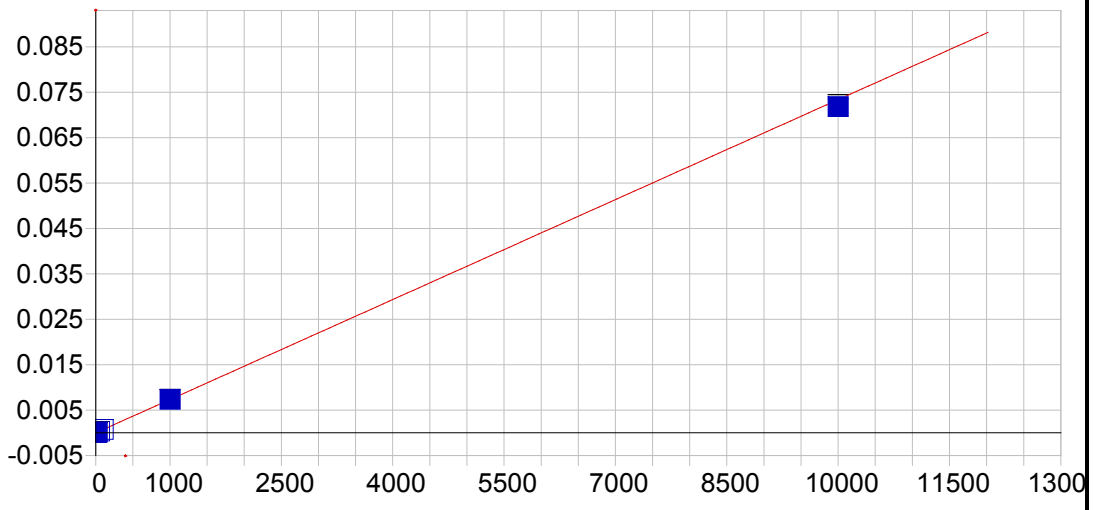
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00011 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.448 | -1.55 | -3.10 | .00057 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.754 | -.246 | -1.23 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.528 | .528 | 5.28 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.223 | -.777 | -.777 | .00116 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8741 | -.126 | -2.52 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.17 | .217 | .01165 | .000 | 1 |




**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000008 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000008 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999951 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 0.885886 | | | | |
| Predicted MQL: | 2.952955 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .17179 | .172 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.589 | -1.41 | -2.82 | .00039 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.954 | -1.05 | -5.23 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.634 | .634 | 6.34 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.851 | -3.15 | -3.15 | .00077 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7680 | -.232 | -4.64 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00786 | .000 | 1 |

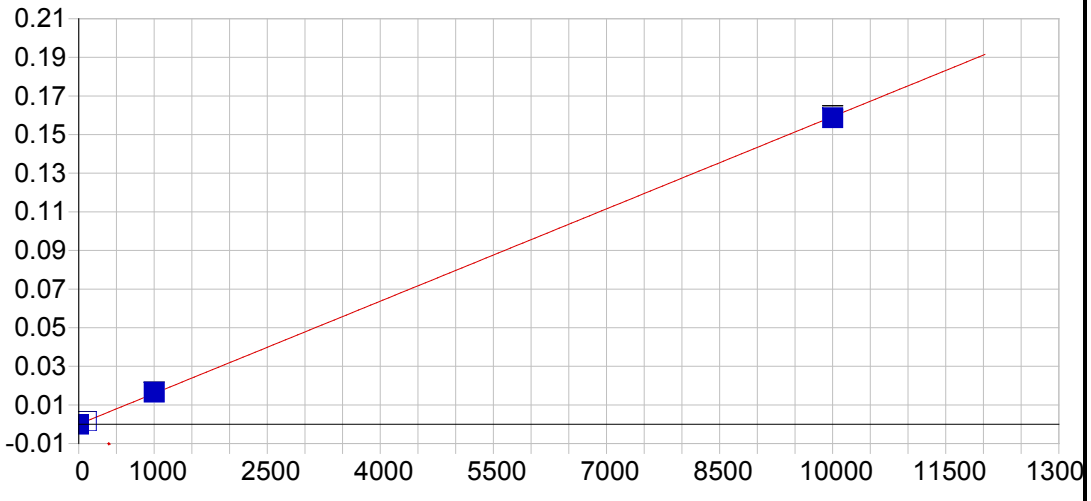



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.880737 | | |
| Predicted MQL: | 2.935789 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .12357 | .124 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.302 | -.698 | -1.40 | .00036 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.989 | -.011 | -.057 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.727 | .727 | 7.27 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.790 | -.210 | -.210 | .00073 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9852 | -.015 | -.296 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.3 | .333 | .033 | .00733 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.0 | -215. | -2.15 | .07180 | .000 | 1 |

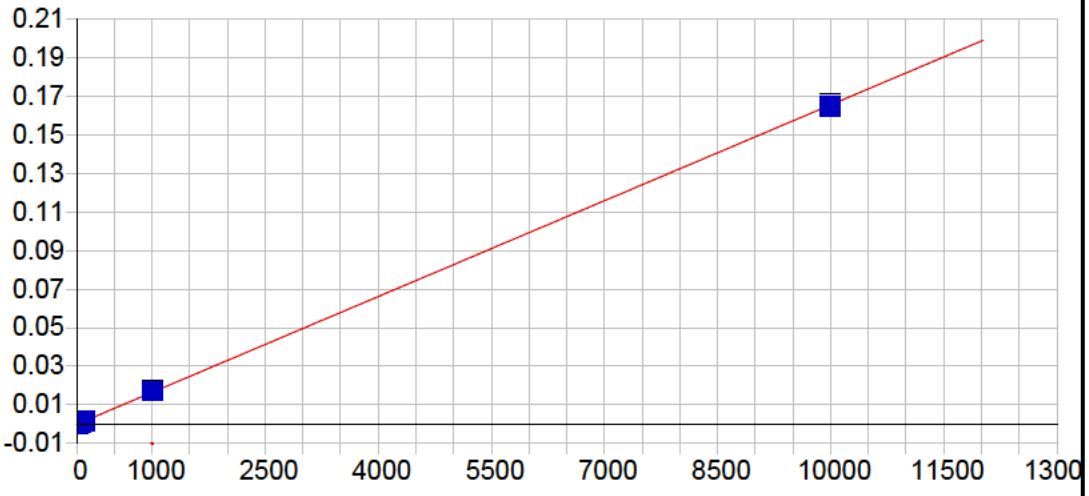



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.659772 | | |
| Predicted MQL: | 2.199241 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00701 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.8 | -41.2 | -.412 | .15867 | .001 | 1 |
| CalStd8=100 | 100.00 | 103.67 | 3.67 | 3.67 | .00165 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.6 | 37.6 | 3.76 | .01653 | .000 | 1 |

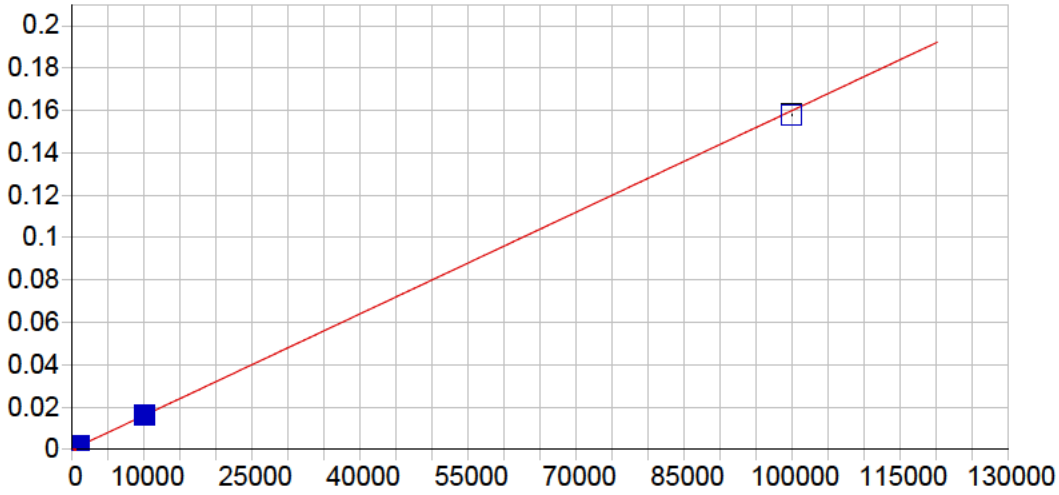



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000031 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999914 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.636840 | | |
| Predicted MQL: | 2.122800 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00042 | -.000 | .000 | -.00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.044 | .044 | .088 | .00080 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.998 | .998 | 9.98 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.76 | 3.76 | 3.76 | .00169 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0907 | .091 | 1.81 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.9 | 37.9 | 3.79 | .01714 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2347 | .235 | 23.5 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.0 | -43.0 | -.430 | .16501 | .001 | 1 |

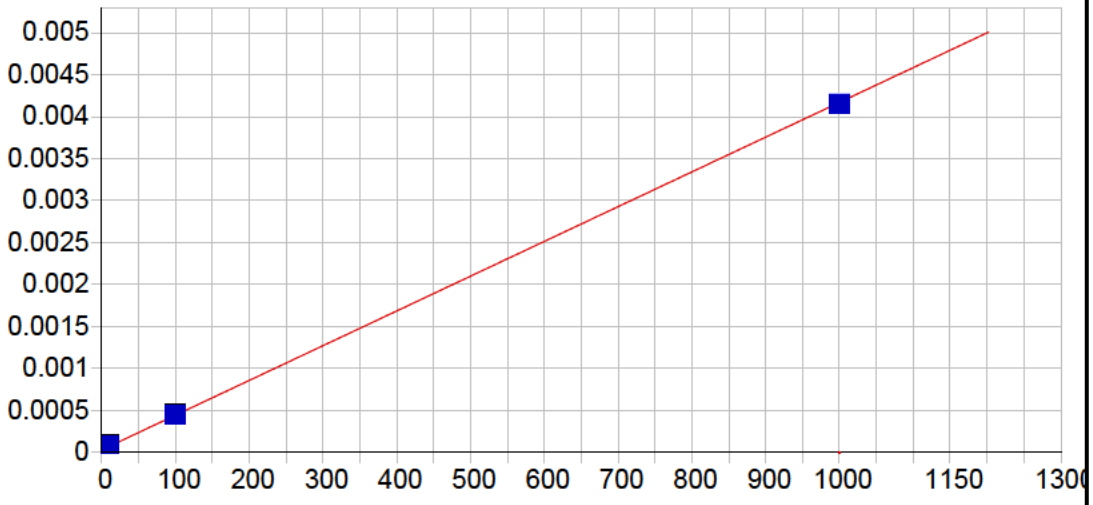



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999755 | Status: | OK. |
| Std Error of Est: | 0.000022 | | |
| Predicted MDL: | 5.202291 | | |
| Predicted MQL: | 17.340971 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1114 | -3.11 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1054.0 | 54.0 | 5.40 | .00170 | .000 | 1 |
| CalStd10=10 | 10000. | 10128. | 128. | 1.28 | .01620 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.27 | 1.27 | 1.27 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.5570 | -3.44 | -34.4 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 98862. | -1140. | -1.14 | .15805 | .000 | 1 |

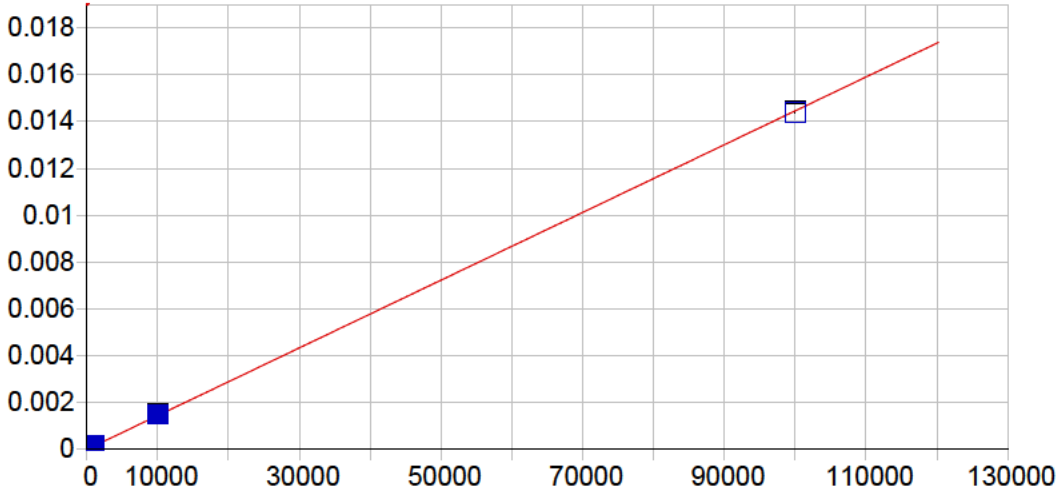



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999244 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.562058 | | |
| Predicted MQL: | 8.540192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00338 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.254 | 1.25 | 12.5 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.86 | .861 | .861 | .00045 | .000 | 1 |
| CalStd4=5 | 5.0000 | 7.7362 | 2.74 | 54.7 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.15 | -4.85 | -.485 | .00415 | .000 | 1 |

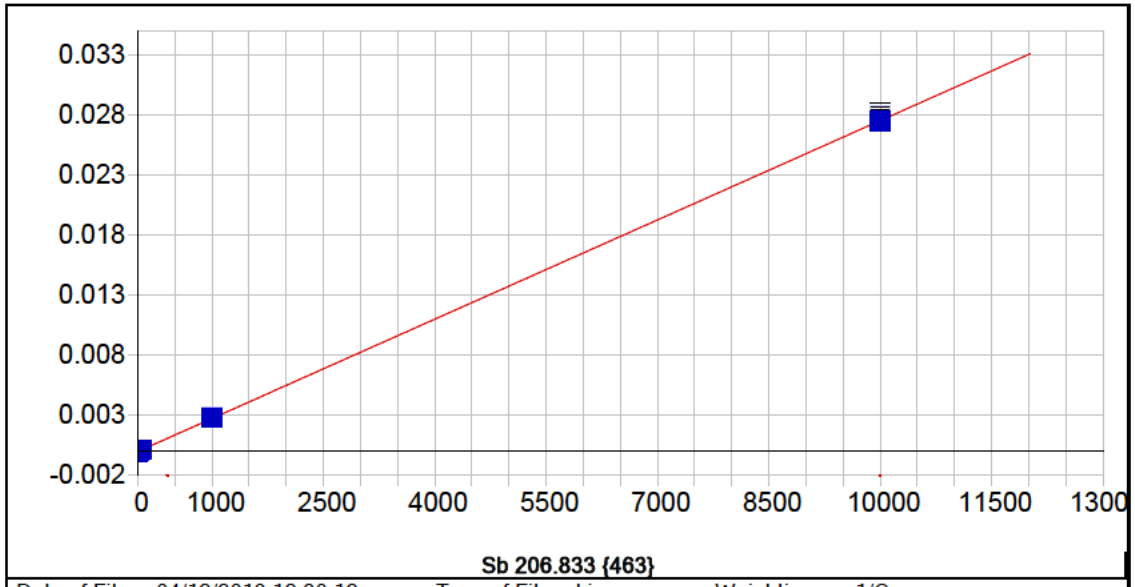



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.767648 | | |
| Predicted MQL: | 22.558828 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02275 | -.023 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1071.6 | 71.6 | 7.16 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 10350. | 350. | 3.50 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.53 | 12.5 | 12.5 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99566. | -434. | -.434 | .01440 | .000 | 1 |

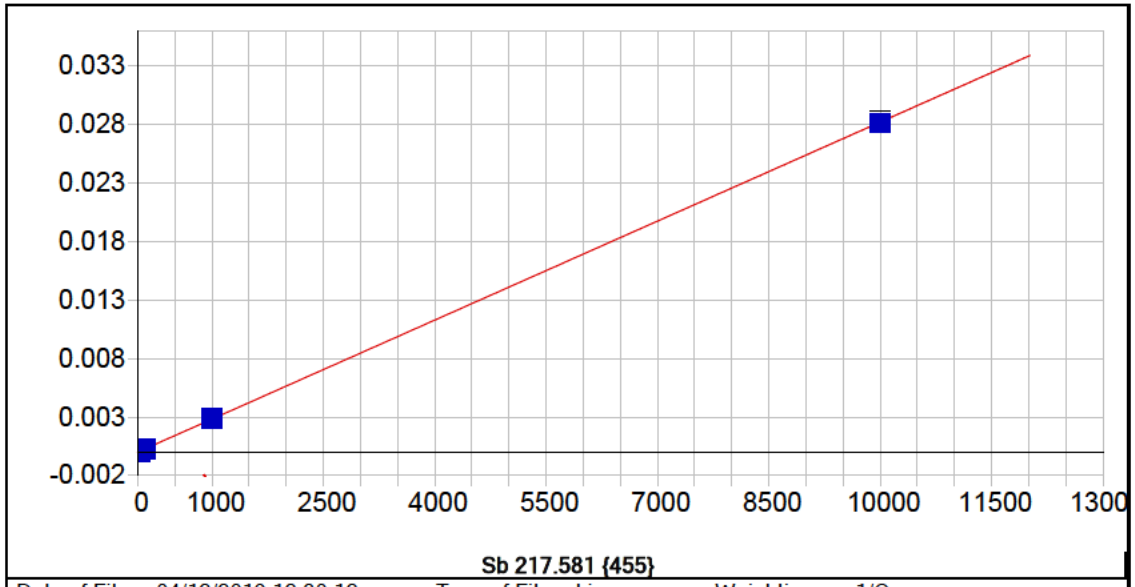



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.380937 | | |
| Predicted MQL: | 7.936456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00221 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.0 | 21.0 | 2.10 | .00285 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.803 | .803 | 1.61 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9976.3 | -23.7 | -.237 | .02795 | .000 | 1 |

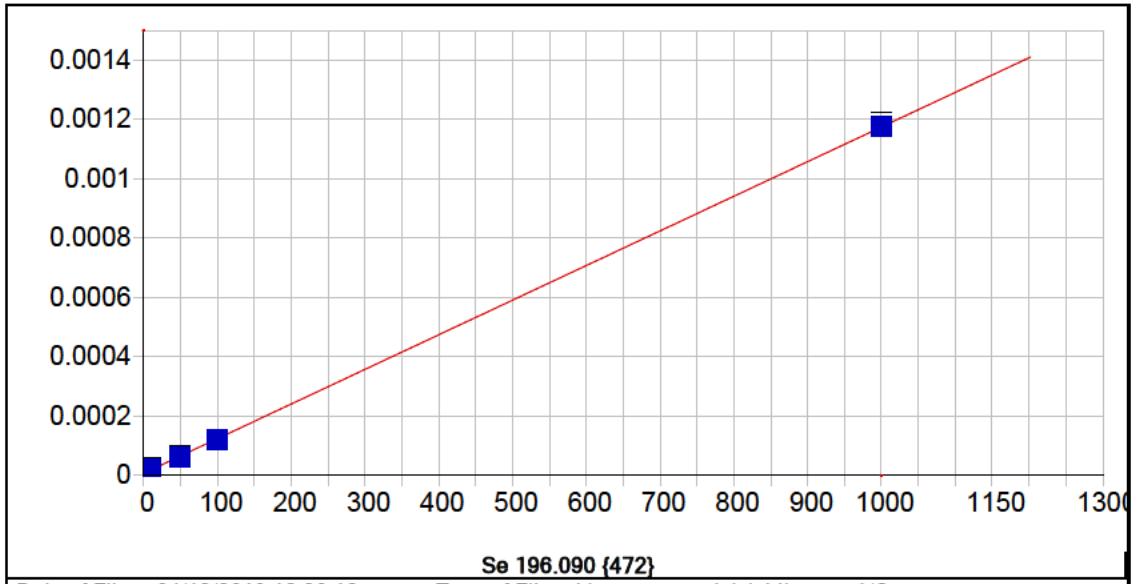



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999893 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.579773 | | |
| Predicted MQL: | 8.599243 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00385 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1024.5 | 24.5 | 2.45 | .00289 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.721 | 1.72 | 8.61 | .00006 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.974 | 2.97 | 29.7 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.61 | 1.61 | 1.61 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7418 | 1.74 | 34.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.4 | -32.6 | -.326 | .02809 | .000 | 1 |

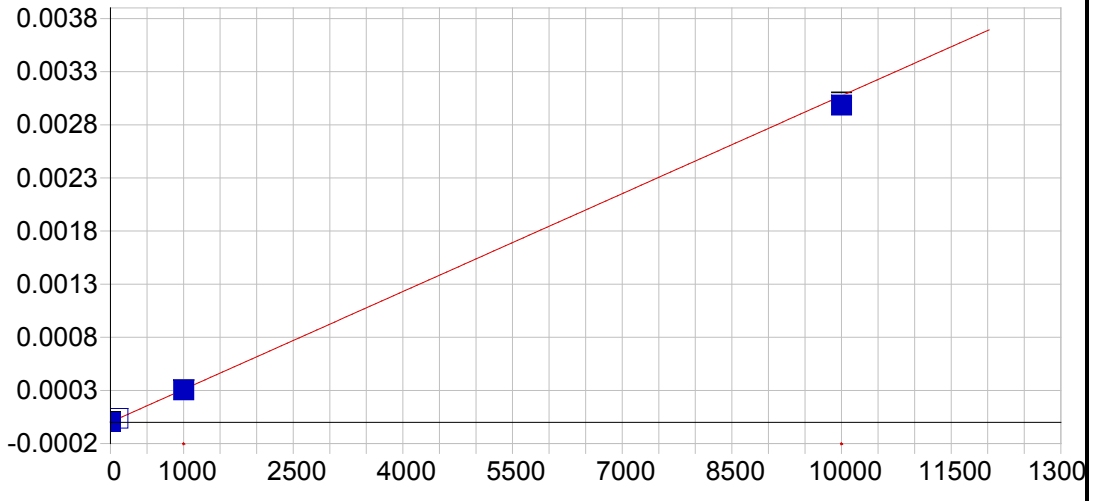



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999018 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.530040 | | |
| Predicted MQL: | 15.100132 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00354 | -.004 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.484 | -2.52 | -5.03 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.3 | 2.28 | .228 | .00118 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.441 | 4.44 | 44.4 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.794 | -4.21 | -4.21 | .00012 | .000 | 1 |

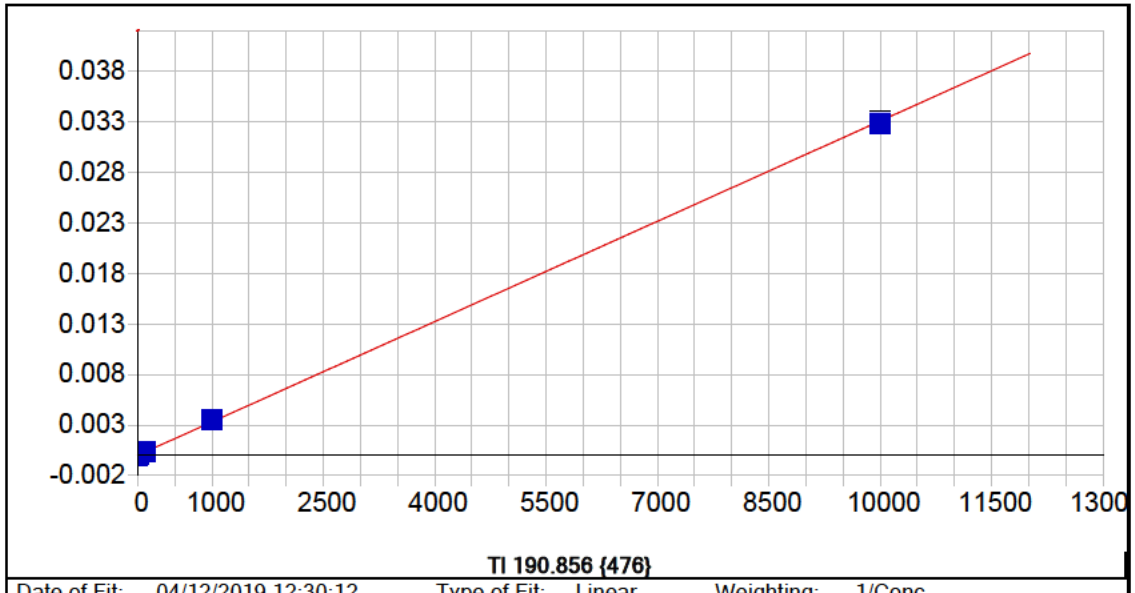



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999905 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.155478 | | |
| Predicted MQL: | 77.184928 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01194 | -.012 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.34 | -17.7 | -1.77 | .00030 | .000 | 1 |
| CalStd10=10 | 10000. | 9706.8 | -293. | -2.93 | .00299 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.37 | 13.4 | 13.4 | .00004 | .000 | 1 |

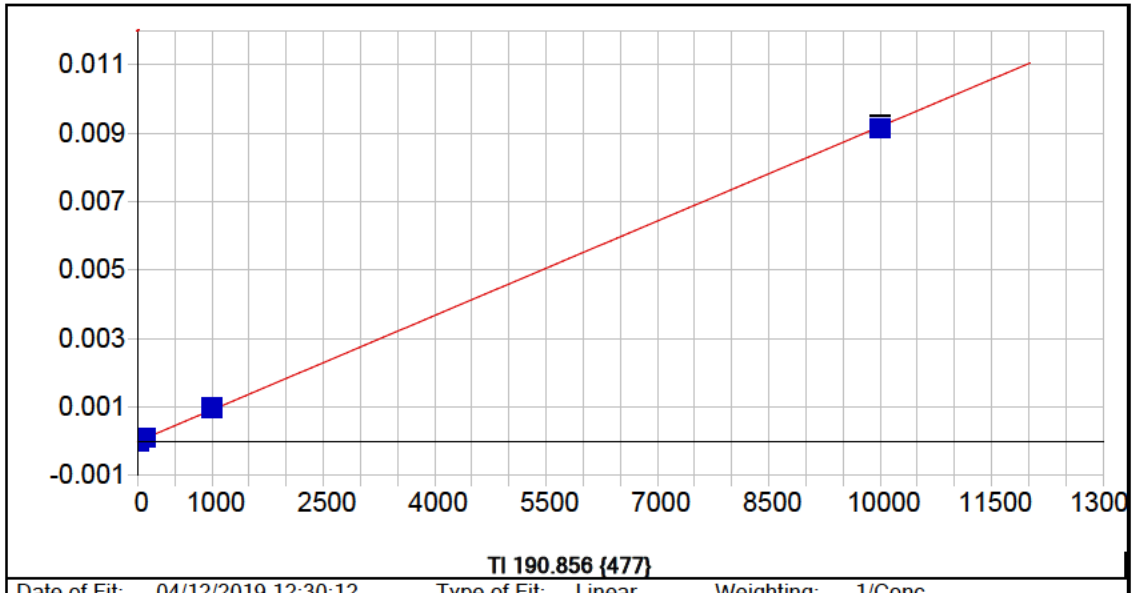



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999705 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.323578 | | |
| Predicted MQL: | 7.745262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00356 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.8 | 67.8 | 6.78 | .00354 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.89 | 9.89 | 9.89 | .00036 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.977 | 1.98 | 19.8 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9920.3 | -79.7 | -.797 | .03293 | .000 | 1 |

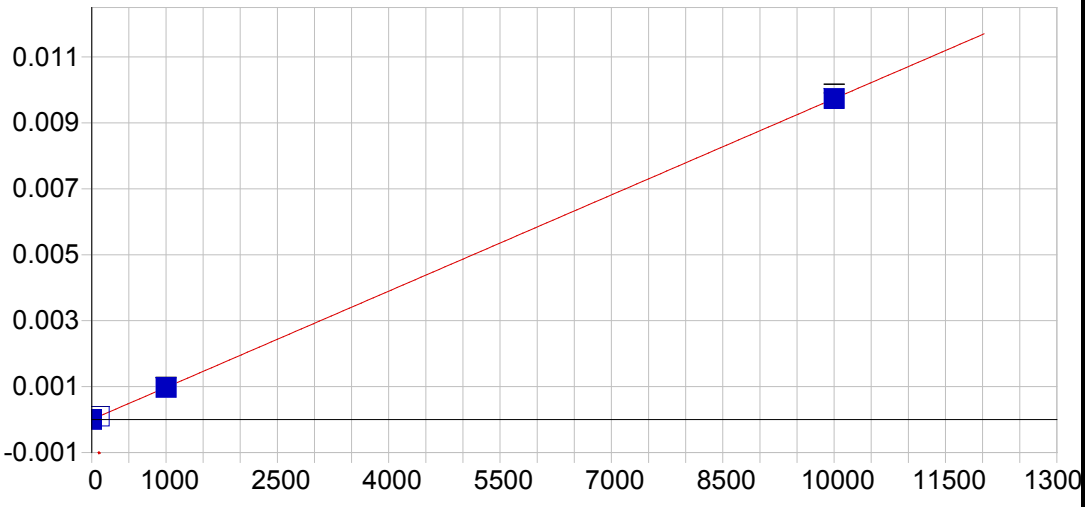



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999828 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.817160 | | |
| Predicted MQL: | 19.390533 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00108 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.9 | 52.9 | 5.29 | .00097 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7966 | -.203 | -2.03 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .00914 | .000 | 1 |

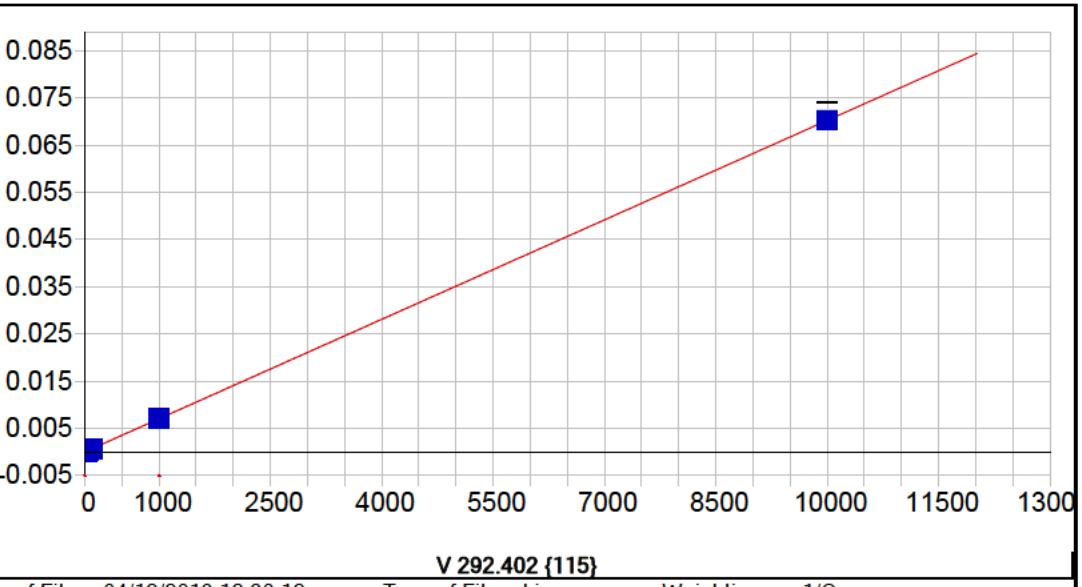



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.979888 | | |
| Predicted MQL: | 19.932959 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00253 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.69 | -5.31 | -.531 | .00097 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.27 | .023 | .00974 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.04 | 3.04 | 3.04 | .00010 | .000 | 1 |

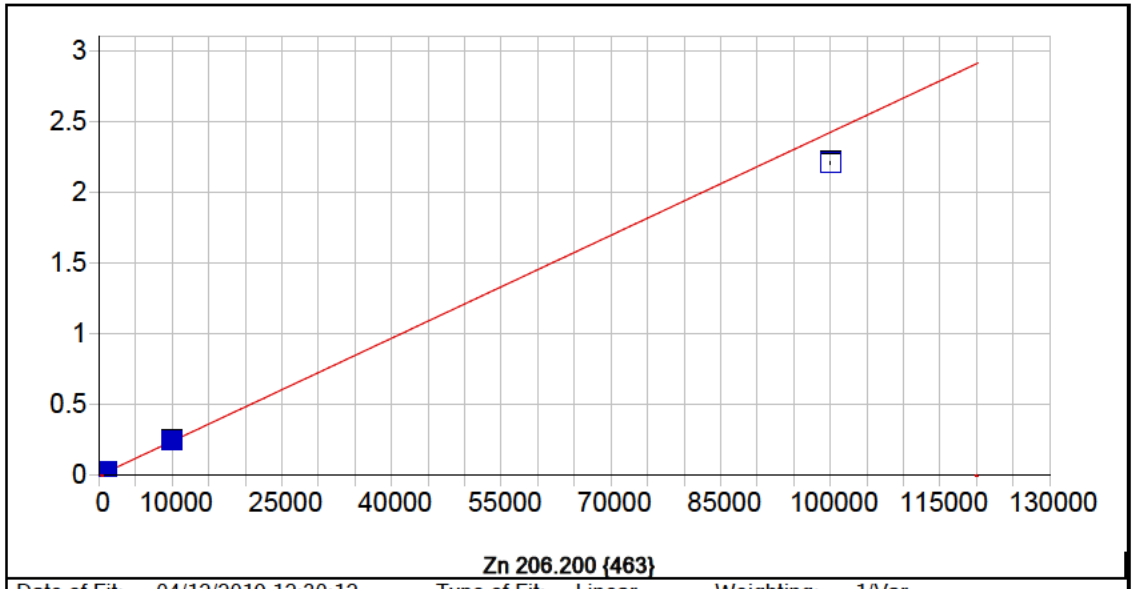



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.564743 | | |
| Predicted MQL: | 1.882477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.192 | -1.81 | -3.62 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.16 | .416 | .00705 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.266 | -.734 | -3.67 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.279 | .279 | 2.79 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.303 | -.697 | -.697 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 9998.8 | -1.20 | -.012 | .07046 | .002 | 1 |

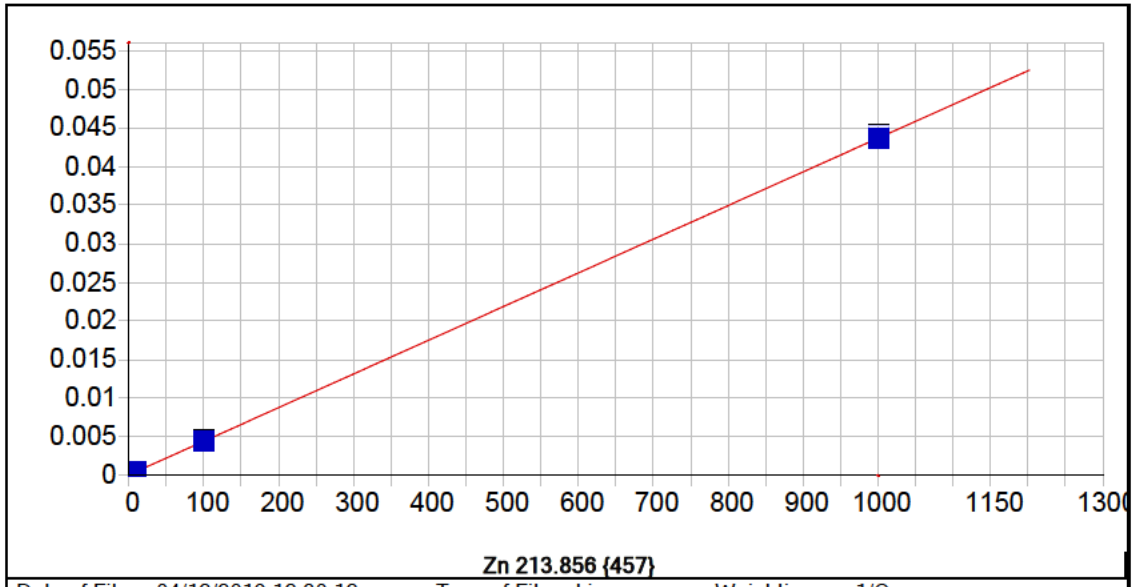



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000041 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997616 | Status: | OK. |
| Std Error of Est: | 0.000150 | | |
| Predicted MDL: | 0.362951 | | |
| Predicted MQL: | 1.209837 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10196. | 196. | 1.96 | .24704 | .002 | 1 |
| Blank | .00000 | -.53103 | -.531 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1057.2 | 57.2 | 5.72 | .02565 | .000 | 1 |
| CalStd12=10 | 100000. | 91151. | -8850. | -8.85 | 2.2081 | .007 | 1 |
| CalStd5=10 | 10.000 | 9.9077 | -.092 | -.923 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.31 | 5.31 | 5.31 | .00259 | .000 | 1 |

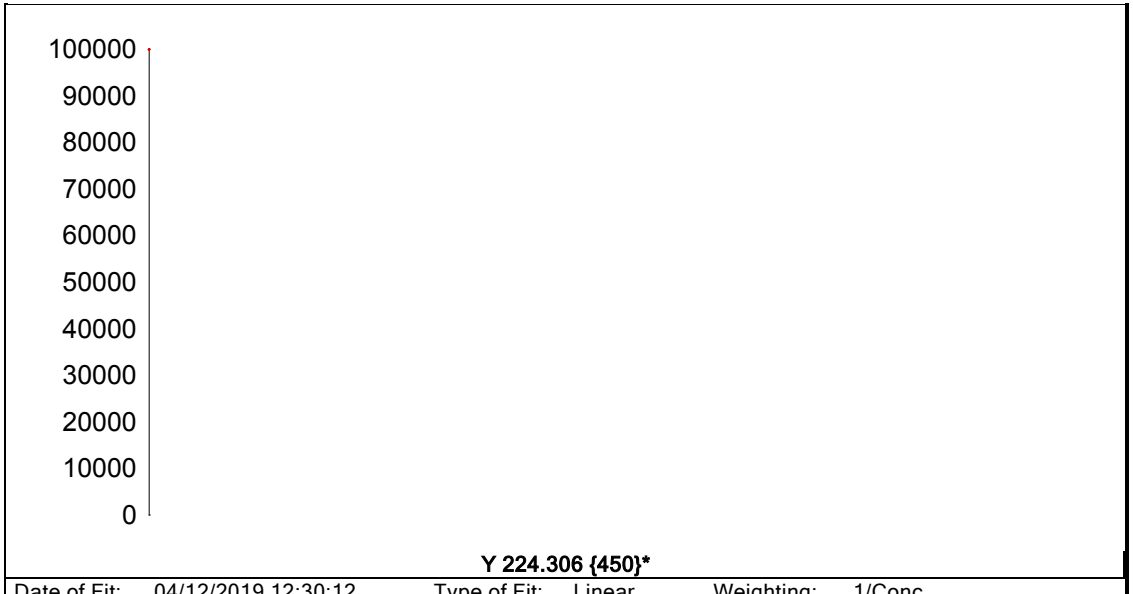



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000072 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.176452 | | |
| Predicted MQL: | 0.588174 | | |

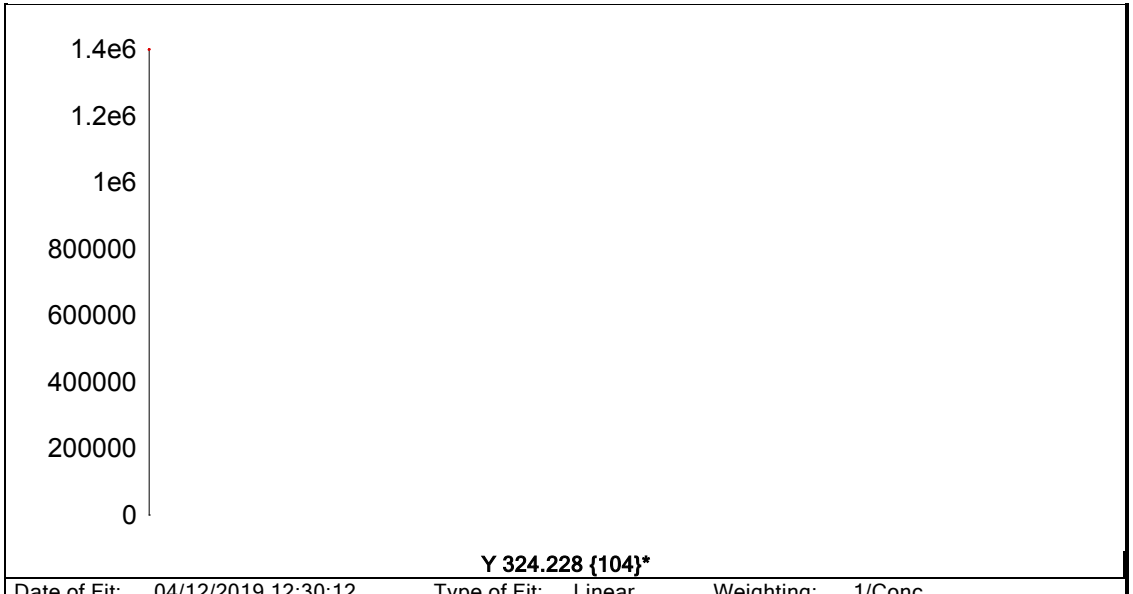
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.97 | -1.03 | -.103 | .04402 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.156 | .156 | 1.56 | .00052 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.87 | .871 | .871 | .00451 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

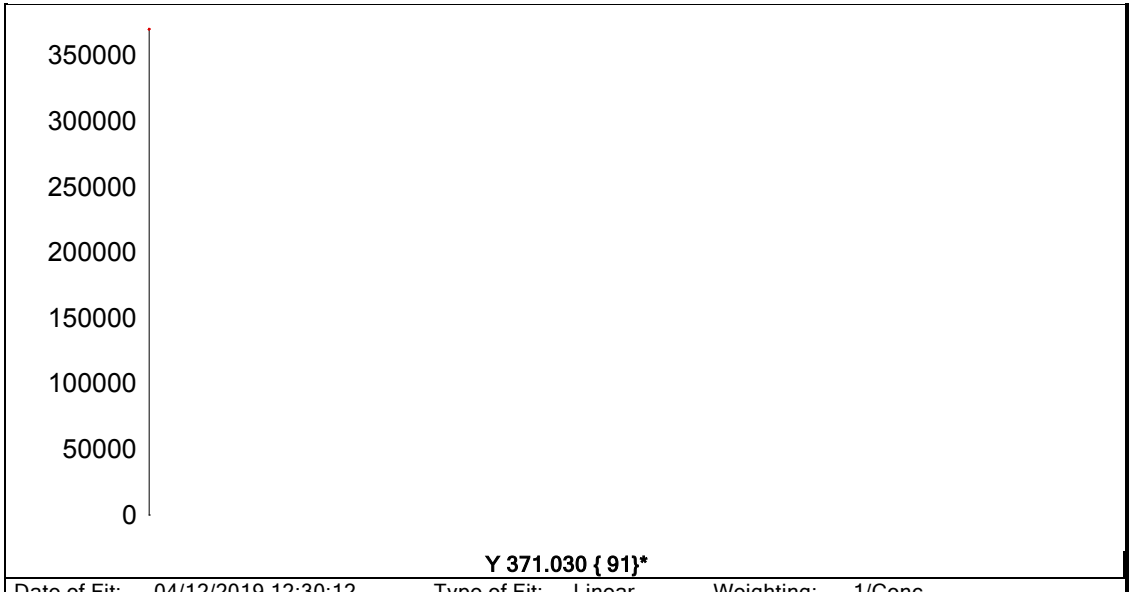
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 90406. | 120. | 1 |




**Y 324.228 {104}***

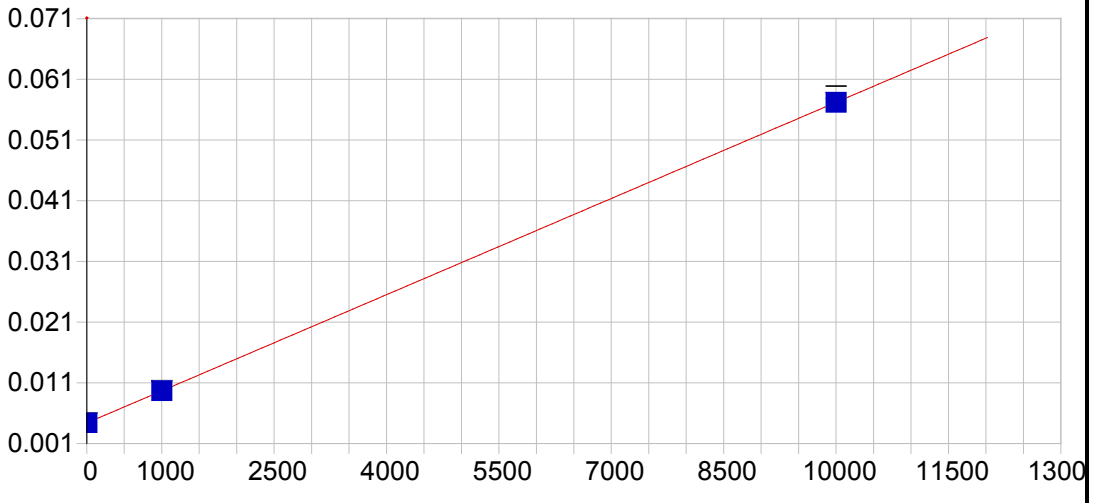
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1279400. | 28800. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 342950. | 3000. | 1 |

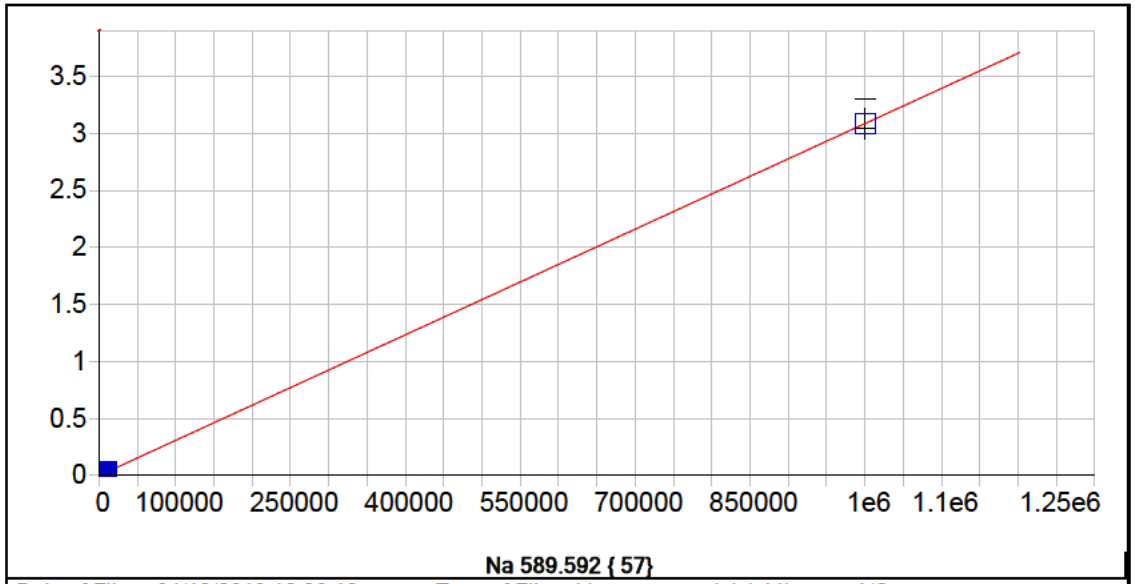



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004390 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 8.191976 | | |
| Predicted MQL: | 27.306587 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00217 | -.002 | .000 | .00439 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.4 | 2.41 | .241 | .00969 | .000 | 1 |
| CalStd10=10 | 10000. | 9997.6 | -2.41 | -.024 | .05721 | .001 | 1 |

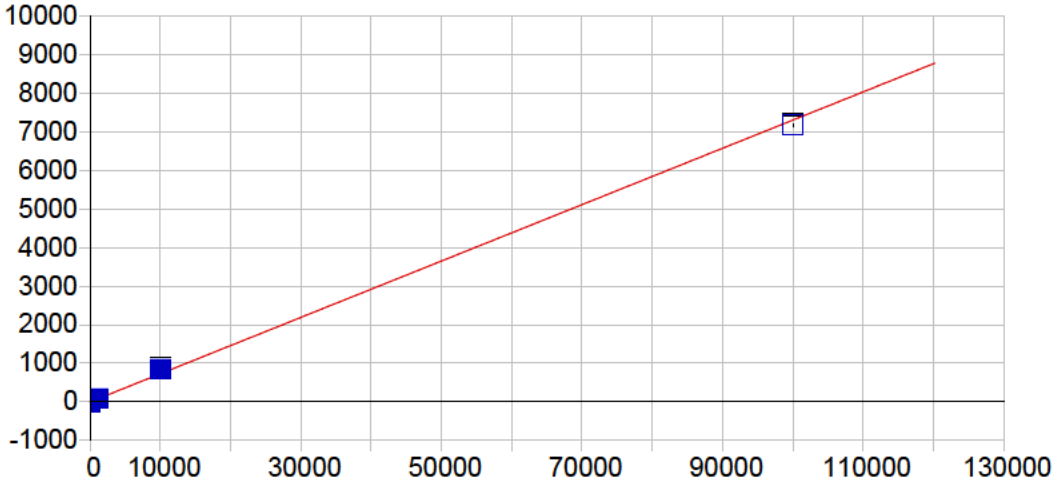



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 9.323428 | | |
| Predicted MQL: | 31.078092 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02539 | .025 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.31 | -23.7 | -2.37 | .00306 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.6 | -17.4 | -.174 | .03084 | .001 | 1 |
| CalibStd15= | 1000000. | 1000000. | 41.1 | .004 | 3.0844 | .129 | 1 |

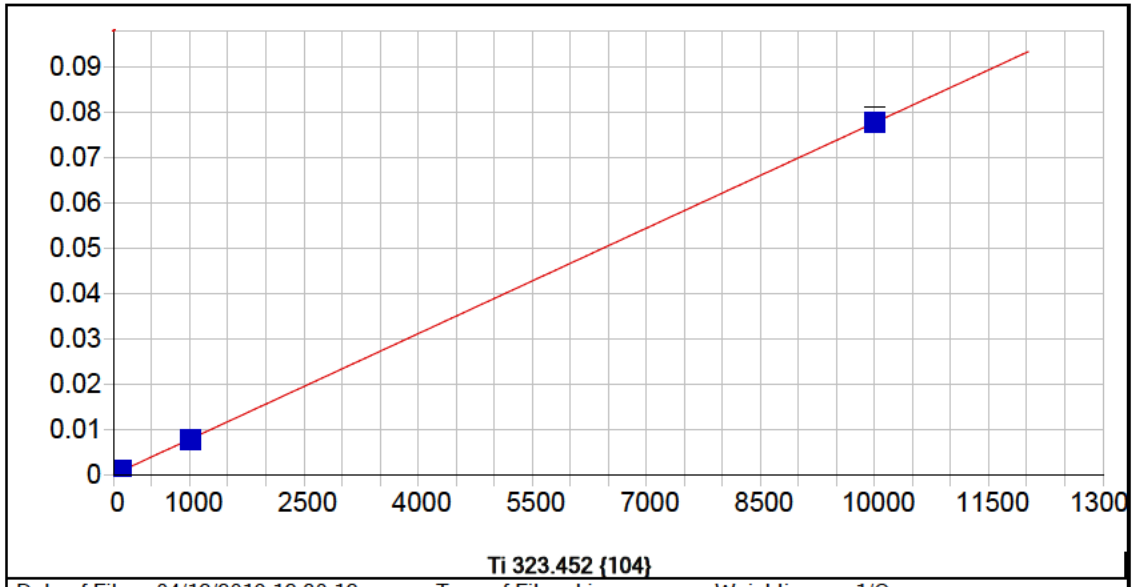



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.092998 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.072976 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998832 | Status: | OK. |
| Std Error of Est: | 1.671194 | | |
| Predicted MDL: | 19.062042 | | |
| Predicted MQL: | 63.540140 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.22814 | -.228 | .000 | .07635 | .463 | 1 |
| CalStd9=100 | 1000.0 | 1094.8 | 94.8 | 9.48 | 85.745 | 1.71 | 1 |
| CalStd10=10 | 10000. | 11501. | 1500. | 15.0 | 875.94 | 7.94 | 1 |
| CalibStd15= | 100000. | 98322. | -1680. | -1.68 | 7175.2 | 32.9 | 1 |

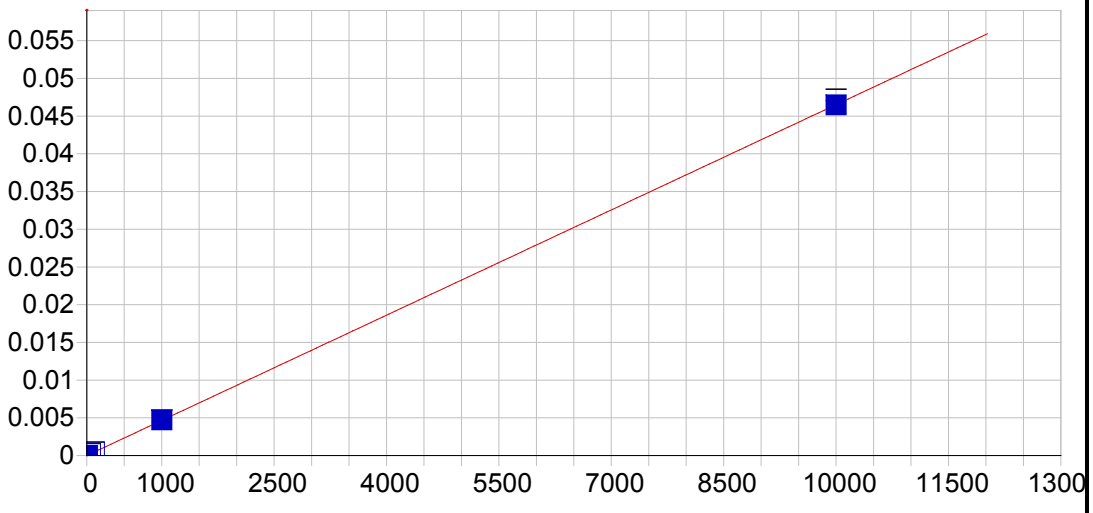



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000253 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.317547 | | |
| Predicted MQL: | 4.391824 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | .00025 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.697 | 2.70 | 27.0 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.74 | 1.74 | 1.74 | .00104 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.76 | -10.2 | -1.02 | .00792 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 4.82 | .048 | .07783 | .001 | 1 |
| CalStd7=50 | 50.000 | 50.460 | .460 | .921 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5203 | .520 | 10.4 | .00030 | .000 | 1 |

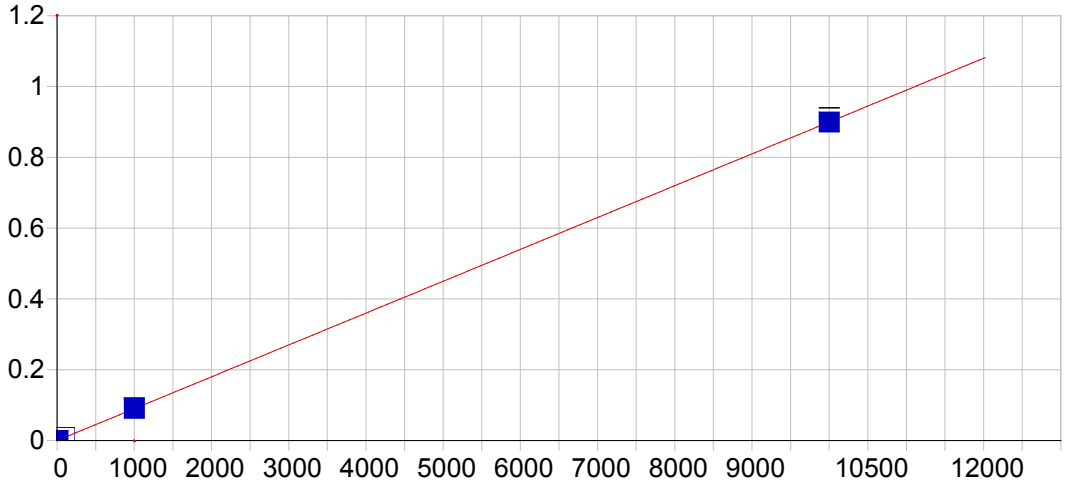



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.513558 | | |
| Predicted MQL: | 5.045195 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00009 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.669 | .669 | 6.69 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.12 | 1.12 | 1.12 | .00047 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | .00471 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.2 | -11.8 | -.118 | .04648 | .001 | 1 |
| CalStd7=50 | 50.000 | 49.425 | -.575 | -1.15 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5304 | -.470 | -9.39 | .00002 | .000 | 1 |

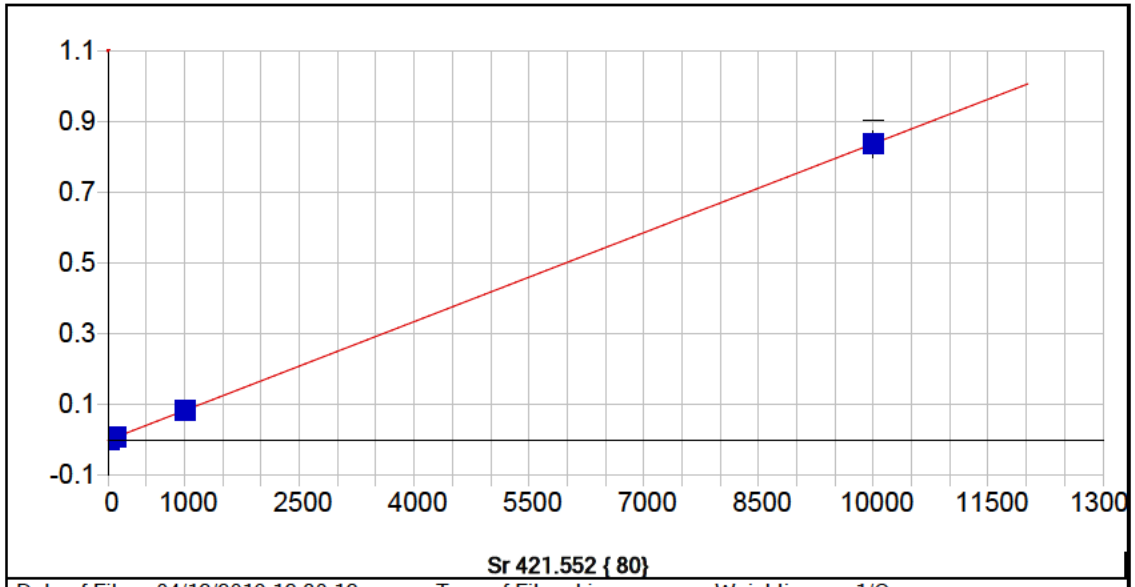



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.170987 | | |
| Predicted MQL: | 0.569955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00003 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .92247 | -.078 | -7.75 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9516 | -.048 | -.969 | .00051 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.411 | .411 | 4.11 | .00100 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.99 | .993 | .993 | .00915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.7 | 3.66 | .366 | .09041 | .001 | 1 |
| CalStd10=10 | 10000. | 9995.1 | -4.94 | -.049 | .89974 | .012 | 1 |

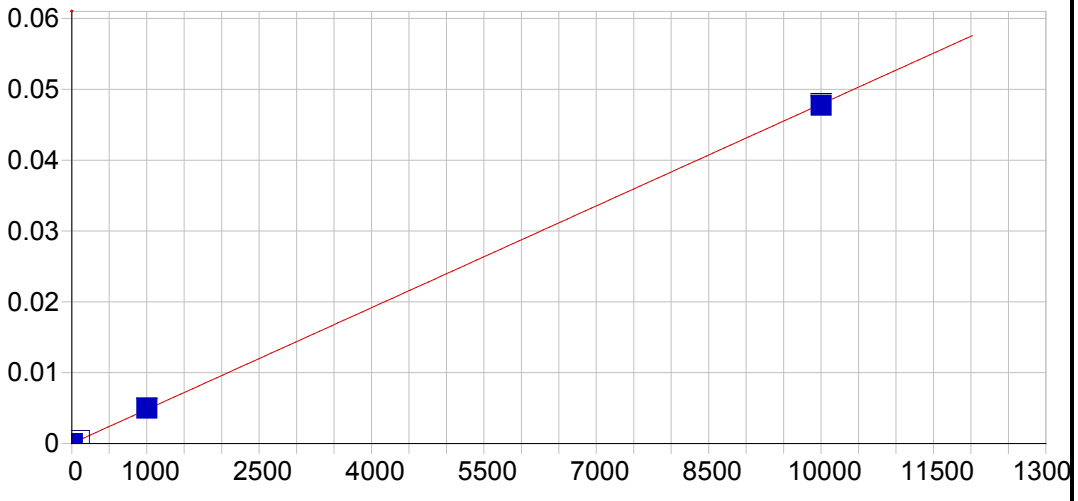



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000084 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.184340 | | |
| Predicted MQL: | 0.614467 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00001 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .81806 | -.182 | -18.2 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1857 | .186 | 3.71 | .00044 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.122 | 1.12 | 11.2 | .00094 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.11 | 2.11 | 2.11 | .00856 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.57 | -.428 | -.043 | .08369 | .001 | 1 |
| CalStd10=10 | 10000. | 9997.2 | -2.81 | -.028 | .83696 | .037 | 1 |

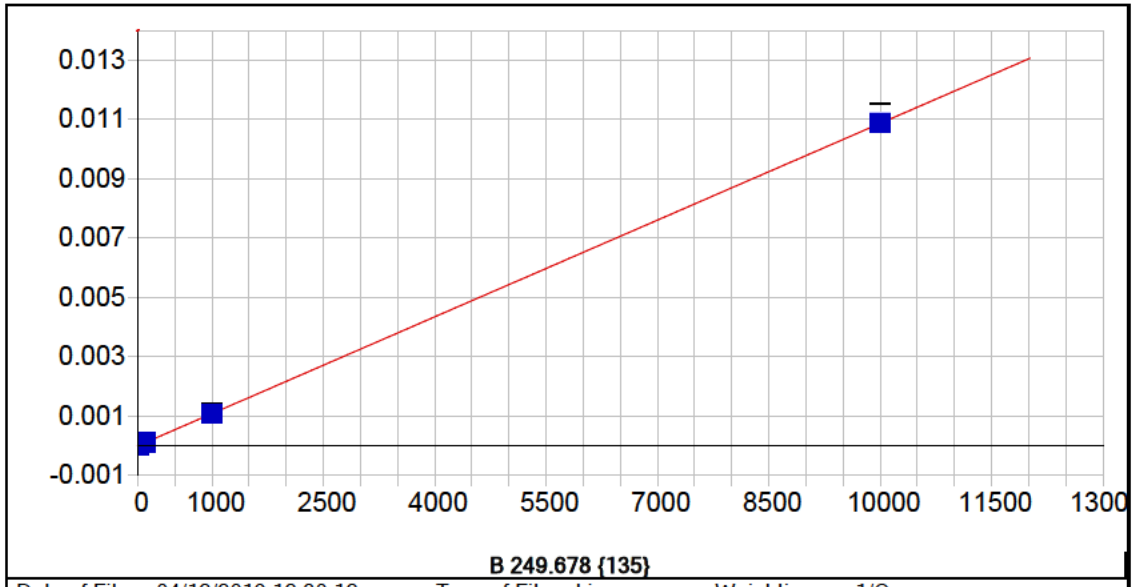



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999932 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.392712 | | |
| Predicted MQL: | 4.642373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00137 | -.001 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9962.8 | -37.2 | -.372 | .04774 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.7 | 35.7 | 3.57 | .00498 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.48 | .482 | .482 | .00050 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.006 | 1.01 | 10.1 | .00007 | .000 | 1 |

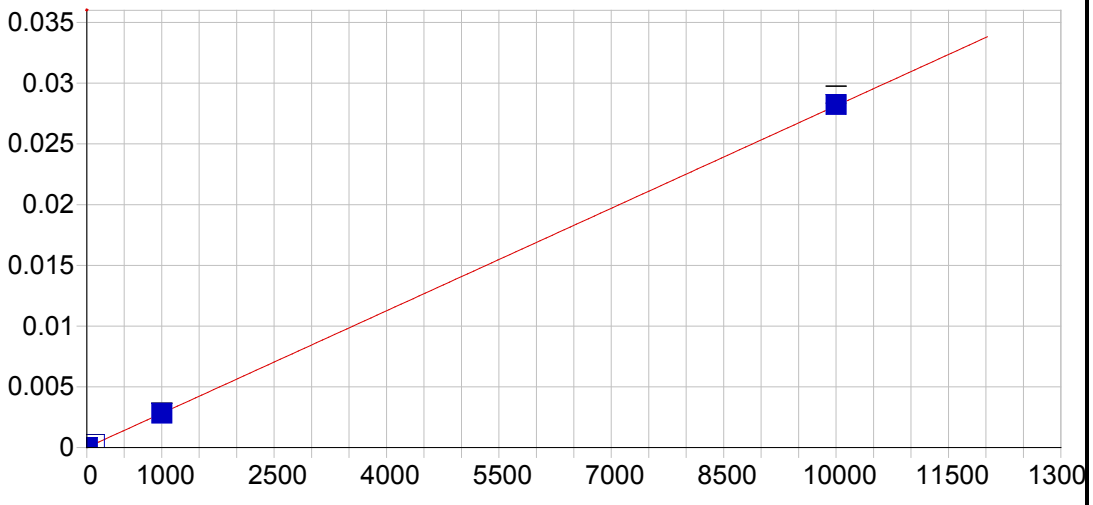



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.807993 | | |
| Predicted MQL: | 6.026642 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00158 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.865 | -.135 | -.135 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.651 | 1.65 | 16.5 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.32 | -5.68 | -.568 | .00109 | .000 | 1 |
| CalStd10=10 | 10000. | 10004. | 4.17 | .042 | .01092 | .000 | 1 |

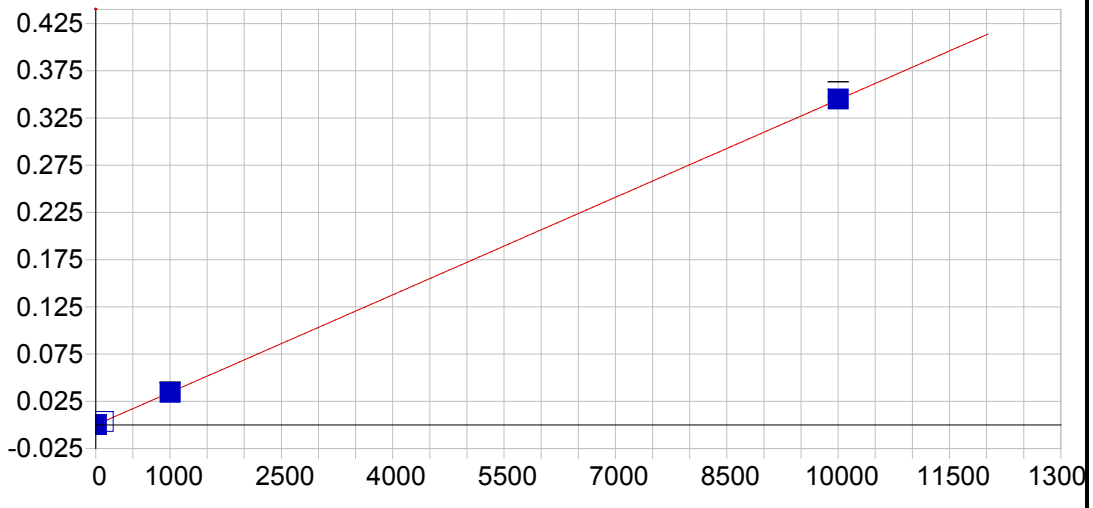



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.680433 | | |
| Predicted MQL: | 2.268110 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01088 | -.011 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.427 | -1.57 | -1.57 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.097 | .097 | .966 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.31 | .131 | .00282 | .000 | 1 |
| CalStd10=10 | 10000. | 10031. | 30.9 | .309 | .02824 | .001 | 1 |

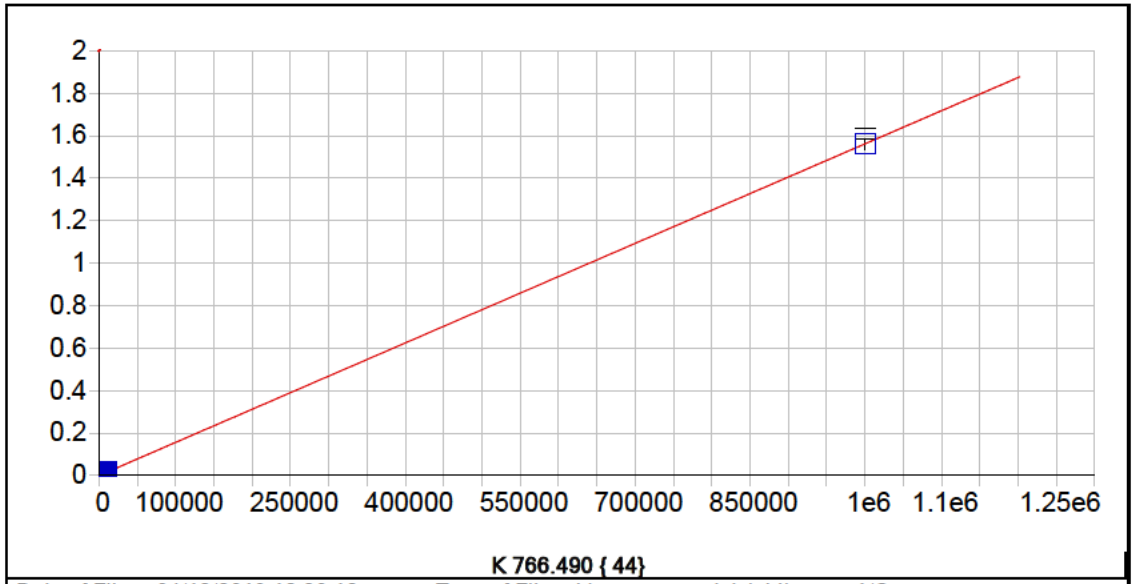



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 1.018434 | | |
| Predicted MQL: | 3.394779 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24804 | -.248 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.273 | .273 | 2.73 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.67 | .671 | .671 | .00347 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.33 | -3.67 | -.367 | .03431 | .000 | 1 |
| CalStd10=10 | 10000. | 10018. | 18.4 | .184 | .34500 | .008 | 1 |

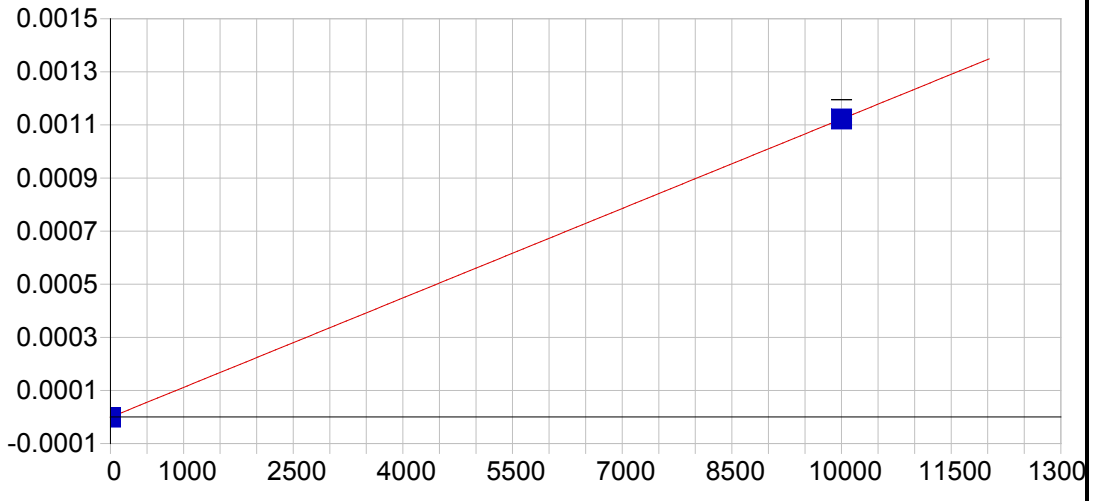



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 27.773860 | | |
| Predicted MQL: | 92.579535 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01771 | .018 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 978.29 | -21.7 | -2.17 | .00159 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.2 | .402 | .01573 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -18.5 | -.002 | 1.5615 | .025 | 1 |

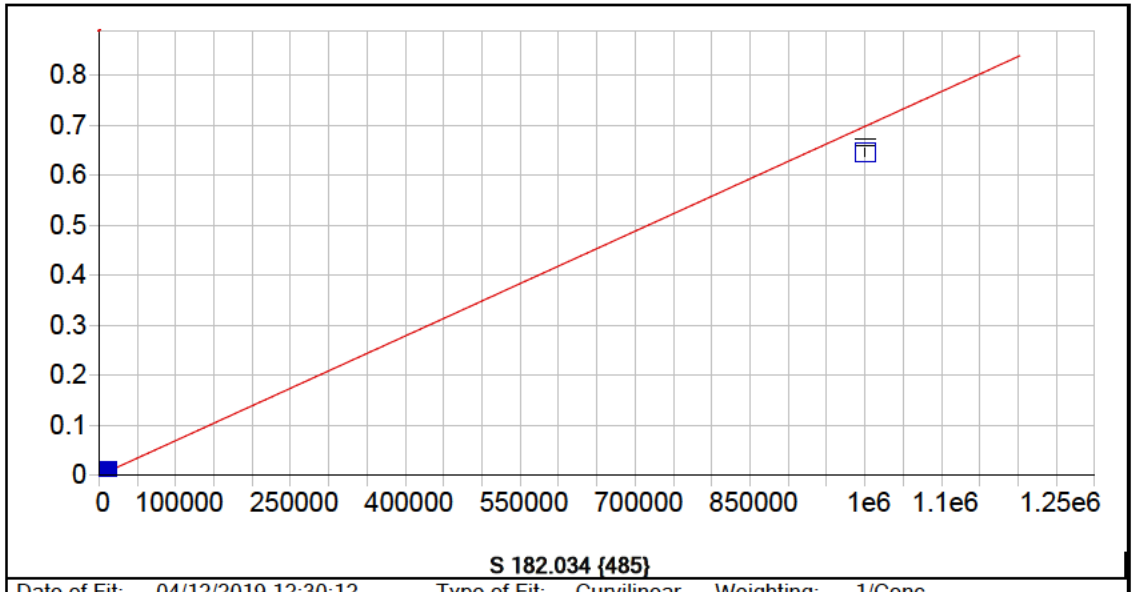



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.557307 | | |
| Predicted MQL: | 15.191024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00112 | .000 | 1 |

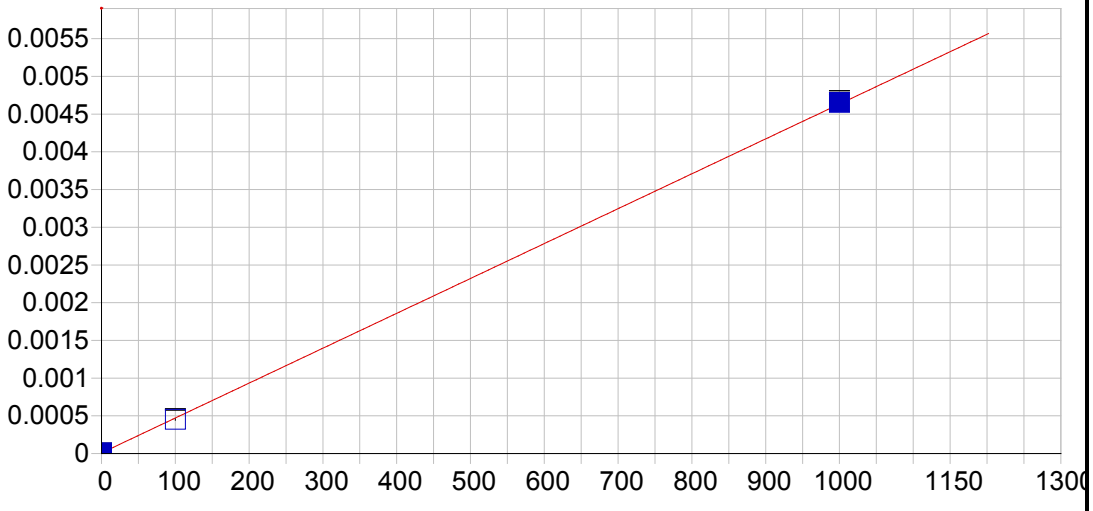



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.132317 | | |
| Predicted MQL: | 20.441056 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00127 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.51 | -1.49 | -.149 | .00071 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.0 | -6.04 | -.060 | .00700 | .000 | 1 |
| CalibStd15= | 1000000. | 925340. | -74700. | -7.47 | .64607 | .007 | 1 |

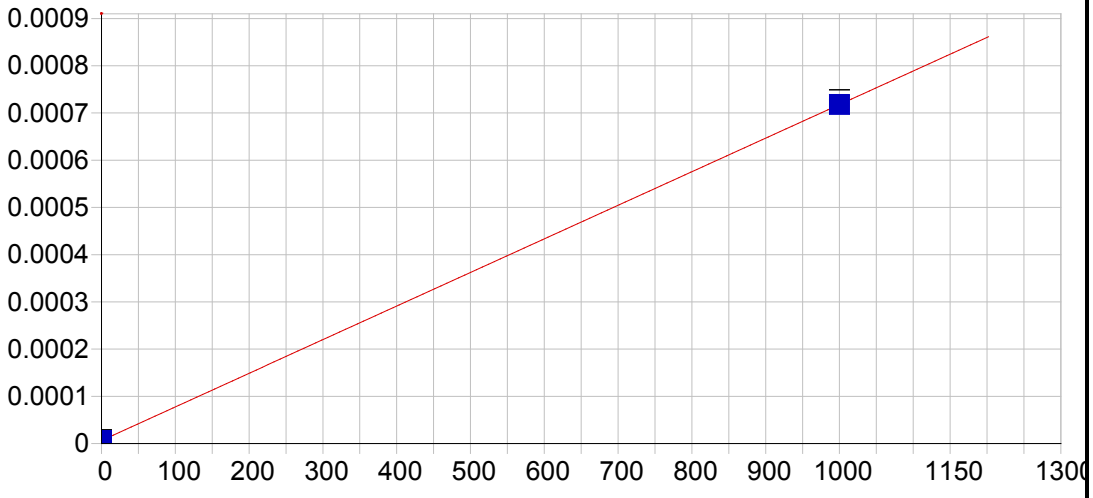



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999910 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.117100 | | |
| Predicted MQL: | 3.723667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00381 | .004 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.765 | -4.24 | -4.24 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.24 | .424 | .00465 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.843516 | | |
| Predicted MQL: | 72.811721 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00072 | .000 | 1 |

Sample Name: Blank Acquired: 04/03/2019 14:05:25 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.000** | **-.000** | **-.000** | **.009** | **-.000** | **.000** | **.000** | **.022** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .003 | .000 |
| %RSD | 24.8 | 6.66 | 10.8 | 538. | 45.7 | 2350. | .636 | 6.42 | 25.7 | 7.14 | 11.4 | 27.9 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **199.** | **7.28** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 3. | 1.90 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 24.5 | 155. | 59.7 | 86.6 | 77.4 | 1.39 | 26.1 | 1.89 | 73.0 | 24.9 | 51.8 | 4.55 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 84.5 | 173. | 43.7 | 1730. | 20.7 | 68.6 | 40.4 | 78.4 | 875. | 37.3 | 278. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 571. | 429. | 109. | 20.8 | 7.53 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90406.** | **1279400.** | **342950.** |
| Stddev | 120. | 28809. | 2998. |
| %RSD | .13307 | 2.2518 | .87414 |

Sample Name: CalStd2=0.5 Acquired: 04/03/2019 14:11:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 55.7 | 76.6 | 17.0 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **90922.** | **1301600.** |
| Stddev | 436. | 1985. |
| %RSD | .47910 | .15254 |

Sample Name: CalStd3=1 Acquired: 04/03/2019 14:17:55 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.4 | 31.8 | 5.58 | 18.1 | 1.18 | 20.2 | 45.3 | 28.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91336.** | **1305800.** | **337010.** |
| Stddev | 382. | 3154. | 3855. |
| %RSD | .41843 | .24150 | 1.1440 |

Sample Name: CalStd4=5 Acquired: 04/03/2019 14:24:11 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.3** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 4.1 | .000 | .000 | .000 | .000 |
| %RSD | 3.10 | 1.34 | 1.95 | 2.35 | 5.59 | 10.4 | 6.47 | 39.5 | 1.37 | 9.35 | 2.31 | 9.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 16.0 | 28.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91987.** | **1303700.** | **333570.** |
| Stddev | 432. | 1881. | 9363. |
| %RSD | .46942 | .14428 | 2.8070 |

Sample Name: CalStd5=10 Acquired: 04/03/2019 14:30:26 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** | **204.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3. |
| %RSD | 2.33 | 4.01 | 43.7 | 2350. | 3.80 | .489 | .588 | 1.41 | 2.86 | 3.57 | 6.49 | 1.28 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **16.0** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 17.1 | 1.51 | 3.02 | 7.48 | 1.36 | 18.4 | 15.0 | 14.9 | 13.9 | 13.4 | 23.8 | 2.83 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.001** |
| Stddev | .000 | .000 |
| %RSD | 1.44 | 1.24 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91123.** | **1299600.** | **332850.** |
| Stddev | 264. | 10600. | 2007. |
| %RSD | .28932 | .81569 | .60289 |

Sample Name: CalStd6=20 Acquired: 04/03/2019 14:36:43 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **212.** | **18.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 3. | 2.8 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.23 | 1.24 | 15.2 | 1.47 | 1.85 | 5.06 | 5.09 | 2.74 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90653.** | **1313200.** | **339920.** |
| Stddev | 69. | 24223. | 5797. |
| %RSD | .07648 | 1.8446 | 1.7053 |

Sample Name: CalStd7=50 Acquired: 04/03/2019 14:42:54 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.002** | **.003** | **.001** | **.001** | **.000** | **235.** | **29.7** | **.000** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1. | 2.7 | .000 | .000 |
| %RSD | 3.96 | 8.74 | 4.48 | .384 | .244 | .749 | .190 | 2.61 | .414 | 9.06 | .777 | 1.56 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.76 | .992 | 3.52 | 7.93 | .901 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90317.** | **1297000.** | **335950.** |
| Stddev | 200. | 7789. | 4440. |
| %RSD | .22163 | .60054 | 1.3215 |

Sample Name: CalStd8=100 Acquired: 04/03/2019 14:49:03 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.001** | **.013** | **.005** | **.000** | **.020** | **.003** | **.006** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.26 | 1.51 | 5.03 | 1.19 | 1.36 | 3.00 | 2.24 | 2.59 | 2.43 | .787 | .588 | 1.30 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **284.** | **54.2** | **.003** | **.001** | **.001** | **.001** | **.002** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 5. | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.83 | .968 | 1.45 | 1.60 | 5.44 | 2.28 | 2.26 | 1.42 | .802 | 1.17 | .757 | 2.09 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.003** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.24 | 2.34 | 1.42 | 7.13 | 1.65 | 4.80 | 2.48 | 1.14 | .870 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90096.** | **1281700.** | **333110.** |
| Stddev | 318. | 34678. | 9032. |
| %RSD | .35306 | 2.7055 | 2.7113 |

Sample Name: CalStd9=1000 Acquired: 04/03/2019 14:55:12 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.001** | **.001** | **.001** | **.014** | **.049** | **.054** | **.003** | **.000** | **.166** | **.034** | **.062** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .244 | 1.88 | .693 | 1.69 | .225 | 1.03 | .572 | 1.32 | 1.49 | 1.20 | .116 | .126 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.030** | **.002** | **.017** | **.002** | **1080.** | **460.** | **.000** | **.000** | **.001** | **.000** | **.027** | **.009** |
| Stddev | .000 | .000 | .000 | .000 | 12. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .281 | .654 | .256 | .580 | 1.07 | 1.25 | .811 | 1.38 | 1.26 | 7.07 | .594 | .537 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.012** | **.007** | **.017** | **.017** | **.002** | **.004** | **.003** | **.003** | **.001** | **.000** | **.004** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.07 | .135 | .075 | .350 | .296 | .696 | .329 | .362 | .370 | 1.17 | 1.22 | .533 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.026** | **.044** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .731 | .555 | .244 | .137 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89178.** | **1290700.** | **340890.** |
| Stddev | 85. | 1862. | 1611. |
| %RSD | .09528 | .14429 | .47248 |

Sample Name: CalStd10=10000 Acquired: 04/03/2019 15:00:51 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.405** | **.003** | **.286** | **.021** | **.165** | **.021** | **8960.** | **4460.** | **.004** | **.003** |
| Stddev | .000 | .000 | .011 | .000 | .002 | .000 | .001 | .000 | 93. | 59. | .000 | .000 |
| %RSD | 2.04 | .615 | 2.62 | 1.25 | .602 | 2.29 | .722 | 2.23 | 1.03 | 1.33 | 2.22 | 1.19 |

| Elem | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.012** | **.000** | **.252** | **.087** | **.034** | **.072** | **.159** | **.165** | **.016** | **.028** | **.028** | **.003** |
| Stddev | .000 | .000 | .007 | .002 | .001 | .000 | .001 | .001 | .000 | .000 | .000 | .000 |
| %RSD | 1.30 | 2.26 | 2.95 | 2.24 | 1.58 | .659 | .669 | .638 | .645 | .681 | .810 | .813 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.033** | **.010** | **.070** | **.247** |
| Stddev | .000 | .000 | .002 | .002 |
| %RSD | .535 | 1.35 | 2.18 | .649 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87946.** | **1248500.** | **338940.** |
| Stddev | 455. | 36835. | 3085. |
| %RSD | .51701 | 2.9504 | .91020 |

Sample Name: CalStd12=100K  Acquired: 04/03/2019 15:07:24  Type: Cal
Method: DOD Calibration Updated 060614(v3294)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.47** | **84400.** | **43000.** | **.322** | **.158** | **2.21** |
| Stddev | .00 | 667. | 510. | .007 | .000 | .01 |
| %RSD | .246 | .791 | 1.18 | 2.32 | .298 | .337 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87399.** | **1271700.** | **338840.** |
| Stddev | 369. | 4886. | 4117. |
| %RSD | .42252 | .38418 | 1.2150 |

Sample Name: CalStd13=100000 Acquired: 04/03/2019 15:13:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.110** | **.032** | **.040** | **.030** | **.115** | **.004** |
| Stddev | .002 | .000 | .001 | .000 | .001 | .000 |
| %RSD | 1.39 | 1.48 | 1.38 | 1.58 | 1.30 | 1.57 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85755.** | **1246700.** | **334390.** |
| Stddev | 316. | 3104. | 5912. |
| %RSD | .36868 | .24898 | 1.7680 |

Sample Name: CalStd14=500000 Acquired: 04/03/2019 15:20:06 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.579** | **.159** | **.142** | **.535** | **.019** |
| Stddev | .009 | .002 | .001 | .006 | .000 |
| %RSD | 1.49 | .997 | .916 | 1.04 | 1.11 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **79215.** | **323820.** |
| Stddev | 268. | 2683. |
| %RSD | .33828 | .82857 |

Sample Name: CalibStd15=1000k Acquired: 04/03/2019 15:26:47 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.313** | **.268** | **.037** |
| Stddev | .01 | .001 | .001 | .000 |
| %RSD | 1.24 | .448 | .290 | .450 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **71185.** | **304600.** |
| Stddev | 647. | 2218. |
| %RSD | .90824 | .72828 |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.6** | **11400.** | **1990.** | **1990.** | **1900.** | **48.6** | **46.7** | **9890.** | **48.0** | **56.9** | **508.** | **196.** |
| Stddev | 1.5 | 79. | 13. | 13. | 12. | 1.0 | 1.7 | 44. | .3 | .5 | 4. | 3. |
| %RSD | 3.19 | .690 | .646 | .664 | .631 | 2.08 | 3.62 | .441 | .562 | .855 | .747 | 1.49 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **243.** | **252.** | **5140.** | **10000.** | **513.** | **506.** | **508.** | **501.** | **503.** | **491.** | **478.** | **501.** |
| Stddev | 6. | 13. | 24. | 99. | 9. | 3. | 3. | 3. | 4. | 7. | 2. | 5. |
| %RSD | 2.39 | 4.97 | .474 | .983 | 1.79 | .644 | .651 | .505 | .705 | 1.51 | .505 | .924 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **502.** | **1990.** | **2030.** | **469.** | **493.** | **510.** | **483.** |
| Stddev | 5. | 19. | 14. | 9. | 10. | 2. | 3. |
| %RSD | .954 | .957 | .666 | 1.90 | 2.09 | .466 | .699 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88846.** | **1266900.** | **348410.** |
| Stddev | 316. | 32909. | 1933. |
| %RSD | .35620 | 2.5976 | .55489 |

Sample Name: ICVLL Acquired: 04/03/2019 15:52:57 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **30.1** | **1160.** | **1180.** | **65.1** | **28.4** | **11.4** | **1470.** | **14.7** | **15.1** | **29.5** | **30.0** | **26.0** |
| Stddev | .9 | 6. | 19. | 4.8 | .2 | .2 | 35. | .3 | .2 | .2 | 1.3 | 4.5 |
| %RSD | 3.10 | .499 | 1.59 | 7.44 | .632 | 1.53 | 2.39 | 1.76 | 1.45 | .698 | 4.18 | 17.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **43.1** | **884.** | **1420.** | **32.2** | **29.7** | **29.3** | **32.4** | **62.6** | **65.9** | **61.9** | **29.2** | **29.0** |
| Stddev | 5.0 | 16. | 22. | .5 | .2 | .3 | 1.9 | 1.0 | 2.5 | 2.3 | .8 | .1 |
| %RSD | 11.7 | 1.77 | 1.56 | 1.56 | .655 | .944 | 5.70 | 1.63 | 3.83 | 3.69 | 2.70 | .380 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 30.0 | | | | | | | | | | | |
| Range | 20.0% | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88382.** | **1277700.** | **345540.** |
| Stddev | 413. | 5455. | 2447. |
| %RSD | .46689 | .42698 | .70812 |

Sample Name: icb Acquired: 04/03/2019 16:05:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.053** | **-1.45** | **2.96** | **-.150** | **.025** | **-27.7** | **.130** | **.033** | **.457** | **.931** | **8.55** | **1.49** |
| Stddev | .378 | .53 | 3.68 | .279 | .037 | .7 | .174 | .055 | .223 | .186 | 1.89 | 1.10 |
| %RSD | 716. | 36.5 | 124. | 186. | 144. | 2.46 | 134. | 167. | 48.9 | 20.0 | 22.1 | 73.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.732** | **-.076** | **-.001** | **.334** | **1.42** | **-.014** | **3.11** | **1.07** | **-.550** | **-.468** |
| Stddev | .058 | .119 | .297 | .563 | 2.84 | 2.48 | 2.26 | 1.50 | .340 | .099 |
| %RSD | 7.91 | 158. | 26900. | 168. | 200. | 17500. | 72.4 | 140. | 61.7 | 21.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89871.** | **1294600.** | **342360.** |
| Stddev | 216. | 5657. | 8297. |
| %RSD | .24065 | .43698 | 2.4236 |

Sample Name: MRL/LLOQ Acquired: 04/03/2019 16:11:32 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **11.4** | **386.** | **20.2** | **8.91** | **3.70** | **462.** | **4.91** | **4.83** | **9.86** | **10.2** | **9.30** | **282.** |
| Stddev | .5 | 2. | 2.5 | .62 | .05 | 15. | .15 | .08 | .48 | .5 | 9.28 | 3. |
| %RSD | 4.55 | .561 | 12.4 | 7.00 | 1.38 | 3.24 | 3.05 | 1.70 | 4.83 | 4.69 | 99.8 | .993 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **462.** | **9.94** | **9.85** | **9.86** | **10.7** | **21.7** | **20.7** | **21.1** | **9.29** | **9.96** |
| Stddev | 5. | .12 | .29 | .36 | 1.2 | .6 | 3.3 | 1.6 | .38 | .20 |
| %RSD | .973 | 1.22 | 3.00 | 3.62 | 11.4 | 2.56 | 15.9 | 7.39 | 4.12 | 1.99 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89155.** | **1289400.** | **342840.** |
| Stddev | 389. | 2710. | 4343. |
| %RSD | .43646 | .21015 | 1.2669 |

Sample Name: ICSA Acquired: 04/03/2019 16:17:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.504** | **547000.** | **-.250** | **-.747** | **-.035** | **530000.** | **1.23** | **-.075** | **.295** | **-.966** | **.002** |
| Stddev | .913 | 25100. | 9.22 | .784 | .170 | 8010. | 1.16 | .222 | .484 | 1.88 | 5.37 |
| %RSD | 181. | 4.58 | 3690. | 105. | 492. | 1.51 | 94.3 | 298. | 164. | 194. | 299000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **540000.** | **519000.** | **-4.02** | **-.349** | **-.210** | **1.31** | **-2.11** | **3.97** | **-4.38** | **10200.** | **-.325** |
| Stddev | 8910. | 7340. | .31 | .897 | 1.51 | 5.62 | 1.03 | 7.59 | 3.62 | 147. | 1.09 |
| %RSD | 1.65 | 1.41 | 7.81 | 257. | 719. | 428. | 49.0 | 191. | 82.7 | 1.45 | 336. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **79719.** | **1164100.** | **326960.** |
| Stddev | 256. | 8532. | 6010. |
| %RSD | .32061 | .73292 | 1.8383 |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **446.** | **535000.** | F **658.** | **571.** | **490.** | **471.** | **477.** | **522000.** | **516.** | **480.** | **482.** |
| Stddev | 3. | 15900. | 11. | 11. | 1. | 5. | 1. | 3840. | 1. | 1. | 4. |
| %RSD | .697 | 2.97 | 1.66 | 1.86 | .247 | 1.13 | .225 | .735 | .253 | .237 | .817 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 500. | | | | | | | | |
| Range | | | 20.0% | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **496.** | **516.** | **538000.** | **510000.** | **511.** | **496.** | **501.** | **464.** | **469.** | **449.** | **425.** |
| Stddev | 2. | 11. | 2870. | 4040. | 3. | 1. | 4. | 1. | 2. | 36. | 4. |
| %RSD | .380 | 2.06 | .534 | .792 | .606 | .223 | .836 | .219 | .364 | 8.08 | 1.01 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **513.** | **494.** | **477.** | **495.** | **504.** | **493.** | **498.** |
| Stddev | 3. | 3. | 5. | 5. | 2. | 4. | 2. | 2. |
| %RSD | .558 | .515 | .954 | .985 | .462 | .835 | .312 | .426 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **80242.** | **1169100.** | **327370.** |
| Stddev | 148. | 8653. | 2108. |
| %RSD | .18400 | .74012 | .64380 |

Sample Name: ccv1 Acquired: 04/04/2019 10:10:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **5100.** | **4810.** | **4710.** | **480.** | **5020.** | **495.** | **4830.** | **5110.** | **4900.** | **5510.** | **5100.** |
| Stddev | 3. | 120. | 22. | 15. | 3. | 17. | 2. | 22. | 20. | 14. | 331. | 27. |
| %RSD | .538 | 2.36 | .461 | .327 | .652 | .334 | .372 | .450 | .398 | .290 | 6.00 | .525 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4710.** | **4830.** | **4770.** | **4810.** | **4710.** | **4760.** | **4820.** | **5090.** |
| Stddev | 10. | 11. | 1. | 22. | 21. | 40. | 11. | 23. | 7. |
| %RSD | .202 | .227 | .012 | .457 | .435 | .855 | .230 | .478 | .147 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89772.** | **1276400.** | **341380.** |
| Stddev | 406. | 5001. | 1002. |
| %RSD | .45219 | .39180 | .29353 |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **482.** | **471.** | **477.** | **469.** | **473.** | **50.5** | **50.6** | **468.** | **50.2** | **52.1** | **481.** |
| Stddev | 1.1 | 3. | 4. | 6. | 2. | 5. | .2 | .6 | 7. | .3 | .2 | 1. |
| %RSD | 2.22 | .520 | .848 | 1.17 | .509 | 1.14 | .380 | 1.19 | 1.45 | .696 | .370 | .119 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **498.** | **504.** | **480.** | **470.** | **490.** | **466.** | **467.** | **489.** | **489.** | **487.** | **464.** |
| Stddev | 1. | 5. | 13. | 5. | 2. | 1. | 1. | 2. | . | 1. | 7. | 2. |
| %RSD | .283 | 1.08 | 2.48 | 1.14 | .357 | .168 | .247 | .454 | .080 | .277 | 1.39 | .350 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **476.** | **483.** | **502.** | **481.** | **473.** | **510.** | **476.** |
| Stddev | 3. | 4. | 2. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .674 | .810 | .400 | .669 | 1.09 | .476 | .331 | .142 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **92064.** | **1309300.** | **342930.** |
| Stddev | 461. | 1761. | 2615. |
| %RSD | .50117 | .13449 | .76242 |

Sample Name: ccb Acquired: 04/04/2019 10:22:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.248** | **-4.89** | **3.19** | **-.017** | **-.003** | **-27.9** | **-.103** | **.187** | **.409** | **.743** | **10.4** | **7.05** |
| Stddev | .682 | .63 | 2.44 | .334 | .037 | 2.0 | .145 | .127 | .182 | .658 | 2.0 | 7.33 |
| %RSD | 274. | 12.8 | 76.3 | 1930. | 1270. | 7.19 | 142. | 67.7 | 44.5 | 88.5 | 19.2 | 104. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **2.86** | **-3.04** | **.019** | **.965** | **.147** | **1.96** | **.817** | **1.11** | **2.01** | **-.455** | **-.487** |
| Stddev | 2.58 | .05 | .096 | .059 | .354 | 2.80 | 1.36 | 2.92 | .83 | .133 | .098 |
| %RSD | 90.1 | 1.71 | 494. | 6.12 | 241. | 142. | 167. | 262. | 41.4 | 29.3 | 20.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91996.** | **1307100.** | **343800.** |
| Stddev | 263. | 10823. | 3238. |
| %RSD | .28579 | .82800 | .94175 |

Sample Name: lcss71264 Acquired: 04/04/2019 10:54:44 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **101.** | **675.** | **1960.** | **2020.** | **163.** | **172.** | **-.090** | **19600.** | **.222** | **8.90** | **2.19** | **114.** |
| Stddev | 1. | 8. | 9. | 13. | 1. | 7. | .027 | 371. | .101 | .25 | .22 | . |
| %RSD | .635 | 1.14 | .436 | .630 | .874 | 3.80 | 30.6 | 1.89 | 45.6 | 2.80 | 9.91 | .409 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **95.6** | **99.2** | **9970.** | **6510.** | **2060.** | **2190.** | **2.48** | **28.5** | **18.9** | **2.63** | **5.54** | **3.19** |
| Stddev | 4.2 | 6.7 | 265. | 116. | 4. | 41. | .45 | .5 | 4.1 | .86 | 3.56 | 1.68 |
| %RSD | 4.39 | 6.79 | 2.66 | 1.78 | .170 | 1.87 | 18.1 | 1.89 | 21.5 | 32.7 | 64.3 | 52.8 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.867** | **109.** |
| Stddev | .074 | . |
| %RSD | 8.54 | .457 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **92595.** | **1306200.** | **334620.** |
| Stddev | 125. | 4532. | 4446. |
| %RSD | .13493 | .34693 | 1.3287 |

Sample Name: mbs71264 Acquired: 04/04/2019 11:01:21 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.8** | **2330.** | **10.1** | **436.** | **455.** | **-.128** | **34000.** | **-.098** | **.703** | **2.46** | **79.0** | **57.4** |
| Stddev | .5 | 19. | 4.7 | 1. | 3. | .009 | 353. | .144 | .095 | .21 | 1.2 | 3.3 |
| %RSD | .657 | .796 | 46.9 | .241 | .654 | 7.12 | 1.04 | 147. | 13.6 | 8.48 | 1.50 | 5.82 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **70.6** | **17600.** | **7700.** | **246.** | **2.11** | **20.8** | **40.1** | **1.84** | **9.89** | **1.19** | **3.86** | **157.** |
| Stddev | 3.8 | 128. | 33. | 2. | .11 | .5 | 1.0 | 2.45 | .70 | 3.27 | .52 | . |
| %RSD | 5.40 | .726 | .428 | .895 | 5.15 | 2.53 | 2.44 | 133. | 7.05 | 274. | 13.4 | .191 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90399.** | **1276600.** | **327690.** |
| Stddev | 69. | 6114. | 1917. |
| %RSD | .07669 | .47891 | .58503 |

Sample Name: 254964 Acquired: 04/04/2019 11:07:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.47** | **335000.** | **1510.** | **1470.** | **2330.** | **12.9** | **59800.** | **3.26** | **10.8** | **227.** | **544.** |
| Stddev | .58 | 1870. | 7. | 21. | 17. | .0 | 558. | .45 | .2 | 1. | 3. |
| %RSD | 23.5 | .559 | .485 | 1.41 | .715 | .320 | .934 | 13.8 | 2.30 | .459 | .560 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **609.** | **618.** | **544000.** | **37300.** | **13600.** | **20.4** | **408.** | **393.** | **1540.** | **-2.04** | **16.8** |
| Stddev | 11. | 15. | 4250. | 307. | 82. | .4 | 2. | 1. | 9. | 4.43 | 6.2 |
| %RSD | 1.72 | 2.46 | .781 | .824 | .605 | 2.16 | .391 | .145 | .584 | 217. | 37.1 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.5** | **832.** | **860.** | **2120.** |
| Stddev | 2.3 | 2. | 3. | 6. |
| %RSD | 4.85 | .289 | .365 | .300 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89100.** | **1251400.** | **331540.** |
| Stddev | 268. | 2546. | 1935. |
| %RSD | .30049 | .20347 | .58364 |

Sample Name: I254964 Acquired: 04/04/2019 11:14:24 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.415** | **88100.** | **317.** | **448.** | **611.** | **2.54** | **16000.** | **-3.95** | **2.58** | **46.0** | **123.** |
| Stddev | .791 | 4130. | 13. | 15. | 28. | .10 | 771. | .32 | .27 | 1.4 | 6. |
| %RSD | 190. | 4.68 | 4.07 | 3.26 | 4.61 | 4.06 | 4.83 | 8.17 | 10.6 | 3.01 | 5.17 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **175.** | **173.** | **151000.** | **10300.** | **2900.** | **3710.** | **4.25** | **82.6** | **263.** | **3.84** | **4.32** |
| Stddev | 10. | 7. | 7220. | 447. | 134. | 178. | .14 | 3.5 | 10. | 2.82 | 2.16 |
| %RSD | 5.67 | 3.80 | 4.76 | 4.33 | 4.63 | 4.79 | 3.30 | 4.25 | 3.70 | 73.5 | 50.0 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **15.8** | **229.** | **191.** | **443.** | **410.** |
| Stddev | 1.9 | 7. | 9. | 13. | 13. |
| %RSD | 11.7 | 2.98 | 4.45 | 2.97 | 3.12 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **93268.** | **1312800.** | **340770.** |
| Stddev | 330. | 2525. | 1991. |
| %RSD | .35382 | .19229 | .58420 |

Sample Name: 1dup254964 Acquired: 04/04/2019 11:20:49 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.24** | **330000.** | **1520.** | **1490.** | **2340.** | **12.9** | **61500.** | **2.77** | **10.9** | **225.** | **537.** |
| Stddev | .84 | 1550. | 12. | 21. | 21. | .0 | 708. | .79 | .2 | 2. | 2. |
| %RSD | 26.0 | .470 | .791 | 1.39 | .893 | .302 | 1.15 | 28.7 | 1.80 | .677 | .315 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **621.** | **629.** | **542000.** | **36600.** | **14600.** | **20.8** | **408.** | **394.** | **1530.** | **-2.69** | **22.8** |
| Stddev | 7. | 14. | 5380. | 155. | 88. | .4 | 4. | 3. | 16. | 2.27 | 5.8 |
| %RSD | 1.11 | 2.19 | .994 | .422 | .607 | 1.75 | .941 | .762 | 1.01 | 84.7 | 25.3 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **48.6** | **842.** | **855.** | **2110.** |
| Stddev | 3.7 | 6. | 2. | 16. |
| %RSD | 7.58 | .739 | .223 | .765 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88718.** | **1242600.** | **328060.** |
| Stddev | 576. | 6083. | 2272. |
| %RSD | .64925 | .48950 | .69251 |

Sample Name: mss254964 Acquired: 04/04/2019 11:27:21 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.55** | **311000.** | **20200.** | **2360.** | **13.0** | **63400.** | **2.85** | **88.7** | **225.** | **515.** | **616.** |
| Stddev | .31 | 2770. | 45. | 21. | .2 | 514. | .39 | .1 | 1. | 5. | 8. |
| %RSD | 12.2 | .890 | .222 | .904 | 1.19 | .810 | 13.6 | .122 | .262 | .905 | 1.26 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **623.** | **528000.** | **35800.** | **34900.** | **18.4** | **415.** | **400.** | **1630.** | **-2.04** | **15.5** | **54.5** |
| Stddev | 1. | 4120. | 361. | 282. | 1.2 | 3. | 1. | 5. | 3.77 | 6.0 | 3.5 |
| %RSD | .086 | .781 | 1.01 | .808 | 6.59 | .604 | .206 | .305 | 185. | 38.4 | 6.40 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **817.** | **828.** | **2120.** |
| Stddev | 13. | 6. | 9. |
| %RSD | 1.61 | .719 | .420 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87330.** | **1238900.** | **327800.** |
| Stddev | 259. | 7088. | 4806. |
| %RSD | .29659 | .57217 | 1.4662 |

Sample Name: ccv1 Acquired: 04/04/2019 11:33:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **5040.** | **4890.** | **4820.** | **488.** | **5100.** | **491.** | **4790.** | **5060.** | **4900.** | **5450.** | **5170.** |
| Stddev | . | 106. | 15. | 66. | 7. | 75. | 1. | 23. | 5. | 28. | 275. | 133. |
| %RSD | .056 | 2.10 | .314 | 1.37 | 1.50 | 1.47 | .152 | .488 | .092 | .569 | 5.05 | 2.57 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5130.** | **4750.** | **4860.** | **4810.** | **4790.** | **4760.** | **4810.** | **4880.** | **5100.** |
| Stddev | 65. | 10. | 10. | 20. | 8. | 9. | 3. | 42. | 7. |
| %RSD | 1.26 | .214 | .196 | .406 | .164 | .192 | .056 | .859 | .134 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **90115.** | **1280100.** | **334390.** |
| Stddev | 121. | 2059. | 3748. |
| %RSD | .13480 | .16083 | 1.1208 |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.0** | **480.** | **473.** | **478.** | **468.** | **482.** | **50.8** | **53.1** | **467.** | **50.0** | **52.0** | **482.** |
| Stddev | .5 | 3. | 3. | 6. | 2. | 11. | .1 | 1.1 | 7. | .5 | .3 | 1. |
| %RSD | 1.06 | .664 | .616 | 1.22 | .415 | 2.18 | .150 | 2.05 | 1.42 | 1.03 | .632 | .153 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **500.** | **496.** | **487.** | **472.** | **492.** | **467.** | **468.** | **489.** | **487.** | **487.** | **466.** |
| Stddev | 2. | 4. | 14. | 3. | 1. | 1. | 1. | 1. | 1. | 1. | 3. | 1. |
| %RSD | .452 | .754 | 2.82 | .604 | .238 | .201 | .188 | .306 | .299 | .261 | .656 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **476.** | **475.** | **479.** | **502.** | **476.** | **473.** | **507.** | **477.** |
| Stddev | 3. | 4. | 4. | 2. | 6. | 2. | 1. | . |
| %RSD | .588 | .740 | .925 | .444 | 1.33 | .435 | .226 | .063 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91823.** | **1304900.** | **338310.** |
| Stddev | 357. | 1653. | 4392. |
| %RSD | .38883 | .12669 | 1.2981 |

Sample Name: ccb Acquired: 04/04/2019 11:45:23 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.054** | **-4.09** | **3.65** | **.052** | **.032** | **-28.1** | **.052** | **.114** | **.361** | **.112** | **6.03** | **2.36** |
| Stddev | .584 | .58 | 4.18 | .248 | .038 | 1.8 | .108 | .202 | .165 | .303 | 3.43 | 2.66 |
| %RSD | 1090. | 14.1 | 114. | 475. | 117. | 6.34 | 208. | 177. | 45.8 | 270. | 57.0 | 113. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.92** | **.214** | **1.01** | **.617** | **2.01** | **2.30** | **.100** | **.277** | **-.515** | **-.387** |
| Stddev | .03 | .124 | .23 | .291 | 1.83 | .26 | 5.47 | 1.78 | .562 | .188 |
| %RSD | 1.03 | 58.3 | 23.0 | 47.1 | 91.1 | 11.2 | 5480. | 642. | 109. | 48.4 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91848.** | **1306000.** | **339770.** |
| Stddev | 153. | 5702. | 2161. |
| %RSD | .16675 | .43662 | .63611 |

Sample Name: msds254964 Acquired: 04/04/2019 11:51:43 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.27** | **271000.** | **20100.** | **2090.** | **12.6** | **61600.** | **2.91** | **85.6** | **215.** | **471.** | **590.** |
| Stddev | .72 | 3360. | 87. | 21. | .1 | 1000. | .58 | .4 | . | 3. | 7. |
| %RSD | 31.8 | 1.24 | .432 | 1.01 | .695 | 1.63 | 19.9 | .424 | .205 | .544 | 1.14 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **614.** | **491000.** | **32100.** | **33900.** | **16.9** | **352.** | **1620.** | **-4.95** | **14.8** | **53.9** | **752.** |
| Stddev | 9. | 5380. | 425. | 471. | .6 | 1. | 17. | 3.05 | 6.5 | 1.6 | 14. |
| %RSD | 1.55 | 1.09 | 1.32 | 1.39 | 3.41 | .372 | 1.05 | 61.7 | 43.5 | 2.94 | 1.80 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **774.** | **1950.** |
| Stddev | 2. | 3. |
| %RSD | .257 | .175 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86816.** | **1231200.** | **328190.** |
| Stddev | 170. | 7044. | 1558. |
| %RSD | .19592 | .57210 | .47456 |

Sample Name: 254965 Acquired: 04/04/2019 11:58:13 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.21** | **272000.** | **770.** | **747.** | **5770.** | **11.7** | **277000.** | **10.3** | **14.7** | **162.** | **656.** |
| Stddev | .78 | 3240. | 5. | 17. | 82. | .0 | 883. | .3 | .1 | 1. | 7. |
| %RSD | 8.51 | 1.19 | .647 | 2.29 | 1.42 | .400 | .319 | 2.99 | .798 | .438 | 1.14 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3260.** | **357000.** | **85700.** | **463000.** | **97.0** | **287.** | **3290.** | **14.6** | **57.0** | **222.** | **1300.** |
| Stddev | 20. | 2590. | 568. | 1990. | .9 | 2. | 18. | 3.8 | 4.0 | 2. | 14. |
| %RSD | .606 | .727 | .663 | .430 | .971 | .771 | .536 | 25.7 | 7.10 | .945 | 1.07 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **4280.** |
| Stddev | 17. |
| %RSD | .397 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83156.** | **1191900.** | **324000.** |
| Stddev | 68. | 5982. | 5624. |
| %RSD | .08213 | .50188 | 1.7359 |

Sample Name: pdss254964 Acquired: 04/04/2019 12:04:34 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.11** | **330000.** | **20100.** | **2320.** | **12.9** | **61400.** | **3.37** | **86.4** | **227.** | **541.** | **615.** |
| Stddev | .53 | 5960. | 30. | 31. | .1 | 1560. | 1.15 | .4 | 2. | 5. | 6. |
| %RSD | 17.0 | 1.81 | .151 | 1.32 | .499 | 2.54 | 34.2 | .432 | .813 | .909 | 1.05 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **623.** | **539000.** | **36200.** | **34000.** | **19.8** | **411.** | **394.** | **1570.** | **-1.38** | **15.9** | **55.1** |
| Stddev | 2. | 12700. | 858. | 833. | .8 | 2. | 3. | 17. | 4.68 | 2.1 | 1.4 |
| %RSD | .333 | 2.35 | 2.37 | 2.45 | 3.90 | .597 | .736 | 1.09 | 340. | 13.4 | 2.61 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **843.** | **857.** | **2120.** |
| Stddev | 9. | 5. | 13. |
| %RSD | 1.07 | .547 | .591 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87520.** | **1238500.** | **328620.** |
| Stddev | 308. | 3941. | 2945. |
| %RSD | .35152 | .31821 | .89616 |

Sample Name: dup254965 Acquired: 04/04/2019 12:11:05 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.86** | **397000.** | **796.** | **739.** | **1550.** | **9.45** | **30700.** | **-.335** | **4.43** | **167.** | **665.** |
| Stddev | .88 | 2170. | 16. | 12. | 12. | .10 | 377. | 1.07 | .21 | 1. | 5. |
| %RSD | 47.0 | .546 | 2.02 | 1.60 | .782 | 1.04 | 1.23 | 320. | 4.84 | .385 | .772 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **356.** | **382.** | **718000.** | **39700.** | **7690.** | **21.1** | **448.** | **435.** | **964.** | **568.** | **-18.2** |
| Stddev | 7. | 11. | 9290. | 289. | 64. | .3 | 1. | 1. | 13. | 3. | 4.0 |
| %RSD | 2.09 | 2.83 | 1.29 | .729 | .827 | 1.20 | .170 | .172 | 1.34 | .490 | 22.2 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.40** | **65.2** | **1010.** | **1220.** |
| Stddev | 9.35 | 2.1 | 7. | 1. |
| %RSD | 99.4 | 3.20 | .648 | .100 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87101.** | **1235600.** | **329760.** |
| Stddev | 184. | 1912. | 6256. |
| %RSD | .21077 | .15475 | 1.8970 |

Sample Name: L254965 Acquired: 04/04/2019 12:17:27 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.222** | **104000.** | **184.** | **339.** | **400.** | **1.87** | **8060.** | **-4.58** | **1.29** | **37.0** | **156.** |
| Stddev | .523 | 2340. | 3. | 6. | 10. | .09 | 202. | .46 | .12 | .7 | 6. |
| %RSD | 236. | 2.26 | 1.50 | 1.79 | 2.56 | 4.90 | 2.51 | 10.0 | 9.37 | 2.01 | 3.55 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **107.** | **110.** | **199000.** | **10900.** | **1570.** | **2060.** | **4.69** | **99.3** | **135.** | **.580** | **5.50** |
| Stddev | 5. | 5. | 5910. | 260. | 60. | 48. | .47 | 1.6 | 2. | 3.18 | 4.68 |
| %RSD | 4.76 | 4.18 | 2.97 | 2.38 | 3.80 | 2.33 | 9.91 | 1.63 | 1.39 | 548. | 85.1 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **19.9** | **273.** | **242.** | **252.** |
| Stddev | 2.3 | 12. | 9. | 4. |
| %RSD | 11.4 | 4.41 | 3.81 | 1.62 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91988.** | **1306900.** | **344910.** |
| Stddev | 188. | 3727. | 3854. |
| %RSD | .20481 | .28514 | 1.1174 |

Sample Name: 2dup254965 Acquired: 04/04/2019 12:23:56 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.94** | **383000.** | **787.** | **726.** | **1550.** | **9.32** | **30700.** | **.013** | **4.41** | **164.** | **667.** |
| Stddev | .12 | 3540. | 13. | 11. | 20. | .07 | 209. | .619 | .43 | . | 1. |
| %RSD | 6.40 | .922 | 1.63 | 1.48 | 1.27 | .742 | .680 | 4880. | 9.72 | .280 | .217 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **357.** | **381.** | **703000.** | **38300.** | **7870.** | **21.2** | **444.** | **432.** | **982.** | **587.** | **-16.6** |
| Stddev | 8. | 5. | 3110. | 373. | 61. | .7 | 2. | 2. | 8. | 5. | 1.6 |
| %RSD | 2.18 | 1.28 | .442 | .973 | .772 | 3.49 | .404 | .366 | .843 | .842 | 9.41 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **8.07** | **63.3** | **999.** | **1190.** |
| Stddev | 4.66 | .9 | 14. | 2. |
| %RSD | 57.7 | 1.41 | 1.40 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86996.** | **1229700.** | **330280.** |
| Stddev | 273. | 7305. | 4566. |
| %RSD | .31366 | .59406 | 1.3824 |

Sample Name: mss254965 Acquired: 04/04/2019 12:30:19 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.34** | **360000.** | **19400.** | **1500.** | **9.33** | **30700.** | **.980** | **80.3** | **160.** | **622.** | **347.** |
| Stddev | .86 | 3770. | 64. | 12. | .08 | 429. | .763 | .3 | 1. | 2. | 4. |
| %RSD | 37.0 | 1.05 | .331 | .767 | .854 | 1.40 | 77.8 | .419 | .678 | .375 | 1.10 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **372.** | **688000.** | **36800.** | **27300.** | **19.5** | **427.** | **414.** | **980.** | **569.** | **-17.4** | **13.0** |
| Stddev | 10. | 6260. | 454. | 391. | .6 | 2. | 2. | 34. | 3. | 4.9 | 6.4 |
| %RSD | 2.62 | .909 | 1.23 | 1.43 | 2.83 | .432 | .506 | 3.42 | .581 | 28.3 | 49.3 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **67.3** | **965.** | **1170.** |
| Stddev | 3.6 | 10. | 4. |
| %RSD | 5.34 | 1.03 | .302 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87668.** | **1231700.** | **333620.** |
| Stddev | 469. | 3003. | 2115. |
| %RSD | .53528 | .24380 | .63390 |

Sample Name: msds254965 Acquired: 04/04/2019 12:36:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.77** | **313000.** | **18900.** | **1480.** | **9.02** | **30600.** | **.031** | **78.3** | **151.** | **577.** | **335.** |
| Stddev | .41 | 1750. | 47. | 10. | .10 | 274. | .373 | .5 | 1. | 2. | 7. |
| %RSD | 23.4 | .559 | .246 | .705 | 1.07 | .896 | 1190. | .679 | .648 | .322 | 2.05 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **356.** | **657000.** | **34400.** | **27600.** | **17.6** | **409.** | **393.** | **983.** | **565.** | **-14.9** | **13.1** |
| Stddev | 4. | 2610. | 350. | 217. | .6 | 2. | 1. | 16. | 3. | 2.7 | 10.7 |
| %RSD | 1.23 | .398 | 1.02 | .787 | 3.45 | .425 | .238 | 1.64 | .517 | 18.4 | 81.8 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **63.7** | **912.** | **932.** | **1080.** | **989.** |
| Stddev | 3.7 | 7. | 5. | 4. | 1. |
| %RSD | 5.77 | .787 | .531 | .395 | .102 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87916.** | **1238000.** | **329900.** |
| Stddev | 114. | 5707. | 2273. |
| %RSD | .12949 | .46101 | .68904 |

Sample Name: pdss254965 Acquired: 04/04/2019 12:43:23 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.41** | **382000.** | **19600.** | **1560.** | **9.16** | **31100.** | **.332** | **83.6** | **164.** | **661.** | **359.** |
| Stddev | .93 | 3780. | 65. | 26. | .11 | 246. | .546 | .5 | . | 2. | 17. |
| %RSD | 38.5 | .989 | .329 | 1.67 | 1.25 | .791 | 165. | .614 | .225 | .374 | 4.80 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **387.** | **714000.** | **38700.** | **27700.** | **19.7** | **445.** | **429.** | **936.** | **583.** | **-18.3** | **19.9** |
| Stddev | 7. | 7810. | 549. | 232. | .6 | 3. | 2. | 4. | 2. | 6.8 | 8.5 |
| %RSD | 1.80 | 1.09 | 1.42 | .837 | 2.99 | .600 | .460 | .379 | .384 | 37.4 | 43.0 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **68.9** | **1010.** | **1200.** |
| Stddev | 2.7 | 13. | 4. |
| %RSD | 3.85 | 1.25 | .319 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88244.** | **1239900.** | **328490.** |
| Stddev | 346. | 3894. | 191. |
| %RSD | .39248 | .31403 | .05802 |

Sample Name: 254967 Acquired: 04/04/2019 12:50:01 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.34** | **331000.** | **808.** | **755.** | **2520.** | **11.7** | **29300.** | **-.182** | **4.88** | **193.** | **443.** |
| Stddev | .60 | 1690. | 11. | 8. | 8. | .1 | 327. | .388 | .19 | 1. | 4. |
| %RSD | 17.9 | .511 | 1.41 | 1.04 | .309 | .678 | 1.12 | 213. | 3.81 | .406 | .796 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **351.** | **362.** | **465000.** | **24900.** | **10100.** | **14.2** | **294.** | **718.** | **637.** | **-8.09** | **12.2** |
| Stddev | 5. | 6. | 3660. | 258. | 78. | .5 | 1. | 11. | 4. | 2.35 | 3.2 |
| %RSD | 1.55 | 1.77 | .787 | 1.04 | .776 | 3.33 | .427 | 1.53 | .646 | 29.1 | 26.6 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **44.0** | **851.** | **866.** | **1010.** | **938.** |
| Stddev | 2.4 | 4. | 4. | 3. | 2. |
| %RSD | 5.52 | .517 | .511 | .284 | .218 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90448.** | **1259300.** | **332120.** |
| Stddev | 148. | 3690. | 2890. |
| %RSD | .16407 | .29299 | .87024 |

Sample Name: ccv1 Acquired: 04/04/2019 12:56:26 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **463.** | **4950.** | **4880.** | **4830.** | **478.** | **5060.** | **484.** | **4780.** | **4990.** | **4940.** | **5390.** | **5170.** |
| Stddev | 4. | 77. | 9. | 20. | 4. | 72. | 1. | 34. | 17. | 20. | 226. | 110. |
| %RSD | .886 | 1.54 | .183 | .410 | .829 | 1.43 | .239 | .703 | .331 | .403 | 4.19 | 2.13 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5010.** | **4730.** | **4860.** | **4790.** | **4710.** | **4720.** | **4810.** | **4790.** | **5100.** |
| Stddev | 45. | 11. | 5. | 12. | 17. | 22. | 11. | 52. | 17. |
| %RSD | .896 | .227 | .103 | .257 | .368 | .457 | .237 | 1.09 | .323 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91355.** | **1287200.** | **336880.** |
| Stddev | 204. | 6915. | 2107. |
| %RSD | .22378 | .53723 | .62551 |

Sample Name: ccv2 Acquired: 04/04/2019 13:02:12 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **476.** | **472.** | **480.** | **466.** | **484.** | **50.6** | **50.1** | **458.** | **50.0** | **51.1** | **484.** |
| Stddev | .9 | 2. | 2. | 14. | 2. | 6. | .4 | .7 | 5. | .3 | .2 | . |
| %RSD | 1.93 | .449 | .419 | 3.02 | .360 | 1.28 | .703 | 1.34 | 1.19 | .522 | .367 | .055 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **473.** | **501.** | **496.** | **485.** | **467.** | **488.** | **467.** | **467.** | **488.** | **485.** | **492.** | **462.** |
| Stddev | 4. | 6. | 11. | 5. | 3. | 3. | 1. | 1. | 1. | 1. | 2. | 2. |
| %RSD | .833 | 1.11 | 2.11 | .942 | .699 | .560 | .182 | .217 | .286 | .140 | .409 | .465 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **468.** | **471.** | **477.** | **504.** | **470.** | **469.** | **506.** | **477.** |
| Stddev | 4. | 3. | 3. | 5. | 7. | 3. | 1. | 1. |
| %RSD | .786 | .649 | .550 | 1.07 | 1.45 | .638 | .135 | .219 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 13:02:12 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 92999. | 1313100. | 337270. |
| Stddev | 146. | 4586. | 2995. |
| %RSD | .15646 | .34922 | .88787 |

Sample Name: ccb Acquired: 04/04/2019 13:08:01 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.323** | **-3.65** | **1.75** | **.091** | **.009** | **-28.2** | **.099** | **.125** | **.533** | **.482** | **1.44** | **3.88** |
| Stddev | .955 | .68 | 1.37 | .205 | .027 | 1.3 | .211 | .139 | .293 | .588 | 7.34 | 2.89 |
| %RSD | 295. | 18.7 | 78.0 | 226. | 318. | 4.67 | 213. | 111. | 55.0 | 122. | 510. | 74.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.69** | **.495** | **1.36** | **.741** | **1.17** | **3.29** | **2.51** | **1.67** | **-.286** | **-.313** |
| Stddev | .03 | .092 | .26 | .312 | 3.60 | 1.35 | 3.84 | .66 | .274 | .242 |
| %RSD | 1.28 | 18.7 | 19.1 | 42.2 | 309. | 41.2 | 153. | 39.6 | 95.7 | 77.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **92942.** | **1319700.** | **334610.** |
| Stddev | 112. | 3650. | 2889. |
| %RSD | .12053 | .27656 | .86331 |

Sample Name: 1dup254967 Acquired: 04/04/2019 13:14:19 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.82** | **323000.** | **793.** | **762.** | **2520.** | **11.1** | **27700.** | **.013** | **5.80** | **151.** | **417.** |
| Stddev | .65 | 5260. | 15. | 17. | 44. | .1 | 501. | .761 | .36 | 1. | 2. |
| %RSD | 16.9 | 1.63 | 1.94 | 2.29 | 1.74 | .617 | 1.81 | 6030. | 6.23 | .870 | .534 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **337.** | **350.** | **422000.** | **24400.** | **9620.** | **14.0** | **286.** | **634.** | **599.** | **-7.47** | **18.2** |
| Stddev | 6. | 3. | 7740. | 377. | 154. | .3 | 2. | 14. | 12. | 4.09 | 4.9 |
| %RSD | 1.89 | .956 | 1.84 | 1.55 | 1.60 | 2.42 | .622 | 2.16 | 2.06 | 54.8 | 27.1 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **41.1** | **790.** | **789.** | **1000.** | **941.** |
| Stddev | 2.9 | 20. | 3. | 21. | 14. |
| %RSD | 7.11 | 2.54 | .436 | 2.04 | 1.52 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89677.** | **1257700.** | **327240.** |
| Stddev | 379. | 3232. | 4343. |
| %RSD | .42208 | .25694 | 1.3271 |

Sample Name: 2dup255967 Acquired: 04/04/2019 13:20:44 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.00** | **306000.** | **775.** | **741.** | **2340.** | **11.3** | **30000.** | **-.352** | **4.97** | **143.** | **410.** |
| Stddev | .46 | 2810. | 8. | 6. | 14. | .2 | 527. | .708 | .13 | 1. | 3. |
| %RSD | 15.4 | .917 | .980 | .854 | .609 | 1.67 | 1.75 | 201. | 2.56 | .399 | .680 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **334.** | **345.** | **424000.** | **24400.** | **8630.** | **12.7** | **423.** | **407.** | **657.** | **583.** | **-11.4** |
| Stddev | 6. | 4. | 5560. | 270. | 146. | .3 | 1. | 2. | 26. | 3. | 1.9 |
| %RSD | 1.74 | 1.28 | 1.31 | 1.11 | 1.69 | 2.61 | .339 | .522 | 3.91 | .484 | 16.3 |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **11.7** | **38.9** | **783.** | **804.** | **927.** | **865.** |
| Stddev | 6.6 | 4.5 | 9. | 5. | 3. | 3. |
| %RSD | 56.7 | 11.7 | 1.12 | .578 | .287 | .309 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89515.** | **1253800.** | **330140.** |
| Stddev | 454. | 9260. | 2470. |
| %RSD | .50718 | .73852 | .74823 |

Sample Name: 255855 Acquired: 04/04/2019 13:27:10 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.302** | **123000.** | **114.** | **2690.** | **6.94** | **10100.** | **1.88** | **4.04** | **62.0** | **300.** | **889.** |
| Stddev | 1.02 | 1240. | 5. | 25. | .06 | 123. | .71 | .07 | .4 | 1. | 5. |
| %RSD | 338. | 1.00 | 4.08 | .923 | .828 | 1.22 | 37.8 | 1.70 | .647 | .426 | .507 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **901.** | **254000.** | **12000.** | **73500.** | **21.9** | **232.** | **3430.** | **135.** | **12.5** | **51.3** | **381.** |
| Stddev | 5. | 1650. | 78. | 687. | .4 | 2. | 8. | 2. | 3.5 | 2.7 | 9. |
| %RSD | .544 | .652 | .656 | .936 | 1.92 | .925 | .229 | 1.21 | 28.0 | 5.31 | 2.39 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **378.** | **1420.** |
| Stddev | 2. | 3. |
| %RSD | .450 | .198 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89908.** | **1267200.** | **329460.** |
| Stddev | 226. | 2848. | 4283. |
| %RSD | .25166 | .22475 | 1.3000 |

Sample Name: 255856 Acquired: 04/04/2019 13:33:35 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.80** | **129000.** | **360.** | **2070.** | **6.78** | **154000.** | **3.44** | **6.56** | **74.6** | **345.** | **868.** |
| Stddev | .80 | 1890. | 8. | 37. | .04 | 2610. | .44 | .34 | .5 | 2. | 10. |
| %RSD | 44.2 | 1.47 | 2.17 | 1.80 | .521 | 1.69 | 12.9 | 5.22 | .608 | .457 | 1.20 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **887.** | **228000.** | **51200.** | **101000.** | **24.2** | **264.** | **6600.** | **6.26** | **12.3** | **55.6** | **597.** |
| Stddev | 15. | 3820. | 716. | 1410. | .7 | 1. | 15. | 1.57 | 7.9 | 1.3 | 10. |
| %RSD | 1.70 | 1.67 | 1.40 | 1.39 | 2.82 | .462 | .225 | 25.0 | 64.1 | 2.25 | 1.68 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **596.** | **1540.** |
| Stddev | 2. | 3. |
| %RSD | .259 | .187 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86120.** | **1225800.** | **324340.** |
| Stddev | 356. | 3251. | 3647. |
| %RSD | .41384 | .26518 | 1.1245 |

Sample Name: 255857 Acquired: 04/04/2019 13:39:45 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.55** | **245000.** | **463.** | **421.** | **3540.** | **9.61** | **266000.** | **9.72** | **13.2** | **133.** | **547.** |
| Stddev | .60 | 1480. | 3. | 5. | 15. | .10 | 3850. | .35 | .3 | 1. | 5. |
| %RSD | 23.5 | .605 | .572 | 1.08 | .433 | 1.000 | 1.45 | 3.58 | 2.23 | .559 | .830 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1930.** | **312000.** | **101000.** | **201000.** | **47.2** | **266.** | **2130.** | **4.90** | **26.3** | **101.** | **985.** |
| Stddev | 12. | 3310. | 1100. | 3470. | 1.1 | 1. | 17. | 3.93 | 3.4 | 2. | 12. |
| %RSD | .637 | 1.06 | 1.09 | 1.73 | 2.28 | .464 | .815 | 80.1 | 12.8 | 1.95 | 1.16 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **994.** | **10600.** |
| Stddev | 2. | 25. |
| %RSD | .197 | .237 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84599.** | **1207500.** | **325510.** |
| Stddev | 104. | 2811. | 2536. |
| %RSD | .12337 | .23278 | .77901 |

Sample Name: 255858 Acquired: 04/04/2019 13:45:56 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.152** | **174000.** | **273.** | **1850.** | **7.15** | **141000.** | **2.78** | **5.82** | **81.5** | **408.** | **5780.** |
| Stddev | .831 | 1570. | 9. | 18. | .02 | 2140. | .31 | .22 | .2 | 4. | 41. |
| %RSD | 546. | .901 | 3.27 | .975 | .277 | 1.52 | 11.2 | 3.76 | .262 | .877 | .710 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **267000.** | **51300.** | **70500.** | **22.5** | **244.** | **1120.** | **946.** | **3.84** | **15.0** | **48.0** | **716.** |
| Stddev | 3020. | 495. | 668. | .4 | 1. | 13. | 3. | 1.38 | 7.5 | 2.6 | 12. |
| %RSD | 1.13 | .964 | .947 | 1.97 | .468 | 1.11 | .333 | 36.0 | 49.8 | 5.47 | 1.63 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **726.** | **3640.** |
| Stddev | 2. | 7. |
| %RSD | .286 | .190 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86579.** | **1231000.** | **328550.** |
| Stddev | 178. | 2942. | 2542. |
| %RSD | .20514 | .23898 | .77384 |

Sample Name: 255859 Acquired: 04/04/2019 13:52:08 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.10** | **202000.** | **2520.** | **2490.** | **1800.** | **6.75** | **57800.** | **9.53** | **20.9** | **121.** | **566.** |
| Stddev | .73 | 3670. | 14. | 21. | 39. | .06 | 780. | .56 | .1 | 1. | 4. |
| %RSD | 34.7 | 1.82 | .559 | .838 | 2.17 | .913 | 1.35 | 5.93 | .684 | .567 | .758 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1570.** | **711000.** | **26300.** | **16500.** | **41.7** | **353.** | **2930.** | **-5.75** | **11.4** | **64.4** | **948.** |
| Stddev | 20. | 8860. | 341. | 217. | 1.1 | 1. | 20. | 1.85 | 5.8 | 4.6 | 20. |
| %RSD | 1.25 | 1.25 | 1.30 | 1.31 | 2.52 | .197 | .687 | 32.2 | 51.1 | 7.14 | 2.09 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **976.** | **2590.** |
| Stddev | 4. | 5. |
| %RSD | .394 | .187 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86203.** | **1234300.** | **328560.** |
| Stddev | 205. | 2903. | 4628. |
| %RSD | .23744 | .23523 | 1.4086 |

Sample Name: 255860 Acquired: 04/04/2019 13:58:40 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.357** | **170000.** | **2140.** | **2150.** | **1240.** | **6.42** | **105000.** | **1.12** | **11.9** | **88.8** | **444.** |
| Stddev | .957 | 752. | 6. | 13. | 11. | .07 | 537. | .34 | .3 | .3 | 3. |
| %RSD | 268. | .441 | .264 | .612 | .885 | 1.14 | .510 | 30.8 | 2.49 | .288 | .615 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **926.** | **949.** | **519000.** | **30300.** | **6840.** | **20.6** | **239.** | **1250.** | **747.** | **-9.71** | **8.40** |
| Stddev | 9. | 10. | 876. | 152. | 40. | 1.0 | 2. | 12. | 4. | 3.20 | 4.87 |
| %RSD | 1.00 | 1.05 | .169 | .502 | .584 | 4.88 | .683 | .986 | .528 | 32.9 | 57.9 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.9** | **693.** | **718.** | **1010.** | **947.** |
| Stddev | 2.3 | 5. | 2. | 1. | 2. |
| %RSD | 4.73 | .762 | .291 | .121 | .210 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86132.** | **1231100.** | **327620.** |
| Stddev | 296. | 5372. | 3354. |
| %RSD | .34327 | .43631 | 1.0236 |

Sample Name: 255861 Acquired: 04/04/2019 14:05:00 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.78** | **247000.** | **936.** | **818.** | **3240.** | **8.82** | **144000.** | **18.6** | **23.7** | **141.** | **792.** |
| Stddev | .94 | 2090. | 8. | 15. | 18. | .10 | 2870. | 1.0 | .3 | . | 2. |
| %RSD | 9.63 | .847 | .854 | 1.82 | .567 | 1.12 | 1.99 | 5.11 | 1.15 | .339 | .245 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1510.** | **554000.** | **40400.** | **75200.** | **34.7** | **371.** | **5350.** | **16.5** | **15.8** | **72.9** | **995.** |
| Stddev | 10. | 8590. | 395. | 1110. | .9 | 1. | 18. | 3.0 | 9.6 | 1.1 | 10. |
| %RSD | .635 | 1.55 | .979 | 1.48 | 2.46 | .285 | .341 | 18.3 | 60.7 | 1.54 | .958 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **6020.** |
| Stddev | 4. |
| %RSD | .069 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85052.** | **1218800.** | **328000.** |
| Stddev | 54. | 4499. | 2059. |
| %RSD | .06356 | .36911 | .62785 |

Sample Name: 255880 Acquired: 04/04/2019 14:11:20 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **17.0** | **326000.** | **925.** | **764.** | **3290.** | **10.7** | **124000.** | **24.3** | **29.3** | **160.** | **1200.** |
| Stddev | .6 | 4930. | 5. | 12. | 42. | .1 | 2350. | 1.5 | .4 | 1. | 11. |
| %RSD | 3.69 | 1.51 | .577 | 1.59 | 1.27 | .942 | 1.90 | 6.08 | 1.35 | .862 | .933 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2290.** | **669000.** | **45900.** | **64400.** | **35.0** | **484.** | **466.** | **7320.** | **38.2** | **15.8** | **77.3** |
| Stddev | 18. | 10600. | 735. | 1210. | .6 | 5. | 3. | 70. | 3.1 | 6.0 | 1.5 |
| %RSD | .796 | 1.58 | 1.60 | 1.88 | 1.59 | .951 | .598 | .961 | 8.21 | 38.1 | 1.97 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1100.** | **7640.** |
| Stddev | 23. | 82. |
| %RSD | 2.10 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84805.** | **1214600.** | **328660.** |
| Stddev | 457. | 1892. | 2017. |
| %RSD | .53900 | .15574 | .61355 |

Sample Name: ccv1 Acquired: 04/04/2019 14:17:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **473.** | **4940.** | **4880.** | **4700.** | **476.** | **4970.** | **501.** | **4850.** | **5170.** | **4860.** | **5230.** | **5010.** |
| Stddev | . | 60. | 12. | 30. | 3. | 63. | 1. | 5. | 7. | 25. | 178. | 220. |
| %RSD | .017 | 1.22 | .239 | .645 | .552 | 1.27 | .199 | .106 | .127 | .514 | 3.39 | 4.38 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5050.** | **4780.** | **4880.** | **4850.** | **4910.** | **4850.** | **4820.** | **4770.** | **5110.** |
| Stddev | 40. | 4. | 3. | 12. | 4. | 17. | 13. | 17. | 11. |
| %RSD | .787 | .084 | .064 | .250 | .082 | .347 | .264 | .364 | .205 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88269.** | **1265700.** | **342910.** |
| Stddev | 256. | 2264. | 3091. |
| %RSD | .28971 | .17885 | .90140 |

Sample Name: ccv2 Acquired: 04/04/2019 14:23:13 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **50.2** | **496.** | **474.** | **483.** | **473.** | **473.** | **50.7** | **50.3** | **471.** | **50.4** | **53.2** | **485.** |
| Stddev | .6 | 1. | 6. | 4. | 2. | 6. | .2 | 1.1 | 4. | .2 | .3 | 1. |
| %RSD | 1.11 | .176 | 1.32 | .906 | .339 | 1.33 | .341 | 2.11 | .887 | .374 | .487 | .290 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **486.** | **502.** | **490.** | **475.** | **496.** | **471.** | **471.** | **492.** | **491.** | **494.** | **471.** |
| Stddev | 3. | 1. | 8. | 7. | 2. | 2. | 1. | 2. | . | 1. | 5. | 5. |
| %RSD | .519 | .185 | 1.57 | 1.52 | .385 | .399 | .243 | .318 | .074 | .234 | 1.08 | 1.07 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **488.** | **486.** | **493.** | **506.** | **470.** | **478.** | **511.** | **477.** |
| Stddev | 6. | 3. | 5. | 4. | 4. | 2. | 1. | 1. |
| %RSD | 1.14 | .690 | .913 | .709 | .822 | .321 | .200 | .130 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 14:23:13 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **90092.** | **1290700.** | **341790.** |
| Stddev | 290. | 6016. | 3064. |
| %RSD | .32220 | .46607 | .89643 |

Sample Name: ccb Acquired: 04/04/2019 14:29:00 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.096** | **-2.98** | **4.56** | **.180** | **.103** | **-27.6** | **.068** | **.174** | **.692** | **.733** | **5.43** | **4.47** |
| Stddev | .455 | .23 | 1.30 | .236 | .026 | 1.6 | .233 | .125 | .438 | .321 | 2.56 | 2.38 |
| %RSD | 474. | 7.78 | 28.5 | 131. | 24.9 | 5.91 | 341. | 71.8 | 63.3 | 43.8 | 47.2 | 53.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.55** | **.709** | **1.36** | **.555** | **3.99** | **2.87** | **.568** | **1.52** | **.326** | **-.073** |
| Stddev | .05 | .114 | .64 | .458 | 1.08 | 2.61 | 2.78 | 1.59 | .307 | .069 |
| %RSD | 1.87 | 16.1 | 47.4 | 82.5 | 27.1 | 90.9 | 489. | 104. | 94.4 | 94.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

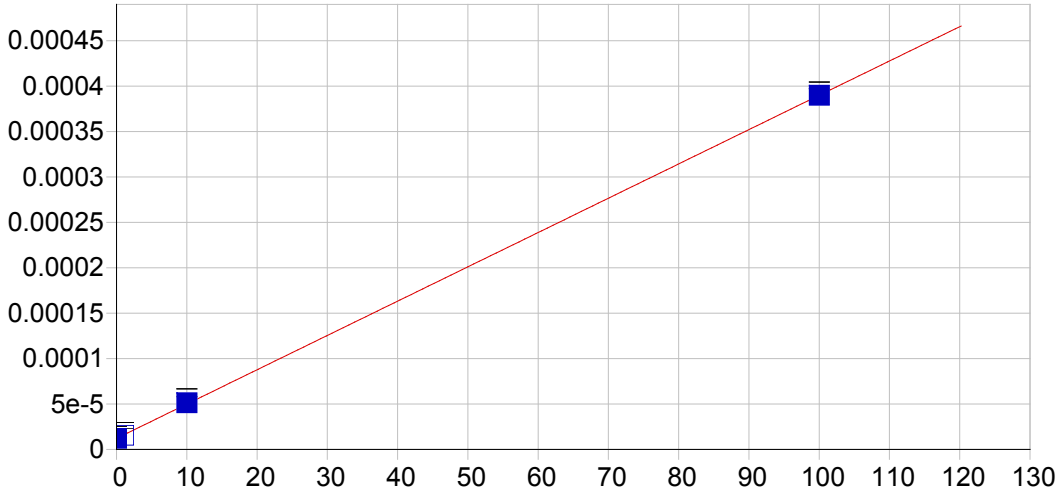
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89569.** | **1292800.** | **343210.** |
| Stddev | 84. | 5040. | 3867. |
| %RSD | .09363 | .38982 | 1.1267 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/16/2019 11:23:49 | 04/05/2019 08:06:21 | Linear | 1/Var | 0.000012 | 0.000004 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 0.811773 | 2.705910 |
| Ag 338.289 {100} | 04/16/2019 11:23:49 | 04/05/2019 08:11:57 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.985238 | 0.000002 | 12.717446 | 42.391488 |
| Al 167.079 {501} | 04/16/2019 11:23:49 | 04/05/2019 08:11:57 | Linear | None | 0.000023 | 0.000003 | 0.000000 | 1.000000 | 0.999965 | 0.000014 | 1.055814 | 3.519380 |
| Al 308.215 {109} | 04/16/2019 11:23:49 | 04/05/2019 08:31:19 | Linear | 1/Var | 0.000072 | 0.000000 | 0.000000 | 1.000000 | 0.999869 | 0.000010 | 27.112725 | 90.375749 |
| Al 396.152 { 85} | 04/16/2019 11:23:49 | 04/05/2019 08:45:29 | Curvili | 1/Conc | -0.000026 | 0.000001 | 0.000000 | 1.000000 | 0.999997 | 0.000007 | 12.315633 | 41.052111 |
| As 193.759 {474} | 04/16/2019 11:23:49 | 04/05/2019 08:11:58 | Linear | 1/Conc | 0.073470 | 0.134605 | 0.000000 | 1.000000 | 0.999883 | 0.009020 | 3.616879 | 12.056262 |
| As 197.262 {471} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 6.689114 | 22.297048 |
| Ba 233.527 {445} | 04/16/2019 11:23:49 | 04/05/2019 08:11:58 | Linear | 1/Var | -0.353818 | 0.974220 | 0.000000 | 1.000000 | 0.999950 | 0.485342 | 0.461326 | 1.537753 |
| Ba 455.403 { 74} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 20.657103 | 19.075068 | 0.000000 | 1.000000 | 0.999917 | 0.932332 | 0.309469 | 1.031564 |
| Ba 493.409 { 68} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 2891.7049 | 23.227594 | 0.000000 | 1.000000 | 0.999966 | 8.997209 | 0.736012 | 2.453373 |
| Be 313.042 {108} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Conc | -0.000354 | 0.000102 | 0.000000 | 1.000000 | 0.999973 | 0.000001 | 0.047275 | 0.157583 |
| Be 234.861 {144} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Var | -0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 1.221748 | 4.072495 |
| Ca 315.887 {107} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Full Fit | 1/Conc | 13.508949 | 0.122957 | -0.000000 | 1.000000 | 0.999999 | 0.326345 | 11.030951 | 36.769838 |
| Ca 317.933 {106} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.003301 | 0.000001 | 0.000000 | 1.000000 | 0.999945 | 0.000014 | 6.389566 | 21.298554 |
| Ca 393.366 { 86} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Var | 1840.7327 | 129.96446 | 0.000000 | 1.000000 | 0.998095 | 1517.8170 | 0.039864 | 0.132878 |
| Ca 396.847 { 85} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 0.000342 | 0.000067 | 0.000000 | 1.000000 | 0.999713 | 0.000075 | 0.194718 | 0.649059 |
| Cd 226.502 {449} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Conc | -0.000002 | 0.000035 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.201373 | 0.671242 |
| Cd 228.802 {447} | 04/16/2019 11:23:49 | 04/05/2019 08:12:00 | Linear | 1/Conc | 0.000035 | 0.000064 | 0.000000 | 1.000000 | 0.999973 | 0.000000 | 0.168711 | 0.562370 |
| Co 228.616 {447} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Conc | 0.000002 | 0.000020 | 0.000000 | 1.000000 | 0.999927 | 0.000001 | 0.395103 | 1.317010 |
| Co 238.892 {141} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Var | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999845 | 0.000017 | 0.774921 | 2.583069 |
| Cr 205.560 {464} | 04/16/2019 11:23:49 | 04/05/2019 08:24:55 | Linear | 1/Var | 0.000116 | 0.000017 | 0.000000 | 1.000000 | 0.996275 | 0.000543 | 0.320402 | 1.068006 |
| Cr 267.716 {126} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Conc | 0.000000 | 0.000004 | 0.000000 | 1.000000 | 0.999984 | 0.000000 | 0.779459 | 2.598198 |
| Cu 224.700 {450} | 04/16/2019 11:23:49 | 04/05/2019 08:24:55 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999803 | 0.000009 | 0.407926 | 1.359752 |
| Cu 324.754 {104} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 148.59013 | 0.943999 | 0.000000 | 1.000000 | 0.999922 | 0.452769 | 2.842345 | 9.474483 |
| Cu 327.396 {103} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 9.891198 | 0.501962 | 0.000000 | 1.000000 | 0.999946 | 0.139808 | 6.972418 | 23.241395 |
| Fe 234.349 {144} | 04/16/2019 11:23:49 | 04/05/2019 08:31:20 | Curvili | 1/Var | 0.000044 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1.930143 | 6.433810 |
| Fe 239.562 {140} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.996888 | 0.000081 | 10.726217 | 35.754058 |
| Fe 259.940 {129} | 04/16/2019 11:23:49 | 04/05/2019 08:38:12 | Full Fit | 1/Conc | 15.029995 | 0.551164 | -0.000000 | 0.980000 | 0.999997 | 1.675157 | 2.808579 | 9.361928 |
| Mg 202.582 {466} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Var | 0.000027 | 0.000002 | 0.000000 | 1.000000 | 0.999007 | 0.000224 | 2.381545 | 7.938482 |
| Mg 279.079 {121} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Full Fit | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.040000 | 0.999980 | 0.000001 | 93.938827 | 313.12942 |
| Mg 280.270 {120} | 04/16/2019 11:23:49 | 04/05/2019 08:18:34 | Linear | 1/Var | 579.31173 | 49.678342 | 0.000000 | 1.000000 | 0.999159 | 234.36294 | 0.030900 | 0.102999 |
| Mn 257.610 {131} | 04/16/2019 11:23:49 | 04/05/2019 08:18:34 | Linear | 1/Conc | -0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999800 | 0.000003 | 0.097980 | 0.326601 |
| Mn 259.373 {130} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 1.910672 | 1.406640 | 0.000000 | 1.000000 | 0.999790 | 13.592011 | 1.043152 | 3.477174 |
| Mo 202.030 {466} | 04/16/2019 11:23:49 | 04/05/2019 08:12:02 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.391709 | 1.305695 |
| Mo 203.844 {465} | 04/16/2019 11:23:49 | 04/05/2019 08:12:02 | Linear | 1/Var | 0.000009 | 0.000008 | 0.000000 | 1.000000 | 0.999983 | 0.000003 | 0.746097 | 2.486991 |
| Mo 204.598 {464} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Var | 0.320630 | 0.824476 | 0.000000 | 1.000000 | 0.999753 | 5.202856 | 0.702655 | 2.342183 |
| Ni 221.647 {452} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.188014 | 1.960989 | 0.000000 | 1.000000 | 0.999792 | 1.883097 | 0.478095 | 1.593652 |
| Ni 231.604 {445} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.000021 | 0.000018 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 0.504511 | 1.681705 |
| Pb 216.999 {455} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Var | 0.000015 | 0.000002 | 0.000000 | 1.000000 | 0.999843 | 0.000040 | 4.065918 | 13.553059 |
| Pb 220.353 {453} | 04/16/2019 11:23:49 | 04/05/2019 08:12:03 | Linear | 1/Conc | 1.115789 | 0.399994 | 0.000000 | 1.000000 | 0.999053 | 0.053098 | 2.370772 | 7.902574 |
| Pb 220.353 {153} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999939 | 0.000000 | 7.123424 | 23.744745 |
| Sb 206.833 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999969 | 0.000000 | 2.779281 | 9.264269 |
| Sb 217.581 {455} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | 0.712715 | 0.198078 | 0.000000 | 1.000000 | 0.999882 | 0.026863 | 2.990604 | 9.968681 |
| Se 196.090 {472} | 04/16/2019 11:23:49 | 04/05/2019 08:12:03 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999025 | 0.000000 | 5.886045 | 19.620148 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Curvili | 1/Conc | -0.000001 | 0.000000 | -0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.036920 | 73.456402 |
| Tl 190.856 {476} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999667 | 0.000001 | 2.023818 | 6.746060 |
| Tl 190.856 {477} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | -0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999569 | 0.000000 | 4.888356 | 16.294520 |
| V 290.882 {116} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 5.385278 | 17.950927 |
| V 292.402 {115} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 4.505315 | 9.634950 | 0.000000 | 1.000000 | 0.999906 | 1.656834 | 0.524983 | 1.749942 |
| Zn 206.200 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Var | 0.000056 | 0.000019 | 0.000000 | 1.000000 | 0.998114 | 0.000252 | 0.409027 | 1.363425 |
| Zn 213.856 {457} | 04/16/2019 11:23:49 | 04/05/2019 08:12:04 | Linear | 1/Var | 6.970675 | 4.401027 | 0.000000 | 1.000000 | 0.999994 | 0.981134 | 0.142347 | 0.474492 |
| Y 224.306 {450}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:36 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 0.004977 | 0.000006 | 0.000000 | 1.000000 | 0.999998 | 0.000002 | 7.936203 | 26.454008 |
| Na 589.592 { 57} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.000023 | 0.000004 | 0.000000 | 1.000000 | 1.000000 | 0.000005 | 7.911739 | 26.372462 |
| Si 251.611 {134} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.666779 | 0.068766 | 0.000000 | 1.000000 | 0.998096 | 2.011598 | 20.011215 | 66.704049 |
| Ti 323.452 {104} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | 0.000277 | 0.000009 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 1.216005 | 4.053351 |
| Ti 334.941 {101} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | -0.000000 | 0.000005 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 1.602554 | 5.341845 |
| Sr 407.771 { 83} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | 0.000044 | 0.000119 | 0.000000 | 1.000000 | 0.999934 | 0.000005 | 0.142843 | 0.476144 |
| Sr 421.552 { 80} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | -0.000003 | 0.000079 | 0.000000 | 1.000000 | 0.999970 | 0.000002 | 0.216521 | 0.721737 |
| Sn 189.989 {477} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | 0.000015 | 0.000004 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 1.559447 | 5.198156 |
| B 249.678 {135} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999968 | 0.000000 | 2.012222 | 6.707406 |
| B 249.773 {135} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Var | 0.000005 | 0.000004 | 0.000000 | 1.000000 | 0.999981 | 0.000004 | 0.702004 | 2.340014 |
| Li 670.784 { 50} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Var | -0.000033 | 0.000041 | 0.000000 | 1.000000 | 0.999976 | 0.000026 | 0.955321 | 3.184404 |
| K 766.490 { 44} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.000028 | 0.000002 | 0.000000 | 1.000000 | 0.999999 | 0.000003 | 26.624067 | 88.746890 |
| P 213.618 {457} | 04/16/2019 11:23:49 | 04/05/2019 08:18:39 | Linear | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.405910 | 14.686365 |
| S 182.034 {485} | 04/16/2019 11:23:49 | 04/05/2019 08:45:31 | Curvili | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 5.874381 | 19.581270 |
| Hg 184.950 {482} | 04/16/2019 11:23:49 | 04/05/2019 08:12:06 | Linear | 1/Conc | 0.000010 | 0.000005 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 0.988337 | 3.294457 |
| Ce 404.076 { 83} | 04/16/2019 11:23:49 | 04/05/2019 08:12:06 | Linear | 1/Conc | 0.000040 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 19.309682 | 64.365606 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

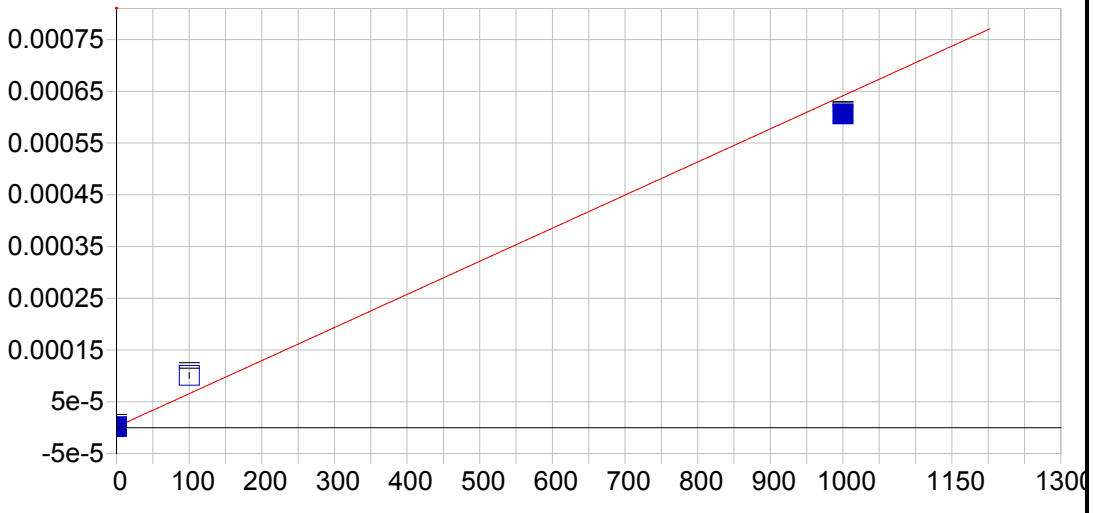



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.811773 | | |
| Predicted MQL: | 2.705910 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01809 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.361 | .361 | 3.61 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.975 | -.025 | -.025 | .00039 | .000 | 1 |
| CalStd3=1 | 1.0000 | .87048 | -.130 | -13.0 | .00002 | .000 | 1 |

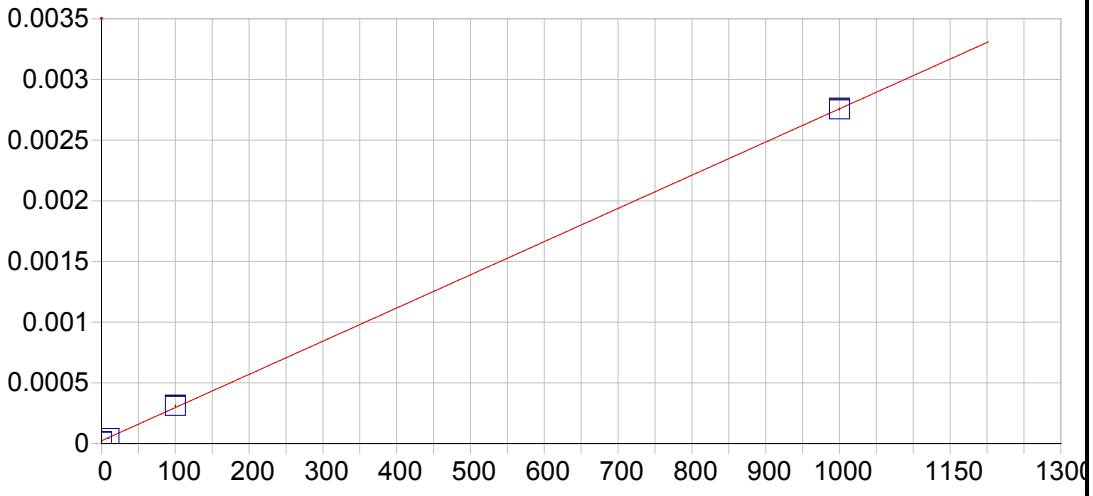



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.985238 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 12.717446 | | |
| Predicted MQL: | 42.391488 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04943 | -.049 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 154.92 | 54.9 | 54.9 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 945.08 | -54.9 | -5.49 | .00061 | .000 | 1 |

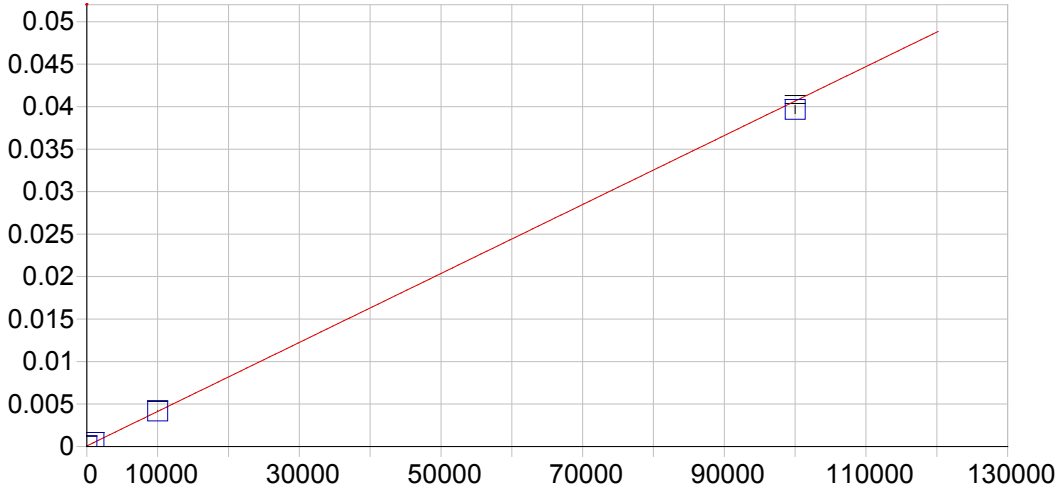



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999965 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 1.055814 | | |
| Predicted MQL: | 3.519380 | | |

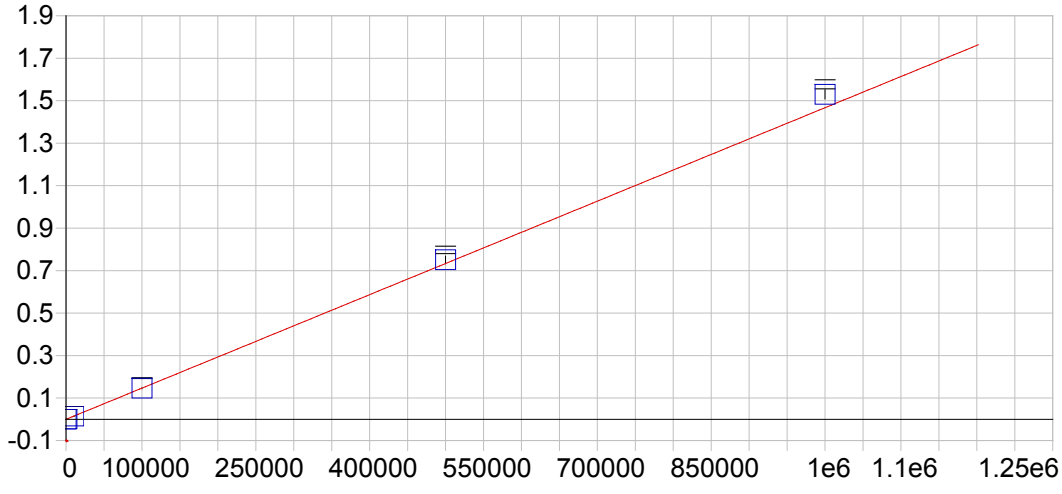
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5643 | -2.56 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.44 | -.559 | -.056 | .00276 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.2572 | -2.74 | -27.4 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.87 | 5.87 | 5.87 | .00031 | .000 | 1 |




**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000072 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999869 | | Status: | OK. | |
| Std Error of Est: | 0.000010 | | | | |
| Predicted MDL: | 27.112725 | | | | |
| Predicted MQL: | 90.375749 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -8.3885 | -8.39 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 10075. | 74.8 | .748 | .00416 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.6 | 7.64 | .764 | .00048 | .000 | 1 |
| CalStd13=10 | 100000. | 97533. | -2470. | -2.47 | .03966 | .000 | 1 |

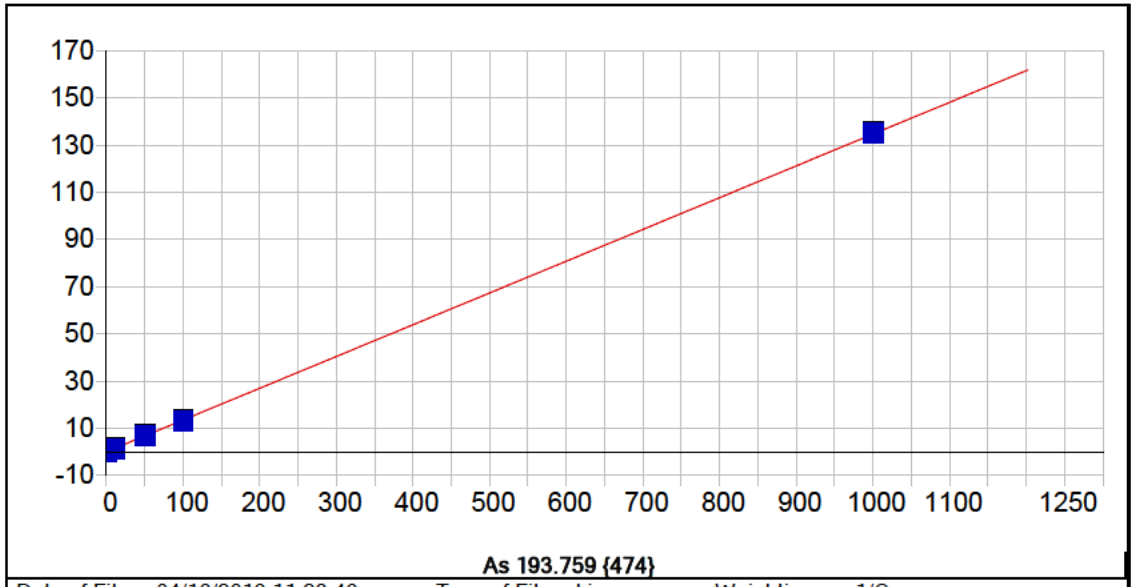



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 12.315633 | | |
| Predicted MQL: | 41.052111 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05514 | -.055 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 511610. | 11600. | 2.32 | .75050 | .018 | 1 |
| CalStd13=10 | 100000. | 99738. | -262. | -.262 | .14629 | .002 | 1 |
| CalStd10=10 | 10000. | 10161. | 161. | 1.61 | .01488 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1045.1 | 45.1 | 4.51 | .00151 | .000 | 1 |
| CalibStd15= | 1000000. | 1042700. | 42700. | 4.27 | 1.5296 | .022 | 1 |

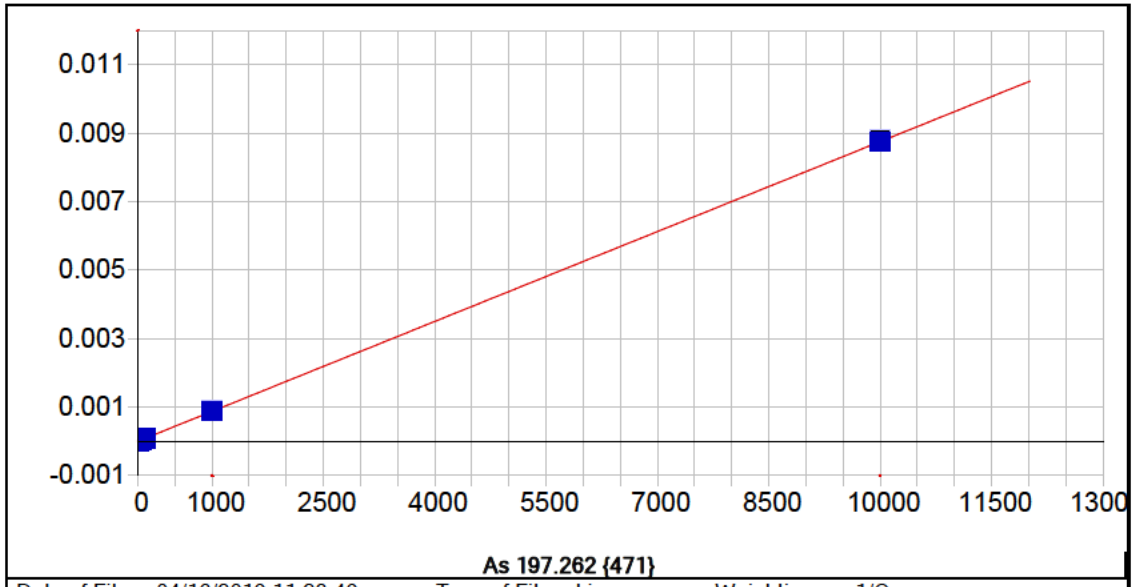



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.073470 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.134605 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999883 | Status: | OK. |
| Std Error of Est: | 0.009020 | | |
| Predicted MDL: | 3.616879 | | |
| Predicted MQL: | 12.056262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00092 | .001 | .000 | .07359 | .387 | 1 |
| CalStd9=100 | 1000.0 | 1002.5 | 2.52 | .252 | 134.87 | .668 | 1 |
| CalStd7=50 | 50.000 | 51.743 | 1.74 | 3.49 | 7.0386 | .153 | 1 |
| CalStd5=10 | 10.000 | 9.0316 | -.968 | -9.68 | 1.2887 | .402 | 1 |
| CalStd8=100 | 100.00 | 96.701 | -3.30 | -3.30 | 13.075 | .529 | 1 |

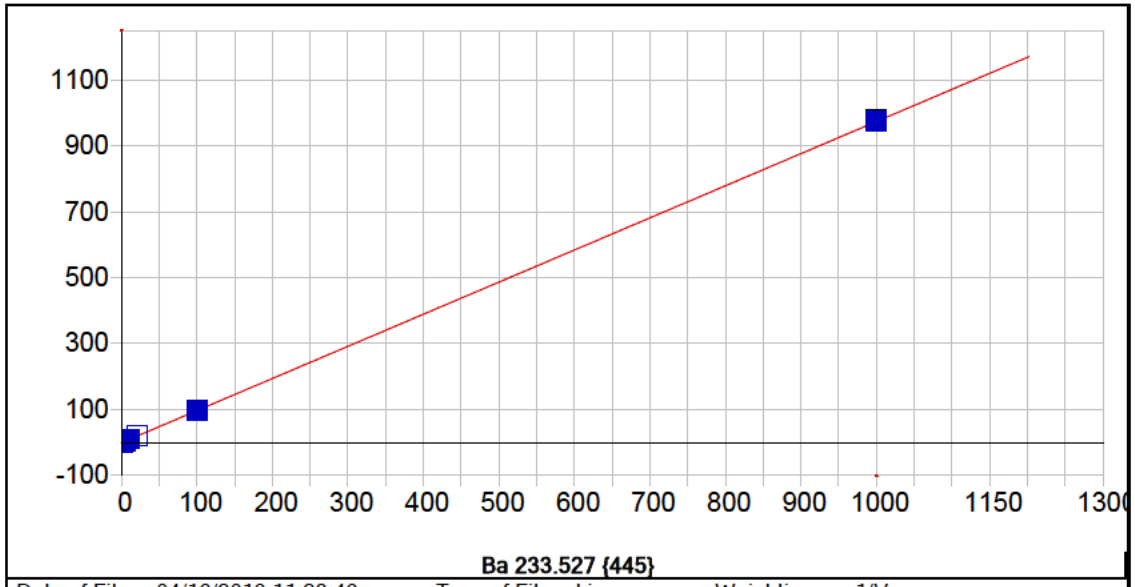



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.689114 | | |
| Predicted MQL: | 22.297048 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.8 | 8.77 | .877 | .00089 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.705 | -1.30 | -2.59 | .00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.067 | 2.07 | 20.7 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.69 | .692 | .692 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.8 | -10.2 | -.102 | .00880 | .000 | 1 |

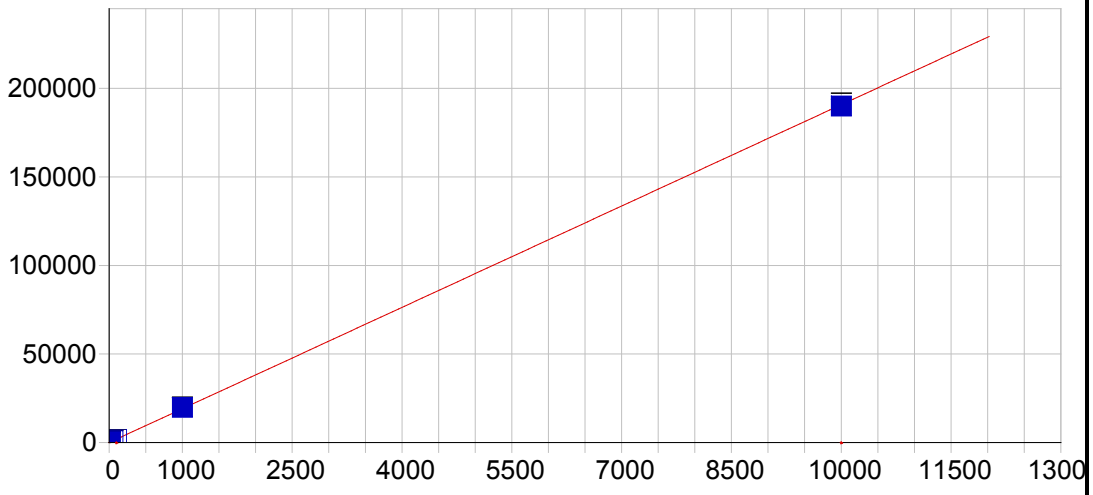



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.353818 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.974220 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999950 | Status: | OK. |
| Std Error of Est: | 0.485342 | | |
| Predicted MDL: | 0.461326 | | |
| Predicted MQL: | 1.537753 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.34750 | -.347 | .000 | -.69236 | .293 | 1 |
| CalStd5=10 | 10.000 | 10.904 | .904 | 9.04 | 10.270 | .354 | 1 |
| CalStd6=20 | 20.000 | 20.053 | .053 | .264 | 19.182 | .293 | 1 |
| CalStd8=100 | 100.00 | 99.607 | -.393 | -.393 | 96.697 | .563 | 1 |
| CalStd4=5 | 5.0000 | 4.7813 | -.219 | -4.37 | 4.3048 | .203 | 1 |
| CalStd9=100 | 1000.0 | 1000.7 | .743 | .074 | 974.67 | 3.43 | 1 |
| CalStd3=1 | 1.0000 | 1.5873 | .587 | 58.7 | 1.1926 | .465 | 1 |

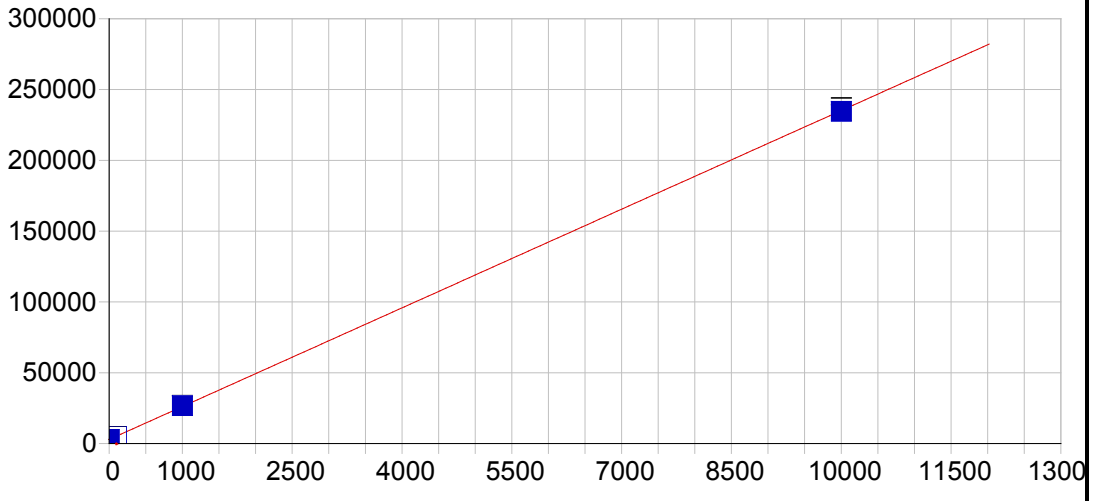



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 20.657103 | Re-Slope: | 1.000000 |
| A1 (Gain): | 19.075068 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999917 | Status: | OK. |
| Std Error of Est: | 0.932332 | | |
| Predicted MDL: | 0.309469 | | |
| Predicted MQL: | 1.031564 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | 20.648 | 3.14 | 1 |
| CalStd7=50 | 50.000 | 52.185 | 2.19 | 4.37 | 1016.1 | 11.9 | 1 |
| CalStd5=10 | 10.000 | 11.025 | 1.02 | 10.2 | 230.96 | 1.81 | 1 |
| CalStd6=20 | 20.000 | 20.753 | .753 | 3.77 | 416.53 | 4.42 | 1 |
| CalStd8=100 | 100.00 | 102.07 | 2.07 | 2.07 | 1967.6 | 21.4 | 1 |
| CalStd4=5 | 5.0000 | 5.2009 | .201 | 4.02 | 119.87 | 5.31 | 1 |
| CalStd9=100 | 1000.0 | 1036.7 | 36.7 | 3.67 | 19796. | 168. | 1 |
| CalStd3=1 | 1.0000 | 1.2184 | .218 | 21.8 | 43.899 | .366 | 1 |
| CalStd10=10 | 10000. | 9956.9 | -43.1 | -.431 | 189950. | 1730. | 1 |

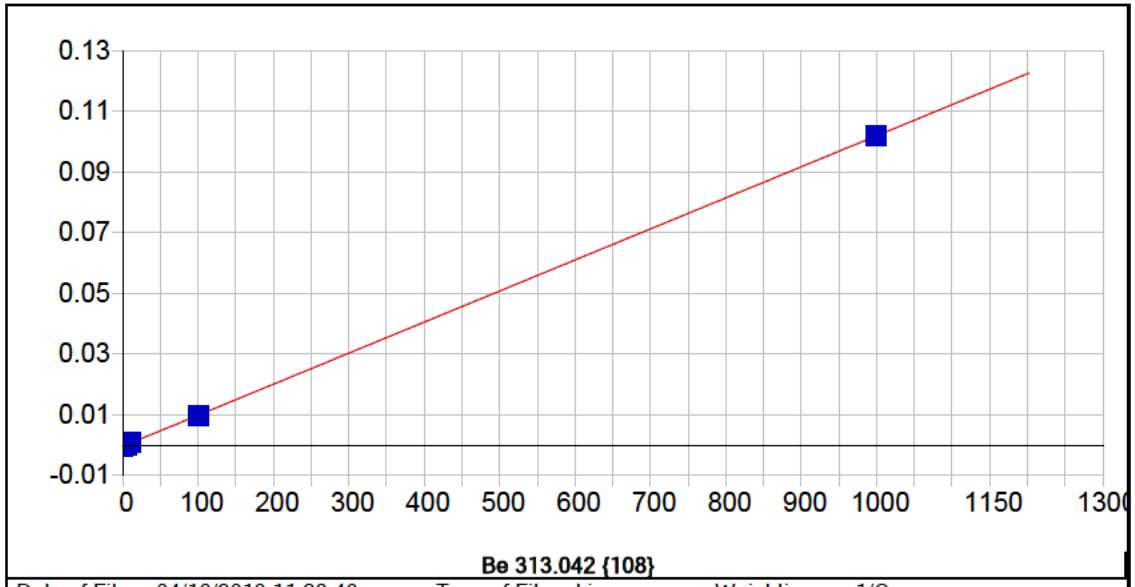



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 2891.704970 | Re-Slope: | 1.000000 |
| A1 (Gain): | 23.227594 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 8.997209 | | |
| Predicted MDL: | 0.736012 | | |
| Predicted MQL: | 2.453373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00362 | -.004 | .000 | 2891.6 | 5.85 | 1 |
| CalStd9=100 | 1000.0 | 1025.7 | 25.7 | 2.57 | 26719. | 230. | 1 |
| CalStd8=100 | 100.00 | 101.32 | 1.32 | 1.32 | 5245.1 | 28.4 | 1 |
| CalStd10=10 | 10000. | 9973.0 | -27.0 | -.270 | 234560. | 2390. | 1 |

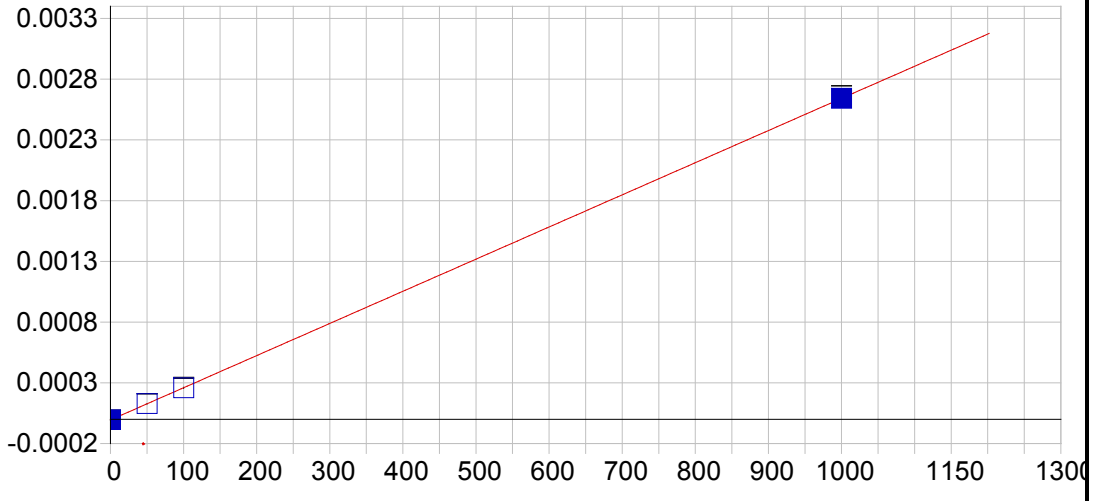



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000354 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000102 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.047275 | | |
| Predicted MQL: | 0.157583 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00001 | -.000 | .000 | -.00035 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.707 | .707 | 7.07 | .00074 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.411 | -.589 | -.589 | .00982 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47610 | -.024 | -4.78 | -.00031 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1591 | .159 | 3.18 | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.77 | -.233 | -.023 | .10197 | .000 | 1 |
| CalStd3=1 | 1.0000 | .97924 | -.021 | -2.08 | -.00025 | .000 | 1 |

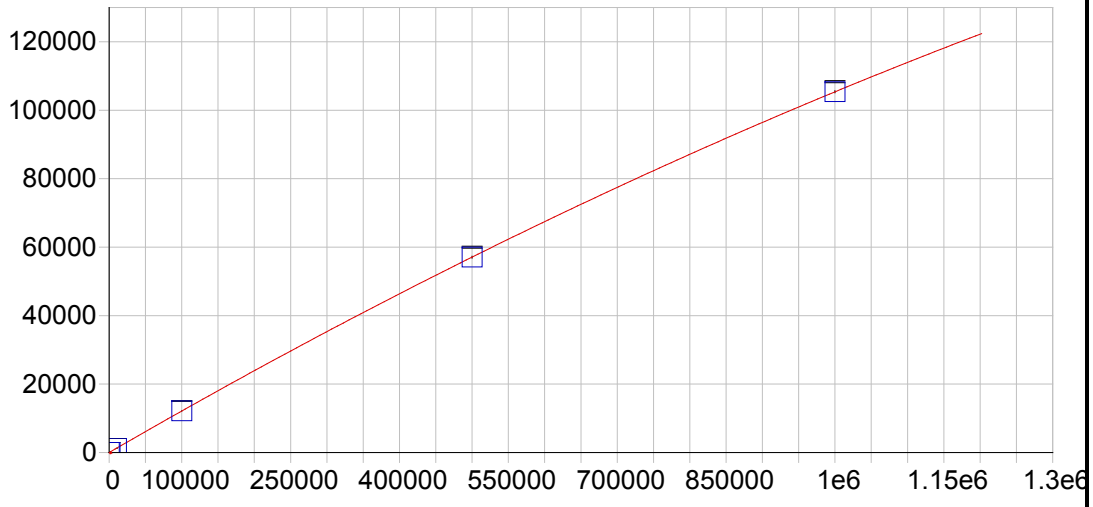



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.221748 | | |
| Predicted MQL: | 4.072495 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23499 | -.235 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.77 | -.228 | -.023 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.288 | .288 | .575 | .00013 | .000 | 1 |

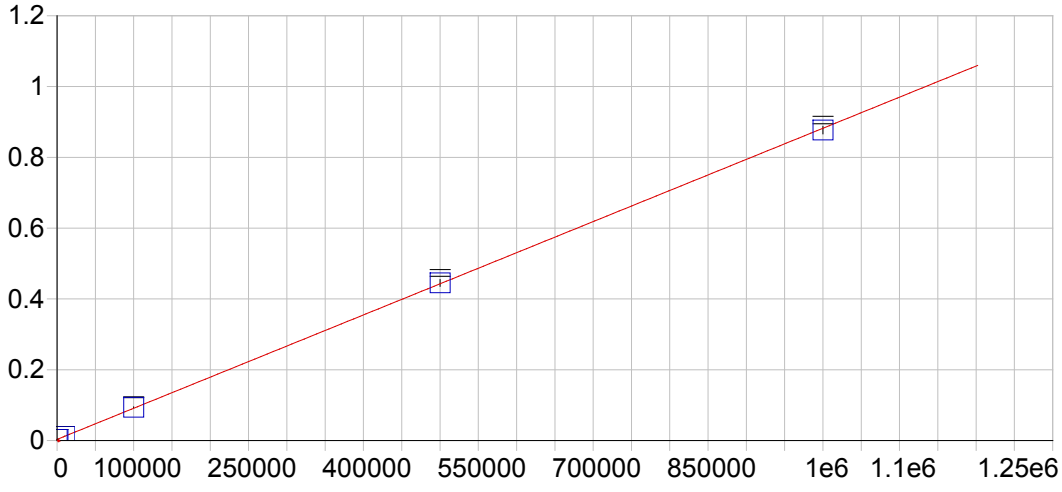



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 13.508949 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.122957 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.326345 | | |
| Predicted MDL: | 11.030951 | | |
| Predicted MQL: | 36.769838 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 13.505 | .897 | 1 |
| CalStd10=10 | 10000. | 10137. | 137. | 1.37 | 1258.1 | 5.56 | 1 |
| CalStd13=10 | 100000. | 99980. | -19.5 | -.020 | 12131. | 72.4 | 1 |
| CalStd14=50 | 500000. | 499680. | -317. | -.063 | 57059. | 269. | 1 |
| CalStd9=100 | 1000.0 | 1018.0 | 18.0 | 1.80 | 138.66 | 2.63 | 1 |
| CalibStd15= | 1000000. | 1000200. | 191. | .019 | 105390. | 304. | 1 |

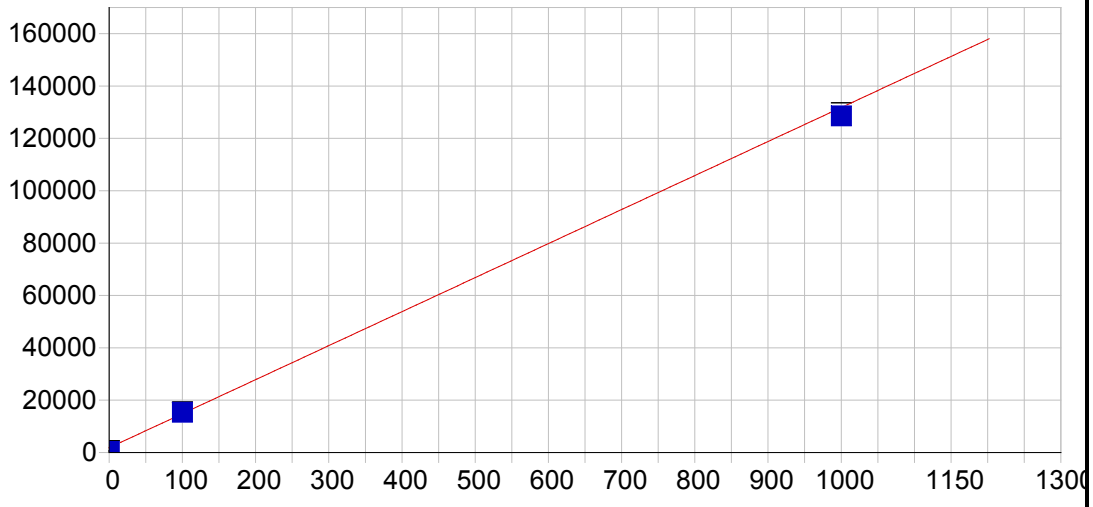



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003301 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999945 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 6.389566 | | |
| Predicted MQL: | 21.298554 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .10872 | .109 | .000 | .00330 | .000 | 1 |
| CalStd10=10 | 10000. | 10311. | 311. | 3.11 | .01236 | .000 | 1 |
| CalStd13=10 | 100000. | 102960. | 2960. | 2.96 | .09380 | .001 | 1 |
| CalStd14=50 | 500000. | 502860. | 2860. | .571 | .44526 | .010 | 1 |
| CalStd9=100 | 1000.0 | 830.78 | -169. | -16.9 | .00403 | .000 | 1 |
| CalibStd15= | 1000000. | 994040. | -5960. | -.596 | .87696 | .011 | 1 |

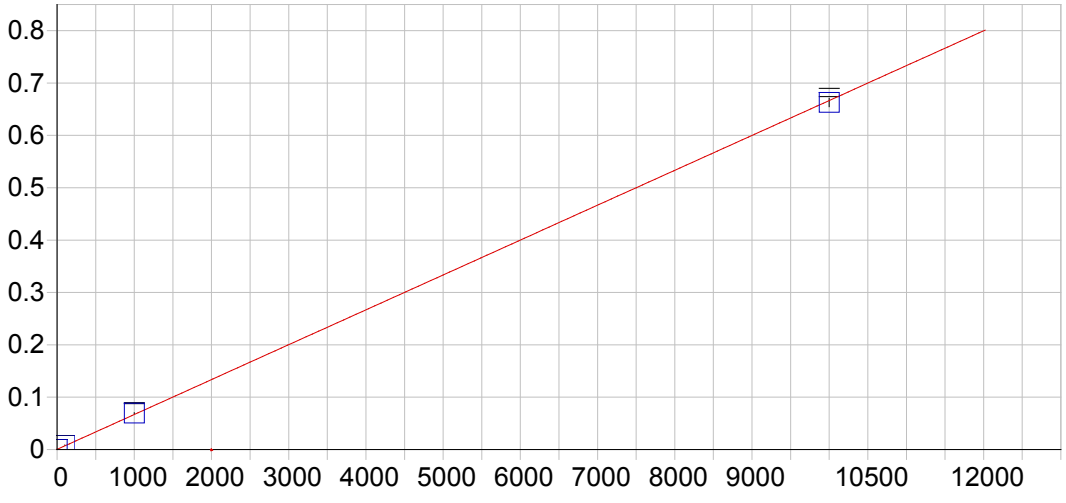



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1840.732744 | Re-Slope: | 1.000000 |
| A1 (Gain): | 129.964465 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998095 | Status: | OK. |
| Std Error of Est: | 1517.817017 | | |
| Predicted MDL: | 0.039864 | | |
| Predicted MQL: | 0.132878 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.040 | -10.0 | .000 | 535.87 | 259. | 1 |
| CalStd9=100 | 1000.0 | 975.13 | -24.9 | -2.49 | 128570. | 1220. | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | 15360. | 155. | 1 |

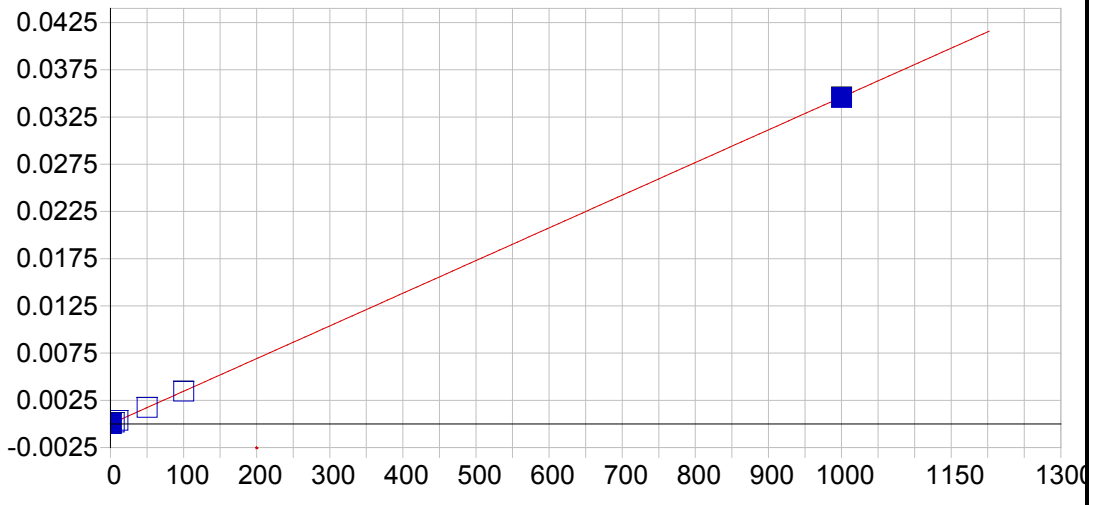



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000342 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000067 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.000075 | | |
| Predicted MDL: | 0.194718 | | |
| Predicted MQL: | 0.649059 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02476 | -.025 | .000 | .00034 | .000 | 1 |
| CalStd10=10 | 10000. | 9941.9 | -58.1 | -.581 | .66273 | .008 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | .00845 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.4 | 36.4 | 3.64 | .06939 | .001 | 1 |

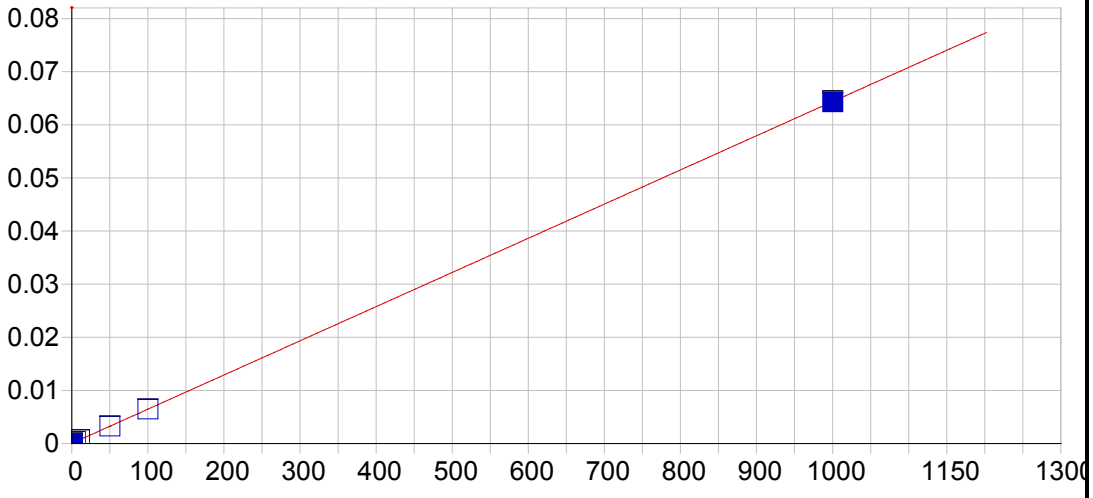



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000035 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.201373 | | |
| Predicted MQL: | 0.671242 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00020 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.364 | .364 | .728 | .00174 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0391 | .039 | 3.91 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61943 | .119 | 23.9 | .00002 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3050 | .305 | 6.10 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.920 | -.080 | -.080 | .00346 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.615 | .615 | 6.15 | .00037 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.64 | -1.36 | -.136 | .03456 | .000 | 1 |

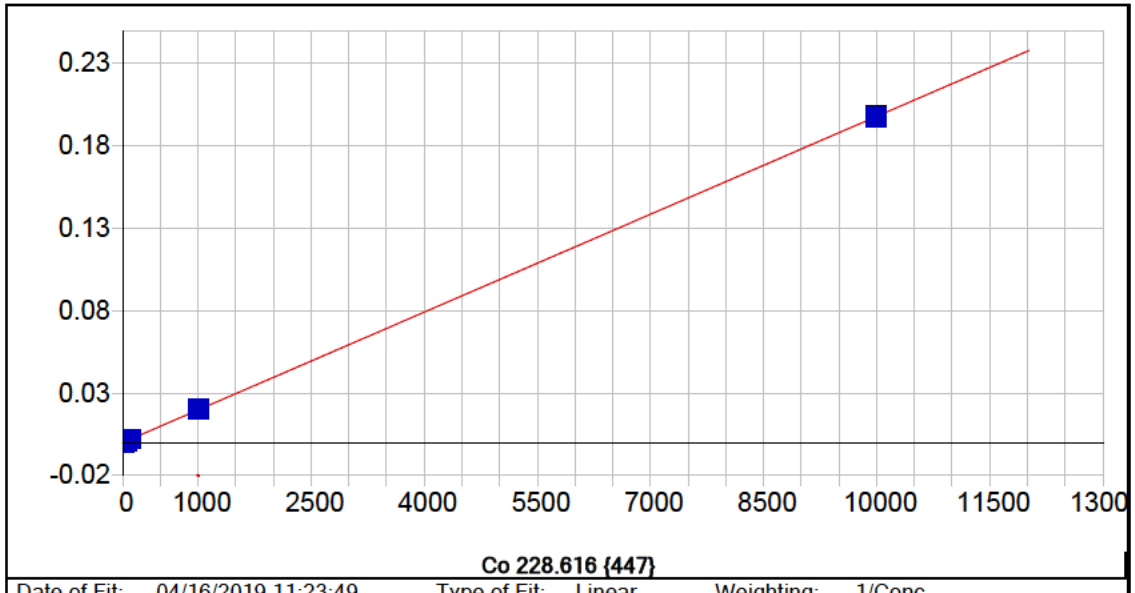



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000064 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.168711 | | |
| Predicted MQL: | 0.562370 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00008 | .000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.325 | .325 | .650 | .00327 | .000 | 1 |
| CalStd3=1 | 1.0000 | .89504 | -.105 | -10.5 | .00009 | .000 | 1 |
| CalStd2=0.5 | .50000 | .42376 | -.076 | -15.2 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1512 | .151 | 3.02 | .00037 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.961 | -.039 | -.039 | .00647 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.576 | .576 | 5.76 | .00071 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.17 | -.832 | -.083 | .06432 | .000 | 1 |

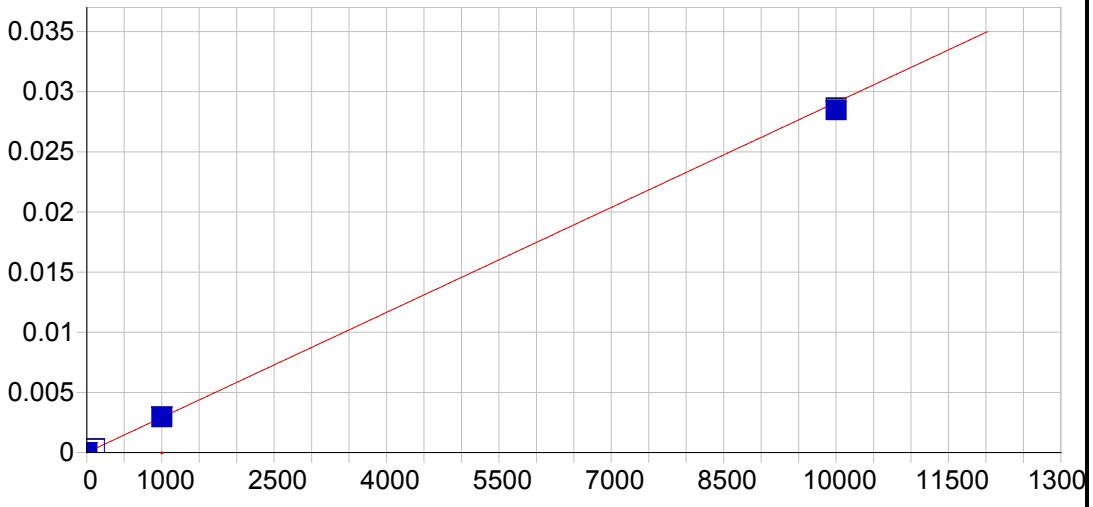



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000020 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999927 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.395103 | | |
| Predicted MQL: | 1.317010 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00040 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.960 | 1.96 | 3.92 | .00103 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.663 | .663 | 6.63 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0739 | .074 | 1.48 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.58 | 2.58 | 2.58 | .00204 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.5 | 31.5 | 3.15 | .02046 | .000 | 1 |
| CalStd3=1 | 1.0000 | .42491 | -.575 | -57.5 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.9 | -36.1 | -.361 | .19782 | .000 | 1 |

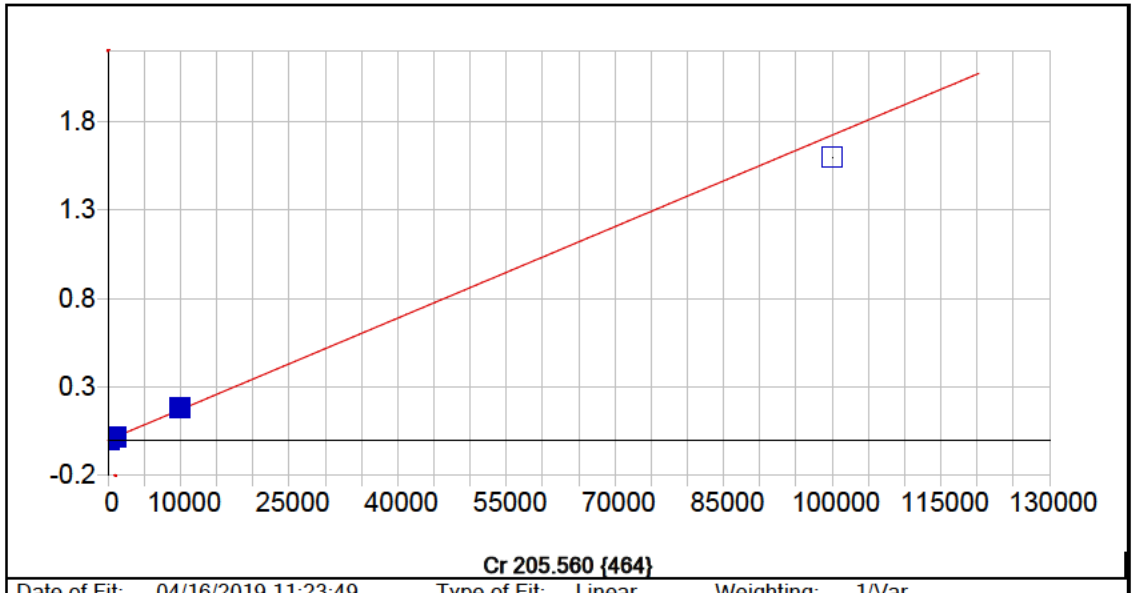



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999845 | Status: | OK. |
| Std Error of Est: | 0.000017 | | |
| Predicted MDL: | 0.774921 | | |
| Predicted MQL: | 2.583069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.2136 | -1.21 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.2 | 13.2 | 1.32 | .00296 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.6 | -214. | -2.14 | .02849 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.21 | .210 | .210 | .00030 | .000 | 1 |

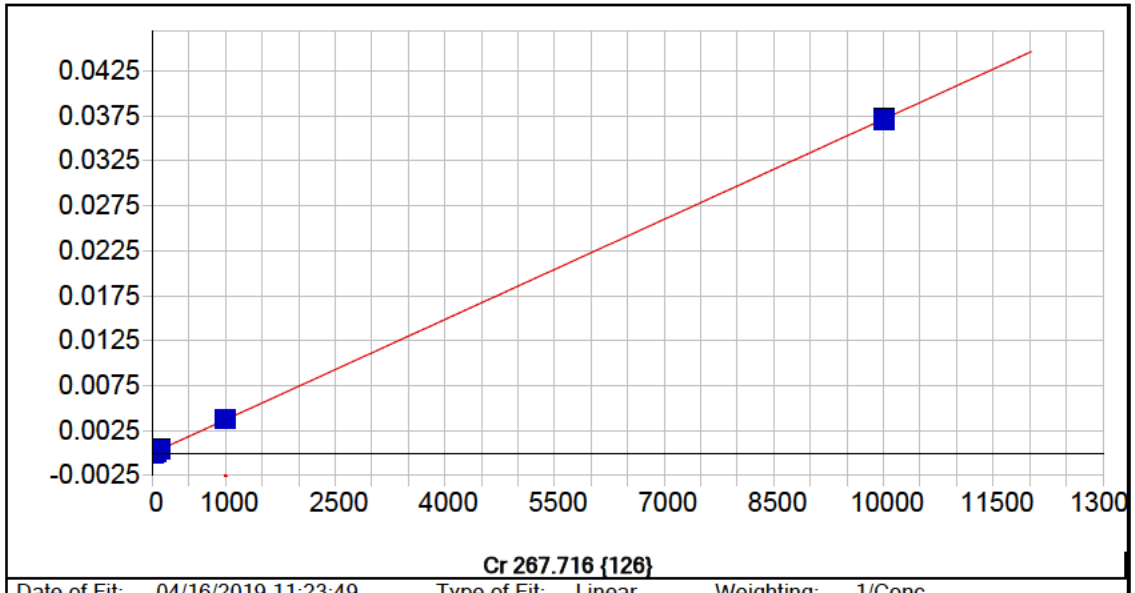



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000116 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996275 | Status: | OK. |
| Std Error of Est: | 0.000543 | | |
| Predicted MDL: | 0.320402 | | |
| Predicted MQL: | 1.068006 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.2302 | -7.23 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.7033 | -5.30 | -53.0 | .00020 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00096 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1100.1 | 100. | 10.0 | .01908 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.62 | 2.62 | 2.62 | .00188 | .000 | 1 |
| CalStd4=5 | 5.0000 | -.99547 | -6.00 | -120. | .00010 | .000 | 1 |
| CalStd3=1 | 1.0000 | -5.5102 | -6.51 | -651. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10687. | 687. | 6.87 | .18429 | .000 | 1 |
| CalStd12=10 | 100000. | 92673. | -7330. | -7.33 | 1.5972 | .001 | 1 |

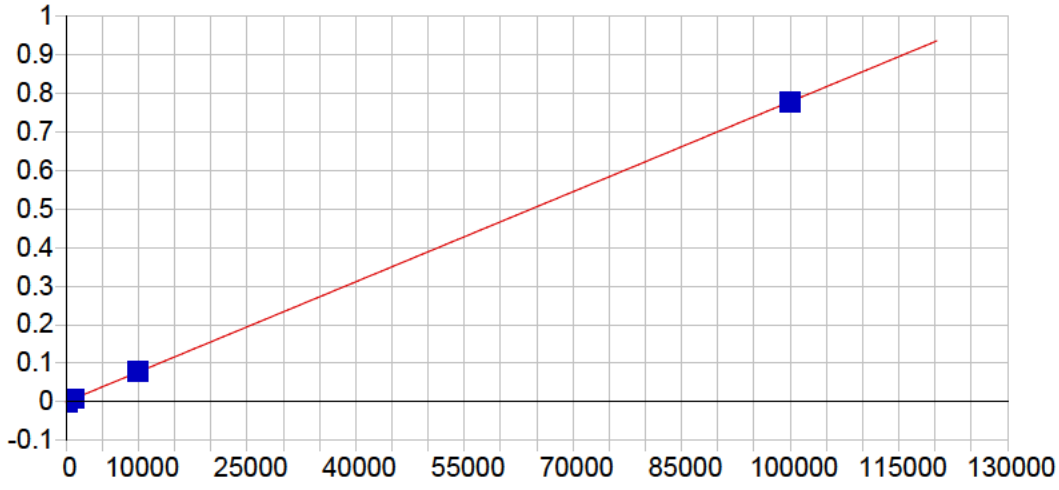



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.779459 | | |
| Predicted MQL: | 2.598198 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00090 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.358 | .358 | 3.58 | .00004 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.431 | .431 | .862 | .00019 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.0 | 15.0 | 1.50 | .00377 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.09 | 1.09 | 1.09 | .00038 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5581 | .558 | 11.2 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.5 | -17.5 | -.175 | .03708 | .000 | 1 |

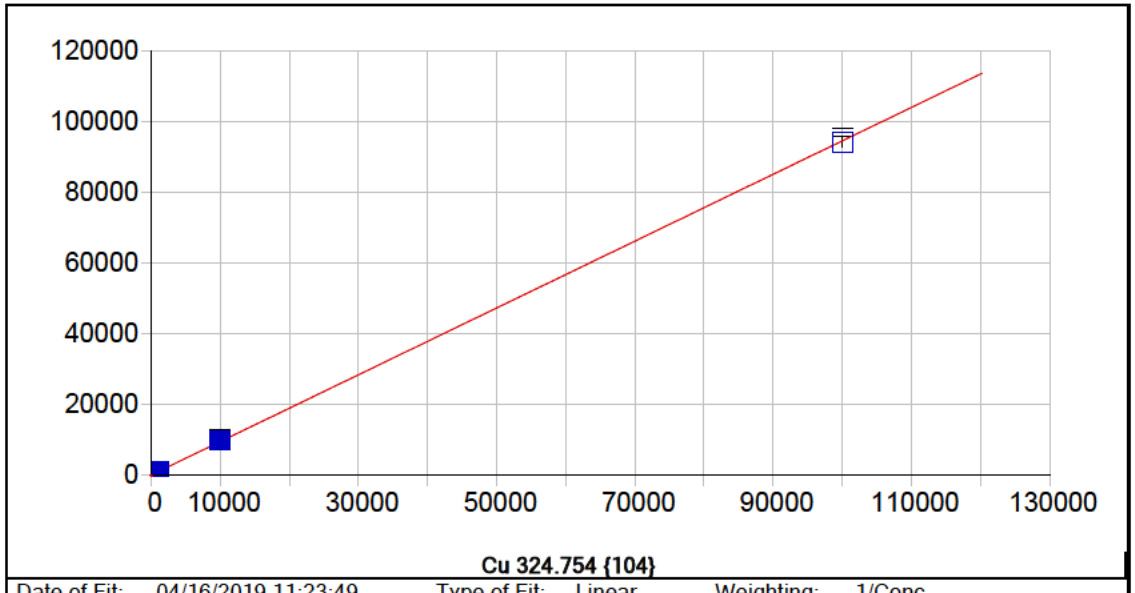



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999803 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.407926 | | |
| Predicted MQL: | 1.359752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03226 | .032 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.2 | 35.2 | 3.52 | .00805 | .000 | 1 |
| CalStd7=50 | 50.000 | 24.274 | -25.7 | -51.5 | .00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.181 | -33.8 | -33.8 | .00051 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.7108 | -16.3 | -81.4 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99833. | -167. | -.167 | .77629 | .000 | 1 |
| CalStd10=10 | 10000. | 10208. | 208. | 2.08 | .07938 | .000 | 1 |

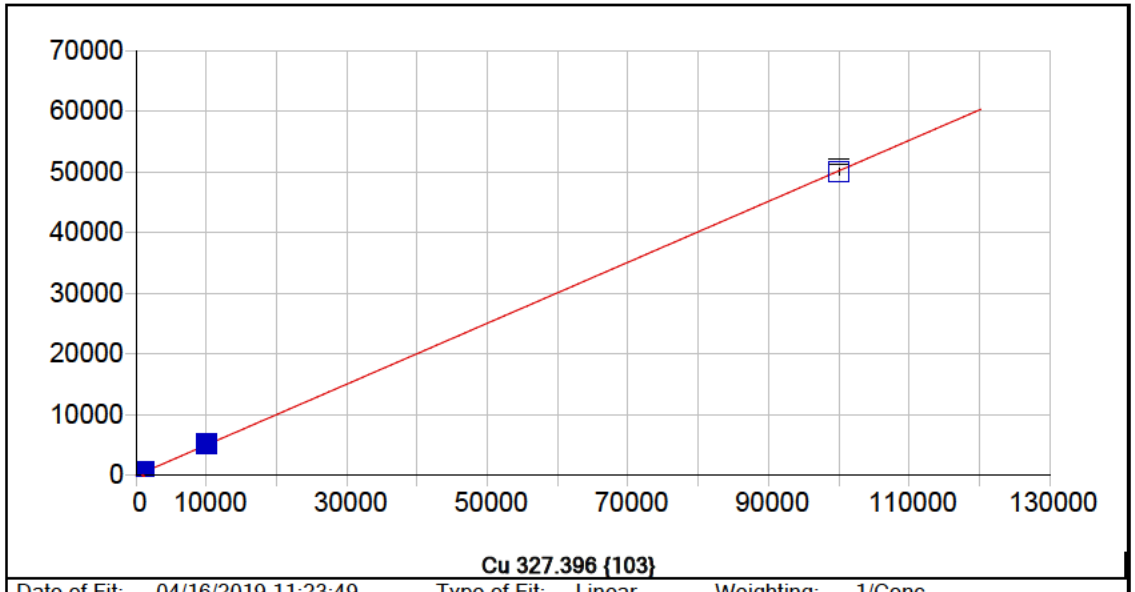



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 148.590134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.943999 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999922 | Status: | OK. |
| Std Error of Est: | 0.452769 | | |
| Predicted MDL: | 2.842345 | | |
| Predicted MQL: | 9.474483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00435 | -.004 | .000 | 148.59 | 1.60 | 1 |
| CalStd9=100 | 1000.0 | 1055.4 | 55.4 | 5.54 | 1144.9 | 11.8 | 1 |
| CalStd8=100 | 100.00 | 104.61 | 4.61 | 4.61 | 247.34 | 3.94 | 1 |
| CalStd10=10 | 10000. | 10337. | 337. | 3.37 | 9905.7 | 131. | 1 |
| CalStd12=10 | 100000. | 99595. | -405. | -.405 | 94166. | 1180. | 1 |
| CalStd5=10 | 10.000 | 10.388 | .388 | 3.88 | 158.40 | 3.42 | 1 |
| CalStd6=20 | 20.000 | 23.696 | 3.70 | 18.5 | 170.96 | 1.70 | 1 |
| CalStd7=50 | 50.000 | 54.024 | 4.02 | 8.05 | 199.59 | 4.31 | 1 |

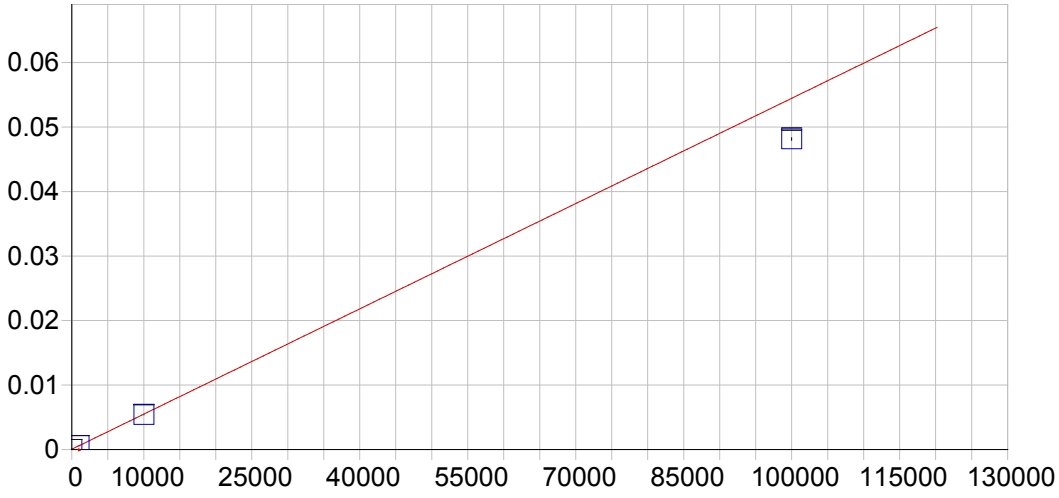



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.891198 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.501962 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999946 | Status: | OK. |
| Std Error of Est: | 0.139808 | | |
| Predicted MDL: | 6.972418 | | |
| Predicted MQL: | 23.241395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00299 | .003 | .000 | 9.8927 | 3.07 | 1 |
| CalStd6=20 | 20.000 | 18.675 | -1.32 | -6.62 | 19.260 | 2.56 | 1 |
| CalStd7=50 | 50.000 | 51.080 | 1.08 | 2.16 | 35.516 | 1.83 | 1 |
| CalStd8=100 | 100.00 | 99.925 | -.075 | -.075 | 60.020 | 2.43 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | 537.14 | 8.80 | 1 |
| CalStd10=10 | 10000. | 10261. | 261. | 2.61 | 5160.6 | 79.8 | 1 |
| CalStd12=10 | 100000. | 99693. | -307. | -.307 | 50052. | 501. | 1 |
| CalStd4=5 | 5.0000 | 3.6138 | -1.39 | -27.7 | 11.704 | 2.50 | 1 |
| CalStd5=10 | 10.000 | 6.5030 | -3.50 | -35.0 | 13.153 | 3.32 | 1 |

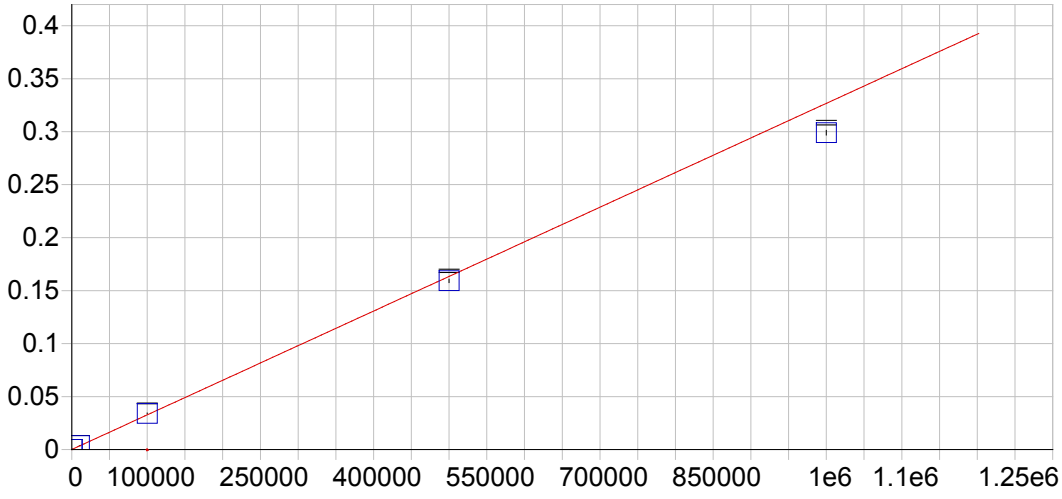



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.930143 | | |
| Predicted MQL: | 6.433810 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11978 | -.120 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9880.1 | -120. | -1.20 | .00542 | .000 | 1 |
| CalStd13=10 | 100000. | 88389. | -11600. | -11.6 | .04814 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.05 | -.951 | -.095 | .00059 | .000 | 1 |

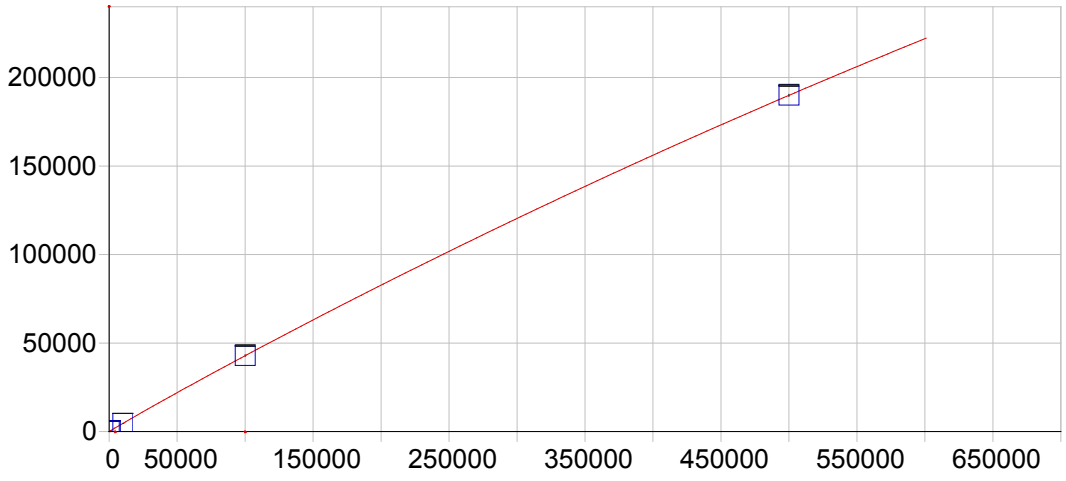



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996888 | Status: | OK. |
| Std Error of Est: | 0.000081 | | |
| Predicted MDL: | 10.726217 | | |
| Predicted MQL: | 35.754058 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -71.523 | -71.5 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10965. | 965. | 9.65 | .00362 | .000 | 1 |
| CalStd13=10 | 100000. | 104030. | 4030. | 4.03 | .03402 | .000 | 1 |
| CalStd14=50 | 500000. | 487250. | -12800. | -2.55 | .15921 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1024.6 | 24.6 | 2.46 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 915180. | -84800. | -8.48 | .29901 | .002 | 1 |

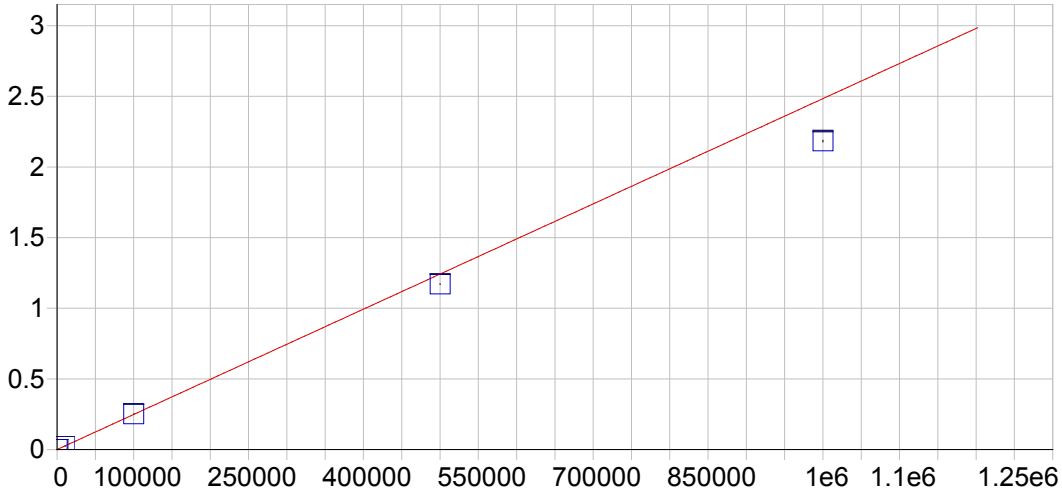



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 15.029995 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.551164 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 0.980000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 1.675157 | | |
| Predicted MDL: | 2.808579 | | |
| Predicted MQL: | 9.361928 | | |

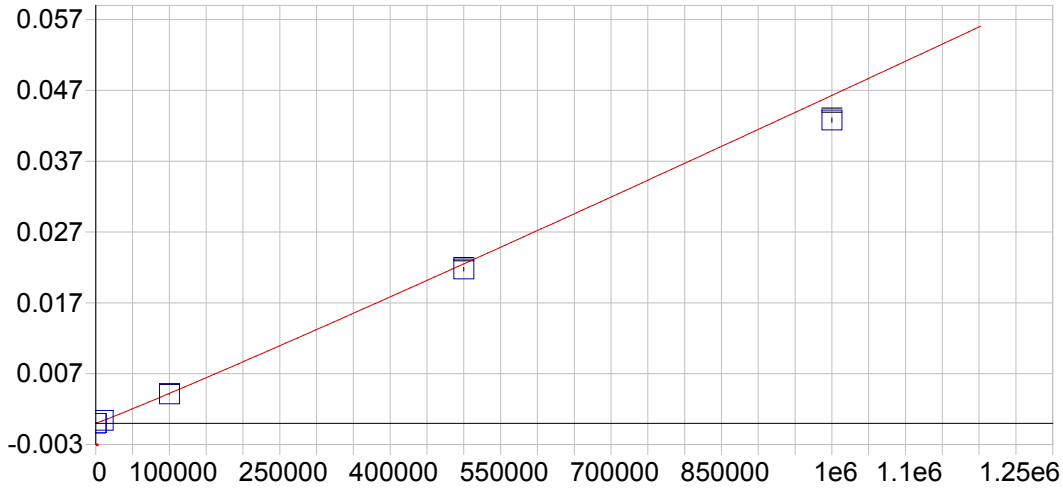
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03957 | .040 | .000 | 15.053 | 4.18 | 1 |
| CalStd10=10 | 10000. | 9996.5 | -3.53 | -.035 | 4587.5 | 40.5 | 1 |
| CalStd13=10 | 100000. | 100080. | 83.7 | .084 | 42890. | 397. | 1 |
| CalStd14=50 | 500000. | 499980. | -22.0 | -.004 | 189930. | 522. | 1 |
| CalStd9=100 | 1000.0 | 950.19 | -49.8 | -4.98 | 471.53 | 4.31 | 1 |




**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000027 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000002 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999007 | | Status: | OK. | |
| Std Error of Est: | 0.000224 | | | | |
| Predicted MDL: | 2.381545 | | | | |
| Predicted MQL: | 7.938482 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.6205 | -7.62 | .000 | .00001 | .000 | 1 |
| CalStd13=10 | 100000. | 101200. | 1200. | 1.20 | .25140 | .000 | 1 |
| CalStd10=10 | 10000. | 10195. | 195. | 1.95 | .02535 | .000 | 1 |
| CalStd14=50 | 500000. | 471240. | -28800. | -5.75 | 1.1706 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1100.6 | 101. | 10.1 | .00276 | .000 | 1 |
| CalibStd15= | 1000000. | 878990. | -121000. | -12.1 | 2.1834 | .006 | 1 |

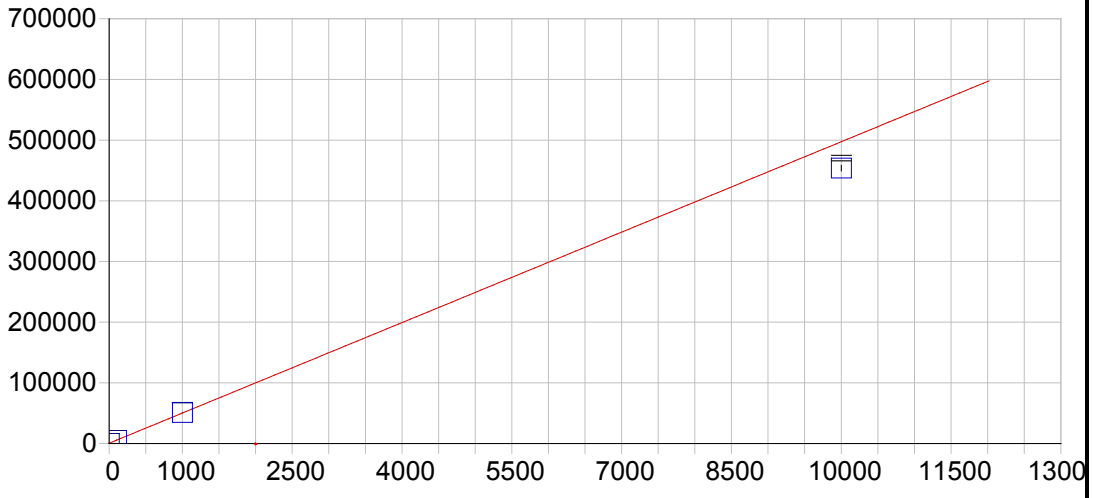



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.040000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 93.938827 | | |
| Predicted MQL: | 313.129423 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97830. | -2170. | -2.17 | .00413 | .000 | 1 |
| CalStd10=10 | 10000. | 10495. | 495. | 4.95 | .00040 | .000 | 1 |
| CalStd14=50 | 500000. | 483930. | -16100. | -3.21 | .02176 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.7 | 132. | 13.2 | .00004 | .000 | 1 |
| CalibStd15= | 1000000. | 927180. | -72800. | -7.28 | .04279 | .000 | 1 |

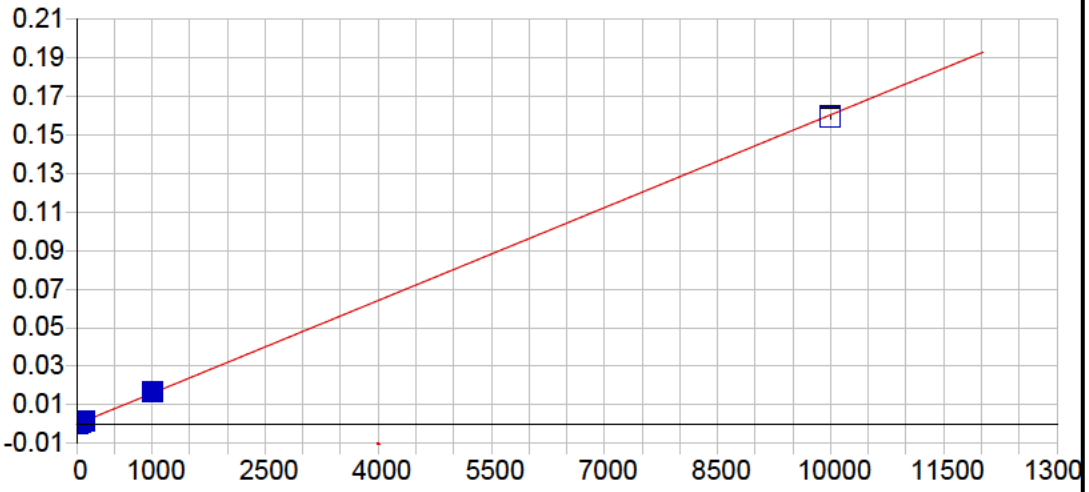



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 579.311732 | Re-Slope: | 1.000000 |
| A1 (Gain): | 49.678342 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999159 | Status: | OK. |
| Std Error of Est: | 234.362940 | | |
| Predicted MDL: | 0.030900 | | |
| Predicted MQL: | 0.102999 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.0030 | -1.00 | .000 | 529.48 | 19.2 | 1 |
| CalStd9=100 | 1000.0 | 1011.5 | 11.5 | 1.15 | 50827. | 263. | 1 |
| CalStd10=10 | 10000. | 9122.9 | -877. | -8.77 | 453790. | 4540. | 1 |
| CalStd8=100 | 100.00 | 101.79 | 1.79 | 1.79 | 5636.0 | 26.2 | 1 |

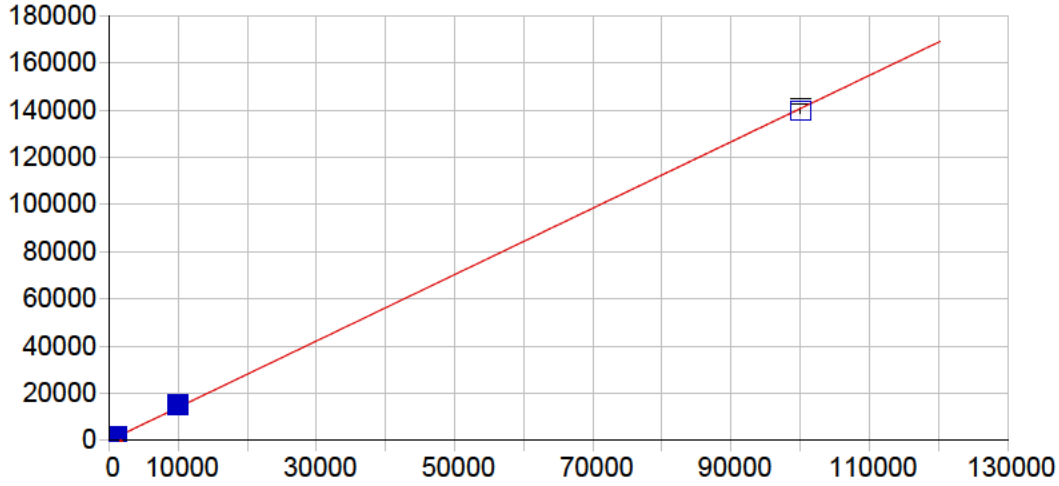



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999800 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.097980 | | |
| Predicted MQL: | 0.326601 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00328 | -.003 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.716 | 1.72 | 17.2 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.252 | 4.25 | 8.50 | .00087 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.794 | 1.79 | 8.97 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00171 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9911 | .991 | 19.8 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1050.6 | 50.6 | 5.06 | .01684 | .000 | 1 |
| CalStd10=10 | 10000. | 9933.9 | -66.1 | -.661 | .15920 | .001 | 1 |

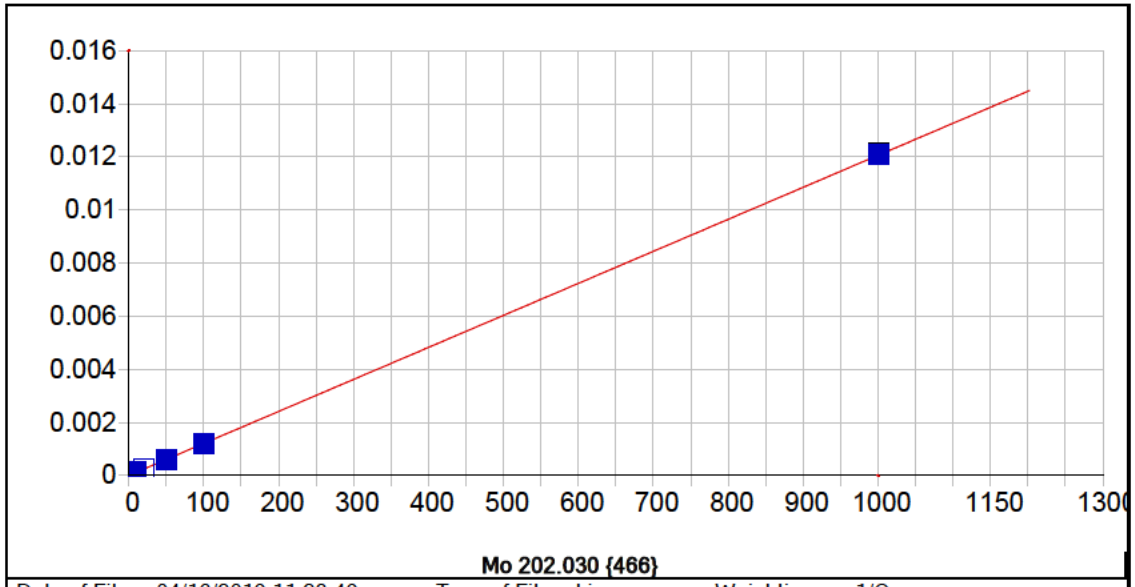



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.910672 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.406640 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999790 | Status: | OK. |
| Std Error of Est: | 13.592011 | | |
| Predicted MDL: | 1.043152 | | |
| Predicted MQL: | 3.477174 | | |

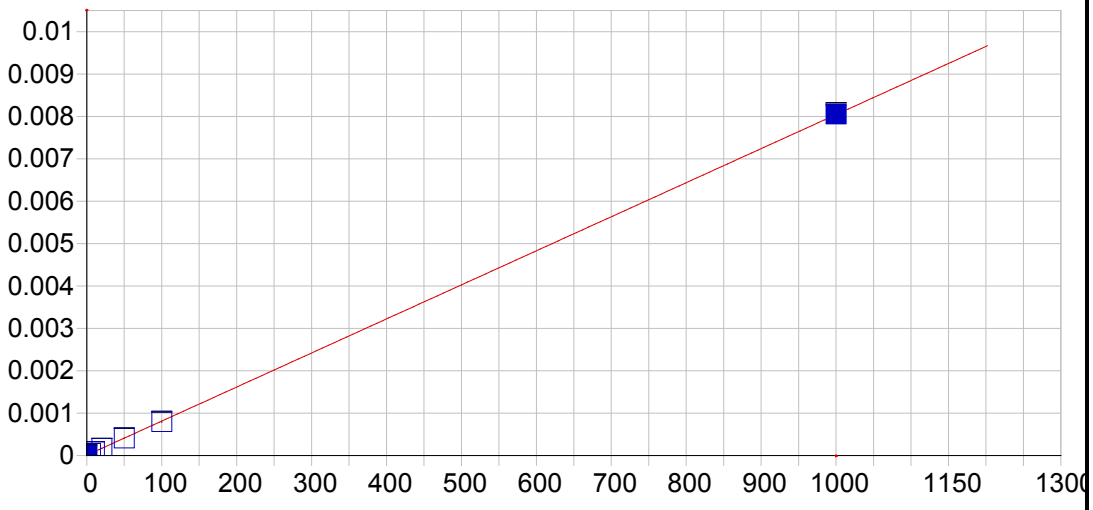
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.13393 | -.134 | .000 | 1.7223 | .965 | 1 |
| CalStd10=10 | 10000. | 10596. | 596. | 5.96 | 14925. | 123. | 1 |
| CalStd9=100 | 1000.0 | 1081.1 | 81.1 | 8.11 | 1524.4 | 14.3 | 1 |
| CalStd12=10 | 100000. | 99322. | -678. | -.678 | 139710. | 1150. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.391709 | | |
| Predicted MQL: | 1.305695 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.868 | -.132 | -.265 | .00061 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.739 | -.261 | -1.30 | .00024 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.424 | .424 | 4.24 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.152 | -.848 | -.848 | .00120 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9573 | -.043 | -.854 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .859 | .086 | .01211 | .000 | 1 |

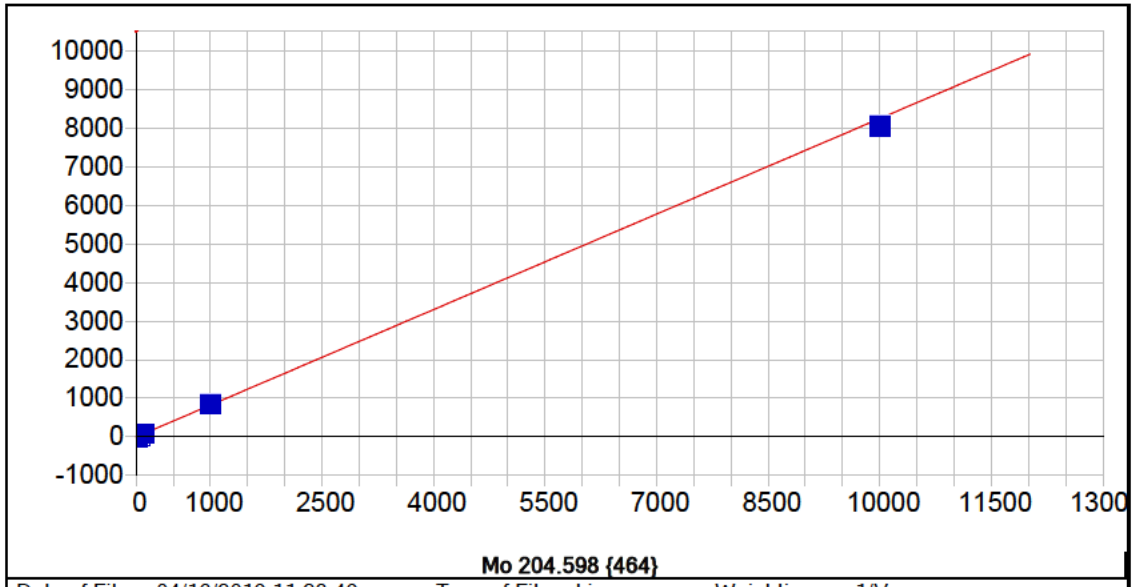



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.746097 | | |
| Predicted MQL: | 2.486991 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .40029 | .400 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.698 | -.302 | -.604 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.844 | -.156 | -.781 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.219 | .219 | 2.19 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.268 | -1.73 | -1.73 | .00080 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8282 | -.172 | -3.44 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.4 | 1.42 | .142 | .00806 | .000 | 1 |

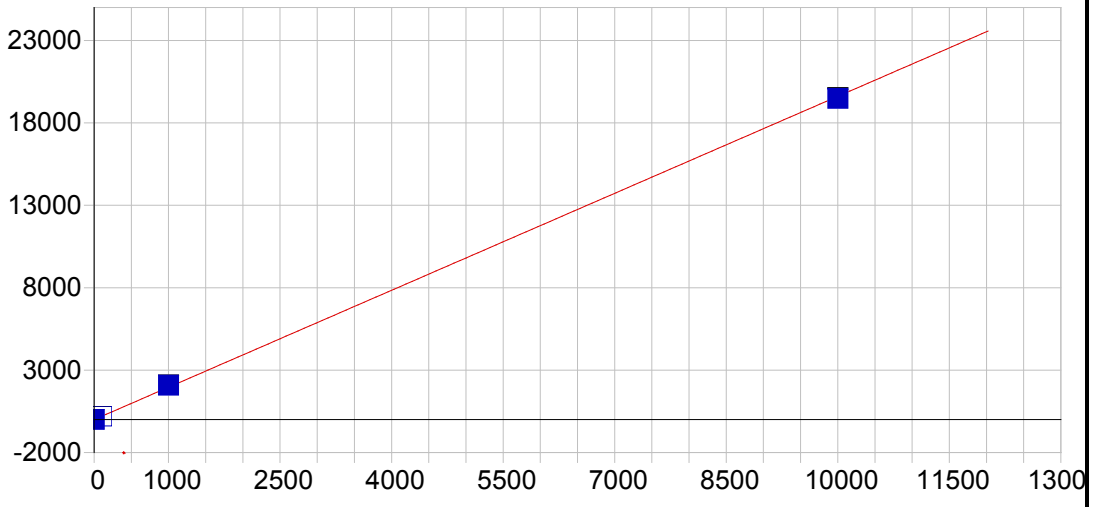



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.320630 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.824476 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999753 | Status: | OK. |
| Std Error of Est: | 5.202856 | | |
| Predicted MDL: | 0.702655 | | |
| Predicted MQL: | 2.342183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.30787 | -.308 | .000 | .06680 | .586 | 1 |
| CalStd7=50 | 50.000 | 50.082 | .082 | .165 | 41.612 | .762 | 1 |
| CalStd6=20 | 20.000 | 18.981 | -1.02 | -5.10 | 15.970 | .251 | 1 |
| CalStd5=10 | 10.000 | 10.248 | .248 | 2.48 | 8.7700 | .278 | 1 |
| CalStd8=100 | 100.00 | 99.211 | -.789 | -.789 | 82.248 | .863 | 1 |
| CalStd4=5 | 5.0000 | 4.0190 | -.981 | -19.6 | 3.6342 | .220 | 1 |
| CalStd9=100 | 1000.0 | 1019.8 | 19.8 | 1.98 | 842.43 | .714 | 1 |
| CalStd10=10 | 10000. | 9762.8 | -237. | -2.37 | 8062.9 | 7.87 | 1 |

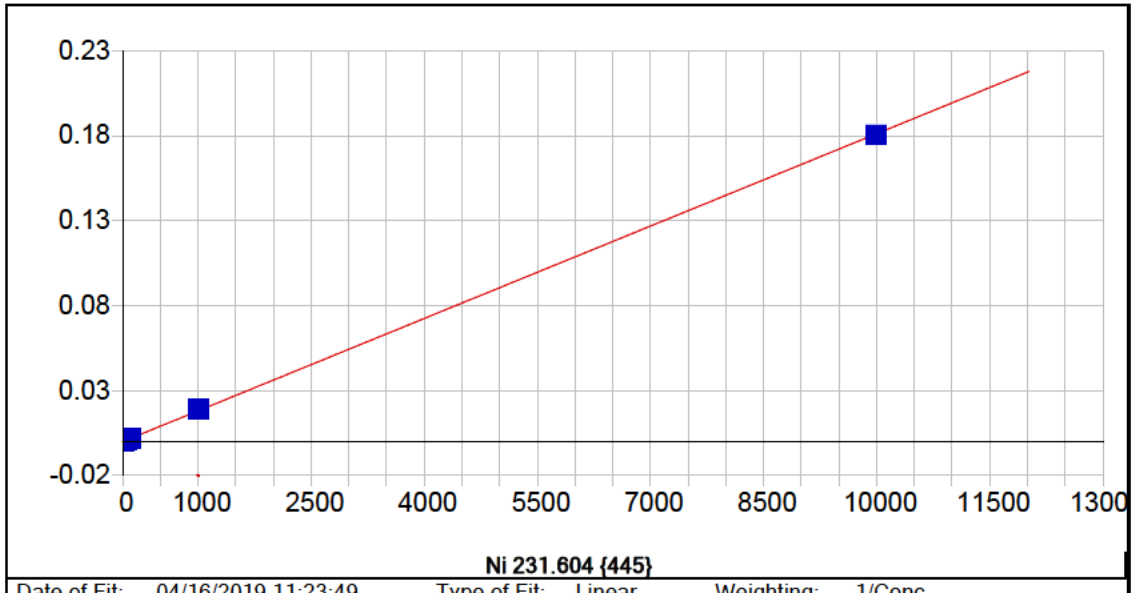



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.188014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.960989 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999792 | Status: | OK. |
| Std Error of Est: | 1.883097 | | |
| Predicted MDL: | 0.478095 | | |
| Predicted MQL: | 1.593652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01109 | -.011 | .000 | -.20977 | .211 | 1 |
| CalStd10=10 | 10000. | 9932.4 | -67.6 | -.676 | 19478. | 43.1 | 1 |
| CalStd8=100 | 100.00 | 105.57 | 5.57 | 5.57 | 206.83 | .722 | 1 |
| CalStd9=100 | 1000.0 | 1062.0 | 62.0 | 6.20 | 2082.5 | 8.82 | 1 |

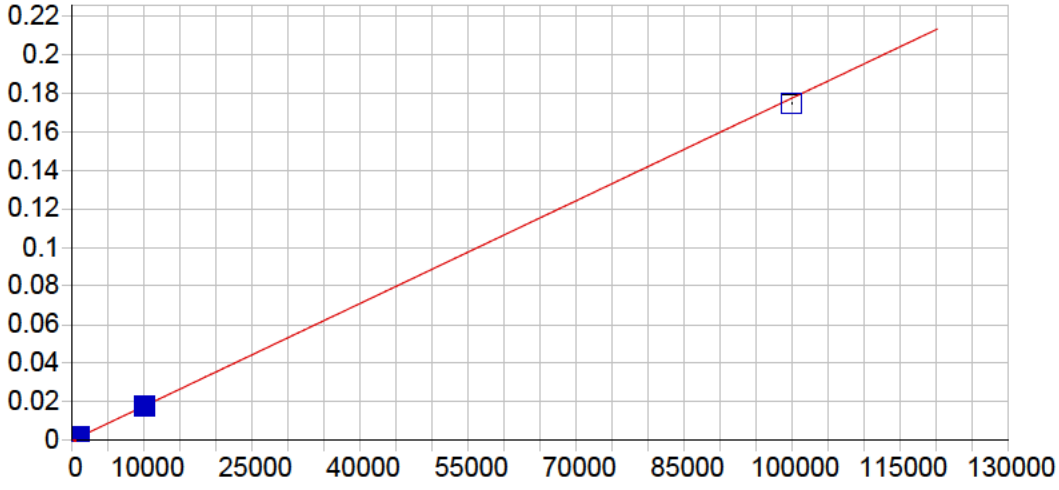



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.504511 | | |
| Predicted MQL: | 1.681705 | | |

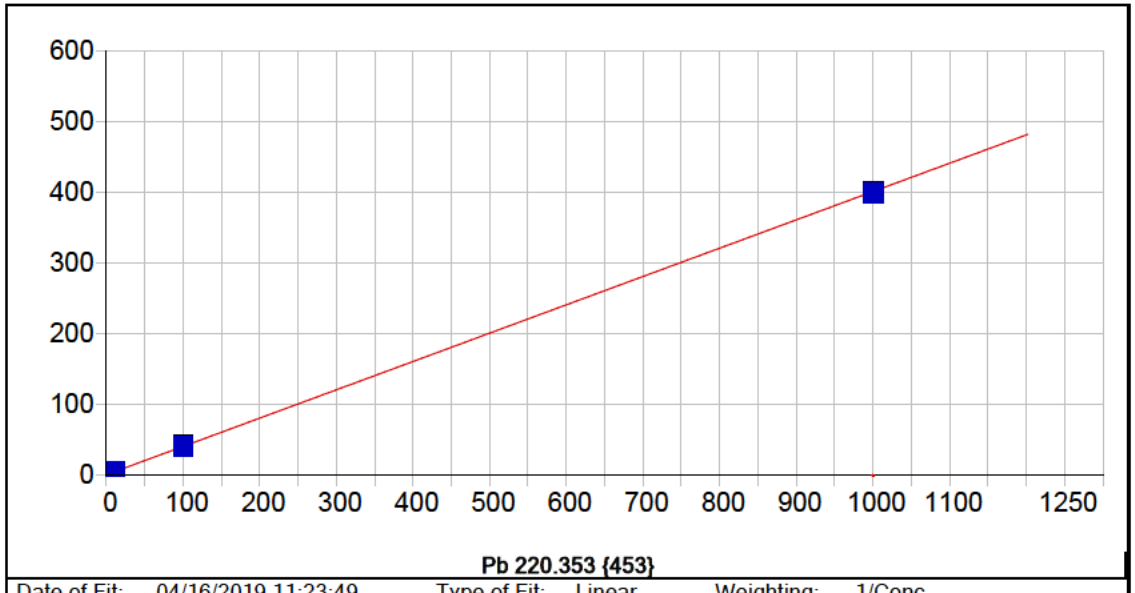
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00074 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.572 | 2.57 | 5.14 | .00093 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.443 | 1.44 | 14.4 | .00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.22 | 4.22 | 4.22 | .00187 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1918 | .192 | 3.84 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1040.5 | 40.5 | 4.05 | .01886 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4315 | .432 | 43.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.7 | -49.3 | -.493 | .18085 | .000 | 1 |




**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000015 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000002 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999843 | | Status: | OK. | |
| Std Error of Est: | 0.000040 | | | | |
| Predicted MDL: | 4.065918 | | | | |
| Predicted MQL: | 13.553059 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -5.8657 | -5.87 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1055.6 | 55.6 | 5.56 | .00189 | .000 | 1 |
| CalStd10=10 | 10000. | 10121. | 121. | 1.21 | .01794 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.46 | 4.46 | 4.46 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.6190 | -3.38 | -33.8 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 98402. | -1600. | -1.60 | .17433 | .000 | 1 |

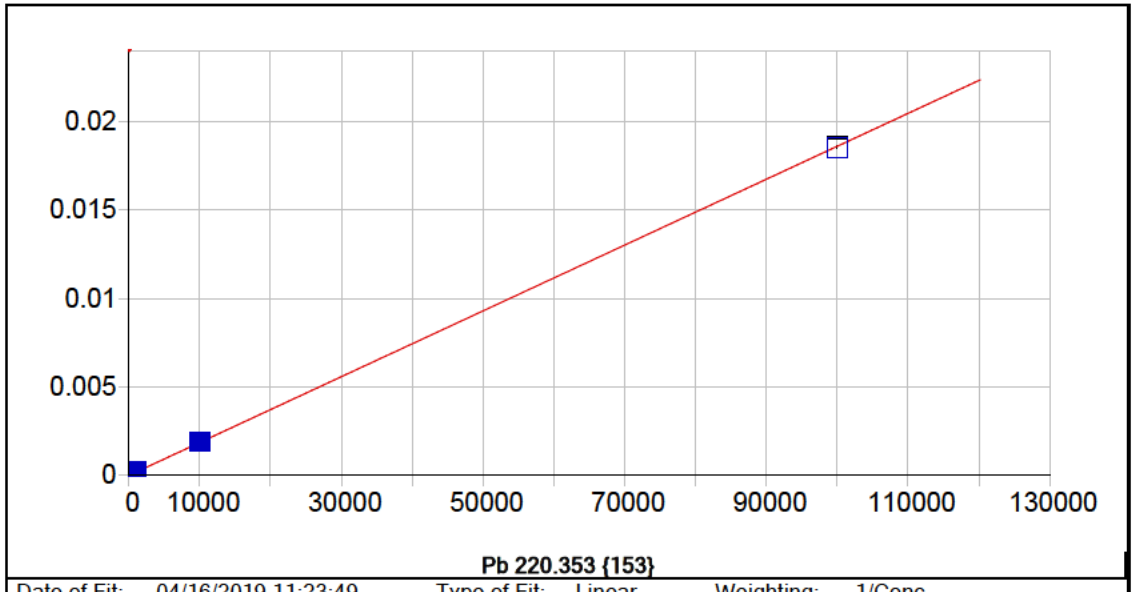



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.115789 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.399994 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999053 | Status: | OK. |
| Std Error of Est: | 0.053098 | | |
| Predicted MDL: | 2.370772 | | |
| Predicted MQL: | 7.902574 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | 1.1143 | .782 | 1 |
| CalStd5=10 | 10.000 | 11.494 | 1.49 | 14.9 | 5.7135 | .514 | 1 |
| CalStd8=100 | 100.00 | 100.30 | .297 | .297 | 41.254 | 1.02 | 1 |
| CalStd4=5 | 5.0000 | 8.0556 | 3.06 | 61.1 | 4.3380 | .519 | 1 |
| CalStd9=100 | 1000.0 | 995.16 | -4.84 | -.484 | 399.38 | .875 | 1 |

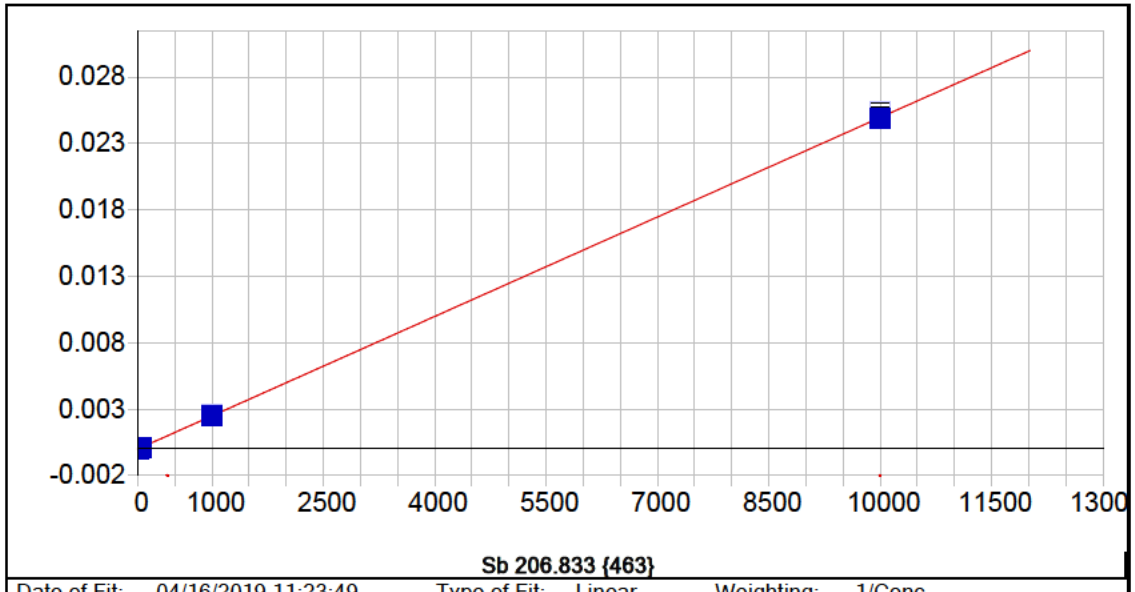



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.123424 | | |
| Predicted MQL: | 23.744745 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01547 | -.015 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1087.1 | 87.1 | 8.71 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 10217. | 217. | 2.17 | .00190 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.90 | 4.90 | 4.90 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99691. | -309. | -.309 | .01854 | .000 | 1 |

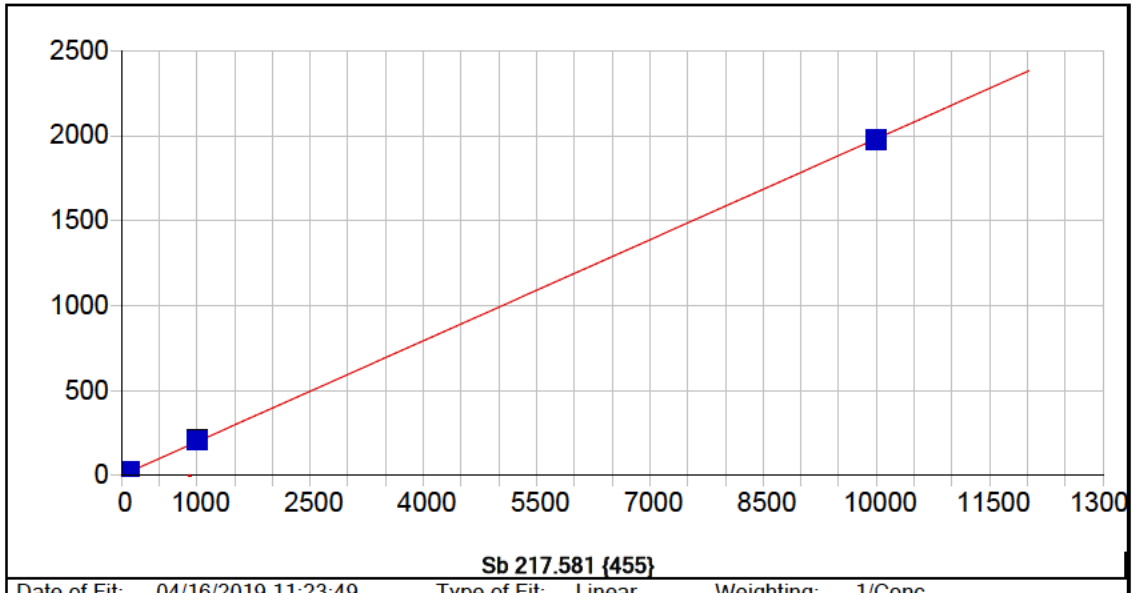



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.779281 | | |
| Predicted MQL: | 9.264269 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00209 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.4 | 18.4 | 1.84 | .00258 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.788 | 1.79 | 17.9 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.683 | .683 | 1.37 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.1 | -20.9 | -.209 | .02536 | .000 | 1 |

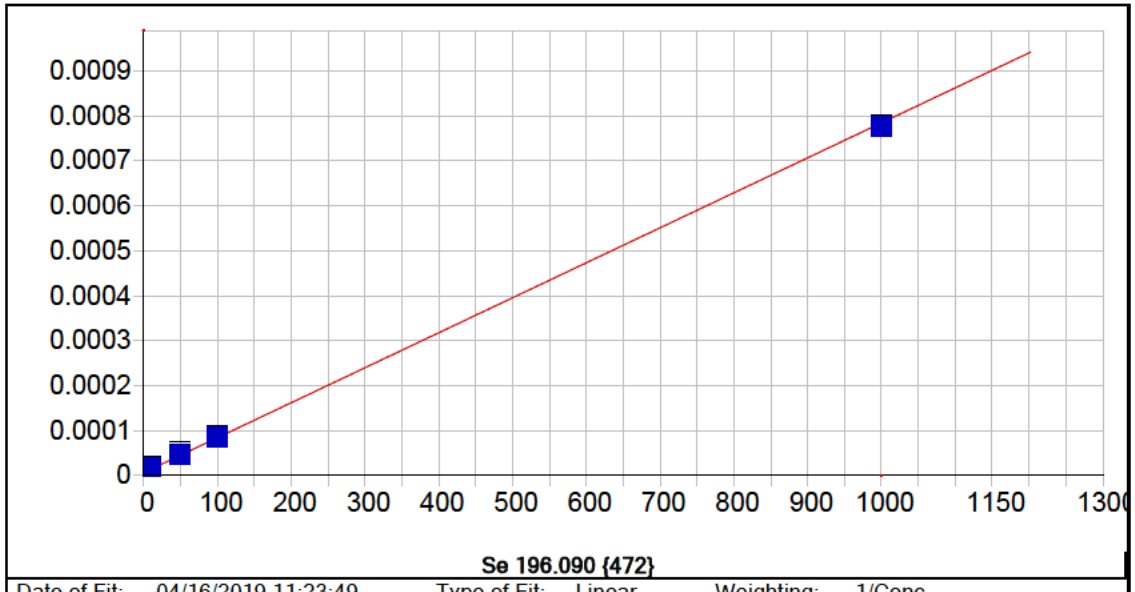



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.712715 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.198078 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.026863 | | |
| Predicted MDL: | 2.990604 | | |
| Predicted MQL: | 9.968681 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00264 | .003 | .000 | .71324 | .128 | 1 |
| CalStd9=100 | 1000.0 | 1036.3 | 36.3 | 3.63 | 205.99 | .935 | 1 |
| CalStd6=20 | 20.000 | 20.589 | .589 | 2.95 | 4.7910 | .718 | 1 |
| CalStd5=10 | 10.000 | 7.7144 | -2.29 | -22.9 | 2.2408 | .497 | 1 |
| CalStd8=100 | 100.00 | 100.24 | .243 | .243 | 20.571 | .167 | 1 |
| CalStd4=5 | 5.0000 | 3.1790 | -1.82 | -36.4 | 1.3424 | .587 | 1 |
| CalStd10=10 | 10000. | 9967.0 | -33.0 | -.330 | 1975.1 | 2.66 | 1 |

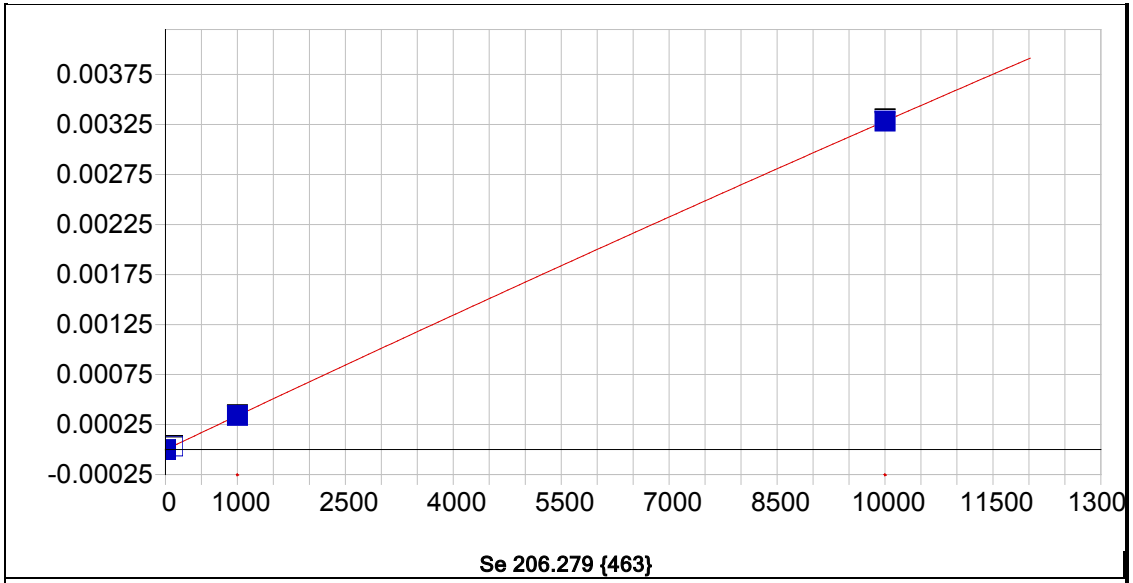



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999025 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.886045 | | |
| Predicted MQL: | 19.620148 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00498 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.048 | 1.05 | 2.10 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.14 | -8.86 | -.886 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.534 | 4.53 | 45.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.28 | 3.28 | 3.28 | .00009 | .000 | 1 |

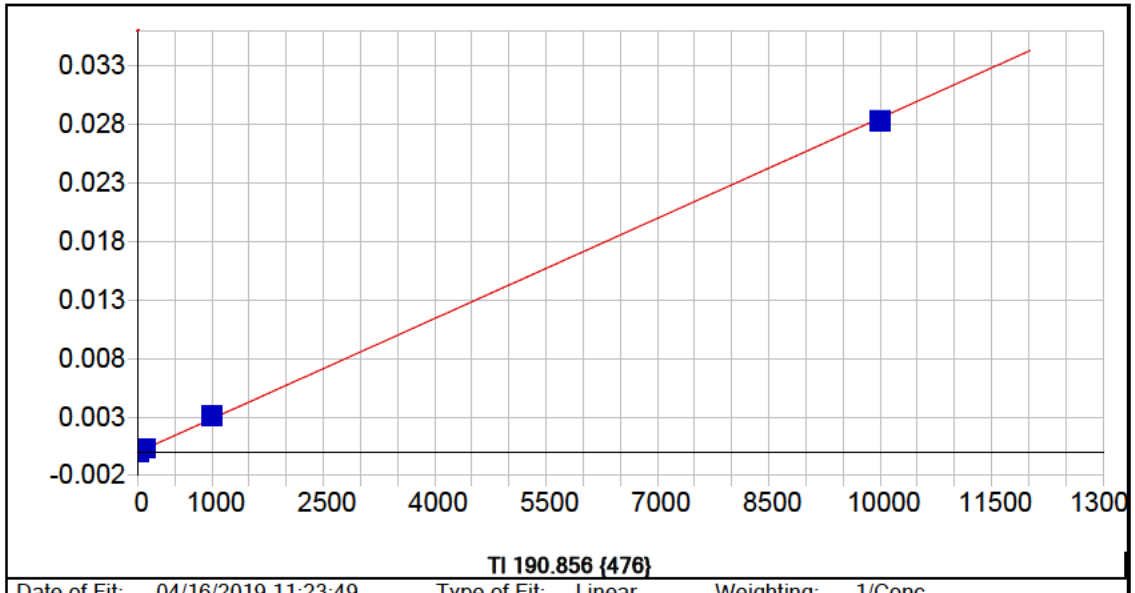



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.036920 | | |
| Predicted MQL: | 73.456402 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00005 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .057 | .006 | .00034 | .000 | 1 |
| CalStd10=10 | 10000. | 10000.0 | -.006 | -.000 | .00329 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.948 | -.052 | -.052 | .00003 | .000 | 1 |

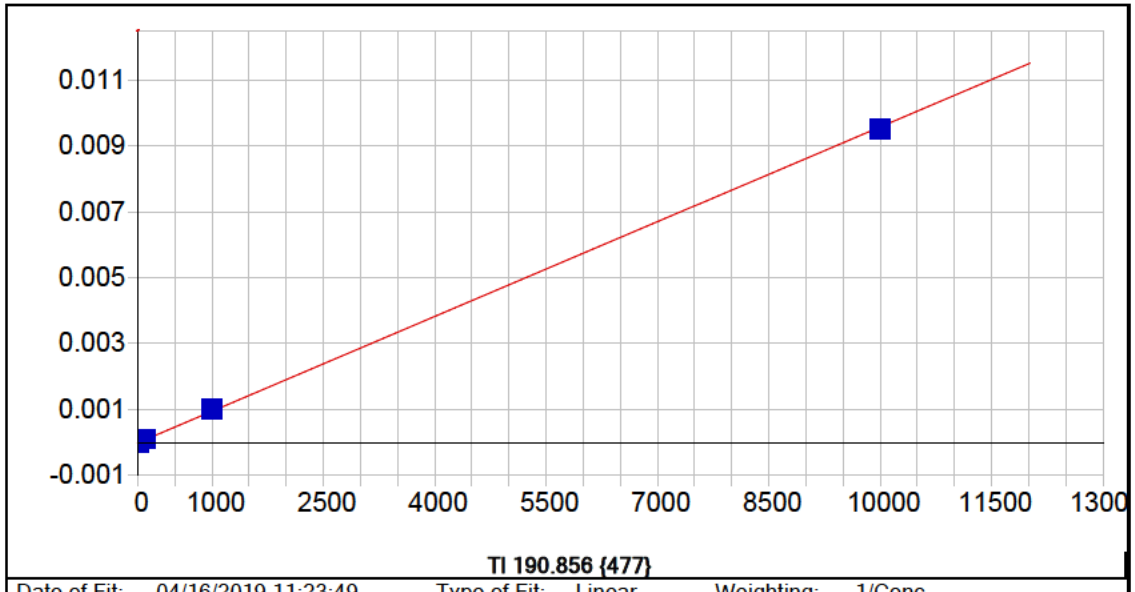



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999667 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.023818 | | |
| Predicted MQL: | 6.746060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00410 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1072.8 | 72.8 | 7.28 | .00307 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.76 | 8.76 | 8.76 | .00031 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.583 | 2.58 | 25.8 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9915.9 | -84.1 | -.841 | .02837 | .000 | 1 |

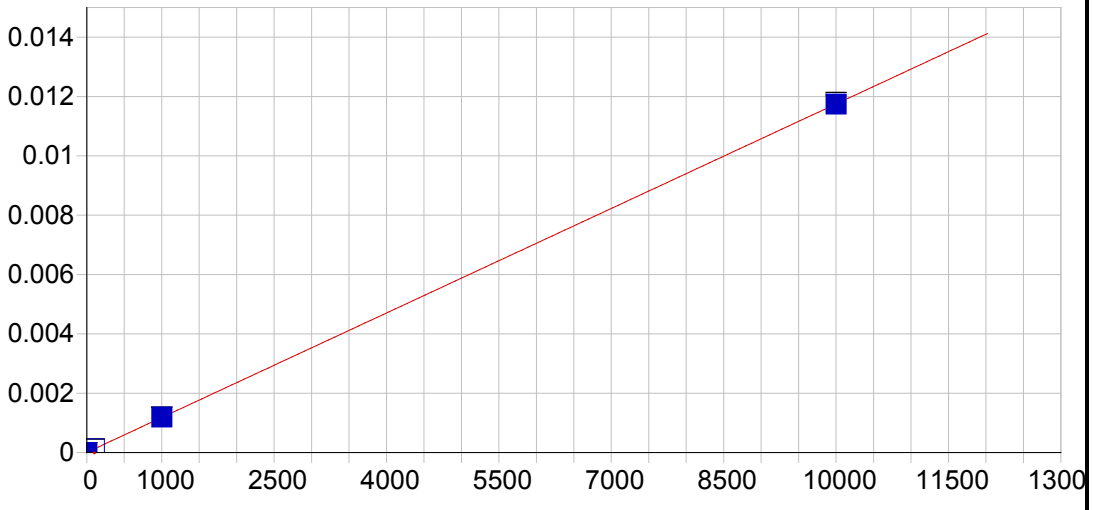



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999569 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.888356 | | |
| Predicted MQL: | 16.294520 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00700 | -.007 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.5 | 67.5 | 6.75 | .00102 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.90 | 12.9 | 12.9 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.125 | 5.12 | 51.2 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9914.4 | -85.6 | -.856 | .00950 | .000 | 1 |

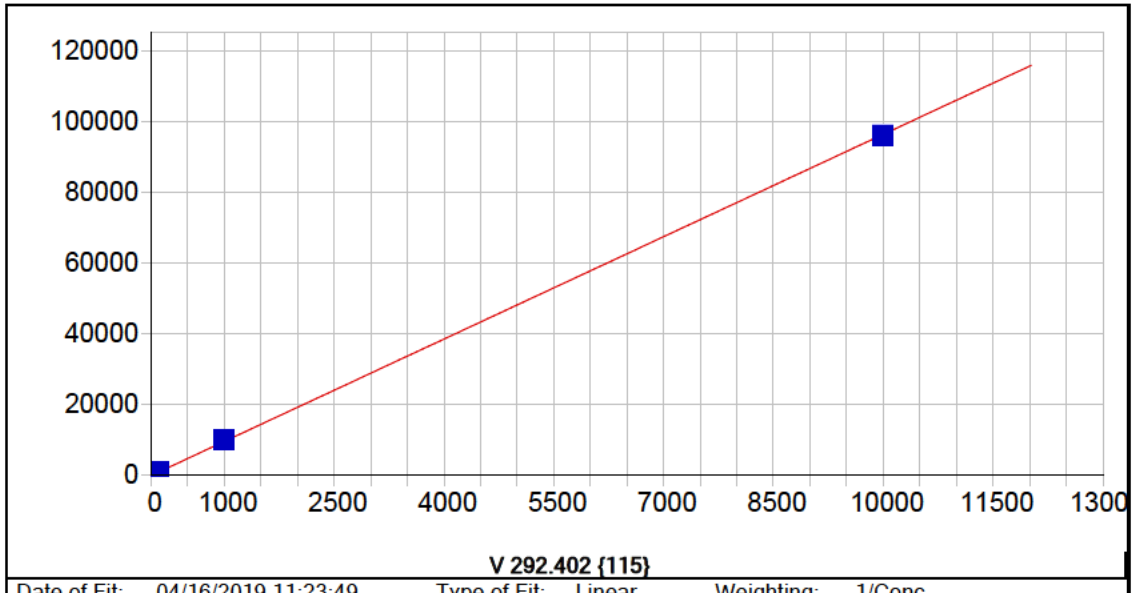



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.385278 | | |
| Predicted MQL: | 17.950927 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00160 | .002 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.5 | 8.49 | .849 | .00119 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.9 | -6.10 | -.061 | .01174 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.613 | -2.39 | -2.39 | .00012 | .000 | 1 |

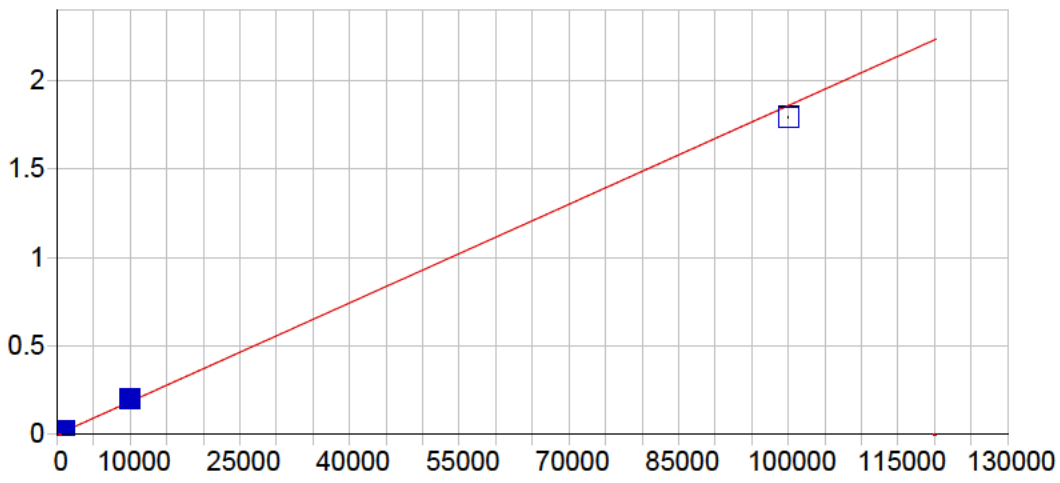



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 4.505315 | Re-Slope: | 1.000000 |
| A1 (Gain): | 9.634950 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 1.656834 | | |
| Predicted MDL: | 0.524983 | | |
| Predicted MQL: | 1.749942 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00185 | -.002 | .000 | 4.4875 | 1.86 | 1 |
| CalStd7=50 | 50.000 | 51.616 | 1.62 | 3.23 | 501.70 | 5.36 | 1 |
| CalStd9=100 | 1000.0 | 1041.8 | 41.8 | 4.18 | 10040. | 35.4 | 1 |
| CalStd6=20 | 20.000 | 20.906 | .906 | 4.53 | 205.21 | 5.26 | 1 |
| CalStd5=10 | 10.000 | 10.522 | .522 | 5.22 | 105.86 | 5.44 | 1 |
| CalStd8=100 | 100.00 | 101.79 | 1.79 | 1.79 | 984.97 | 6.21 | 1 |
| CalStd10=10 | 10000. | 9953.5 | -46.5 | -.465 | 96244. | 220. | 1 |

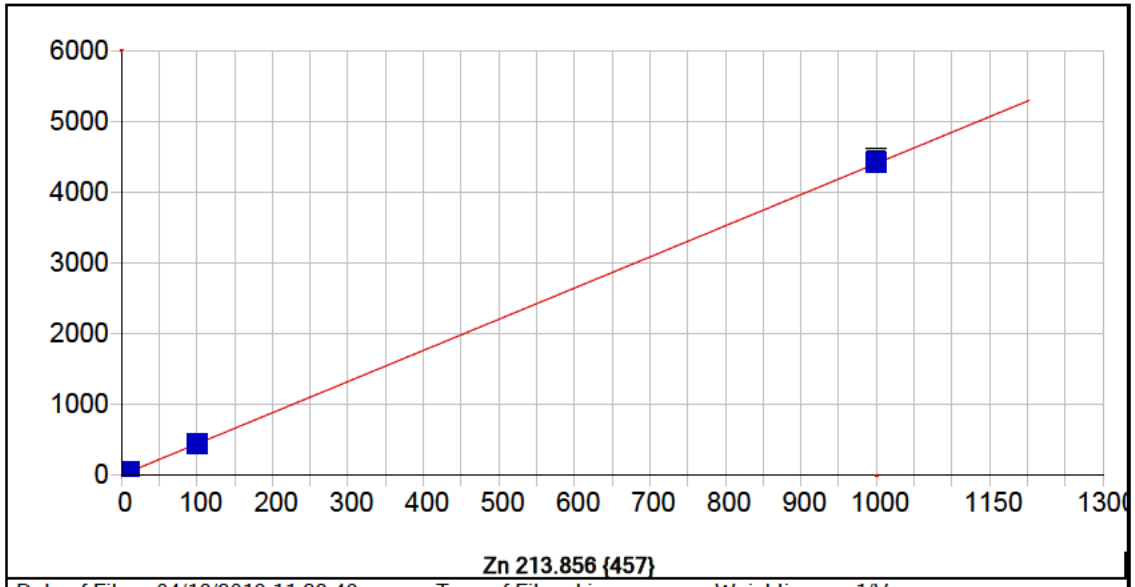



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000056 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998114 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.409027 | | |
| Predicted MQL: | 1.363425 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10934. | 934. | 9.34 | .20323 | .001 | 1 |
| Blank | .00000 | -1.8640 | -1.86 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1147.0 | 147. | 14.7 | .02137 | .000 | 1 |
| CalStd12=10 | 100000. | 96569. | -3430. | -3.43 | 1.7945 | .003 | 1 |
| CalStd5=10 | 10.000 | 9.8021 | -.198 | -1.98 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.46 | 12.5 | 12.5 | .00215 | .000 | 1 |

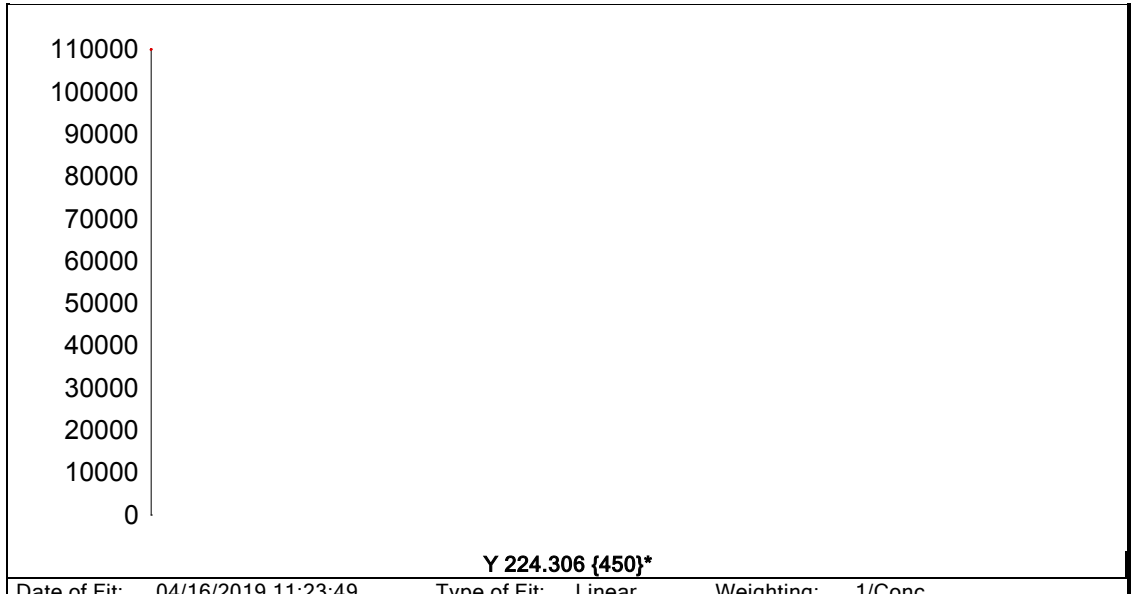



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 6.970675 | Re-Slope: | 1.000000 |
| A1 (Gain): | 4.401027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.981134 | | |
| Predicted MDL: | 0.142347 | | |
| Predicted MQL: | 0.474492 | | |

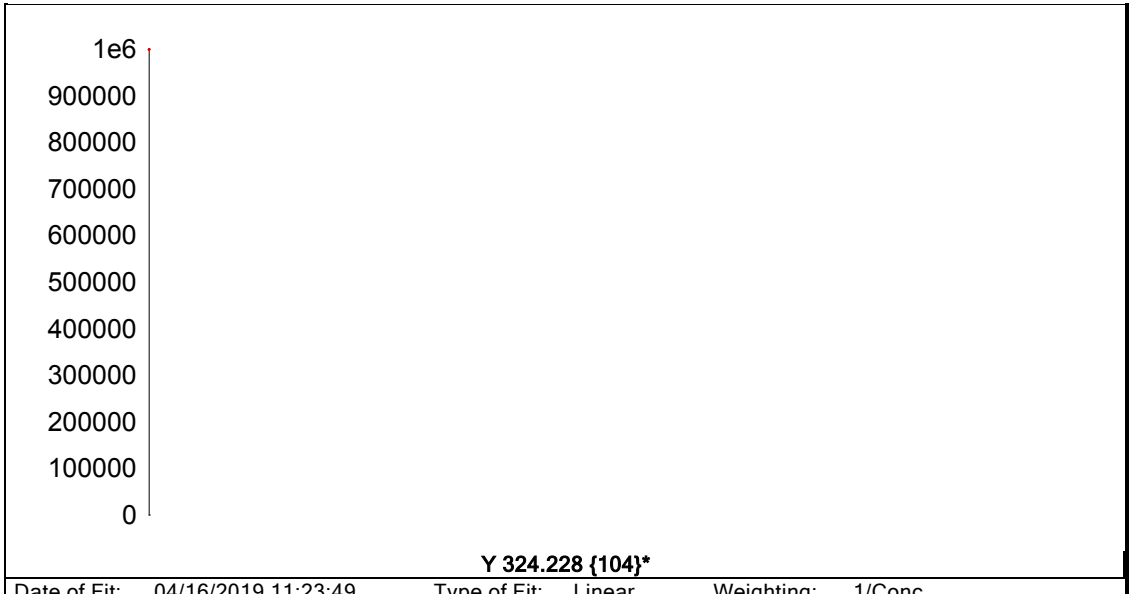
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.16024 | -.160 | .000 | 6.2655 | .622 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.80 | .280 | 4461.6 | 12.2 | 1 |
| CalStd5=10 | 10.000 | 10.120 | .120 | 1.20 | 51.538 | .430 | 1 |
| CalStd8=100 | 100.00 | 99.839 | -.161 | -.161 | 450.43 | .796 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

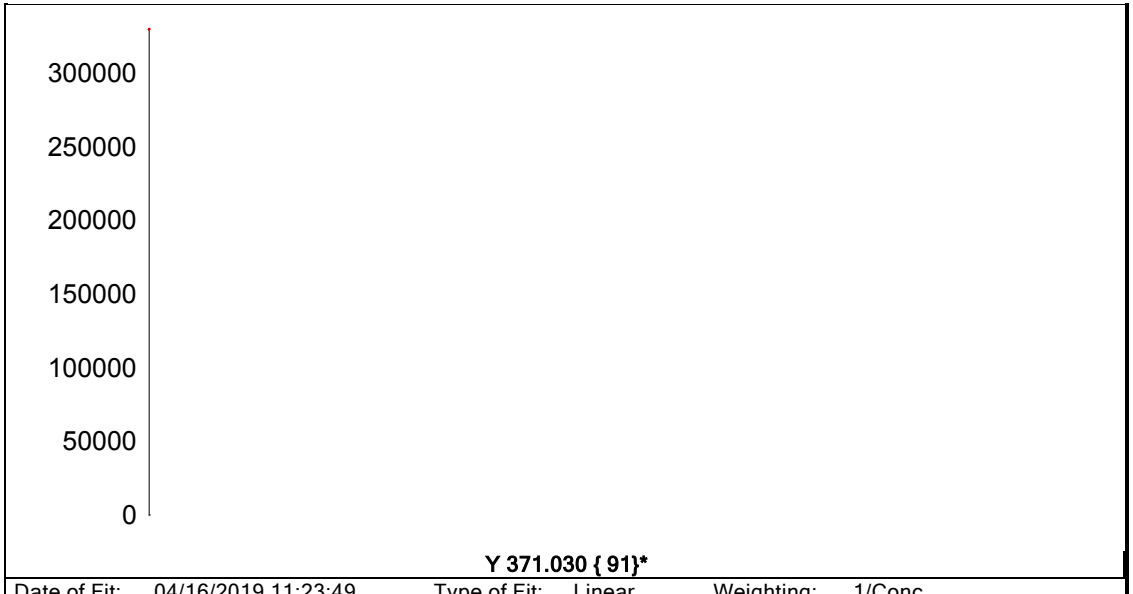
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 103200. | 284. | 1 |




**Y 324.228 {104}***

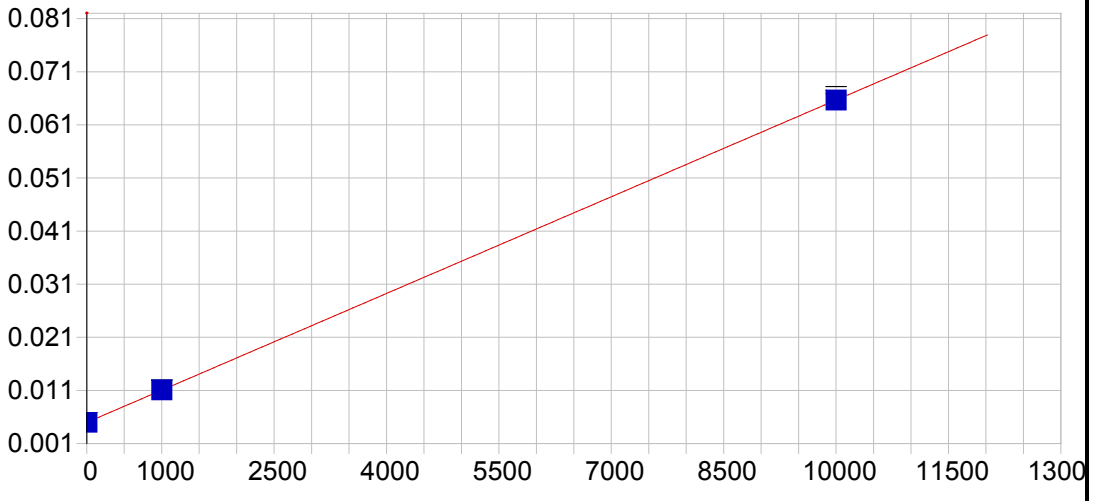
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 937860. | 1520. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 308380. | 2850. | 1 |

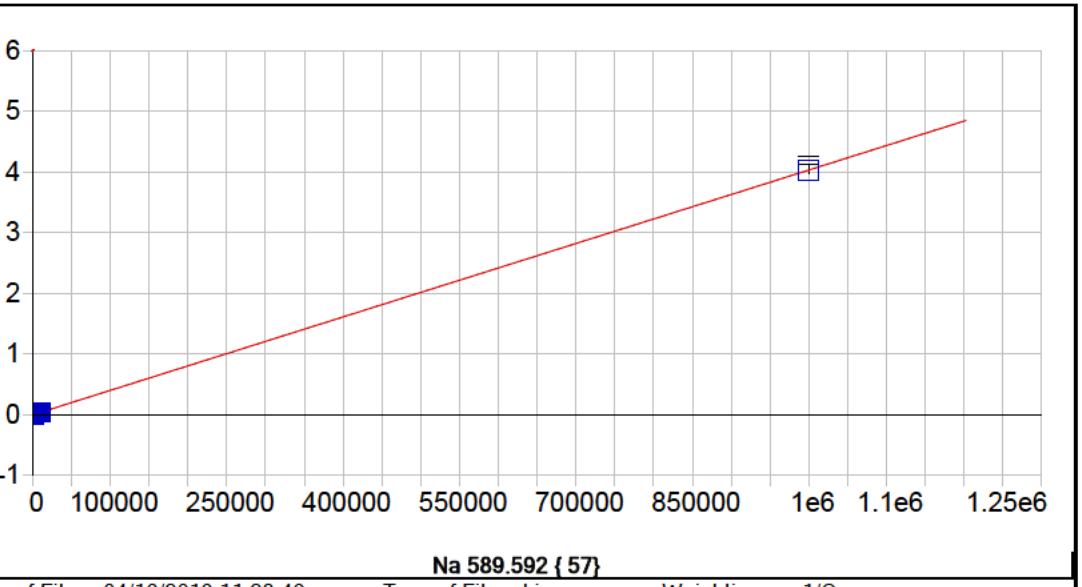



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004977 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 7.936203 | | |
| Predicted MQL: | 26.454008 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00521 | -.005 | .000 | .00498 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.78 | .578 | .01108 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.2 | -5.78 | -.058 | .06564 | .001 | 1 |

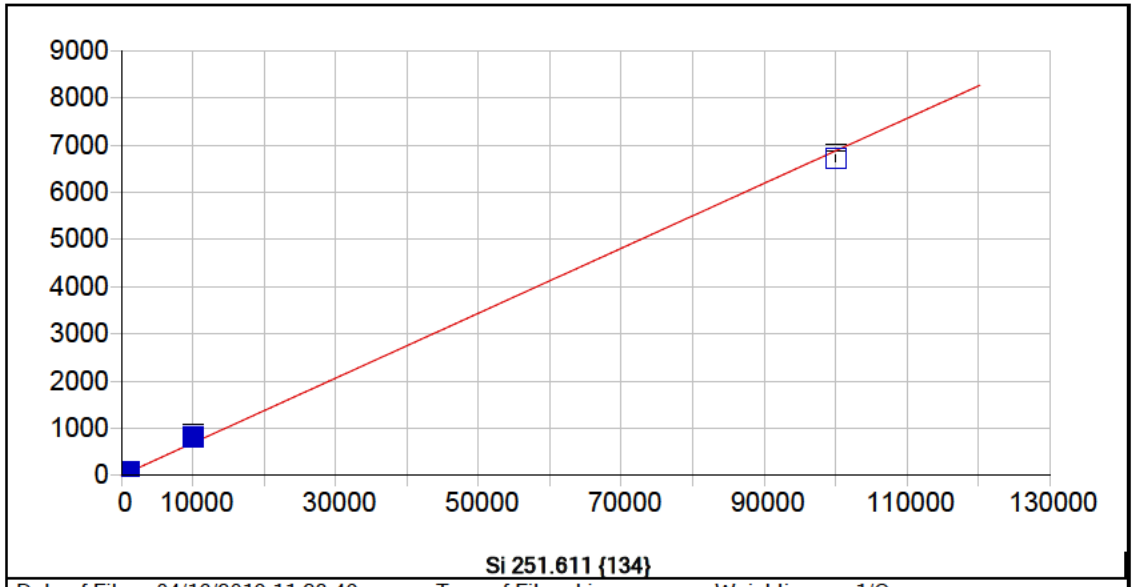



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 7.911739 | | |
| Predicted MQL: | 26.372462 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02552 | -.026 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.2 | 26.2 | 2.62 | .00416 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.3 | -6.67 | -.067 | .04034 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -19.5 | -.002 | 4.0343 | .062 | 1 |

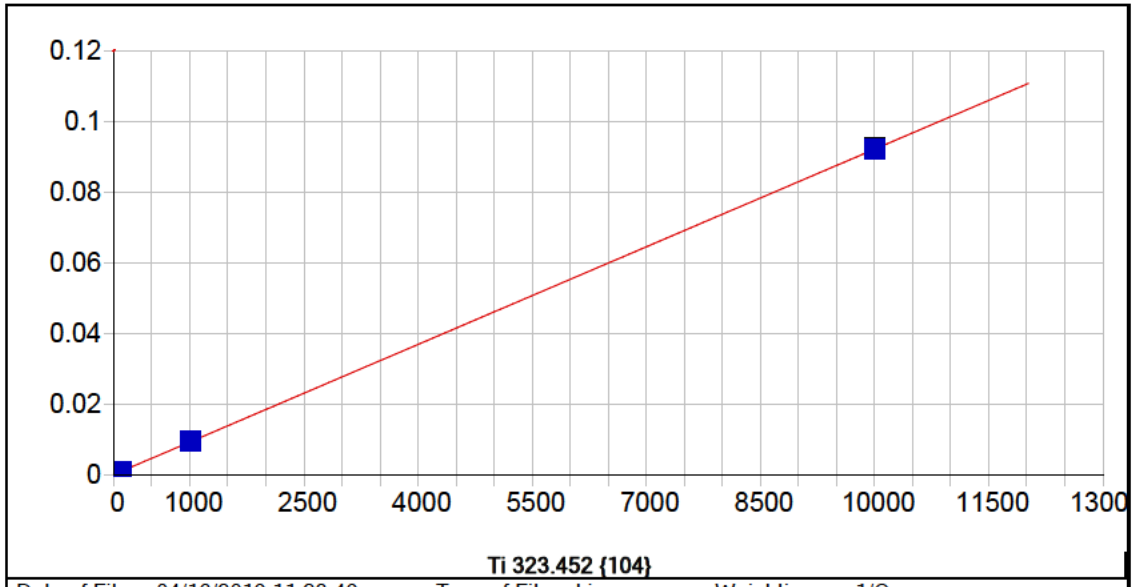



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.666779 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.068766 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998096 | Status: | OK. |
| Std Error of Est: | 2.011598 | | |
| Predicted MDL: | 20.011215 | | |
| Predicted MQL: | 66.704049 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.29899 | -.299 | .000 | .64622 | .270 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | 83.748 | 2.22 | 1 |
| CalStd10=10 | 10000. | 11912. | 1910. | 19.1 | 854.23 | 9.97 | 1 |
| CalibStd15= | 100000. | 97853. | -2150. | -2.15 | 6729.6 | 74.0 | 1 |

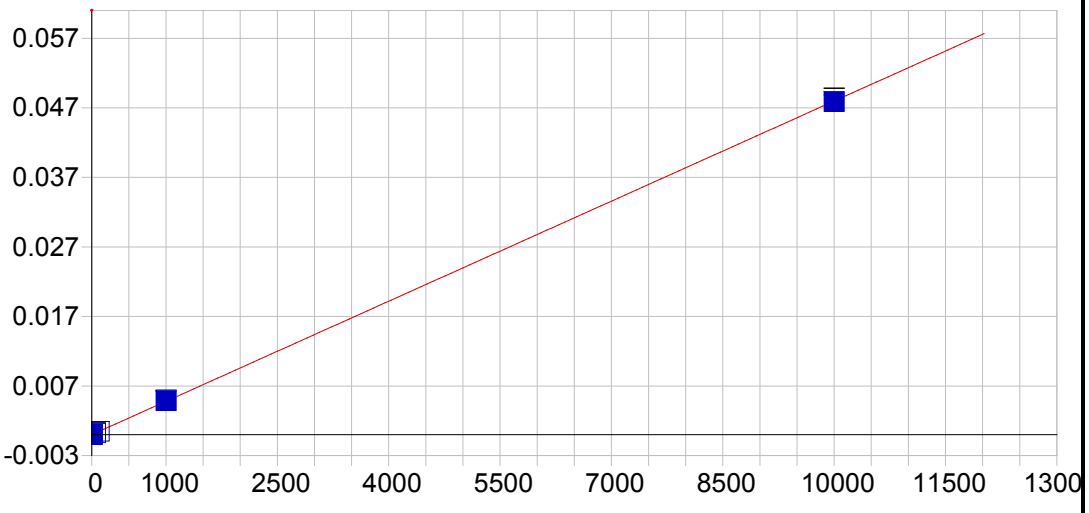



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000277 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.216005 | | |
| Predicted MQL: | 4.053351 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00187 | .002 | .000 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.9901 | -1.01 | -10.1 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.796 | -1.20 | -1.20 | .00119 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.9 | 13.9 | 1.39 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9991.8 | -8.17 | -.082 | .09221 | .001 | 1 |
| CalStd7=50 | 50.000 | 47.613 | -2.39 | -4.77 | .00072 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8662 | -1.13 | -22.7 | .00031 | .000 | 1 |

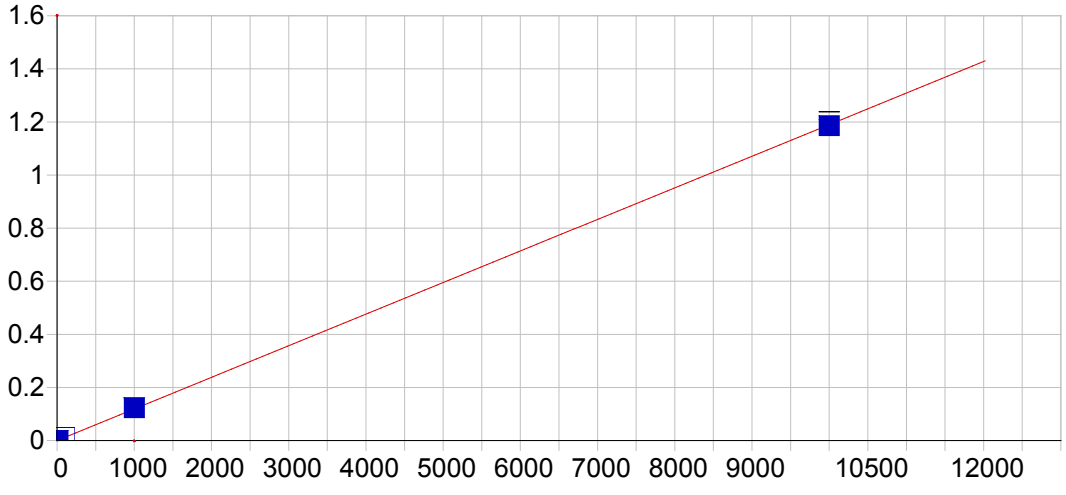



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.602554 | | |
| Predicted MQL: | 5.341845 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00163 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.946 | .946 | 9.46 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.884 | -.116 | -.116 | .00048 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.6 | 16.6 | 1.66 | .00488 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.0 | -20.0 | -.200 | .04790 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.717 | 1.72 | 3.43 | .00025 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9199 | .920 | 18.4 | .00003 | .000 | 1 |

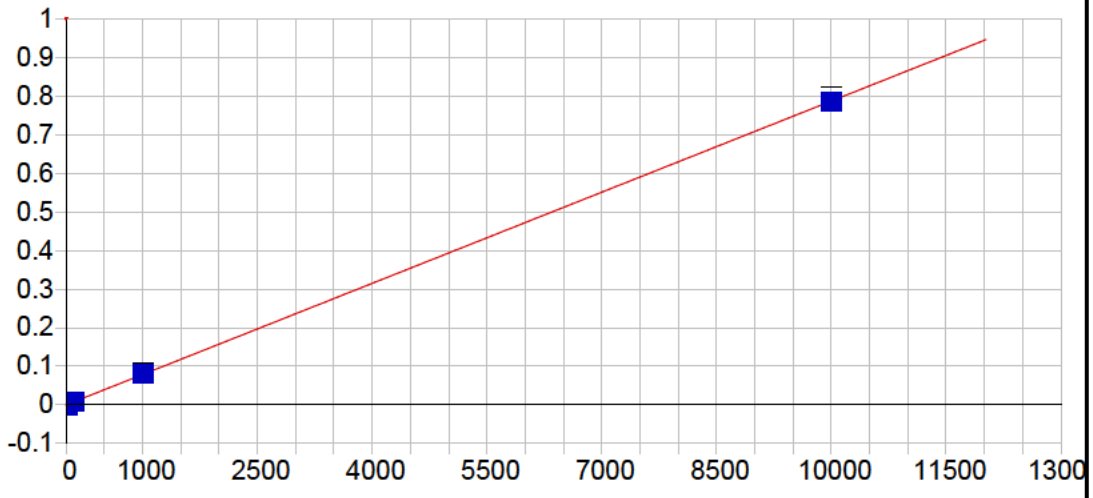



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000119 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.142843 | | |
| Predicted MQL: | 0.476144 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00032 | -.000 | .000 | .00004 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1221 | .122 | 12.2 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1875 | .187 | 3.75 | .00066 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.028 | 1.03 | 10.3 | .00136 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.37 | 2.37 | 2.37 | .01222 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.7 | 33.7 | 3.37 | .12308 | .001 | 1 |
| CalStd10=10 | 10000. | 9962.6 | -37.4 | -.374 | 1.1858 | .015 | 1 |

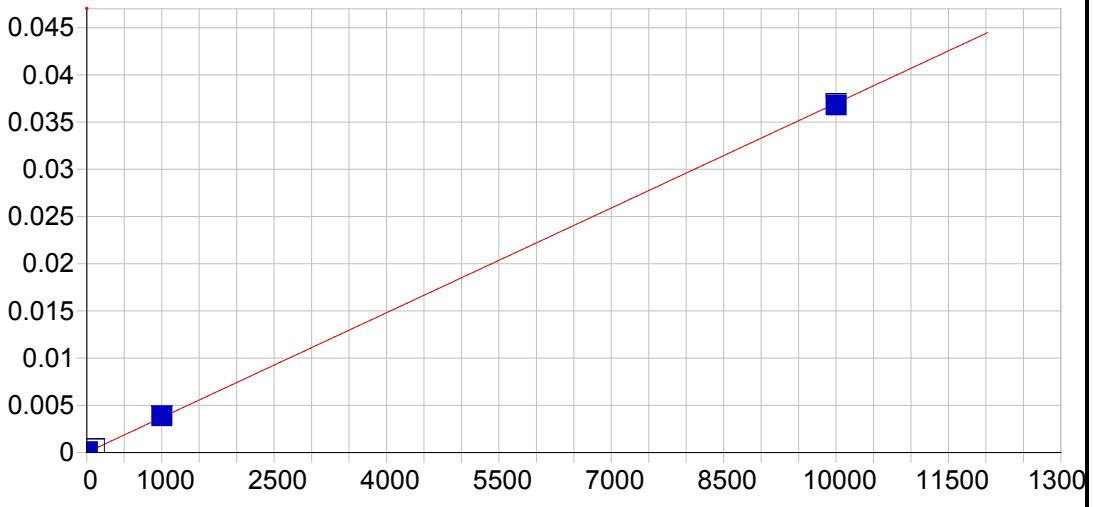



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000079 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999970 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.216521 | | |
| Predicted MQL: | 0.721737 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00032 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0641 | .064 | 6.41 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5673 | .567 | 11.3 | .00043 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.086 | 1.09 | 10.9 | .00087 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.16 | 2.16 | 2.16 | .00804 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.5 | 19.5 | 1.95 | .08022 | .001 | 1 |
| CalStd10=10 | 10000. | 9976.6 | -23.4 | -.234 | .78503 | .014 | 1 |

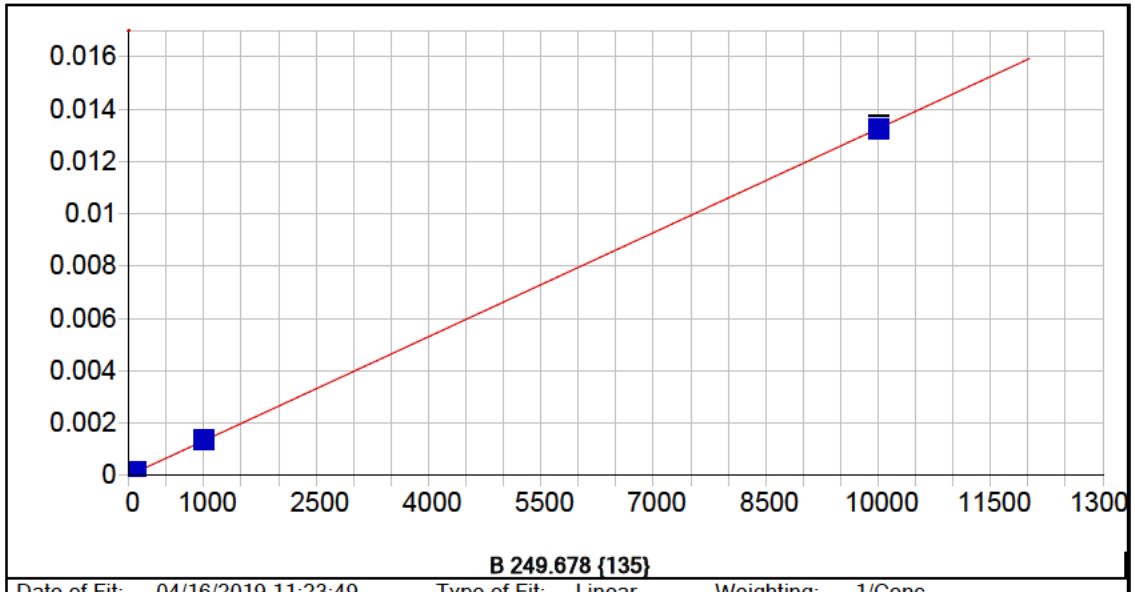



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.559447 | | |
| Predicted MQL: | 5.198156 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00175 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.6 | -49.4 | -.494 | .03681 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.6 | 46.6 | 4.66 | .00389 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.66 | 1.66 | 1.66 | .00039 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.167 | 1.17 | 11.7 | .00006 | .000 | 1 |

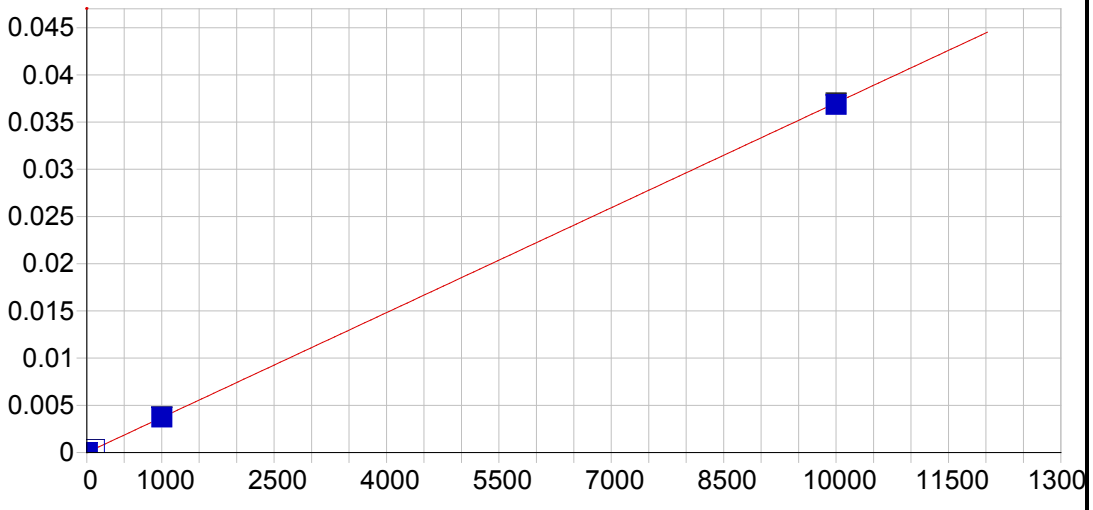



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999968 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.012222 | | |
| Predicted MQL: | 6.707406 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00247 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.795 | -.205 | -.205 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.388 | 2.39 | 23.9 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.5 | 11.5 | 1.15 | .00135 | .000 | 1 |
| CalStd10=10 | 10000. | 9986.3 | -13.7 | -.137 | .01328 | .000 | 1 |

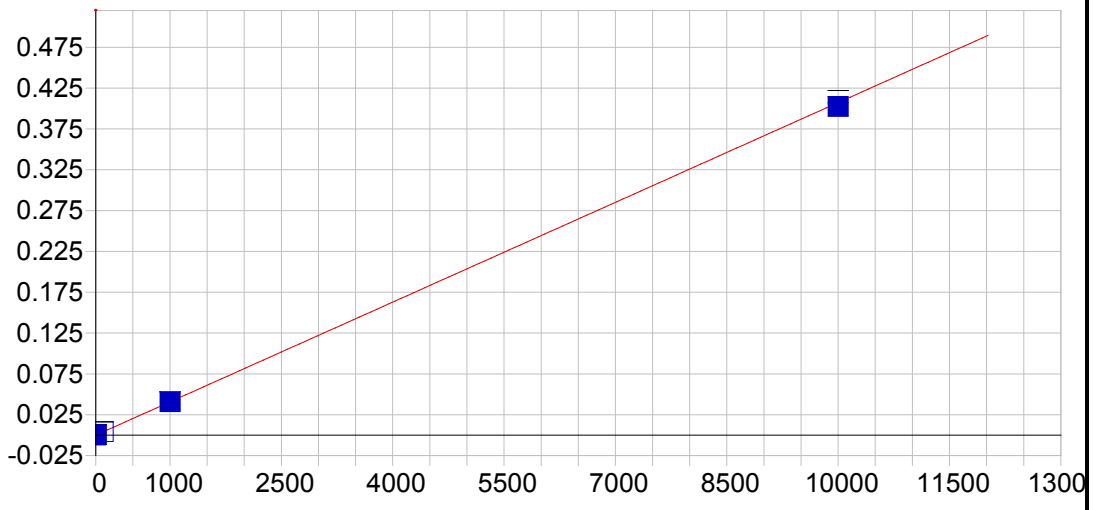



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.702004 | | |
| Predicted MQL: | 2.340014 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.19623 | -.196 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.25 | .249 | .249 | .00038 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7822 | -.218 | -2.18 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.4 | 8.45 | .845 | .00374 | .000 | 1 |
| CalStd10=10 | 10000. | 9952.1 | -47.9 | -.479 | .03688 | .000 | 1 |

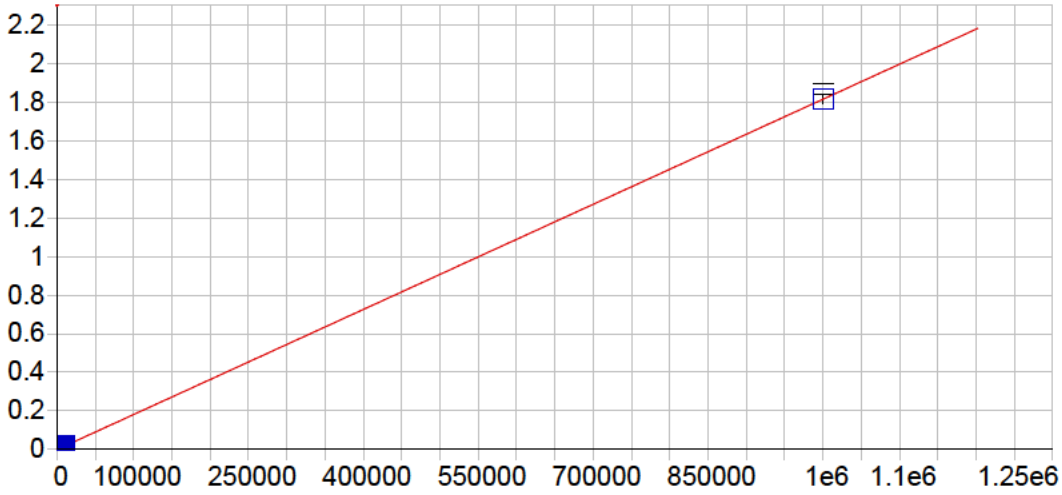



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000041 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 0.955321 | | |
| Predicted MQL: | 3.184404 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24079 | -.241 | .000 | -.00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.723 | .723 | 7.23 | .00040 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.20 | .196 | .196 | .00405 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .839 | .084 | .04073 | .000 | 1 |
| CalStd10=10 | 10000. | 9877.4 | -123. | -1.23 | .40227 | .008 | 1 |

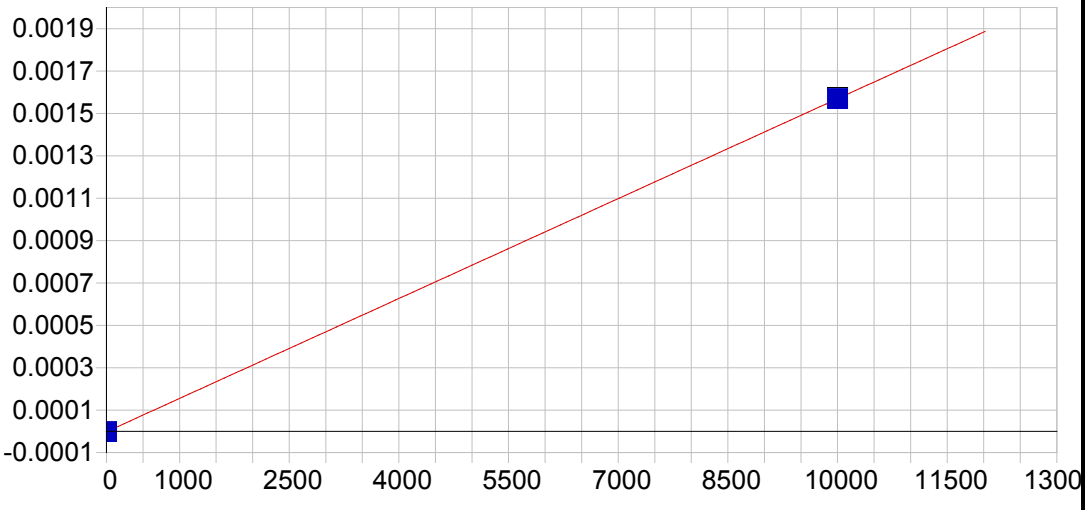



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 26.624067 | | |
| Predicted MQL: | 88.746890 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02327 | .023 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.04 | -13.0 | -1.30 | .00182 | .000 | 1 |
| CalStd10=10 | 10000. | 9895.7 | -104. | -1.04 | .01797 | .000 | 1 |
| CalibStd15= | 1000000. | 1000100. | 117. | .012 | 1.8147 | .026 | 1 |

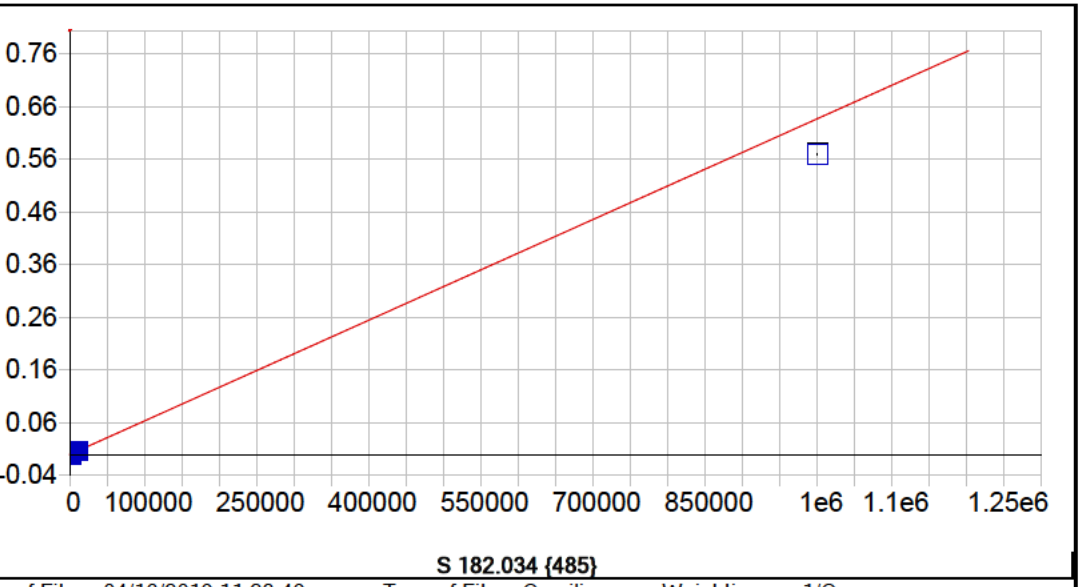



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.405910 | | |
| Predicted MQL: | 14.686365 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00157 | .000 | 1 |

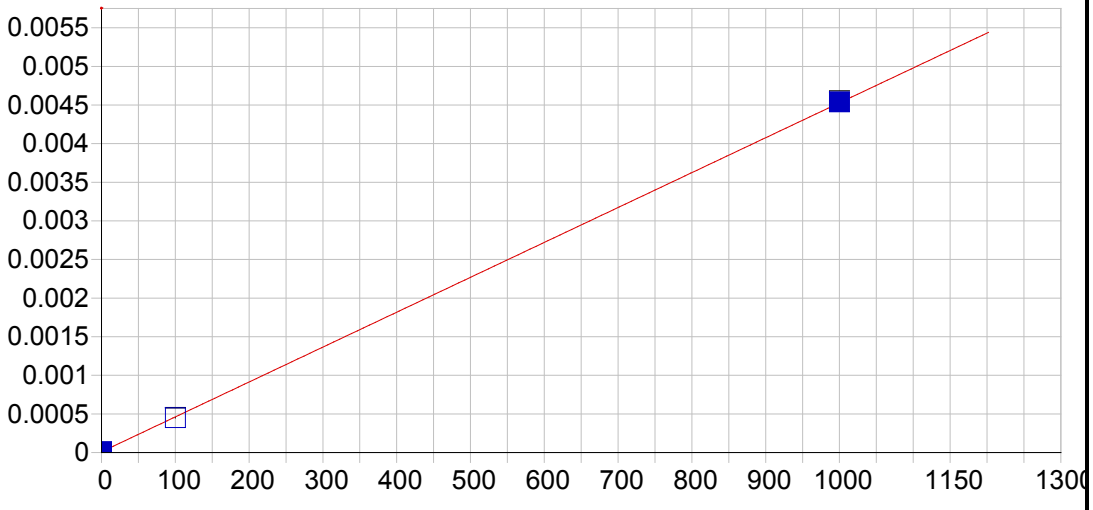



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.874381 | | |
| Predicted MQL: | 19.581270 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00442 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.8 | 4.82 | .482 | .00064 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.5 | -15.5 | -.155 | .00638 | .000 | 1 |
| CalibStd15= | 1000000. | 894590. | -105000. | -10.5 | .57030 | .001 | 1 |

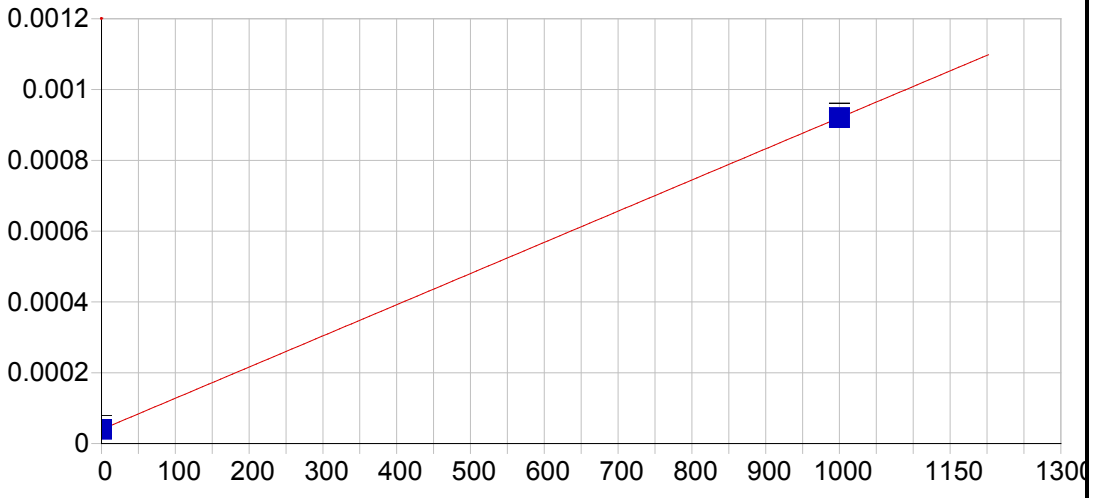



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.988337 | | |
| Predicted MQL: | 3.294457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00226 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.494 | -2.51 | -2.51 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.5 | 2.51 | .251 | .00454 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000040 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 19.309682 | | |
| Predicted MQL: | 64.365606 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00092 | .000 | 1 |

Sample Name: Blank Acquired: 04/05/2019 07:16:20 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.074** | **-.000** | **-.692** | **20.6** | **-.000** | **13.5** | **536.** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .387 | .000 | .293 | 3.1 | .000 | .9 | 259. | .000 | .000 |
| %RSD | 15.4 | 22.2 | 67.4 | 526. | 389. | 42.3 | 15.2 | 1.77 | 6.64 | 48.3 | 416. | 13.6 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **149.** | **9.89** | **.000** | **.000** | **15.1** | **-.000** | **529.** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | 2. | 3.07 | .000 | .000 | 4.2 | .000 | 19. | .000 |
| %RSD | 301. | 79.4 | 68.5 | 536. | 1.08 | 31.0 | 5.15 | 32.0 | 27.7 | 5700. | 3.62 | 72.4 |

| Elem | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.72** | **.067** | **-.210** | **-.000** | **.000** | **1.11** | **-.000** | **.713** | **.000** | **-.000** | **-.000** | **4.49** |
| Stddev | .96 | .586 | .211 | .000 | .000 | .78 | .000 | .128 | .000 | .000 | .000 | 1.86 |
| %RSD | 56.0 | 877. | 101. | 55.8 | 83.0 | 70.2 | 76.1 | 17.9 | 72.6 | 482. | 179. | 41.5 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **6.27** |
| Stddev | .000 | .62 |
| %RSD | 34.4 | 9.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103200.** | **937860.** | **308380.** |
| Stddev | 284. | 1522. | 2853. |
| %RSD | .27556 | .16233 | .92503 |

Sample Name: CalStd2=0.5 Acquired: 04/05/2019 07:22:42 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.72 | 7.54 | 14.5 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **104240.** | **953120.** |
| Stddev | 35. | 9528. |
| %RSD | .03386 | .99971 |

Sample Name: CalStd3=1 Acquired: 04/05/2019 07:28:55 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **1.19** | **43.9** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .47 | .4 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 20.9 | 39.0 | .833 | 2.37 | 11.6 | 17.2 | 33.9 | 28.6 | 107. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104960.** | **968740.** | **315020.** |
| Stddev | 121. | 7828. | 3478. |
| %RSD | .11502 | .80801 | 1.1040 |

Sample Name: CalStd4=5 Acquired: 04/05/2019 07:35:30 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.30** | **120.** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **11.7** | **.000** | **3.63** | **.000** |
| Stddev | .20 | 5. | .000 | .000 | .000 | .000 | .000 | .000 | 2.5 | .000 | .22 | .000 |
| %RSD | 4.72 | 4.43 | 1.81 | 3.13 | 1.08 | 3.48 | 3.33 | 3.97 | 21.4 | .680 | 6.06 | 7.40 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **4.34** | **1.34** |
| Stddev | .52 | .59 |
| %RSD | 12.0 | 43.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105180.** | **975070.** | **320520.** |
| Stddev | 171. | 5139. | 3305. |
| %RSD | .16242 | .52705 | 1.0313 |

Sample Name: CalStd5=10 Acquired: 04/05/2019 07:41:46 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.29** | **.000** | **10.3** | **231.** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .40 | .000 | .4 | 2. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 8.37 | 3.30 | 31.2 | 49.2 | 3.45 | .784 | 1.19 | 1.00 | 1.57 | 1.75 | 3.62 | 7.69 |

| Elem | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158.** | **13.2** | **.000** | **8.77** | **.000** | **.000** | **5.71** | **.000** | **2.24** | **.000** | **.000** | **106.** |
| Stddev | 3. | 3.3 | .000 | .28 | .000 | .000 | .51 | .000 | .50 | .000 | .000 | 5. |
| %RSD | 2.16 | 25.3 | 1.13 | 3.17 | 1.04 | 10.2 | 8.99 | 18.5 | 22.2 | 14.1 | 9.44 | 5.14 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **51.5** |
| Stddev | .000 | .4 |
| %RSD | 2.70 | .835 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105510.** | **984030.** | **322290.** |
| Stddev | 212. | 3604. | 3058. |
| %RSD | .20096 | .36623 | .94898 |

Sample Name: CalStd6=20 Acquired: 04/05/2019 07:48:03 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **19.2** | **417.** | **171.** | **19.3** | **.000** | **16.0** | **4.79** | **205.** |
| Stddev | .3 | 4. | 2. | 2.6 | .000 | .3 | .72 | 5. |
| %RSD | 1.53 | 1.06 | .995 | 13.3 | .644 | 1.57 | 15.0 | 2.56 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105800.** | **984500.** |
| Stddev | 273. | 4802. |
| %RSD | .25795 | .48776 |

Sample Name: CalStd7=50 Acquired: 04/05/2019 07:54:13 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Ba4554 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2045 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.04** | **.000** | **1020.** | **.002** | **.003** | **.001** | **.001** | **.000** | **200.** | **35.5** | **.001** | **41.6** |
| Stddev | .15 | .000 | 12. | .000 | .000 | .000 | .000 | .000 | 4. | 1.8 | .000 | .8 |
| %RSD | 2.17 | 10.1 | 1.17 | .348 | .247 | .393 | .614 | .279 | 2.16 | 5.14 | .156 | 1.83 |

| Elem | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.000** | **502.** |
| Stddev | .000 | .000 | .000 | 5. |
| %RSD | .971 | 4.45 | 13.0 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106000.** | **988570.** | **322530.** |
| Stddev | 277. | 2989. | 2206. |
| %RSD | .26097 | .30234 | .68401 |

Sample Name: CalStd8=100 Acquired: 04/05/2019 08:00:22 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **13.1** | **.000** | **96.7** | **1970.** | **.010** | **15400.** | **.003** | **.006** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .6 | 21. | .000 | 155. | .000 | .000 | .000 |
| %RSD | .948 | 1.44 | 4.04 | 3.64 | .583 | 1.09 | .606 | 1.01 | .231 | .387 | .188 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **247.** | **60.0** | **5640.** | **.002** | **82.2** | **207.** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 4. | 2.4 | 26. | .000 | .9 | 1. | .000 | .000 |
| %RSD | .952 | .263 | 1.31 | 1.59 | 4.05 | .465 | .888 | 1.05 | .349 | .268 | 2.52 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **41.3** | **20.6** | **.000** | **.000** | **.000** | **985.** | **.002** | **450.** |
| Stddev | 1.0 | .2 | .000 | .000 | .000 | 6. | .000 | 1. |
| %RSD | 2.46 | .812 | 3.52 | 22.9 | 2.01 | .630 | .987 | .177 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106590.** | **991390.** | **322150.** |
| Stddev | 86. | 4912. | 2445. |
| %RSD | .08039 | .49550 | .75900 |

Sample Name: CalStd9=1000 Acquired: 04/05/2019 08:06:31 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.002** | **135.** | **.001** | **975.** | **19800.** | **.102** | **139.** | **129000.** | **.035** |
| Stddev | .000 | .000 | 1. | .000 | 3. | 168. | .000 | 3. | 1220. | .000 |
| %RSD | .266 | .955 | .495 | 1.48 | .352 | .848 | .209 | 1.89 | .950 | .122 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.064** | **.020** | **.003** | **.019** | **.004** | **1140.** | **537.** | **.001** | **.000** | **472.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 12. | 9. | .000 | .000 | 4. |
| %RSD | .275 | .406 | .383 | .053 | .080 | 1.03 | 1.64 | .481 | 1.24 | .915 |

| Elem | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **50800.** | **.017** | **1520.** | **842.** | **2080.** | **.019** | **.002** | **399.** | **.003** |
| Stddev | .000 | 263. | .000 | 14. | 1. | 9. | .000 | .000 | 1. | .000 |
| %RSD | 5.43 | .518 | .212 | .938 | .085 | .424 | .186 | .580 | .219 | .682 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **206.** | **.001** | **.000** | **.003** | **10000.** | **.021** | **4460.** |
| Stddev | 1. | .000 | .000 | .000 | 35. | .000 | 12. |
| %RSD | .454 | .273 | 1.72 | .076 | .352 | .569 | .273 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **1000500.** | **324740.** |
| Stddev | 335. | 4893. | 1702. |
| %RSD | .31296 | .48909 | .52398 |

Sample Name: CalStd10=10000 Acquired: 04/05/2019 08:12:10 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4554 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.015** | **.009** | **190000.** | **1260.** | **.198** | **.028** | **.184** | **.037** | **9910.** | **5160.** |
| Stddev | .000 | .000 | 1730. | 6. | .000 | .000 | .000 | .000 | 131. | 80. |
| %RSD | .880 | .297 | .910 | .442 | .164 | .501 | .137 | .395 | 1.32 | 1.55 |

| Elem | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.004** | **4590.** | **.000** | **454000.** | **.159** | **14900.** | **8060.** | **19500.** | **.181** |
| Stddev | .000 | .000 | 41. | .000 | 4540. | .001 | 123. | 8. | 43. | .000 |
| %RSD | .665 | .665 | .883 | 1.08 | 1.00 | .545 | .822 | .098 | .221 | .034 |

| Elem | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.018** | **.025** | **1980.** | **.003** | **.028** | **96200.** | **.203** |
| Stddev | .000 | .000 | 3. | .000 | .000 | 220. | .001 |
| %RSD | .158 | .285 | .135 | .524 | .117 | .228 | .298 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104810.** | **976730.** | **325360.** |
| Stddev | 168. | 3799. | 1969. |
| %RSD | .15989 | .38894 | .60521 |

Sample Name: CalStd12=100K  Acquired: 04/05/2019 08:18:42  Type: Cal

Method: DOD Calibration Updated 060614(v3295)  Mode: IR  Corr. Factor: 1.000000

User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1

Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.60** | **94200.** | **50100.** | **140000.** | **.174** | **1.79** |
| Stddev | .00 | 1180. | 501. | 1150. | .000 | .00 |
| %RSD | .051 | 1.26 | 1.00 | .825 | .163 | .167 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105470.** | **986270.** |
| Stddev | 86. | 3826. |
| %RSD | .08111 | .38792 |

Sample Name: CalStd13=100000 Acquired: 04/05/2019 08:25:00 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.146** | **12100.** | **.048** | **.034** | **42900.** | **.004** |
| Stddev | .002 | 72. | .000 | .000 | 397. | .000 |
| %RSD | 1.36 | .597 | .383 | 1.00 | .926 | .924 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103450.** | **986050.** | **323600.** |
| Stddev | 134. | 4009. | 1860. |
| %RSD | .12942 | .40654 | .57480 |

Sample Name: CalStd14=500000 Acquired: 04/05/2019 08:31:24 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.751** | **57100.** | **.159** | **190000.** | **.022** |
| Stddev | .018 | 269. | .002 | 522. | .000 |
| %RSD | 2.36 | .471 | .981 | .275 | 1.06 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **95857.** | **308780.** |
| Stddev | 187. | 2213. |
| %RSD | .19559 | .71663 |

Sample Name: CalibStd15=1000k Acquired: 04/05/2019 08:38:16 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.53** | **105000.** | **.299** | **.043** |
| Stddev | .02 | 304. | .002 | .000 |
| %RSD | 1.41 | .288 | .713 | .685 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **86218.** | **287800.** |
| Stddev | 176. | 1560. |
| %RSD | .20456 | .54215 |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.2** | **11800.** | **1950.** | **1920.** | **2020.** | **46.5** | **9870.** | **47.2** | **504.** | **192.** | **251.** | **256.** |
| Stddev | .9 | 133. | 10. | 10. | 6. | .2 | 71. | .1 | 1. | 2. | 2. | 4. |
| %RSD | 2.09 | 1.13 | .534 | .506 | .288 | .504 | .720 | .199 | .199 | 1.12 | .940 | 1.68 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4860.** | **10300.** | **500.** | **511.** | **508.** | **494.** | **470.** | **478.** | **496.** | **500.** | **1930.** | **2000.** |
| Stddev | 19. | 132. | 4. | 2. | 1. | 1. | 5. | 2. | 2. | 2. | 13. | 7. |
| %RSD | .390 | 1.28 | .717 | .332 | .287 | .208 | 1.10 | .491 | .466 | .346 | .695 | .361 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **495.** | **527.** | **482.** |
| Stddev | 1. | 3. | 1. |
| %RSD | .133 | .543 | .107 |
| Check ? | None | None | None |
| Value | | | |
| Range | | | |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107870.** | **1017900.** | **330150.** |
| Stddev | 155. | 5761. | 2766. |
| %RSD | .14372 | .56599 | .83786 |

Sample Name: ICVLL Acquired: 04/05/2019 09:04:20 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.4** | **1170.** | **1180.** | **62.4** | **29.1** | **10.9** | **1400.** | **14.4** | **14.7** | **29.0** | **29.1** | **28.0** |
| Stddev | 1.0 | 5. | 11. | 3.0 | .4 | .0 | 6. | .3 | .1 | .4 | .9 | 4.4 |
| %RSD | 3.30 | .450 | .913 | 4.76 | 1.21 | .388 | .465 | 1.74 | .834 | 1.45 | 3.13 | 15.7 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **27.9** | **880.** | **1440.** | **32.3** | **29.0** | **29.5** | **31.9** | **62.8** | **65.7** | **59.6** | **29.2** | **28.8** |
| Stddev | 3.1 | 3. | 5. | .3 | .3 | .4 | 1.3 | 3.2 | 4.7 | 1.6 | .5 | .2 |
| %RSD | 11.0 | .322 | .347 | .943 | 1.09 | 1.41 | 4.20 | 5.09 | 7.16 | 2.72 | 1.72 | .524 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107650.** | **1025000.** | **332350.** |
| Stddev | 64. | 4162. | 4275. |
| %RSD | .05979 | .40602 | 1.2863 |

Sample Name: icb Acquired: 04/05/2019 09:10:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.683** | **-1.64** | **-.338** | **.229** | **-.074** | **-9.72** | **.077** | **-.062** | **-.284** | **-.761** | **-3.27** | **-12.2** |
| Stddev | .756 | 1.07 | 2.47 | .448 | .038 | .73 | .092 | .174 | .152 | .371 | 6.43 | 2.3 |
| %RSD | 111. | 65.0 | 730. | 196. | 51.7 | 7.54 | 119. | 281. | 53.6 | 48.8 | 197. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.32** | **.151** | **-.858** | **.305** | **.273** | **-3.89** | **2.65** | **1.53** | **-.291** | **-.741** |
| Stddev | .04 | .090 | .552 | .430 | 6.90 | 1.68 | 5.63 | 2.28 | .164 | .047 |
| %RSD | .515 | 59.5 | 64.4 | 141. | 2530. | 43.2 | 213. | 149. | 56.5 | 6.40 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108740.** | **1038400.** | **330070.** |
| Stddev | 216. | 7591. | 1142. |
| %RSD | .19875 | .73105 | .34597 |

Sample Name: ICSA Acquired: 04/05/2019 09:29:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.535** | **529000.** | **-.502** | **.000** | **-.473** | **514000.** | **.010** | **-.699** | **-.372** | **-2.79** | **-1.73** |
| Stddev | .822 | 8170. | 9.70 | .506 | .058 | 3140. | 1.26 | .271 | .155 | .85 | 6.83 |
| %RSD | 154. | 1.54 | 1930. | 239000. | 12.3 | .611 | 12500. | 38.8 | 41.7 | 30.3 | 395. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481000.** | **494000.** | **-2.73** | **-1.91** | **-.450** | **1.02** | **.001** | **.002** | **-.087** | **8970.** | **6.35** |
| Stddev | 5460. | 5380. | .27 | .59 | .782 | 2.41 | 6.42 | 10.9 | .964 | 17. | .83 |
| %RSD | 1.14 | 1.09 | 9.71 | 30.9 | 174. | 237. | 697000. | 465000. | 1100. | .188 | 13.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96186.** | **927730.** | **313820.** |
| Stddev | 132. | 2680. | 2397. |
| %RSD | .13760 | .28885 | .76366 |

Sample Name: ICSAB Acquired: 04/05/2019 09:35:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **444.** | **544000.** | **568.** | **476.** | **450.** | **480.** | **502000.** | **493.** | **461.** | **485.** | **444.** |
| Stddev | 3. | 7240. | 14. | 2. | 2. | 3. | 2570. | 1. | 1. | 3. | 6. |
| %RSD | .643 | 1.33 | 2.37 | .449 | .528 | .601 | .512 | .160 | .153 | .701 | 1.38 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **526.** | **506000.** | **508000.** | **512.** | **477.** | **493.** | **445.** | **451.** | **879.** | **412.** | **459.** |
| Stddev | 8. | 3160. | 2730. | 2. | . | 1. | 3. | 2. | 18. | 4. | 11. |
| %RSD | 1.56 | .625 | .537 | .465 | .034 | .294 | .657 | .426 | 2.08 | .850 | 2.45 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **488.** | **468.** | **476.** | **507.** | **564.** | **510.** | **499.** |
| Stddev | 12. | 5. | 3. | 3. | 5. | 1. | 1. |
| %RSD | 2.35 | 1.09 | .672 | .620 | .889 | .123 | .141 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: MRL/LLOQ  Acquired: 04/05/2019 09:22:55  Type: QC
Method: DOD Calibration Updated 060614(v3295)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.0** | **397.** | **17.5** | **9.52** | **3.49** | **445.** | **4.73** | **4.81** | **9.30** | **9.42** | **8.80** | **286.** |
| Stddev | .7 | 1. | 3.1 | .16 | .05 | 4. | .16 | .19 | .36 | .59 | 3.61 | 1. |
| %RSD | 6.87 | .277 | 17.9 | 1.68 | 1.46 | .988 | 3.28 | 3.84 | 3.83 | 6.28 | 41.1 | .369 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **9.15** | **9.36** | **9.97** | **12.6** | **18.8** | **21.9** | **20.8** | **8.88** | **9.86** |
| Stddev | 2. | .05 | .31 | .39 | 1.7 | 2.3 | 3.4 | 1.9 | .17 | .06 |
| %RSD | .442 | .509 | 3.30 | 3.91 | 13.3 | 12.2 | 15.7 | 9.04 | 1.90 | .574 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108050.** | **1039400.** | **331930.** |
| Stddev | 301. | 5126. | 2002. |
| %RSD | .27862 | .49316 | .60315 |

Sample Name: ccv1 Acquired: 04/05/2019 16:18:09 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **451.** | F **4240.** | **4760.** | F **4310.** | F **445.** | F **4340.** | F **434.** | **4510.** | **4540.** | **4610.** | F **4370.** | **4640.** |
| Stddev | 1. | 39. | 10. | 11. | 2. | 34. | 1. | 18. | 6. | 7. | 55. | 54. |
| %RSD | .258 | .918 | .218 | .254 | .511 | .791 | .236 | .406 | .134 | .151 | 1.26 | 1.16 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4680.** | F **4230.** | F **4300.** | F **4400.** | F **4280.** | F **4390.** | **4500.** | F **4400.** | **5160.** |
| Stddev | 32. | 5. | 8. | 6. | 21. | 8. | 7. | 11. | 22. |
| %RSD | .688 | .123 | .179 | .144 | .478 | .185 | .165 | .248 | .420 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103770.** | **939240.** | **326610.** |
| Stddev | 124. | 4473. | 1359. |
| %RSD | .11914 | .47622 | .41604 |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.1** | F **415.** | **451.** | F **420.** | F **441.** | **47.4** | F **411.** | **45.0** | **46.5** | F **427.** | F **429.** | **482.** |
| Stddev | .6 | 2. | 5. | 1. | 4. | .5 | 3. | .2 | .2 | 1. | 5. | 5. |
| %RSD | 1.25 | .387 | 1.01 | .146 | .818 | 1.11 | .668 | .533 | .423 | .295 | 1.25 | 1.08 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **439.** | F **435.** | F **427.** | **463.** | F **435.** | **453.** | F **443.** | **449.** | F **422.** | F **422.** | **450.** | F **431.** |
| Stddev | 9. | 7. | 2. | 4. | 1. | 1. | 1. | 2. | 3. | 3. | 1. | 2. |
| %RSD | 1.98 | 1.58 | .509 | .950 | .309 | .280 | .244 | .555 | .650 | .680 | .286 | .502 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | 500. | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | -10.4% | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **475.** | **454.** | **519.** | F **434.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .487 | .285 | .274 | .292 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106990.** | **971930.** | **329900.** |
| Stddev | 184. | 5915. | 2052. |
| %RSD | .17156 | .60859 | .62192 |

Sample Name: ccb Acquired: 04/05/2019 16:29:21 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.075** | **-4.59** | **1.94** | **.754** | **.251** | **-11.3** | **.065** | **.022** | **.442** | **-.079** | **-.921** | **-6.78** |
| Stddev | .507 | .84 | 3.21 | .588 | .031 | .6 | .020 | .100 | .175 | .918 | 7.17 | 2.50 |
| %RSD | 679. | 18.2 | 165. | 77.9 | 12.3 | 5.08 | 30.5 | 450. | 39.7 | 1160. | 779. | 36.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.68** | **.751** | **.192** | **.715** | **2.42** | **-1.31** | **4.54** | **2.11** | **.126** | **-.465** |
| Stddev | .04 | .076 | .233 | .510 | 1.74 | 1.14 | 5.33 | 1.66 | .476 | .059 |
| %RSD | .511 | 10.1 | 121. | 71.3 | 72.1 | 86.9 | 118. | 78.8 | 379. | 12.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106770.** | **978400.** | **330270.** |
| Stddev | 178. | 4473. | 914. |
| %RSD | .16707 | .45717 | .27662 |

Sample Name: 255857 Acquired: 04/05/2019 17:34:38 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.745** | **10900.** | **27.9** | **141.** | **188.** | **.804** | **13300.** | **-.599** | **.420** | **5.19** | **25.3** | **96.5** |
| Stddev | .343 | 382. | 1.5 | 1. | 8. | .019 | 500. | .066 | .167 | .37 | .4 | 5.0 |
| %RSD | 46.0 | 3.50 | 5.43 | 1.00 | 4.18 | 2.33 | 3.77 | 10.9 | 39.6 | 7.09 | 1.39 | 5.18 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **77.0** | **18600.** | **4880.** | **9550.** | **1.40** | **20.6** | **467.** | **450.** | **-1.22** | **-2.08** | **5.48** | **47.8** |
| Stddev | 7.3 | 724. | 144. | 365. | .51 | .5 | 6. | 4. | 2.66 | 5.10 | 2.03 | 1.4 |
| %RSD | 9.50 | 3.90 | 2.96 | 3.82 | 36.4 | 2.31 | 1.29 | .920 | 218. | 245. | 37.1 | 2.90 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **112.** |
| Stddev | 1. |
| %RSD | 1.17 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106840.** | **970780.** | **336130.** |
| Stddev | 123. | 6658. | 3203. |
| %RSD | .11554 | .68583 | .95295 |

Sample Name: ccv1 Acquired: 04/05/2019 17:41:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4220.** | **4720.** | F **4310.** | F **442.** | F **4320.** | F **434.** | F **4480.** | **4530.** | **4610.** | F **4340.** | **4570.** |
| Stddev | 2. | 20. | 32. | 38. | 2. | 24. | 1. | 17. | 11. | 24. | 22. | 98. |
| %RSD | .410 | .478 | .678 | .881 | .390 | .562 | .196 | .375 | .250 | .509 | .500 | 2.14 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | 5000. | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | F **4210.** | F **4280.** | F **4410.** | F **4290.** | F **4410.** | **4480.** | F **4390.** | **5120.** |
| Stddev | 22. | 8. | 10. | 23. | 15. | 35. | 7. | 7. | 19. |
| %RSD | .482 | .195 | .228 | .517 | .346 | .791 | .166 | .150 | .377 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103460.** | **944250.** | **326940.** |
| Stddev | 307. | 4172. | 3016. |
| %RSD | .29717 | .44187 | .92240 |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.7** | F **415.** | **452.** | F **416.** | F **443.** | **47.0** | F **412.** | F **44.8** | **46.6** | F **428.** | F **425.** | **480.** |
| Stddev | .5 | 2. | 6. | 1. | 4. | .2 | 4. | .1 | .1 | 1. | 3. | 7. |
| %RSD | 1.08 | .528 | 1.34 | .335 | 1.01 | .423 | 1.00 | .249 | .176 | .202 | .616 | 1.38 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | 50.0 | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **430.** | F **423.** | **459.** | F **433.** | **451.** | F **442.** | **454.** | F **420.** | F **419.** | **449.** | F **430.** |
| Stddev | 5. | 4. | 1. | 2. | 2. | 1. | 1. | 3. | 6. | 4. | 3. | 5. |
| %RSD | 1.17 | .915 | .346 | .410 | .455 | .306 | .283 | .623 | 1.48 | .862 | .638 | 1.06 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **479.** | **451.** | **517.** | F **432.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .474 | .245 | .123 | .336 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106480.** | **975080.** | **330590.** |
| Stddev | 231. | 2674. | 1330. |
| %RSD | .21722 | .27427 | .40242 |

Sample Name: ccb Acquired: 04/05/2019 17:52:19 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.231** | **-4.42** | **.050** | **.634** | **.230** | **-11.1** | **.118** | **-.015** | **.588** | **.278** | **10.9** | **-1.60** |
| Stddev | .385 | .79 | 4.45 | .114 | .033 | .6 | .113 | .128 | .231 | .393 | 3.6 | 2.25 |
| %RSD | 167. | 17.8 | 8970. | 17.9 | 14.2 | 5.43 | 96.0 | 860. | 39.3 | 141. | 32.9 | 140. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-4.76** | **-8.58** | **.900** | **.377** | **.625** | **1.78** | **-.347** | **6.21** | **2.81** | **.297** | **-.404** |
| Stddev | 2.00 | .01 | .100 | .648 | .080 | 1.52 | 2.20 | 2.20 | 1.17 | .640 | .092 |
| %RSD | 42.0 | .076 | 11.1 | 172. | 12.8 | 85.7 | 634. | 35.4 | 41.8 | 216. | 22.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106430.** | **969110.** | **331350.** |
| Stddev | 189. | 3923. | 2094. |
| %RSD | .17758 | .40476 | .63183 |

Sample Name: 255858 Acquired: 04/05/2019 17:58:37 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.735** | **12300.** | **20.3** | **137.** | **193.** | **.760** | **14300.** | **-.401** | **.597** | **5.18** | **23.0** | **125.** |
| Stddev | .449 | 705. | 4.8 | 2. | 10. | .020 | 823. | .208 | .201 | .24 | 1.2 | 8. |
| %RSD | 61.1 | 5.73 | 23.7 | 1.45 | 5.08 | 2.58 | 5.77 | 51.8 | 33.7 | 4.62 | 5.05 | 6.71 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **105.** | **15700.** | **6080.** | **12200.** | **1.27** | **12.7** | **86.2** | **-1.73** | **3.09** | **8.17** | **47.2** | **540.** |
| Stddev | 9. | 961. | 350. | 744. | .29 | .2 | 3.4 | 1.76 | 4.09 | .68 | 2.1 | 8. |
| %RSD | 8.37 | 6.11 | 5.76 | 6.08 | 22.8 | 1.68 | 3.94 | 102. | 132. | 8.30 | 4.36 | 1.51 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **464.** |
| Stddev | 6. |
| %RSD | 1.31 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107600.** | **981260.** | **333700.** |
| Stddev | 187. | 7746. | 1403. |
| %RSD | .17335 | .78942 | .42043 |

Sample Name: 255882 Acquired: 04/05/2019 18:05:06 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.31** | **282000.** | **845.** | **1450.** | **10.7** | **32900.** | **.670** | **6.81** | **111.** | **559.** | **596.** |
| Stddev | .69 | 1350. | 11. | 15. | .1 | 509. | 1.21 | .13 | . | 1. | 5. |
| %RSD | 29.8 | .480 | 1.26 | 1.04 | .524 | 1.55 | 181. | 1.87 | .414 | .121 | .823 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **579.** | **373000.** | **27900.** | **6370.** | **18.5** | **292.** | **576.** | **946.** | **-5.14** | **24.7** | **51.1** |
| Stddev | 4. | 3560. | 151. | 68. | .4 | . | 12. | 6. | 2.90 | 4.1 | 1.0 |
| %RSD | .666 | .953 | .543 | 1.07 | 2.43 | .037 | 2.02 | .609 | 56.5 | 16.7 | 1.92 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **819.** | **1570.** |
| Stddev | 4. | 7. |
| %RSD | .468 | .426 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102350.** | **922750.** | **318990.** |
| Stddev | 642. | 7154. | 2280. |
| %RSD | .62685 | .77529 | .71467 |

Sample Name: 255883 Acquired: 04/05/2019 18:11:30 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.27** | **182000.** | **455.** | **891.** | **961.** | **9.91** | **9710.** | **-2.31** | **3.26** | **73.7** | **360.** |
| Stddev | .54 | 2220. | 13. | 3. | 15. | .09 | 135. | .63 | .07 | .6 | 2. |
| %RSD | 42.1 | 1.22 | 2.80 | .336 | 1.60 | .881 | 1.39 | 27.2 | 2.24 | .764 | .443 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **372.** | **357.** | **285000.** | **18100.** | **2310.** | **2680.** | **9.14** | **271.** | **489.** | **-10.4** | **14.2** |
| Stddev | 5. | 6. | 1810. | 161. | 5. | 34. | 1.12 | 1. | 3. | 3.0 | 8.0 |
| %RSD | 1.26 | 1.62 | .635 | .886 | .203 | 1.26 | 12.2 | .321 | .568 | 28.7 | 56.4 |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **41.0** | **616.** | **879.** | **709.** |
| Stddev | 1.6 | 1. | 3. | 2. |
| %RSD | 3.86 | .152 | .380 | .307 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104210.** | **936960.** | **322240.** |
| Stddev | 286. | 4893. | 3463. |
| %RSD | .27411 | .52225 | 1.0747 |

Sample Name: 255884 Acquired: 04/05/2019 18:17:57 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.63** | **149000.** | **461.** | **8390.** | **12.5** | **243000.** | **15.6** | **17.3** | **148.** | **475.** | **11500.** |
| Stddev | .37 | 1760. | 7. | 153. | .1 | 3230. | .4 | .2 | 1. | . | 115. |
| %RSD | 3.81 | 1.18 | 1.58 | 1.83 | .960 | 1.33 | 2.32 | 1.26 | .517 | .082 | 1.00 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **293000.** | **130000.** | **472000.** | **120.** | **271.** | **6600.** | **16.2** | **-19.2** | **186.** | **693.** | **8390.** |
| Stddev | 1360. | 1030. | 8170. | 1. | 2. | 15. | 1.9 | 3.7 | 4. | 3. | 16. |
| %RSD | .466 | .795 | 1.73 | 1.00 | .572 | .221 | 11.7 | 19.1 | 2.22 | .366 | .196 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **96547.** | **884990.** | **311990.** |
| Stddev | 205. | 2973. | 3983. |
| %RSD | .21232 | .33591 | 1.2767 |

Sample Name: 255885 Acquired: 04/05/2019 18:24:39 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.249** | **92000.** | **195.** | **1380.** | **8.34** | **35900.** | **.386** | **3.58** | **45.6** | **175.** | **1450.** |
| Stddev | .540 | 785. | 11. | 15. | .05 | 781. | .384 | .21 | .3 | 1. | 17. |
| %RSD | 217. | .853 | 5.76 | 1.10 | .595 | 2.17 | 99.7 | 5.84 | .572 | .551 | 1.15 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **134000.** | **21200.** | **14400.** | **5.97** | **87.6** | **762.** | **831.** | **4.51** | **7.27** | **22.5** | **234.** |
| Stddev | 1590. | 342. | 208. | 1.14 | .8 | 5. | 2. | 2.00 | 4.31 | 1.5 | 1. |
| %RSD | 1.18 | 1.62 | 1.44 | 19.1 | .954 | .680 | .236 | 44.5 | 59.3 | 6.44 | .262 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1660.** |
| Stddev | 3. |
| %RSD | .173 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104210.** | **943340.** | **321580.** |
| Stddev | 63. | 2510. | 910. |
| %RSD | .06065 | .26611 | .28309 |

Sample Name: 255886 Acquired: 04/05/2019 18:31:10 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **35.4** | **140000.** | **284.** | **15.3** | **60600.** | **7.01** | **8.30** | **341.** | **397.** | **7120.** | **203000.** |
| Stddev | .9 | 1400. | 6. | .1 | 740. | .92 | .48 | 1. | 1. | 20. | 1660. |
| %RSD | 2.54 | .999 | 1.95 | .496 | 1.22 | 13.1 | 5.79 | .253 | .351 | .284 | .817 |

| Elem | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **17300.** | **955000.** | **300.** | **255.** | **19200.** | **2.62** | **33.0** | **428.** | **1320.** | **4840.** |
| Stddev | 199. | 8170. | 1. | 2. | 79. | 3.04 | 8.2 | 4. | 3. | 12. |
| %RSD | 1.15 | .856 | .244 | .594 | .411 | 116. | 25.0 | .893 | .209 | .252 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **98595.** | **907930.** | **310980.** |
| Stddev | 304. | 2247. | 3440. |
| %RSD | .30821 | .24747 | 1.1061 |

Sample Name: 255887 Acquired: 04/05/2019 18:38:02 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.510** | **108000.** | **137.** | **4040.** | **7.98** | **15800.** | **6.71** | **9.84** | **75.8** | **342.** | **7530.** |
| Stddev | .304 | 287. | 5. | 14. | .05 | 250. | .23 | .22 | .6 | 4. | 28. |
| %RSD | 59.7 | .265 | 3.62 | .346 | .577 | 1.59 | 3.39 | 2.24 | .783 | 1.03 | .373 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **229000.** | **12500.** | **125000.** | **36.6** | **120.** | **2480.** | **-2.60** | **-8.62** | **65.4** | **487.** | **6120.** |
| Stddev | 1640. | 135. | 1450. | 1.1 | 1. | 12. | 1.78 | 15.1 | 2.5 | 1. | 36. |
| %RSD | .715 | 1.08 | 1.16 | 2.95 | .520 | .466 | 68.6 | 175. | 3.76 | .162 | .592 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103540.** | **941620.** | **321010.** |
| Stddev | 363. | 7863. | 1271. |
| %RSD | .35029 | .83500 | .39589 |

Sample Name: 255888 Acquired: 04/05/2019 18:44:27 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.912** | **189000.** | **332.** | **1550.** | **15.6** | **61600.** | **-1.29** | **2.68** | **164.** | **1960.** | **614.** |
| Stddev | .632 | 1550. | 3. | 15. | .0 | 1030. | .23 | .38 | . | 5. | 2. |
| %RSD | 69.3 | .824 | .926 | .981 | .312 | 1.67 | 17.6 | 14.0 | .305 | .232 | .396 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **593.** | **344000.** | **39600.** | **34000.** | **14.0** | **531.** | **517.** | **568.** | **-10.5** | **.567** | **51.9** |
| Stddev | 10. | 1970. | 363. | 412. | .5 | 1. | 1. | 5. | 5.5 | 4.19 | 1.2 |
| %RSD | 1.66 | .572 | .916 | 1.21 | 3.85 | .279 | .168 | .948 | 52.3 | 738. | 2.27 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **674.** | **1320.** |
| Stddev | 3. | 6. |
| %RSD | .456 | .424 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102800.** | **928630.** | **320760.** |
| Stddev | 131. | 9065. | 1863. |
| %RSD | .12705 | .97618 | .58068 |

Sample Name: 255889 Acquired: 04/05/2019 18:50:58 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.233** | **126000.** | **218.** | **1130.** | **14.3** | **13600.** | **-3.07** | **.959** | **133.** | **335.** | **180.** |
| Stddev | .387 | 1950. | 5. | 10. | .1 | 258. | .69 | .232 | 1. | 2. | 2. |
| %RSD | 166. | 1.55 | 2.14 | .864 | .610 | 1.89 | 22.5 | 24.1 | .563 | .687 | 1.02 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **181.** | **270000.** | **16500.** | **9360.** | **8.01** | **177.** | **177.** | **-7.83** | **12.2** | **37.9** | **481.** |
| Stddev | 6. | 2710. | 138. | 86. | .65 | . | 2. | 2.77 | 7.5 | 1.3 | 2. |
| %RSD | 3.16 | 1.00 | .837 | .919 | 8.14 | .127 | 1.09 | 35.3 | 61.8 | 3.50 | .371 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **546.** | **443.** |
| Stddev | 2. | 2. |
| %RSD | .350 | .371 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104770.** | **955670.** | **325780.** |
| Stddev | 382. | 2653. | 4305. |
| %RSD | .36449 | .27758 | 1.3215 |

Sample Name: ccv1 Acquired: 04/05/2019 19:03:50 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | F **4320.** | **4800.** | F **4440.** | **456.** | **4530.** | F **444.** | **4600.** | **4650.** | **4720.** | F **4390.** | **4790.** |
| Stddev | 1. | 27. | 51. | 36. | 1. | 47. | . | 15. | 4. | 50. | 25. | 62. |
| %RSD | .198 | .615 | 1.06 | .816 | .314 | 1.03 | .110 | .325 | .088 | 1.06 | .572 | 1.30 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | | | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4850.** | F **4370.** | F **4460.** | **4490.** | F **4390.** | **4490.** | **4580.** | **4560.** | **5260.** |
| Stddev | 15. | 10. | 11. | 22. | 13. | 46. | 10. | 9. | 14. |
| %RSD | .302 | .222 | .239 | .486 | .288 | 1.02 | .215 | .199 | .259 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | 5000. | | 5000. | | | | |
| Range | | -10.4% | -10.4% | | -10.4% | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **105000.** | **953300.** | **329940.** |
| Stddev | 257. | 2351. | 2299. |
| %RSD | .24519 | .24666 | .69683 |

Sample Name: ccv2 Acquired: 04/05/2019 19:09:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.0** | F **417.** | **452.** | F **424.** | F **441.** | **47.0** | F **409.** | **45.0** | **46.9** | F **432.** | F **432.** | **476.** |
| Stddev | .8 | 3. | 4. | 1. | 3. | .3 | 3. | .4 | .2 | 1. | 1. | 4. |
| %RSD | 1.81 | .611 | .779 | .317 | .634 | .540 | .685 | .843 | .413 | .202 | .324 | .796 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **448.** | F **427.** | F **429.** | **459.** | F **439.** | **457.** | F **443.** | **454.** | F **425.** | F **426.** | **453.** | F **435.** |
| Stddev | 7. | 4. | 1. | 2. | 2. | 2. | 1. | 5. | 2. | 2. | 6. | 4. |
| %RSD | 1.54 | .878 | .222 | .469 | .469 | .337 | .276 | 1.19 | .422 | .469 | 1.25 | .908 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | 500. | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | -10.4% | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **475.** | **455.** | **510.** | F **437.** |
| Stddev | 4. | 2. | 2. | 1. |
| %RSD | .898 | .469 | .418 | .279 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 19:09:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107550.** | **989010.** | **331380.** |
| Stddev | 301. | 3489. | 1927. |
| %RSD | .27941 | .35276 | .58148 |

Sample Name: ccb Acquired: 04/05/2019 19:15:10 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.028** | **-4.35** | **1.18** | **.648** | **.233** | **-9.81** | **.095** | **-.087** | **-.011** | **.353** | **-4.09** | **-8.91** |
| Stddev | .118 | .70 | 1.84 | .437 | .040 | .67 | .143 | .168 | .332 | .391 | 1.26 | 1.23 |
| %RSD | 429. | 16.1 | 156. | 67.5 | 17.2 | 6.80 | 151. | 193. | 3050. | 111. | 30.9 | 13.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.26** | **1.44** | **.242** | **.702** | **3.04** | **-2.50** | **5.03** | **2.61** | **.183** | **-.345** |
| Stddev | .07 | .05 | .813 | .346 | 1.79 | 3.04 | 4.82 | .94 | .108 | .092 |
| %RSD | .796 | 3.49 | 336. | 49.4 | 59.0 | 122. | 95.8 | 35.8 | 59.1 | 26.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

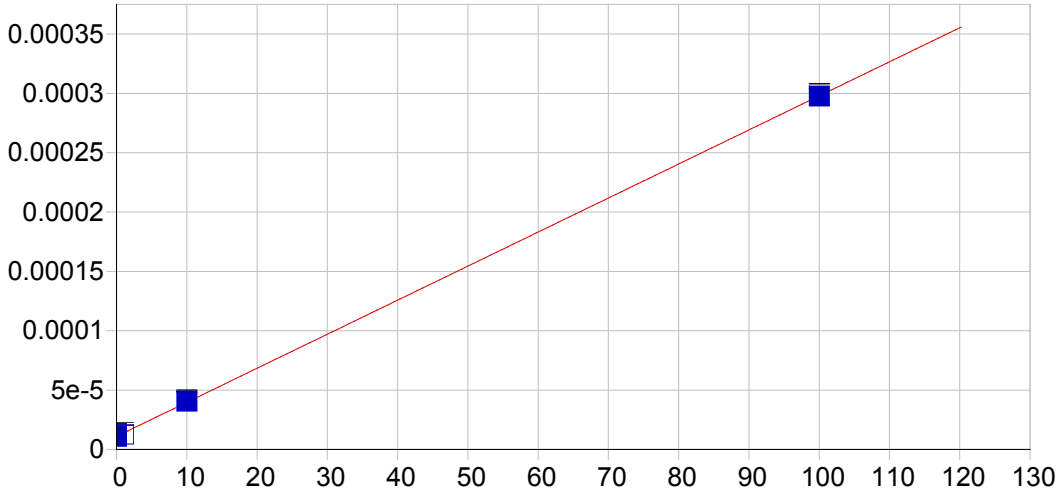
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107390.** | **982330.** | **332440.** |
| Stddev | 375. | 5119. | 2396. |
| %RSD | .34956 | .52113 | .72062 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 07:35:12 | 04/25/2019 14:53:40 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.999954 | 0.000001 | 0.822832 | 2.742774 |
| Ag 338.289 {100} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.980894 | 0.000002 | 15.767845 | 52.559482 |
| Al 167.079 {501} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | None | 0.000048 | 0.000003 | 0.000000 | 1.000000 | 0.999973 | 0.000015 | 0.694996 | 2.316654 |
| Al 308.215 {109} | 04/30/2019 07:35:12 | 04/25/2019 15:18:47 | Linear | 1/Var | 0.000064 | 0.000000 | 0.000000 | 1.000000 | 0.999486 | 0.000053 | 33.040346 | 110.13448 |
| Al 396.152 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Curvili | 1/Conc | -0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000013 | 14.129430 | 47.098102 |
| As 193.759 {474} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Var | 0.375405 | 0.071062 | 0.000000 | 1.000000 | 0.999963 | 0.192102 | 8.588519 | 28.628395 |
| As 197.262 {471} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000000 | 6.803803 | 22.679343 |
| Ba 233.527 {445} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | 0.000005 | 0.000010 | 0.000000 | 1.000000 | 0.999261 | 0.000000 | 0.428082 | 1.426940 |
| Ba 455.403 { 74} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.000084 | 0.000048 | 0.000000 | 1.000000 | 0.999717 | 0.000004 | 0.389849 | 1.299496 |
| Ba 493.409 { 68} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.010565 | 0.000056 | 0.000000 | 1.000000 | 0.999858 | 0.000044 | 0.862235 | 2.874118 |
| Be 313.042 {108} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | -0.000194 | 0.000053 | 0.000000 | 1.000000 | 0.999552 | 0.000001 | 0.054875 | 0.182918 |
| Be 234.861 {144} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999772 | 0.000001 | 1.381937 | 4.606456 |
| Ca 315.887 {107} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.999863 | 0.000027 | 13.419758 | 44.732526 |
| Ca 317.933 {106} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Conc | 0.002896 | 0.000001 | 0.000000 | 1.000000 | 0.999979 | 0.000007 | 7.121370 | 23.737901 |
| Ca 393.366 { 86} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Var | 0.008316 | 0.000189 | 0.000000 | 1.000000 | 0.993161 | 0.004503 | 0.069970 | 0.233235 |
| Ca 396.847 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.002113 | 0.000118 | 0.000000 | 1.000000 | 0.998973 | 0.000252 | 0.106441 | 0.354802 |
| Cd 226.502 {449} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | -0.000005 | 0.000024 | 0.000000 | 1.000000 | 0.999379 | 0.000001 | 0.255705 | 0.852348 |
| Cd 228.802 {447} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000027 | 0.000045 | 0.000000 | 1.000000 | 0.999287 | 0.000002 | 0.169120 | 0.563732 |
| Co 228.616 {447} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000018 | 0.000019 | 0.000000 | 1.000000 | 0.999731 | 0.000002 | 0.442257 | 1.474190 |
| Co 238.892 {141} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999866 | 0.000002 | 0.864546 | 2.881820 |
| Cr 205.560 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000035 | 0.000014 | 0.000000 | 1.000000 | 0.999421 | 0.000042 | 0.335552 | 1.118506 |
| Cr 267.716 {126} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999861 | 0.000000 | 0.912557 | 3.041856 |
| Cu 224.700 {450} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000001 | 0.000007 | 0.000000 | 1.000000 | 0.999500 | 0.000012 | 0.405039 | 1.350129 |
| Cu 324.754 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 33.017871 | 0.489284 | 0.000000 | 1.000000 | 0.999678 | 0.477535 | 5.094250 | 16.980834 |
| Cu 327.396 {103} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 7.173693 | 0.369486 | 0.000000 | 1.000000 | 0.999651 | 0.260832 | 8.764951 | 29.216503 |
| Fe 234.349 {144} | 04/30/2019 07:35:12 | 04/25/2019 15:18:48 | Curvili | 1/Var | 0.000023 | 0.000000 | 0.000000 | 1.000000 | 0.999897 | 0.000009 | 1.861044 | 6.203479 |
| Fe 239.562 {140} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000008 | 0.000000 | 0.000000 | 1.000000 | 0.999563 | 0.000037 | 15.403775 | 51.345917 |
| Fe 259.940 {129} | 04/30/2019 07:35:12 | 04/25/2019 15:25:25 | Curvili | 1/Var | 0.000022 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000059 | 4.566900 | 15.223000 |
| Mg 202.582 {466} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000047 | 0.000002 | 0.000000 | 1.000000 | 0.999043 | 0.000420 | 2.477678 | 8.258926 |
| Mg 279.079 {121} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Full Fit | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.060000 | 0.999990 | 0.000000 | 147.69344 | 492.31149 |
| Mg 280.270 {120} | 04/30/2019 07:35:12 | 04/25/2019 15:06:00 | Linear | 1/Var | 0.000654 | 0.000026 | 0.000000 | 1.000000 | 0.998379 | 0.000995 | 0.047667 | 0.158891 |
| Mn 257.610 {131} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000012 | 0.000000 | 1.000000 | 0.997882 | 0.000027 | 0.096882 | 0.322939 |
| Mn 259.373 {130} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999885 | 0.000023 | 1.375255 | 4.584185 |
| Mo 202.030 {466} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Conc | 0.000011 | 0.000008 | 0.000000 | 1.000000 | 0.999547 | 0.000001 | 0.524568 | 1.748560 |
| Mo 203.844 {465} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Var | 0.000024 | 0.000006 | 0.000000 | 1.000000 | 0.999595 | 0.000024 | 0.838770 | 2.795900 |
| Mo 204.598 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000005 | 0.000000 | 1.000000 | 0.999729 | 0.000027 | 1.023425 | 3.411418 |
| Ni 221.647 {452} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000014 | 0.000010 | 0.000000 | 1.000000 | 0.999767 | 0.000010 | 0.757594 | 2.525313 |
| Ni 231.604 {445} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000019 | 0.000011 | 0.000000 | 1.000000 | 0.999677 | 0.000001 | 0.722935 | 2.409785 |
| Pb 216.999 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999384 | 0.000030 | 5.694743 | 18.982477 |
| Pb 220.353 {453} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000024 | 0.000003 | 0.000000 | 1.000000 | 0.999296 | 0.000000 | 2.803616 | 9.345385 |
| Pb 220.353 {153} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999643 | 0.000001 | 6.828097 | 22.760324 |
| Sb 206.833 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999857 | 0.000000 | 2.461614 | 8.205380 |
| Sb 217.581 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999808 | 0.000000 | 2.712923 | 9.043077 |
| Se 196.090 {472} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999420 | 0.000000 | 4.728254 | 15.760848 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Curvili | 1/Conc | 0.000004 | 0.000000 | 0.000000 | 1.000000 | 0.999959 | 0.000000 | 30.145855 | 100.48618 |
| Tl 190.856 {476} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999490 | 0.000001 | 2.684770 | 8.949234 |
| Tl 190.856 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999617 | 0.000000 | 5.300411 | 17.668036 |
| V 290.882 {116} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999967 | 0.000000 | 7.314456 | 24.381519 |
| V 292.402 {115} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999871 | 0.000001 | 0.605824 | 2.019414 |
| Zn 206.200 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000054 | 0.000016 | 0.000000 | 1.000000 | 0.999282 | 0.000096 | 0.398552 | 1.328506 |
| Zn 213.856 {457} | 04/30/2019 07:35:12 | 04/25/2019 14:59:26 | Linear | 1/Conc | 0.000028 | 0.000027 | 0.000000 | 1.000000 | 0.999114 | 0.000005 | 0.216001 | 0.720004 |
| Y 224.306 {450}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.004511 | 0.000005 | 0.000000 | 1.000000 | 0.999901 | 0.000012 | 10.149500 | 33.831667 |
| Na 589.592 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 0.000063 | 0.000004 | 0.000000 | 1.000000 | 0.999928 | 0.000070 | 7.898158 | 26.327192 |
| Si 251.611 {134} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 1.892880 | 0.047065 | 0.000000 | 1.000000 | 0.998966 | 1.013831 | 26.768890 | 89.229632 |
| Ti 323.452 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000227 | 0.000007 | 0.000000 | 1.000000 | 0.999909 | 0.000001 | 1.541505 | 5.138349 |
| Ti 334.941 {101} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000001 | 0.000004 | 0.000000 | 1.000000 | 0.999918 | 0.000000 | 2.063215 | 6.877382 |
| Sr 407.771 { 83} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000065 | 0.000094 | 0.000000 | 1.000000 | 0.999881 | 0.000006 | 0.175276 | 0.584252 |
| Sr 421.552 { 80} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000009 | 0.000134 | 0.000000 | 1.000000 | 0.999886 | 0.000008 | 0.123225 | 0.410752 |
| Sn 189.989 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999812 | 0.000001 | 1.724449 | 5.748164 |
| B 249.678 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999966 | 0.000000 | 1.368619 | 4.562062 |
| B 249.773 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999668 | 0.000010 | 0.779432 | 2.598107 |
| Li 670.784 { 50} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Var | -0.000045 | 0.000025 | 0.000000 | 1.000000 | 0.999733 | 0.000101 | 1.571556 | 5.238519 |
| K 766.490 { 44} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | -0.000035 | 0.000001 | 0.000000 | 1.000000 | 0.999837 | 0.000023 | 56.288107 | 187.62702 |
| P 213.618 {457} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 230.31583 | 767.71945 |
| S 182.034 {485} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Curvili | 1/Conc | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.218644 | 20.728815 |
| Hg 184.950 {482} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000010 | 0.000000 | 0.000000 | 1.000000 | 0.362902 | 0.000019 | 9.166603 | 30.555344 |
| Ce 404.076 { 83} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000034 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 23.369364 | 77.897881 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

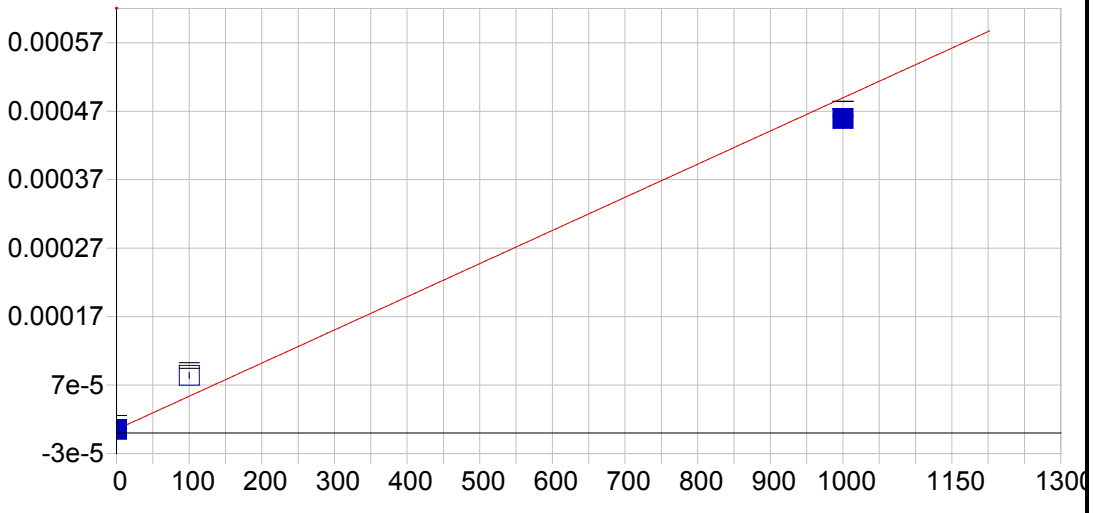



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999954 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.822832 | | |
| Predicted MQL: | 2.742774 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02532 | -.025 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.284 | .284 | 2.84 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.893 | -.107 | -.107 | .00030 | .000 | 1 |
| CalStd3=1 | 1.0000 | .61988 | -.380 | -38.0 | .00001 | .000 | 1 |

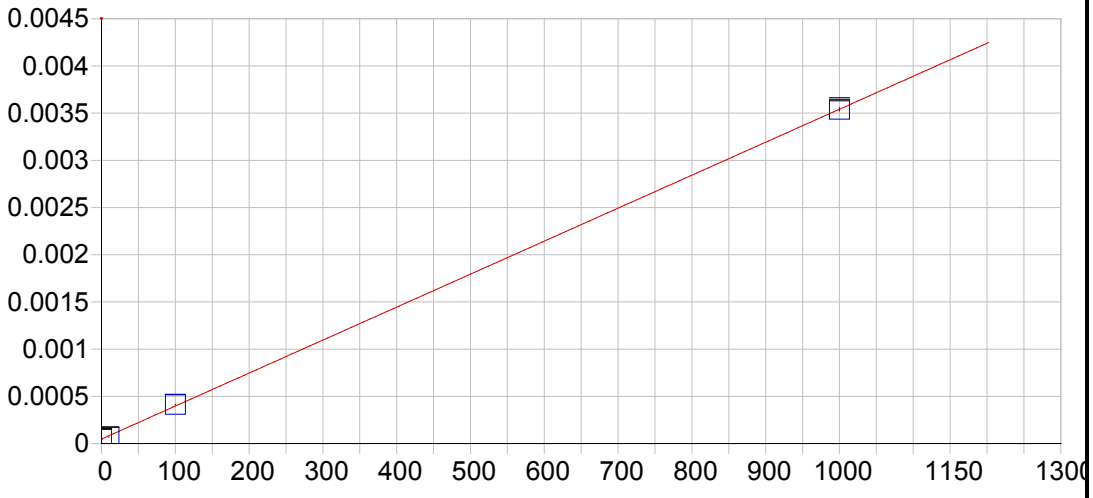



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.980894 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 15.767845 | | |
| Predicted MQL: | 52.559482 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05642 | -.056 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 162.69 | 62.7 | 62.7 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 937.32 | -62.7 | -6.27 | .00046 | .000 | 1 |

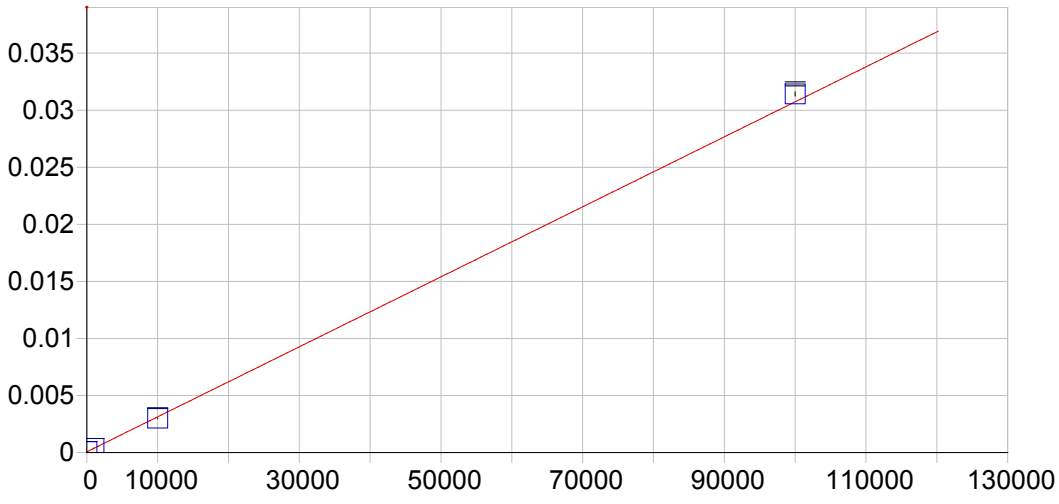



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000048 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.694996 | | |
| Predicted MQL: | 2.316654 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11178 | .112 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.59 | -.405 | -.041 | .00354 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.8255 | -4.17 | -41.7 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.47 | 4.47 | 4.47 | .00041 | .000 | 1 |

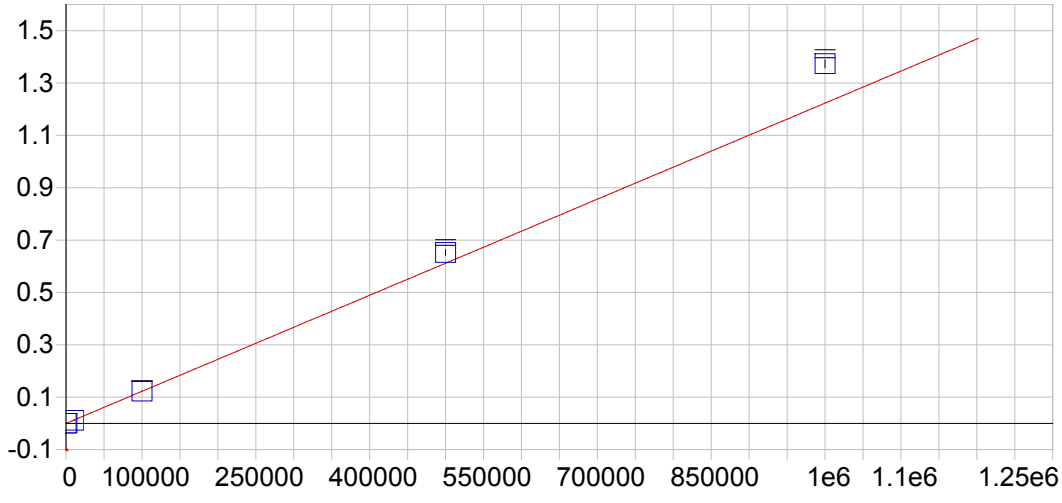



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999486 | Status: | OK. |
| Std Error of Est: | 0.000053 | | |
| Predicted MDL: | 33.040346 | | |
| Predicted MQL: | 110.134487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 18.536 | 18.5 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9574.4 | -426. | -4.26 | .00300 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1032.2 | 32.2 | 3.22 | .00038 | .000 | 1 |
| CalStd13=10 | 100000. | 102250. | 2250. | 2.25 | .03142 | .000 | 1 |

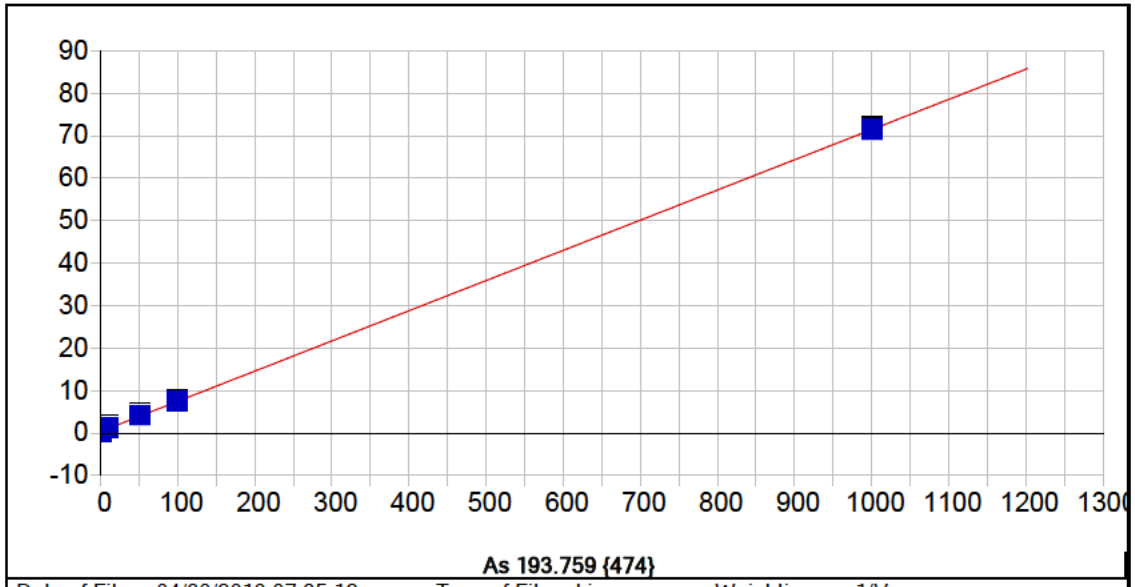



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 14.129430 | | |
| Predicted MQL: | 47.098102 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .08096 | .081 | .000 | -.00001 | .000 | 1 |
| CalStd14=50 | 500000. | 533420. | 33400. | 6.68 | .65252 | .011 | 1 |
| CalStd13=10 | 100000. | 100580. | 576. | .576 | .12302 | .001 | 1 |
| CalStd10=10 | 10000. | 9407.4 | -593. | -5.93 | .01149 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.59 | -17.4 | -1.74 | .00119 | .000 | 1 |
| CalibStd15= | 1000000. | 1122800. | 123000. | 12.3 | 1.3735 | .015 | 1 |

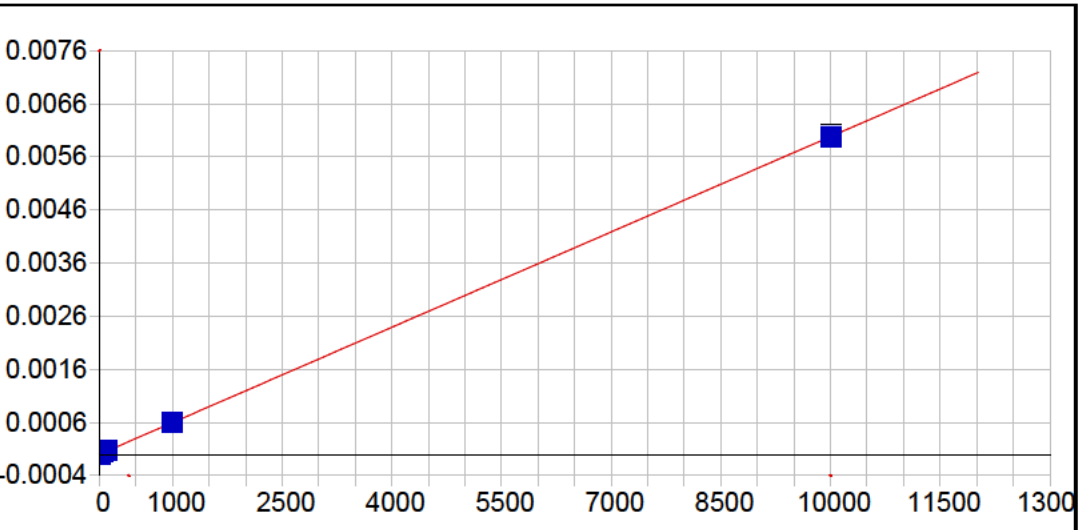



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.375405 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.071062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.192102 | | |
| Predicted MDL: | 8.588519 | | |
| Predicted MQL: | 28.628395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0421 | -2.04 | .000 | .23029 | .314 | 1 |
| CalStd9=100 | 1000.0 | 999.88 | -.124 | -.012 | 71.157 | .663 | 1 |
| CalStd7=50 | 50.000 | 53.852 | 3.85 | 7.70 | 4.1942 | .472 | 1 |
| CalStd5=10 | 10.000 | 13.221 | 3.22 | 32.2 | 1.3127 | .552 | 1 |
| CalStd8=100 | 100.00 | 99.480 | -.520 | -.520 | 7.4175 | .275 | 1 |

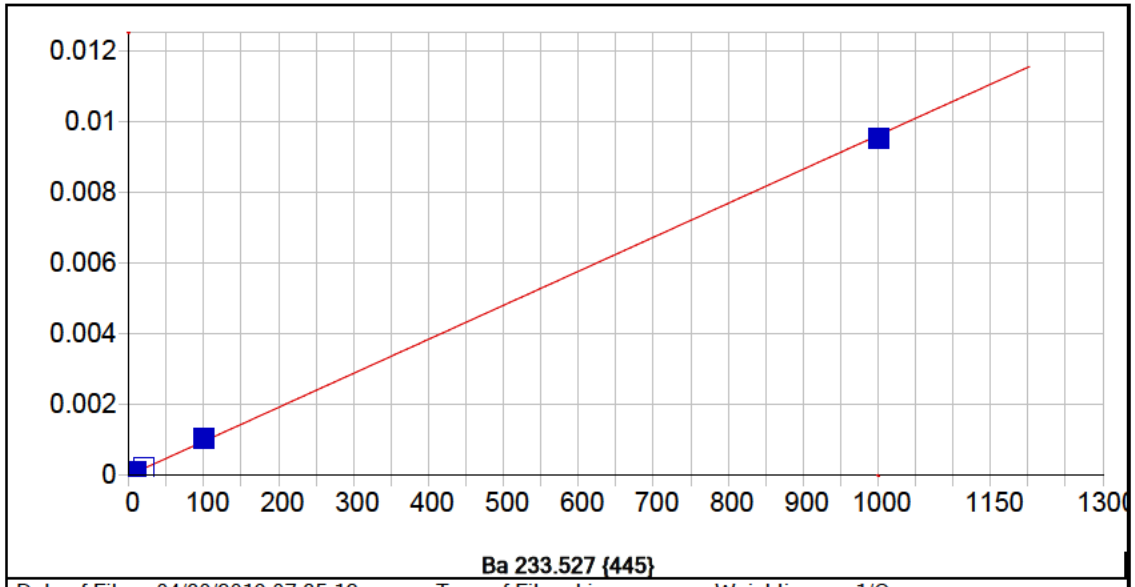



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.803803 | | |
| Predicted MQL: | 22.679343 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00245 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.79 | .279 | .00060 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.054 | 3.05 | 6.11 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.995 | .995 | 9.95 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.35 | 8.35 | 8.35 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.8 | -15.2 | -.152 | .00601 | .000 | 1 |

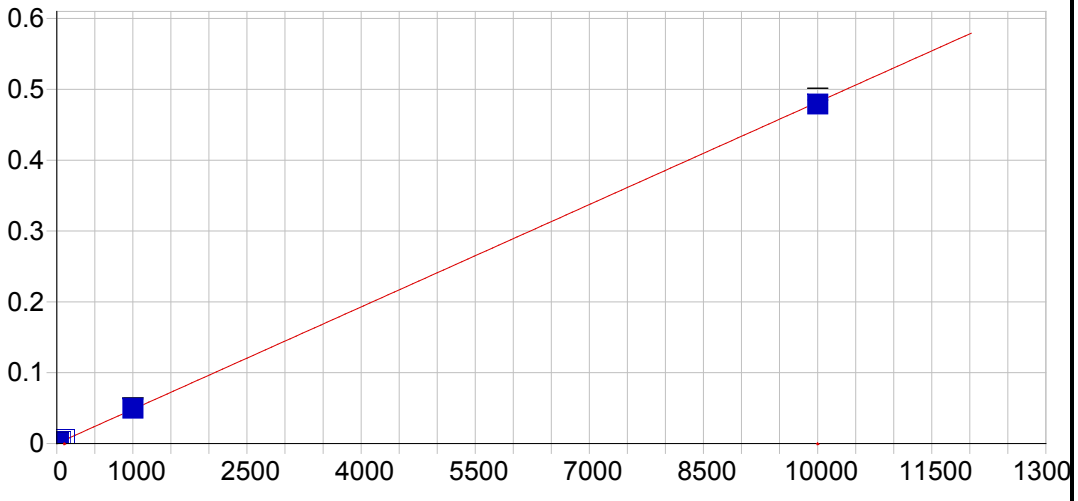



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999261 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.428082 | | |
| Predicted MQL: | 1.426940 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.539 | 1.54 | 7.69 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.89 | 8.89 | 8.89 | .00105 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7114 | -.289 | -5.77 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.33 | -10.7 | -1.07 | .00951 | .000 | 1 |
| CalStd3=1 | 1.0000 | .29840 | -.702 | -70.2 | .00001 | .000 | 1 |

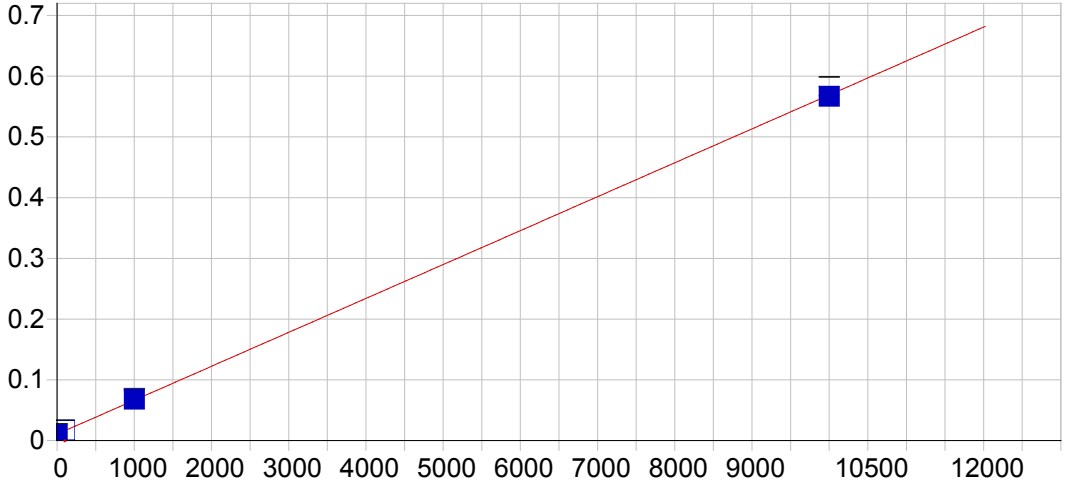



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000084 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999717 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.389849 | | |
| Predicted MQL: | 1.299496 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00085 | -.001 | .000 | .00008 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.867 | 7.87 | 15.7 | .00287 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.353 | 2.35 | 23.5 | .00068 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.728 | 3.73 | 18.6 | .00123 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.49 | 15.5 | 15.5 | .00565 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0913 | 1.09 | 21.8 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.8 | 28.8 | 2.88 | .04966 | .001 | 1 |
| CalStd3=1 | 1.0000 | .87587 | -.124 | -12.4 | .00013 | .000 | 1 |
| CalStd10=10 | 10000. | 9940.7 | -59.3 | -.593 | .47910 | .008 | 1 |

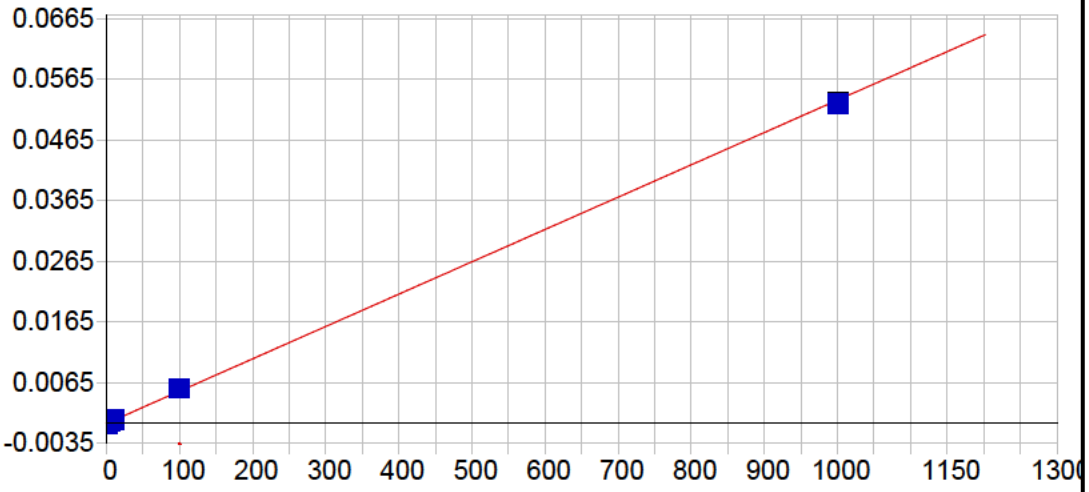



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010565 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999858 | Status: | OK. |
| Std Error of Est: | 0.000044 | | |
| Predicted MDL: | 0.862235 | | |
| Predicted MQL: | 2.874118 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01710 | -.017 | .000 | .01056 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.6 | 28.6 | 2.86 | .06802 | .001 | 1 |
| CalStd8=100 | 100.00 | 114.68 | 14.7 | 14.7 | .01697 | .000 | 1 |
| CalStd10=10 | 10000. | 9956.7 | -43.3 | -.433 | .56676 | .015 | 1 |

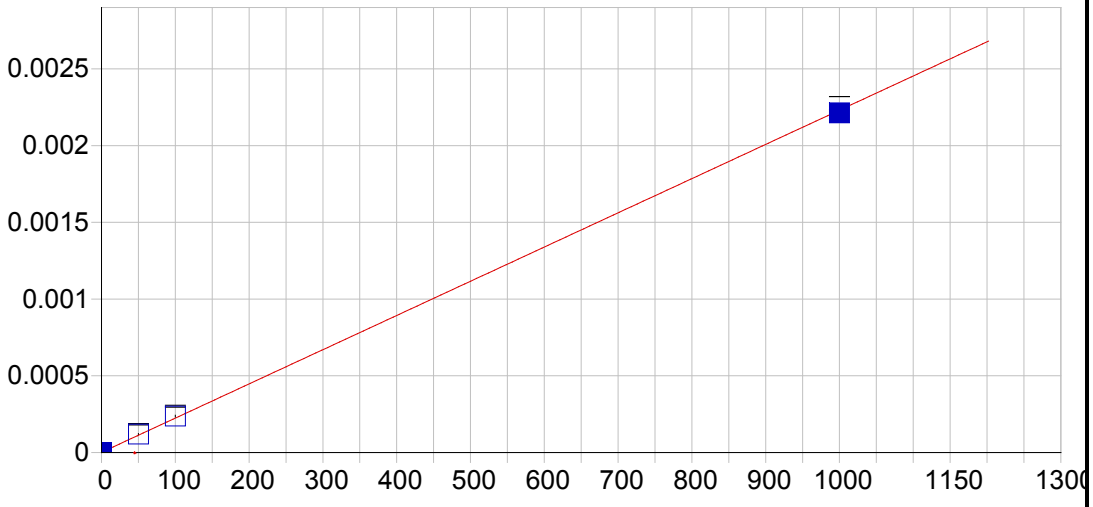



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000194 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000053 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999552 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.054875 | | |
| Predicted MQL: | 0.182918 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.427 | 1.43 | 14.3 | .00041 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.89 | 7.89 | 7.89 | .00555 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51828 | .018 | 3.66 | -.00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5599 | .560 | 11.2 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.00 | -10.0 | -1.00 | .05254 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1087 | .109 | 10.9 | -.00013 | .000 | 1 |

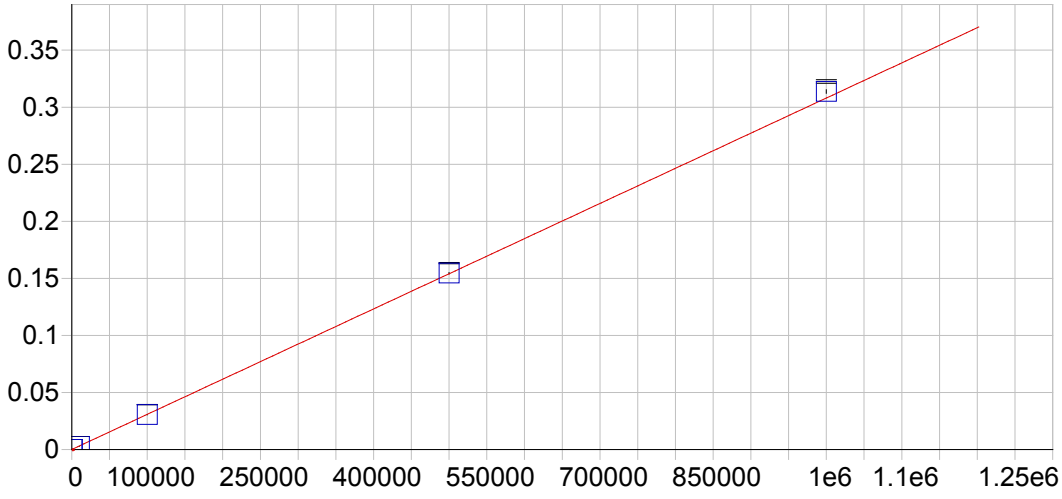



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999772 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.381937 | | |
| Predicted MQL: | 4.606456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00510 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.74 | -8.26 | -.826 | .00221 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.49 | 5.49 | 5.49 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.772 | 2.77 | 5.54 | .00012 | .000 | 1 |

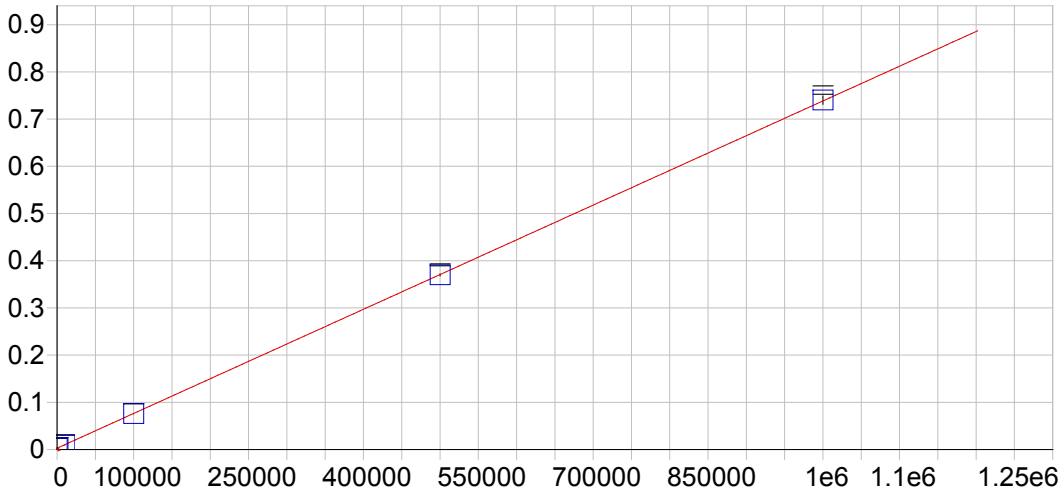



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999863 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 13.419758 | | |
| Predicted MQL: | 44.732526 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 6.6682 | 6.67 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9190.6 | -809. | -8.09 | .00287 | .000 | 1 |
| CalStd13=10 | 100000. | 99102. | -898. | -.898 | .03056 | .000 | 1 |
| CalStd14=50 | 500000. | 501690. | 1690. | .338 | .15456 | .001 | 1 |
| CalStd9=100 | 1000.0 | 977.60 | -22.4 | -2.24 | .00034 | .000 | 1 |
| CalibStd15= | 1000000. | 1018700. | 18700. | 1.87 | .31380 | .002 | 1 |

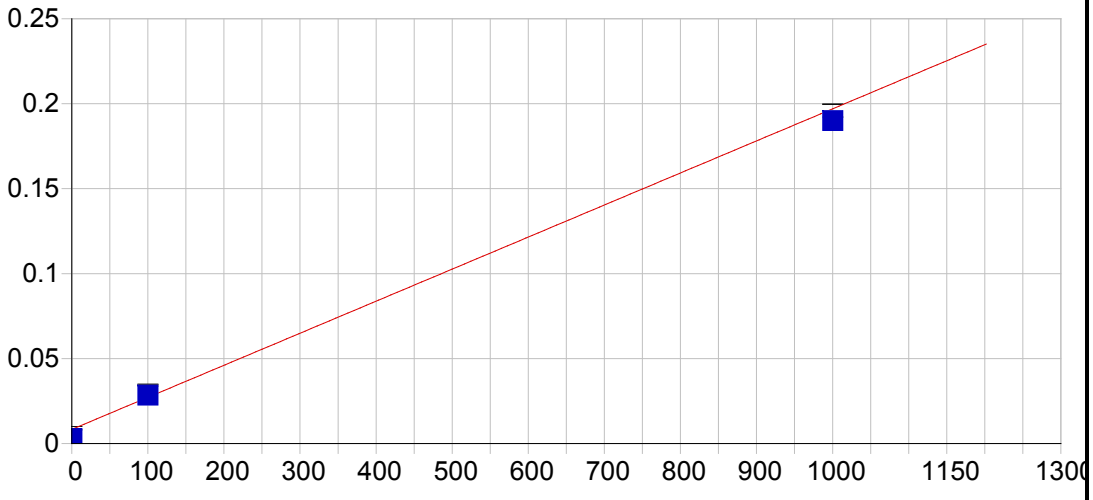



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002896 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 7.121370 | | |
| Predicted MQL: | 23.737901 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02795 | .028 | .000 | .00290 | .000 | 1 |
| CalStd10=10 | 10000. | 9280.9 | -719. | -7.19 | .00972 | .000 | 1 |
| CalStd13=10 | 100000. | 99250. | -750. | -.750 | .07590 | .000 | 1 |
| CalStd14=50 | 500000. | 499010. | -994. | -.199 | .36994 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | .00367 | .000 | 1 |
| CalibStd15= | 1000000. | 1002400. | 2410. | .241 | .74021 | .009 | 1 |

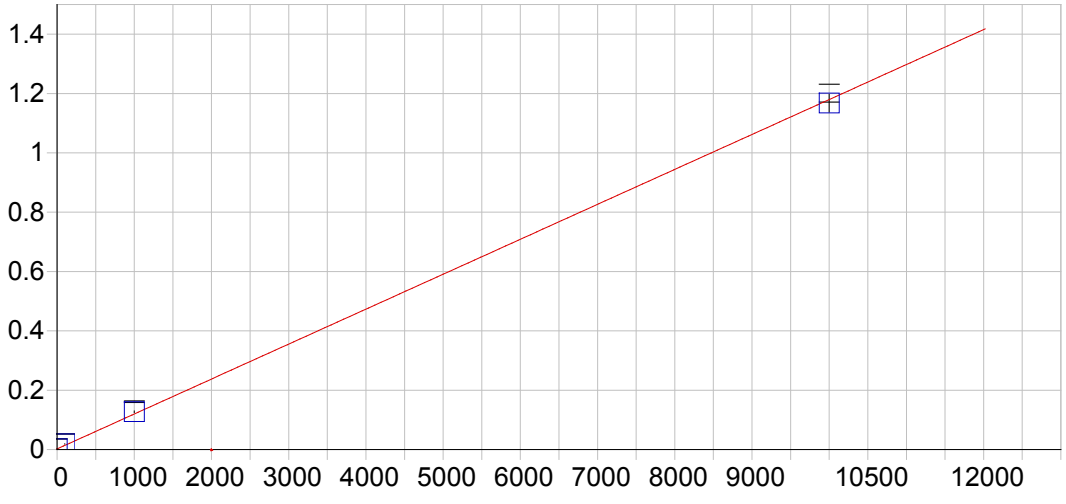



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008316 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000189 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.993161 | Status: | OK. |
| Std Error of Est: | 0.004503 | | |
| Predicted MDL: | 0.069970 | | |
| Predicted MQL: | 0.233235 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -27.096 | -27.1 | .000 | .00320 | .001 | 1 |
| CalStd9=100 | 1000.0 | 963.08 | -36.9 | -3.69 | .19001 | .004 | 1 |
| CalStd8=100 | 100.00 | 106.78 | 6.78 | 6.78 | .02846 | .001 | 1 |

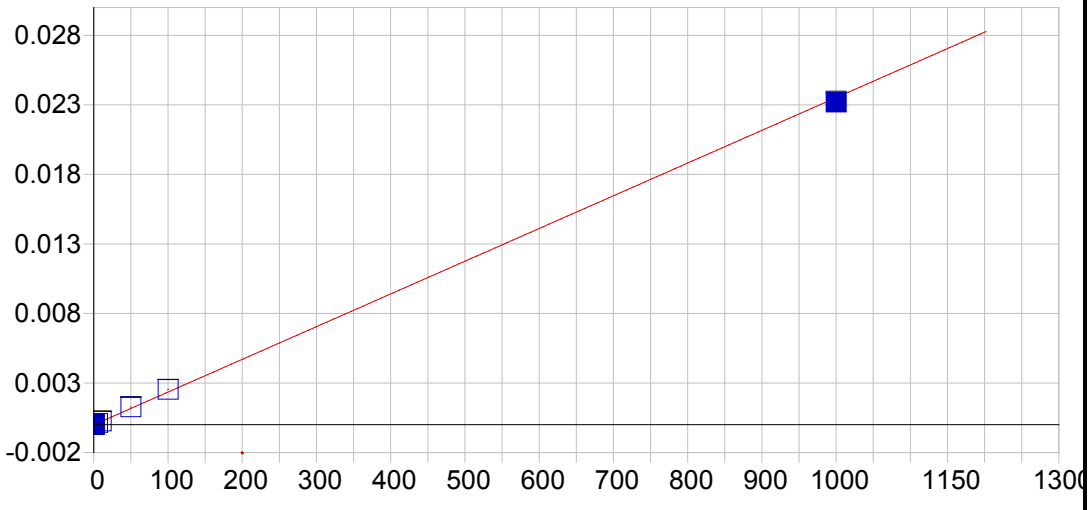



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000118 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998973 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.106441 | | |
| Predicted MQL: | 0.354802 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04744 | -.047 | .000 | .00211 | .001 | 1 |
| CalStd10=10 | 10000. | 9895.5 | -104. | -1.04 | 1.1675 | .030 | 1 |
| CalStd8=100 | 100.00 | 142.26 | 42.3 | 42.3 | .01887 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1062.2 | 62.2 | 6.22 | .12721 | .003 | 1 |

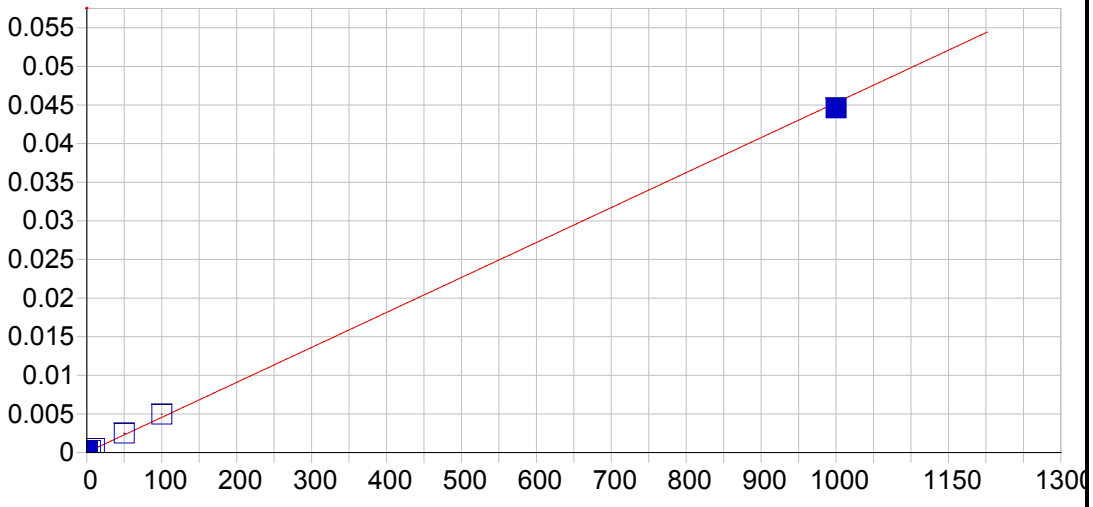



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999379 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.255705 | | |
| Predicted MQL: | 0.852348 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.346 | 4.35 | 8.69 | .00127 | .000 | 1 |
| CalStd3=1 | 1.0000 | .77315 | -.227 | -22.7 | .00001 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47928 | -.021 | -4.14 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3884 | .388 | 7.77 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.91 | 7.91 | 7.91 | .00253 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.325 | 1.32 | 13.2 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.28 | -13.7 | -1.37 | .02320 | .000 | 1 |

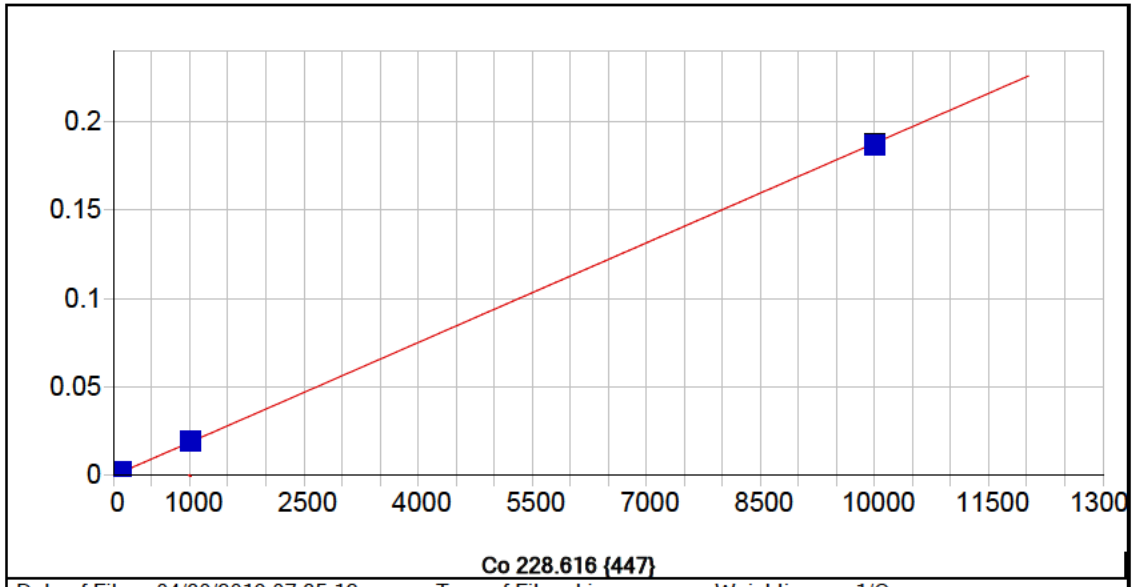



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000045 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999287 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.169120 | | |
| Predicted MQL: | 0.563732 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00029 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.464 | 4.46 | 8.93 | .00249 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1513 | .151 | 15.1 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51061 | .011 | 2.12 | .00005 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4890 | .489 | 9.78 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.75 | 8.75 | 8.75 | .00495 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.401 | 1.40 | 14.0 | .00054 | .000 | 1 |
| CalStd9=100 | 1000.0 | 984.73 | -15.3 | -1.53 | .04461 | .000 | 1 |

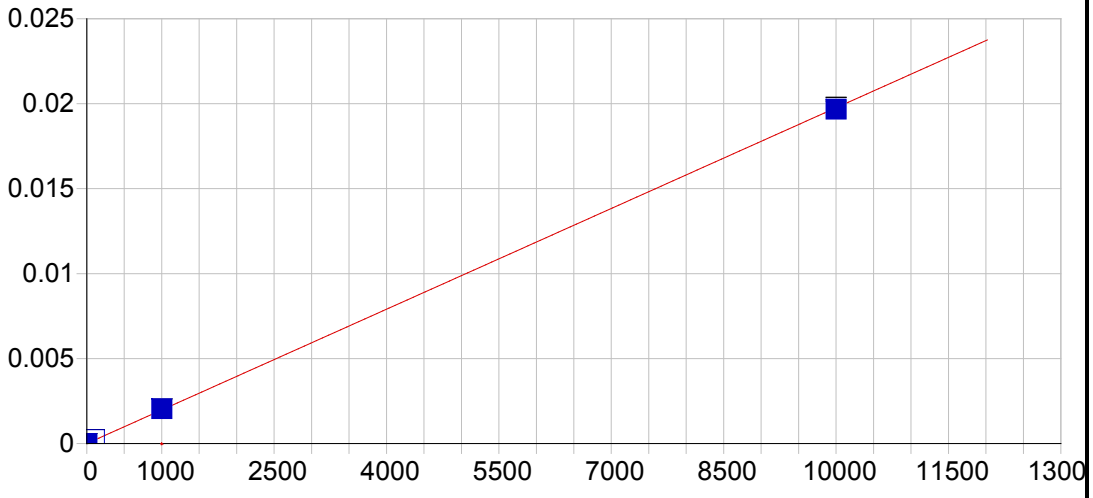



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999731 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.442257 | | |
| Predicted MQL: | 1.474190 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00037 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.716 | 7.72 | 15.4 | .00110 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.787 | 1.79 | 17.9 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1251 | .125 | 2.50 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.67 | 13.7 | 13.7 | .00215 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.2 | 46.2 | 4.62 | .01968 | .000 | 1 |
| CalStd3=1 | 1.0000 | .83709 | -.163 | -16.3 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9930.7 | -69.3 | -.693 | .18683 | .000 | 1 |

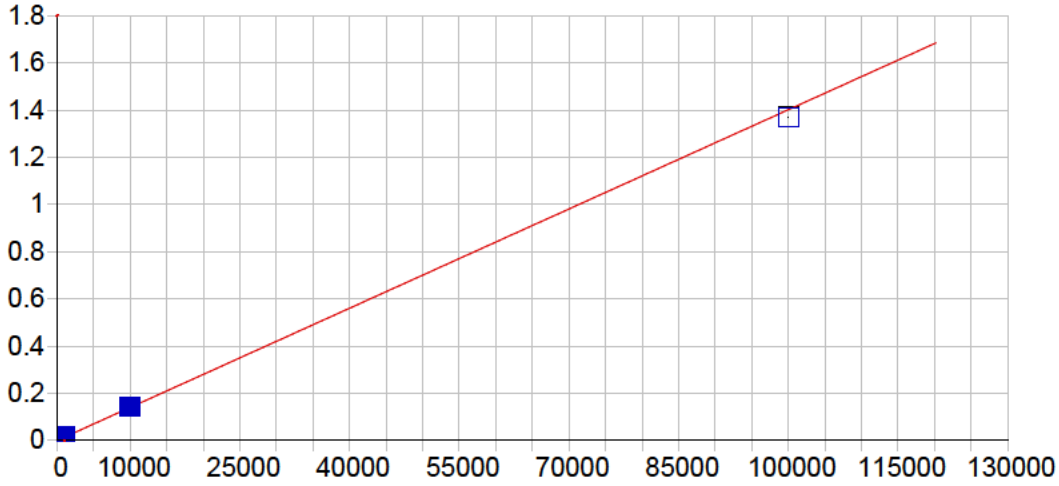



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.864546 | | |
| Predicted MQL: | 2.881820 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01598 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.8 | 31.8 | 3.18 | .00204 | .000 | 1 |
| CalStd10=10 | 10000. | 9954.9 | -45.1 | -.451 | .01968 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.25 | 13.2 | 13.2 | .00023 | .000 | 1 |

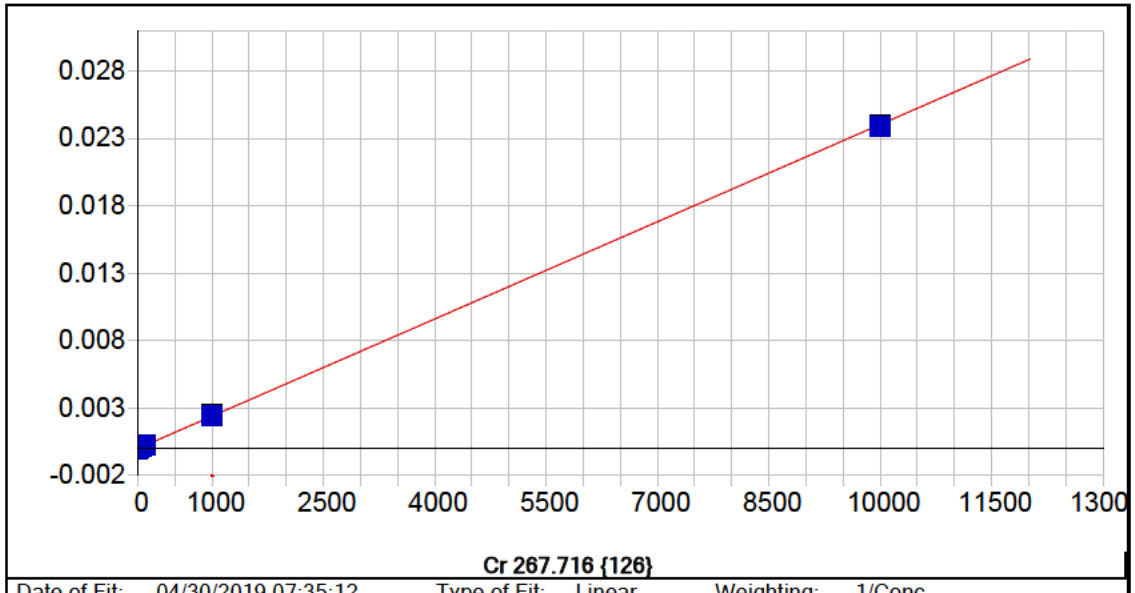



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999421 | Status: | OK. |
| Std Error of Est: | 0.000042 | | |
| Predicted MDL: | 0.335552 | | |
| Predicted MQL: | 1.118506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0602 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6903 | -.310 | -3.10 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.126 | 5.13 | 10.3 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .01472 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.14 | 12.1 | 12.1 | .00161 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.4882 | -1.51 | -30.2 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.4295 | -2.43 | -243. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10145. | 145. | 1.45 | .14224 | .000 | 1 |
| CalStd12=10 | 100000. | 97703. | -2300. | -2.30 | 1.3695 | .001 | 1 |

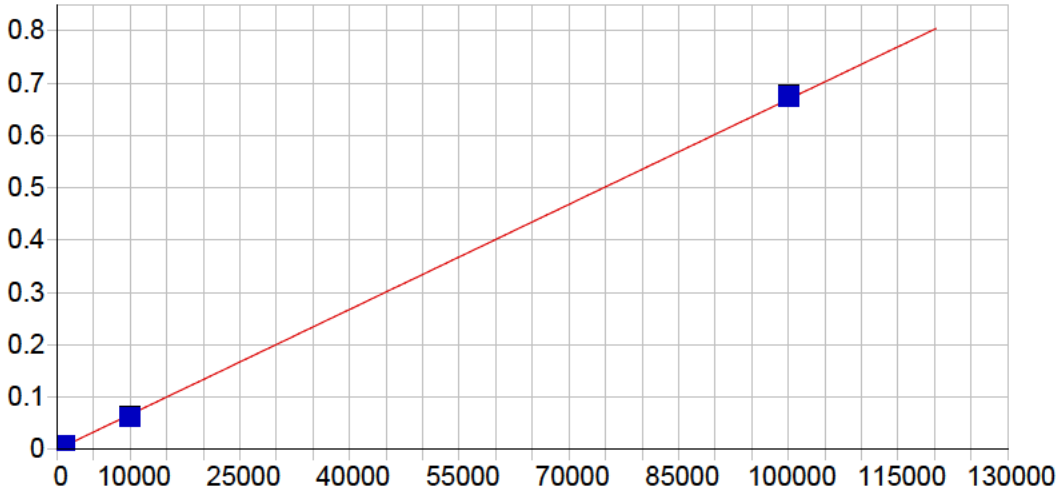



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999861 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.912557 | | |
| Predicted MQL: | 3.041856 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00250 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.625 | 1.62 | 16.2 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.661 | 5.66 | 11.3 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.8 | 27.8 | 2.78 | .00247 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.79 | 10.8 | 10.8 | .00026 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4635 | .464 | 9.27 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9953.6 | -46.4 | -.464 | .02392 | .000 | 1 |

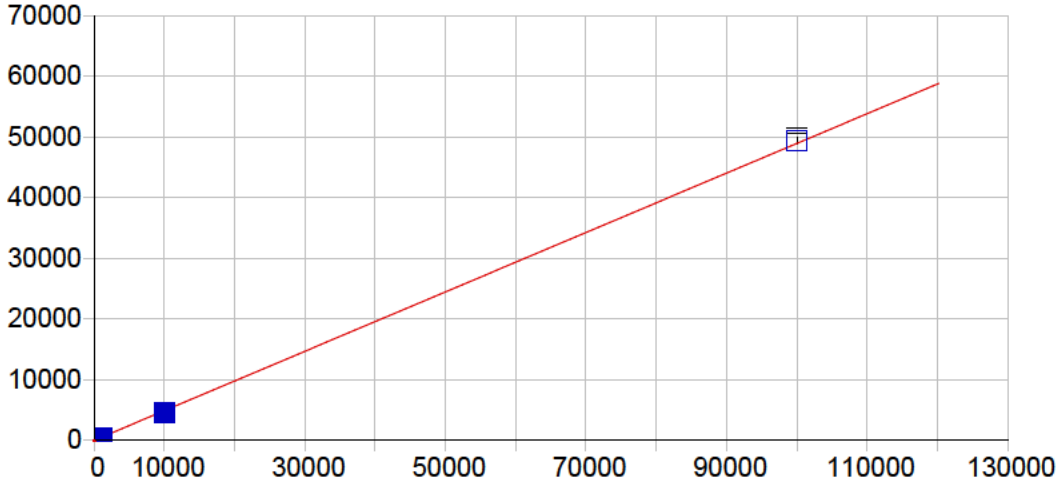



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999500 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.405039 | | |
| Predicted MQL: | 1.350129 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03939 | .039 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 918.89 | -81.1 | -8.11 | .00615 | .000 | 1 |
| CalStd7=50 | 50.000 | 19.069 | -30.9 | -61.9 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 61.174 | -38.8 | -38.8 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.5977 | -16.4 | -82.0 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 870. | .870 | .67468 | .002 | 1 |
| CalStd10=10 | 10000. | 9297.1 | -703. | -7.03 | .06219 | .000 | 1 |

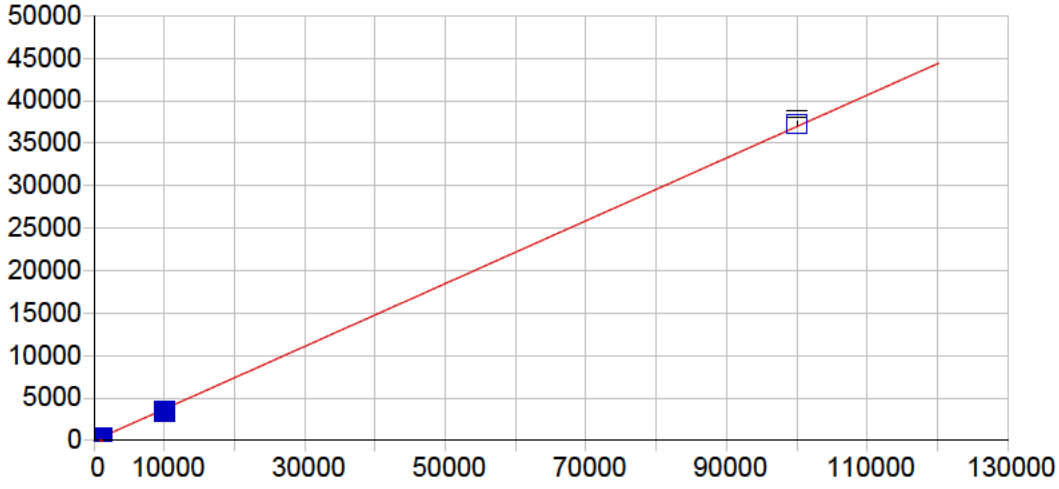



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 33.017871 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.489284 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999678 | Status: | OK. |
| Std Error of Est: | 0.477535 | | |
| Predicted MDL: | 5.094250 | | |
| Predicted MQL: | 16.980834 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00010 | .000 | .000 | 33.018 | 1.43 | 1 |
| CalStd9=100 | 1000.0 | 954.48 | -45.5 | -4.55 | 499.99 | 4.60 | 1 |
| CalStd8=100 | 100.00 | 104.55 | 4.55 | 4.55 | 84.172 | 3.15 | 1 |
| CalStd10=10 | 10000. | 9210.6 | -789. | -7.89 | 4539.2 | 11.3 | 1 |
| CalStd12=10 | 100000. | 100830. | 828. | .828 | 49367. | 482. | 1 |
| CalStd5=10 | 10.000 | 10.385 | .385 | 3.85 | 38.099 | 3.67 | 1 |
| CalStd6=20 | 20.000 | 19.595 | -.405 | -2.02 | 42.605 | 2.32 | 1 |
| CalStd7=50 | 50.000 | 52.112 | 2.11 | 4.22 | 58.516 | 2.71 | 1 |

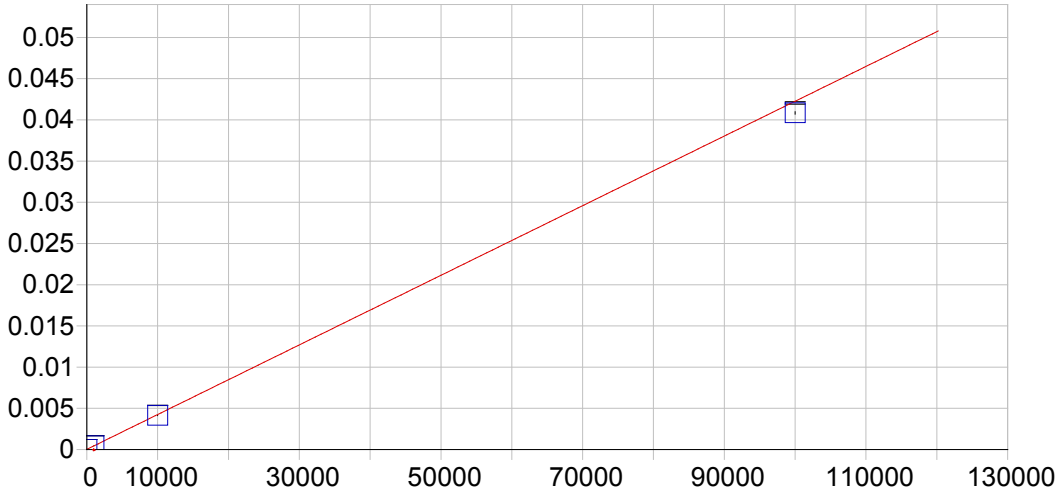



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.173693 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.369486 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.260832 | | |
| Predicted MDL: | 8.764951 | | |
| Predicted MQL: | 29.216503 | | |

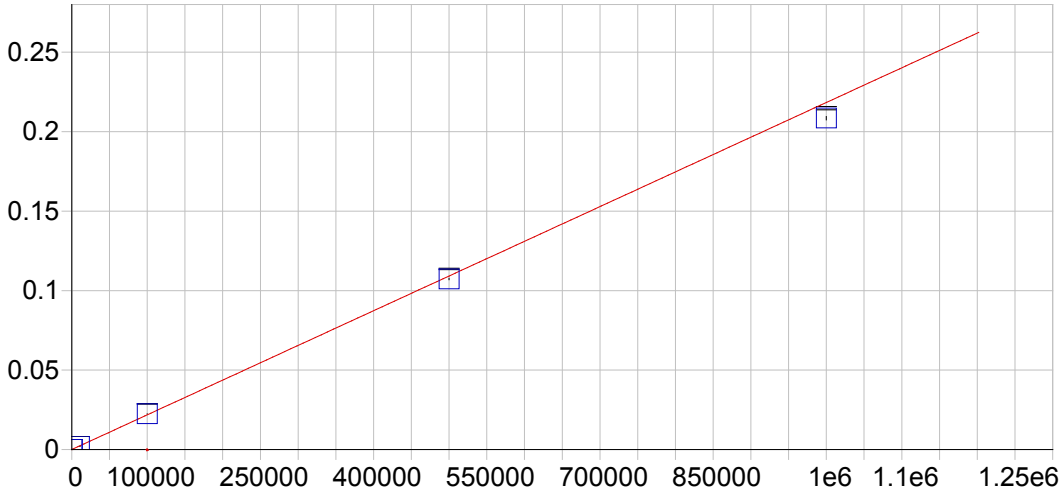
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00834 | -.008 | .000 | 7.1706 | 3.37 | 1 |
| CalStd6=20 | 20.000 | 25.978 | 5.98 | 29.9 | 16.768 | 2.04 | 1 |
| CalStd7=50 | 50.000 | 57.126 | 7.13 | 14.3 | 28.270 | 2.66 | 1 |
| CalStd8=100 | 100.00 | 105.13 | 5.13 | 5.13 | 45.997 | 2.22 | 1 |
| CalStd9=100 | 1000.0 | 944.70 | -55.3 | -5.53 | 356.01 | 6.32 | 1 |
| CalStd10=10 | 10000. | 9232.8 | -767. | -7.67 | 3418.5 | 12.0 | 1 |
| CalStd12=10 | 100000. | 100790. | 795. | .795 | 37249. | 345. | 1 |
| CalStd4=5 | 5.0000 | 8.2407 | 3.24 | 64.8 | 10.217 | 3.74 | 1 |
| CalStd5=10 | 10.000 | 16.519 | 6.52 | 65.2 | 13.275 | 1.78 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000023 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999897 | | Status: | OK. | |
| Std Error of Est: | 0.000009 | | | | |
| Predicted MDL: | 1.861044 | | | | |
| Predicted MQL: | 6.203479 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.4961 | -2.50 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9752.5 | -247. | -2.47 | .00414 | .000 | 1 |
| CalStd13=10 | 100000. | 96647. | -3350. | -3.35 | .04085 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.9 | 18.9 | 1.89 | .00045 | .000 | 1 |

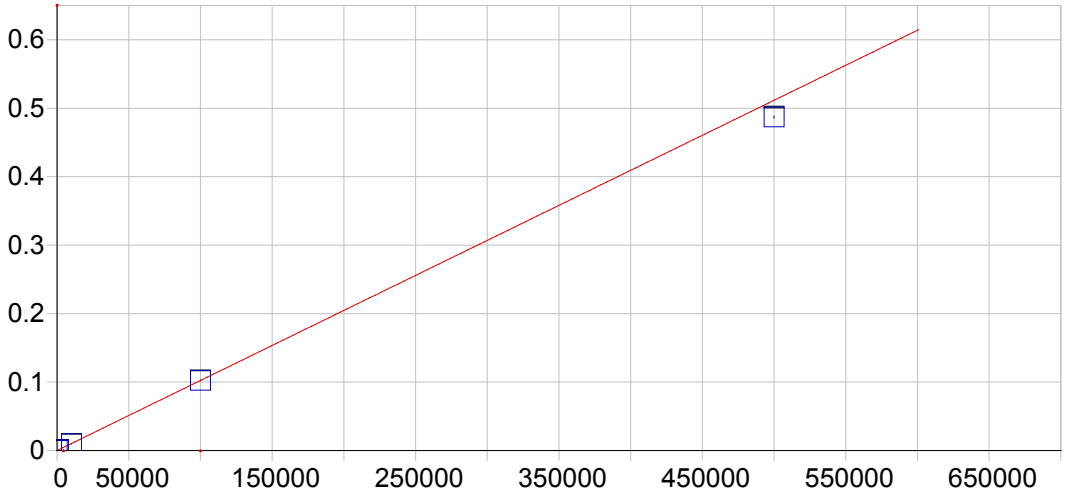



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999563 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 15.403775 | | |
| Predicted MQL: | 51.345917 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.5196 | 1.52 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9675.2 | -325. | -3.25 | .00212 | .000 | 1 |
| CalStd13=10 | 100000. | 102700. | 2700. | 2.70 | .02243 | .000 | 1 |
| CalStd14=50 | 500000. | 491290. | -8710. | -1.74 | .10728 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.68 | -5.32 | -.532 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 954920. | -45100. | -4.51 | .20851 | .001 | 1 |

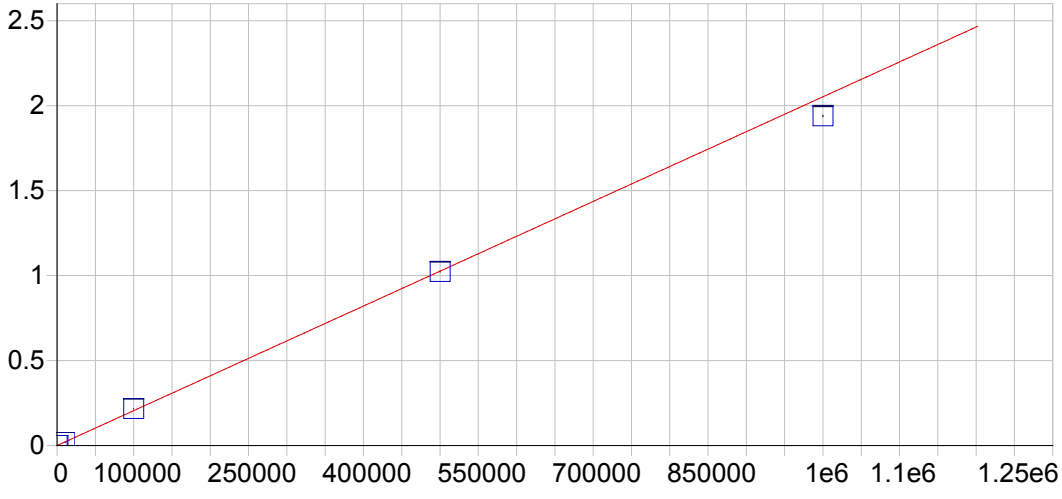



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000059 | | |
| Predicted MDL: | 4.566900 | | |
| Predicted MQL: | 15.223000 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.5760 | 7.58 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9527.6 | -472. | -4.72 | .00977 | .000 | 1 |
| CalStd13=10 | 100000. | 99992. | -8.04 | -.008 | .10232 | .000 | 1 |
| CalStd14=50 | 500000. | 476030. | -24000. | -4.79 | .48705 | .001 | 1 |
| CalStd9=100 | 1000.0 | 993.99 | -6.01 | -.601 | .00104 | .000 | 1 |

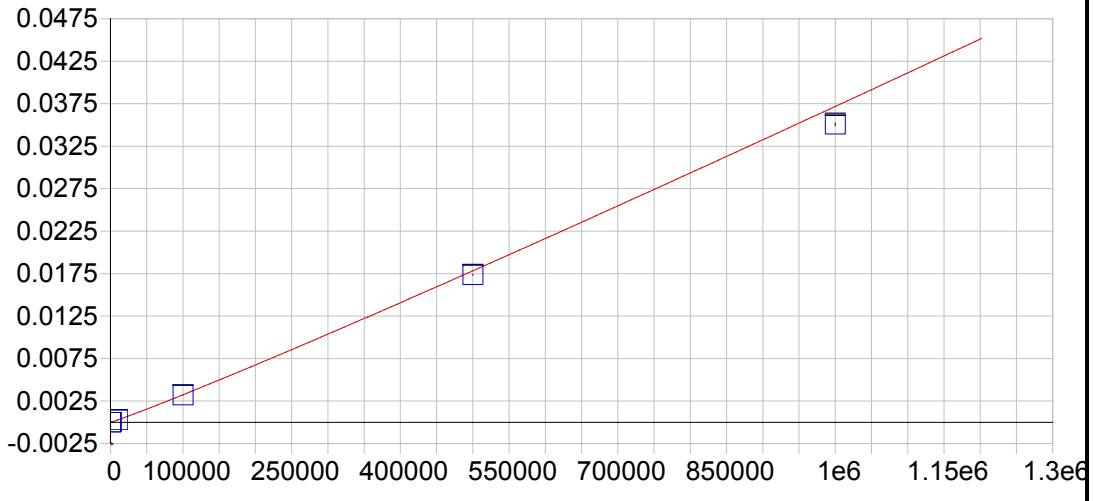



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999043 | Status: | OK. |
| Std Error of Est: | 0.000420 | | |
| Predicted MDL: | 2.477678 | | |
| Predicted MQL: | 8.258926 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0145 | -6.01 | .000 | .00003 | .000 | 1 |
| CalStd13=10 | 100000. | 105360. | 5360. | 5.36 | .21626 | .000 | 1 |
| CalStd10=10 | 10000. | 9732.7 | -267. | -2.67 | .02002 | .000 | 1 |
| CalStd14=50 | 500000. | 498460. | -1540. | -.308 | 1.0229 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1068.9 | 68.9 | 6.89 | .00224 | .000 | 1 |
| CalibStd15= | 1000000. | 944880. | -55100. | -5.51 | 1.9390 | .004 | 1 |

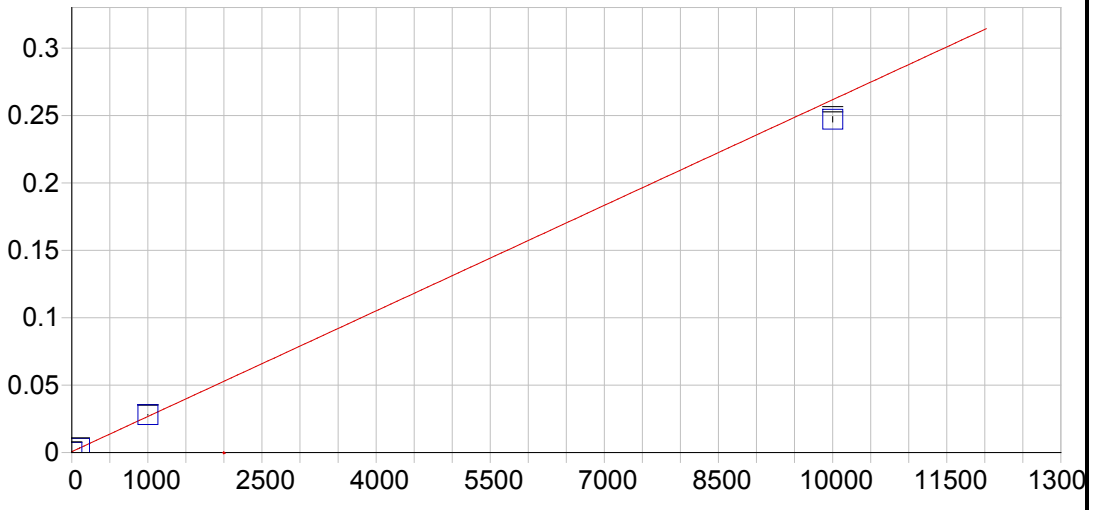



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.060000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 147.693448 | | |
| Predicted MQL: | 492.311494 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 98928. | -1070. | -1.07 | .00320 | .000 | 1 |
| CalStd10=10 | 10000. | 10132. | 132. | 1.32 | .00028 | .000 | 1 |
| CalStd14=50 | 500000. | 487770. | -12200. | -2.45 | .01737 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1213.7 | 214. | 21.4 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 946580. | -53400. | -5.34 | .03508 | .000 | 1 |

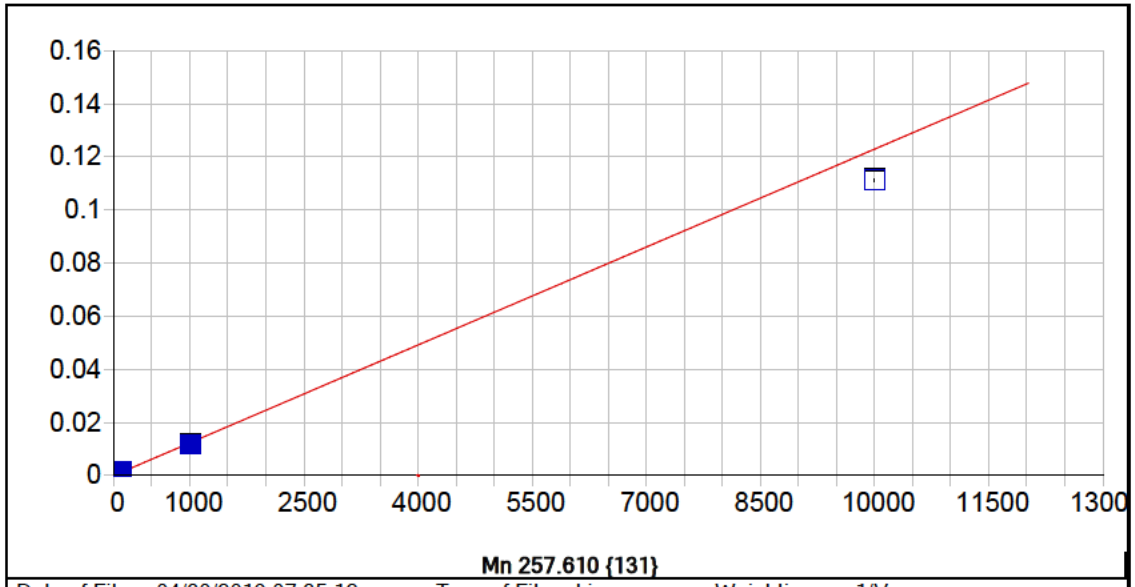



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000654 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998379 | Status: | OK. |
| Std Error of Est: | 0.000995 | | |
| Predicted MDL: | 0.047667 | | |
| Predicted MQL: | 0.158891 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -12.179 | -12.2 | .000 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | .02796 | .000 | 1 |
| CalStd10=10 | 10000. | 9444.6 | -555. | -5.55 | .24717 | .002 | 1 |
| CalStd8=100 | 100.00 | 101.19 | 1.19 | 1.19 | .00330 | .000 | 1 |

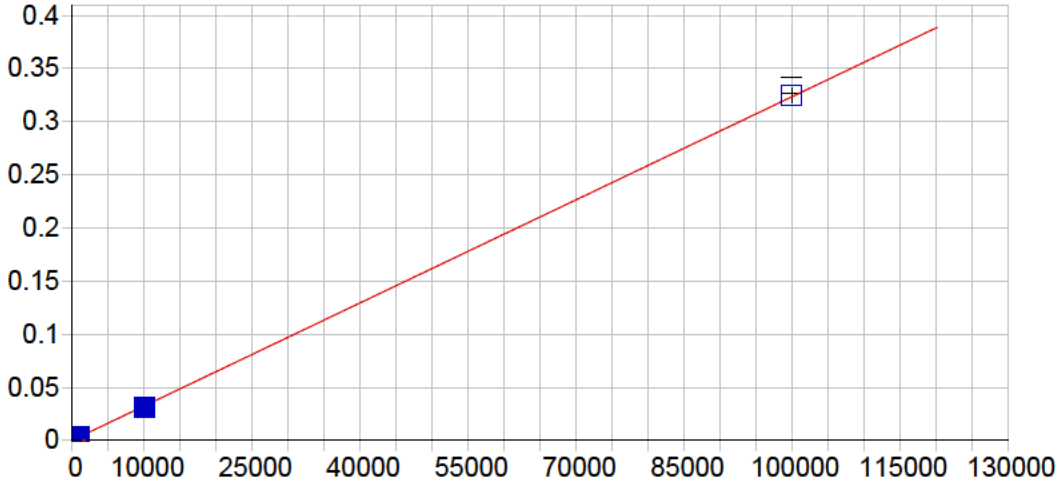



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997882 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.096882 | | |
| Predicted MQL: | 0.322939 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.92411 | -.924 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.263 | .263 | 2.63 | .00014 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.961 | 1.96 | 3.92 | .00065 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.442 | .442 | 2.21 | .00027 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.50 | 4.50 | 4.50 | .00130 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3851 | -.615 | -12.3 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 949.24 | -50.8 | -5.08 | .01168 | .000 | 1 |
| CalStd10=10 | 10000. | 9052.8 | -947. | -9.47 | .11130 | .001 | 1 |

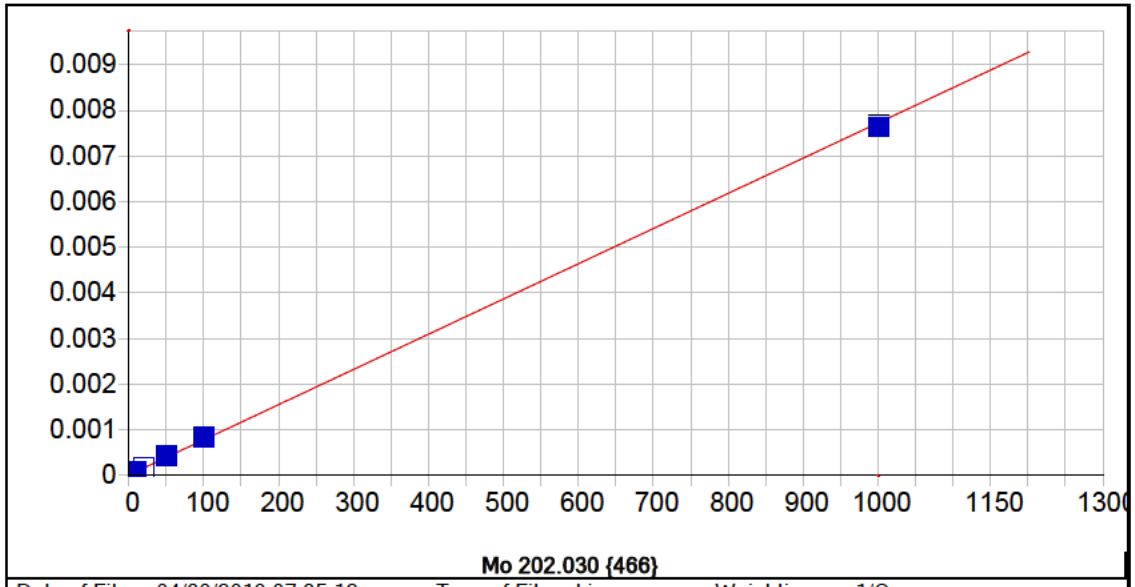



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999885 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 1.375255 | | |
| Predicted MQL: | 4.584185 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06489 | .065 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9525.8 | -474. | -4.74 | .03086 | .000 | 1 |
| CalStd9=100 | 1000.0 | 977.56 | -22.4 | -2.24 | .00317 | .000 | 1 |
| CalStd12=10 | 100000. | 100500. | 497. | .497 | .32506 | .007 | 1 |

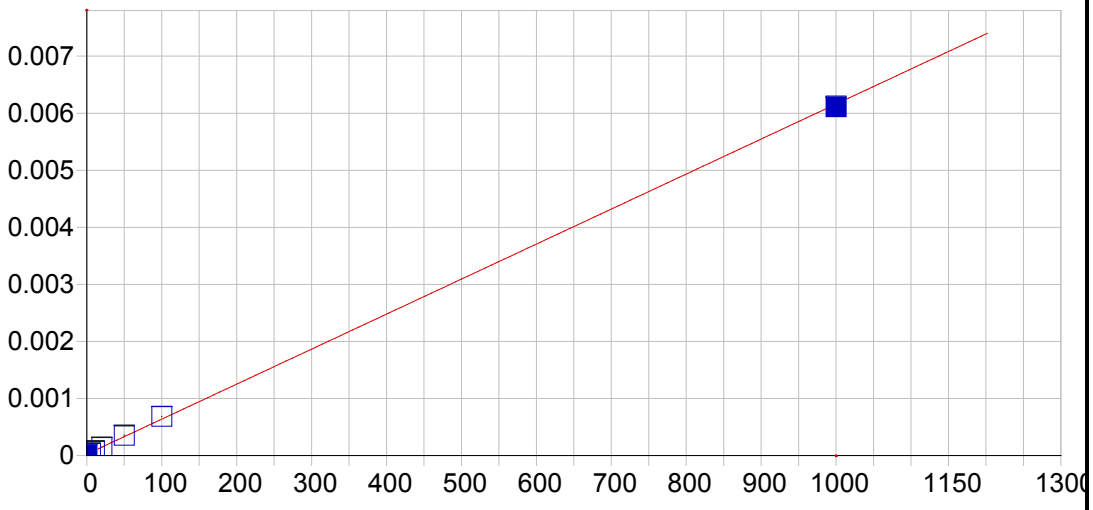



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999547 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.524568 | | |
| Predicted MQL: | 1.748560 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00040 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.505 | 3.51 | 7.01 | .00042 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.174 | 1.17 | 5.87 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.280 | .280 | 2.80 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.28 | 7.28 | 7.28 | .00084 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3136 | -.686 | -13.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.45 | -11.5 | -1.15 | .00766 | .000 | 1 |

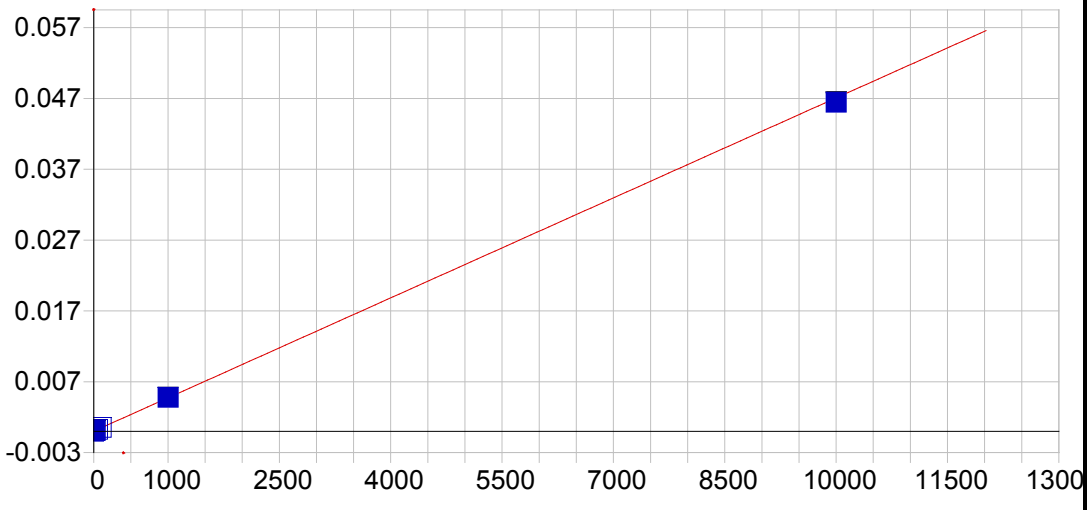



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999595 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.838770 | | |
| Predicted MQL: | 2.795900 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.4204 | -1.42 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.296 | 3.30 | 6.59 | .00035 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.552 | -.448 | -2.24 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8284 | -1.17 | -11.7 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.66 | 7.66 | 7.66 | .00068 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.3642 | -2.64 | -52.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.72 | -8.28 | -.828 | .00611 | .000 | 1 |

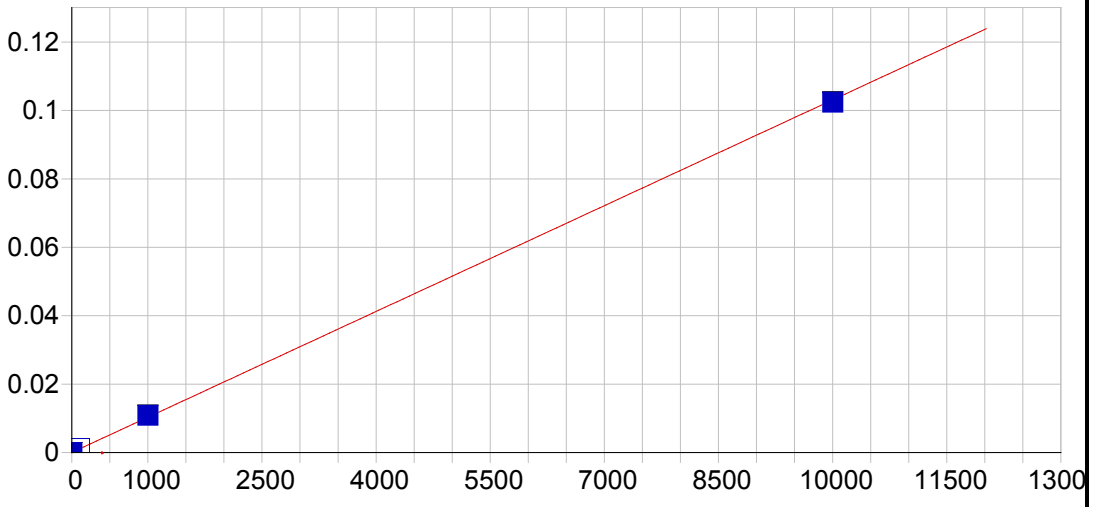



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999729 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 1.023425 | | |
| Predicted MQL: | 3.411418 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.3778 | -3.38 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.136 | 2.14 | 4.27 | .00026 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.942 | -1.06 | -5.29 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.2045 | -1.80 | -18.0 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00052 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.2638 | -2.74 | -54.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.7 | 12.7 | 1.27 | .00478 | .000 | 1 |
| CalStd10=10 | 10000. | 9869.0 | -131. | -1.31 | .04646 | .000 | 1 |

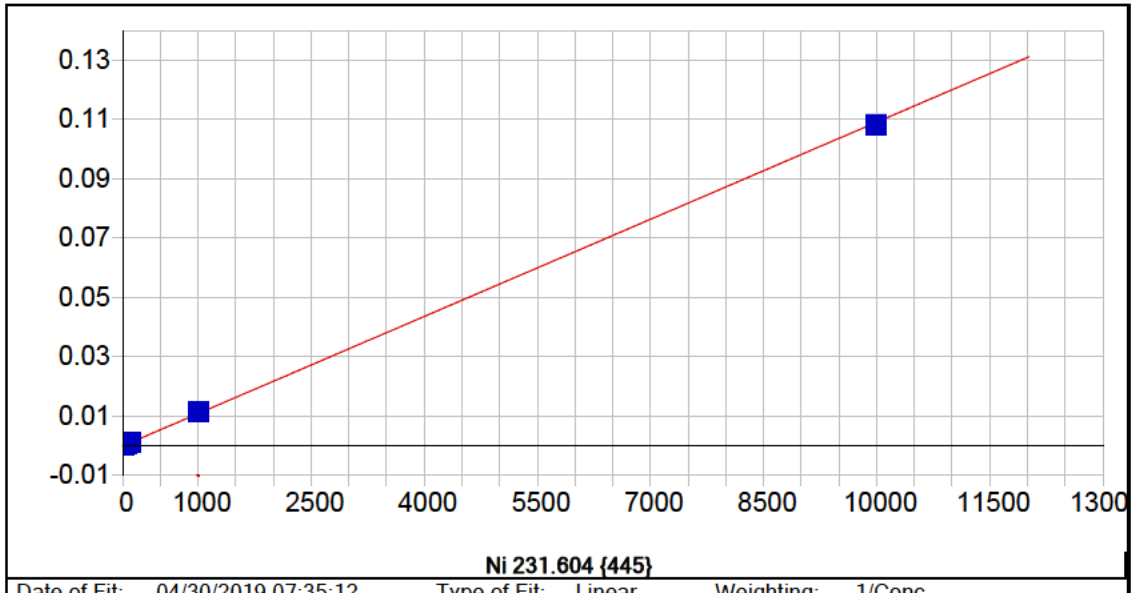



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999767 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.757594 | | |
| Predicted MQL: | 2.525313 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01826 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9932.7 | -67.3 | -.673 | .10240 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.57 | 13.6 | 13.6 | .00118 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1053.7 | 53.7 | 5.37 | .01088 | .000 | 1 |

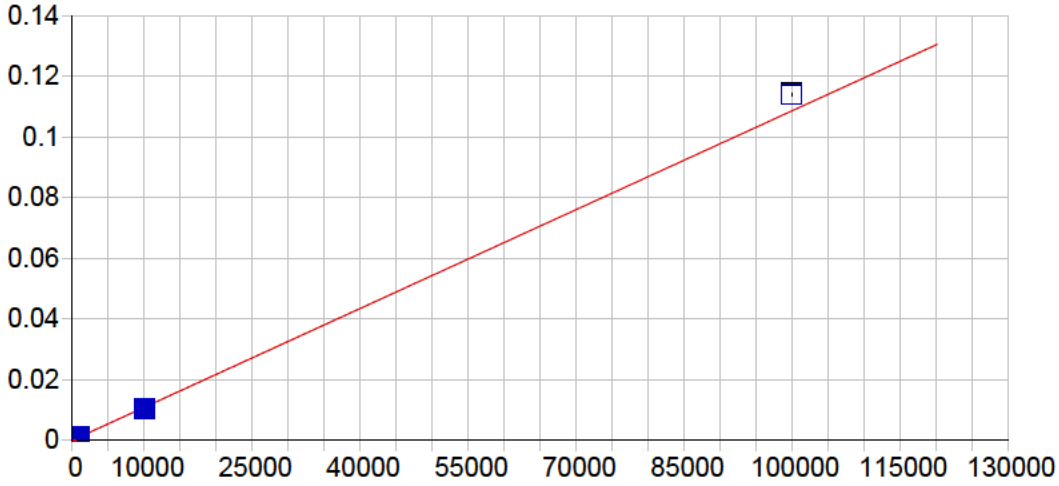



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999677 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.722935 | | |
| Predicted MQL: | 2.409785 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00112 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.719 | 7.72 | 15.4 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.803 | 1.80 | 18.0 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.32 | 14.3 | 14.3 | .00123 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8237 | .824 | 16.5 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.5 | 52.5 | 5.25 | .01147 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4324 | .432 | 43.2 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9922.5 | -77.5 | -.775 | .10848 | .000 | 1 |

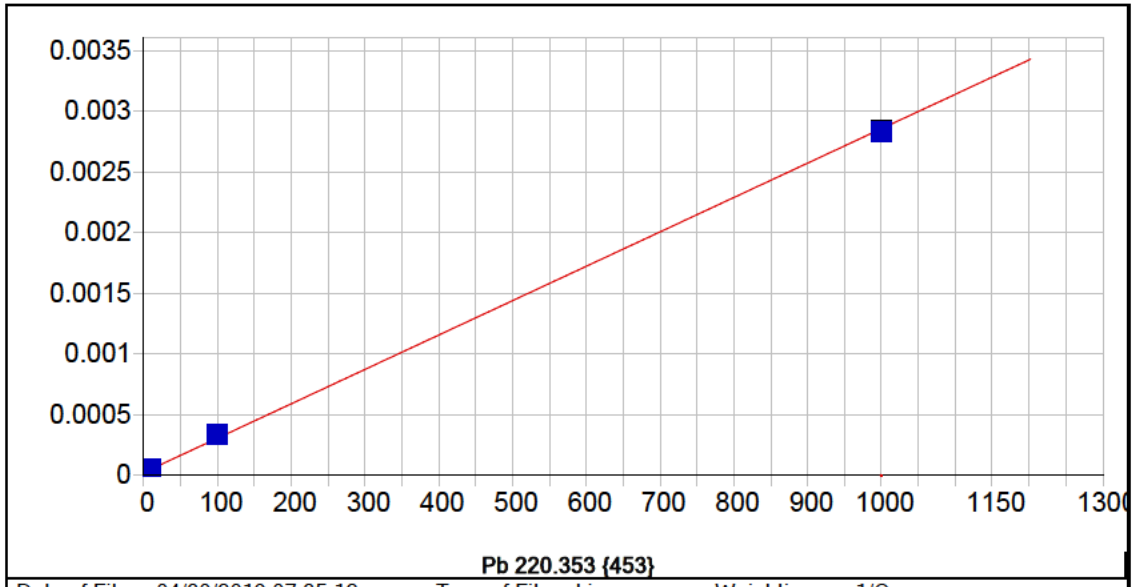



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999384 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 5.694743 | | |
| Predicted MQL: | 18.982477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.0158 | -7.02 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.85 | .585 | .00111 | .000 | 1 |
| CalStd10=10 | 10000. | 9530.5 | -470. | -4.70 | .01036 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.812 | -.188 | -.188 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.8172 | -5.18 | -51.8 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 105070. | 5070. | 5.07 | .11412 | .001 | 1 |

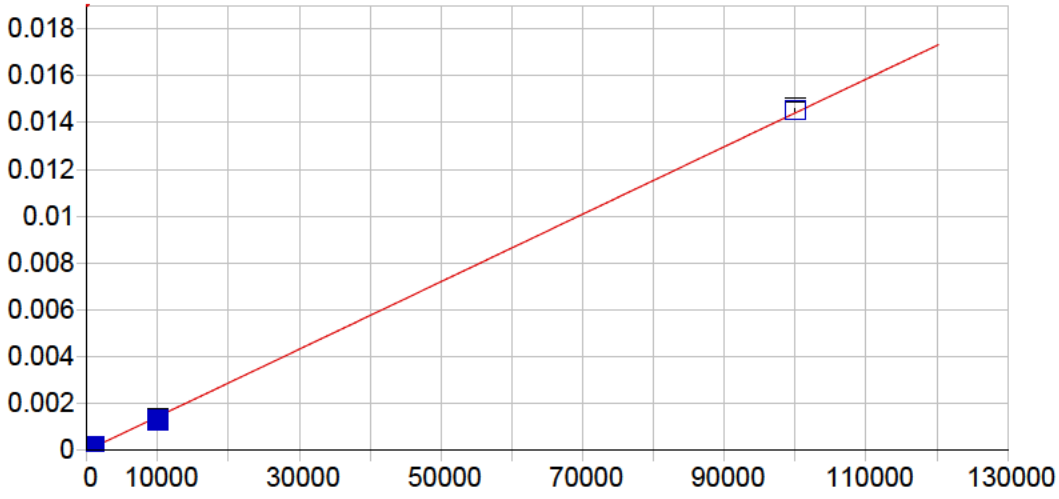



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999296 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.803616 | | |
| Predicted MQL: | 9.345385 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00071 | .001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.222 | .222 | 2.22 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.64 | 10.6 | 10.6 | .00034 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.6965 | -1.30 | -26.1 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.44 | -9.56 | -.956 | .00283 | .000 | 1 |

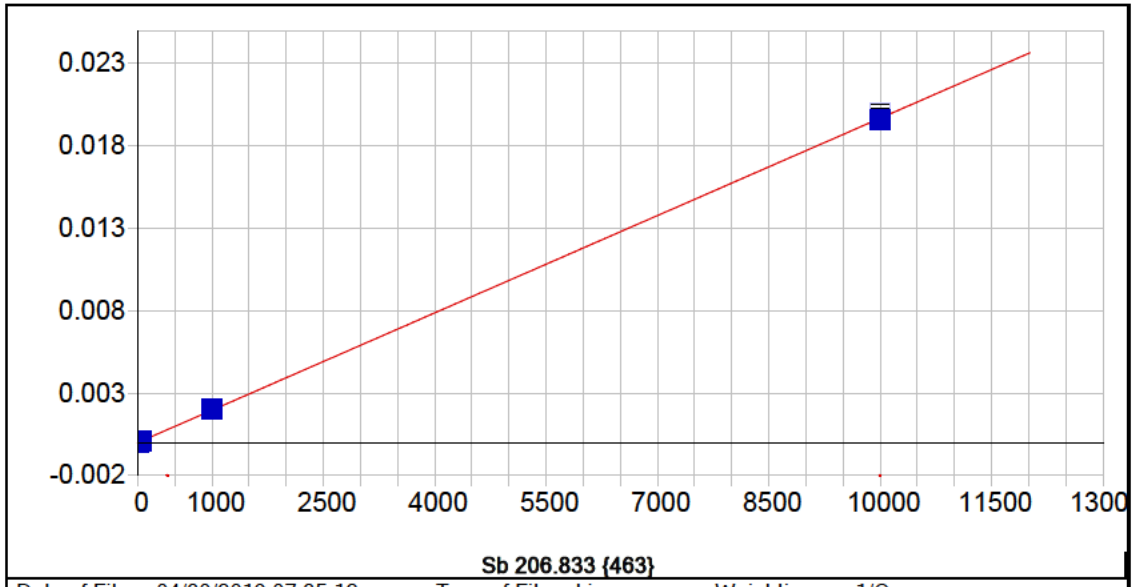



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999643 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 6.828097 | | |
| Predicted MQL: | 22.760324 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00570 | .006 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 968.50 | -31.5 | -3.15 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9159.4 | -841. | -8.41 | .00132 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.99 | 4.99 | 4.99 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 867. | .867 | .01454 | .000 | 1 |

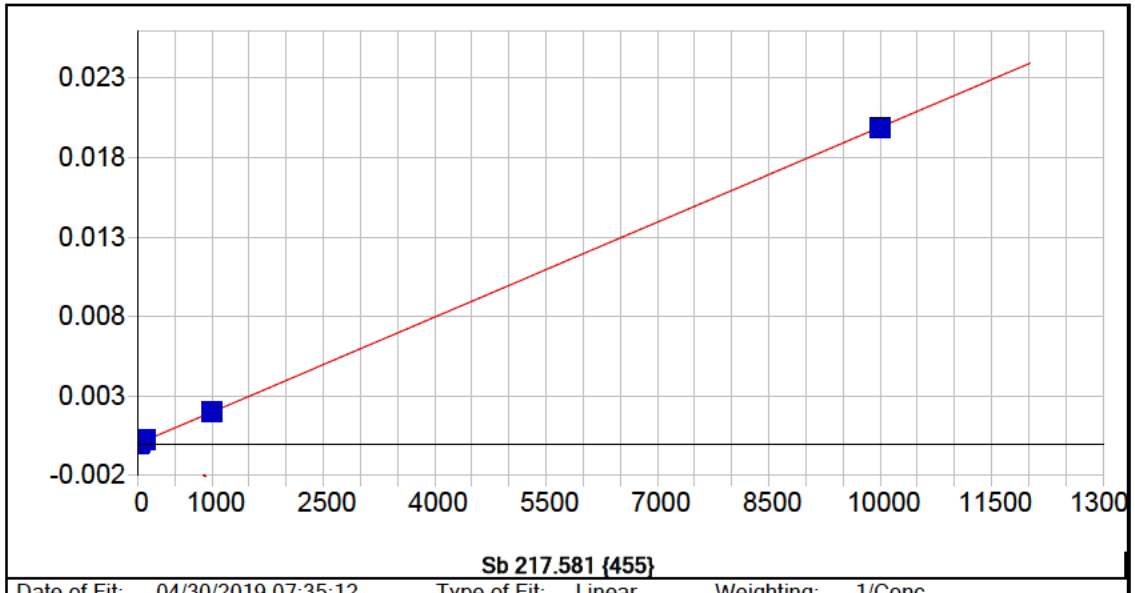



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999857 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.461614 | | |
| Predicted MQL: | 8.205380 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00540 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.0 | 23.0 | 2.30 | .00205 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.542 | 3.54 | 35.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.292 | 8.29 | 16.6 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9965.2 | -34.8 | -.348 | .01997 | .000 | 1 |

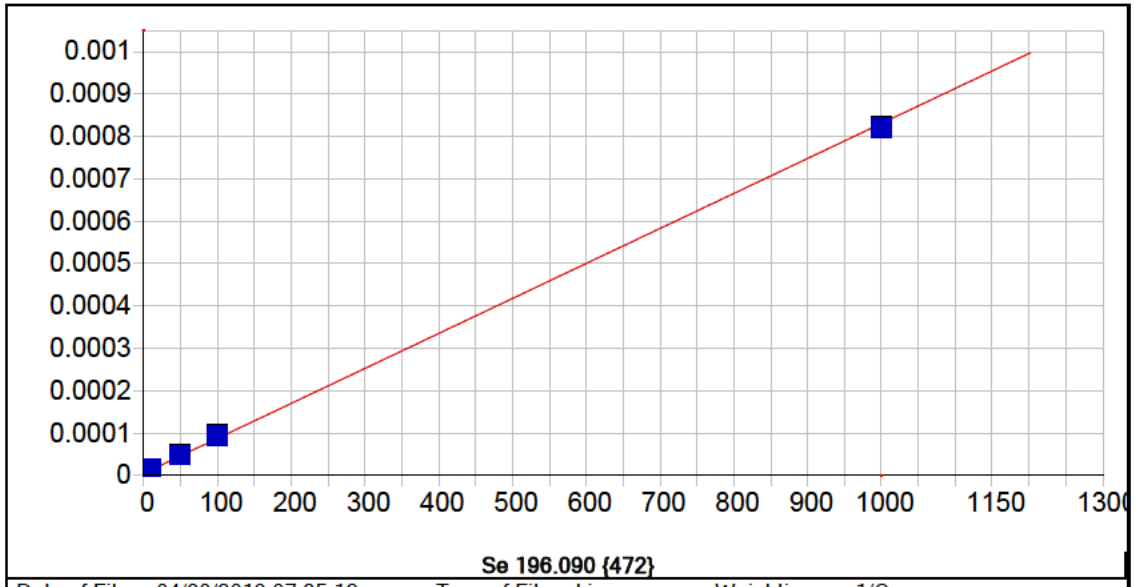



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999808 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.712923 | | |
| Predicted MQL: | 9.043077 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00477 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.3 | 21.3 | 2.13 | .00204 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.710 | 3.71 | 18.5 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.651 | 2.65 | 26.5 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.64 | 12.6 | 12.6 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7953 | 1.80 | 35.9 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.9 | -42.1 | -.421 | .01984 | .000 | 1 |

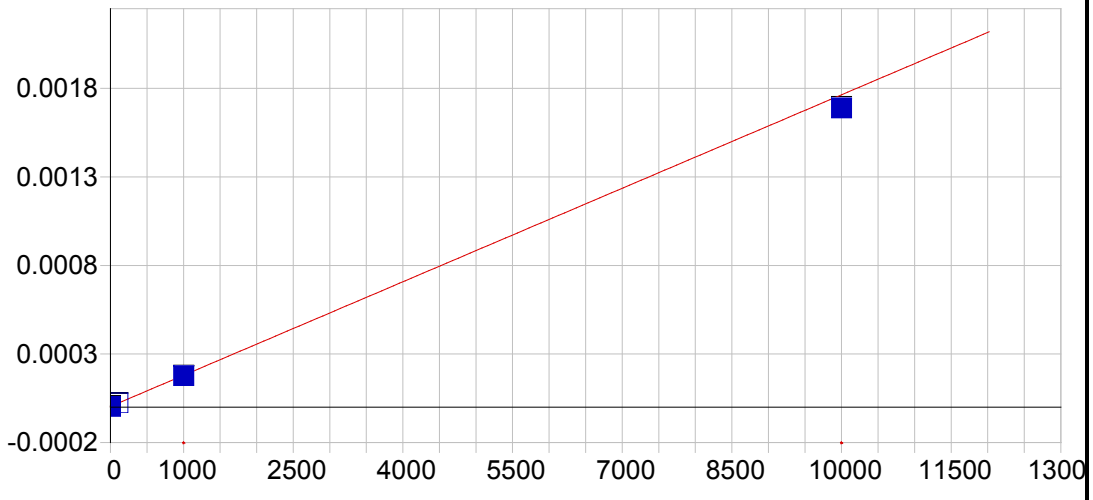



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999420 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.728254 | | |
| Predicted MQL: | 15.760848 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00343 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.462 | 2.46 | 4.92 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.89 | -12.1 | -1.21 | .00082 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.327 | 2.33 | 23.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.32 | 7.32 | 7.32 | .00009 | .000 | 1 |

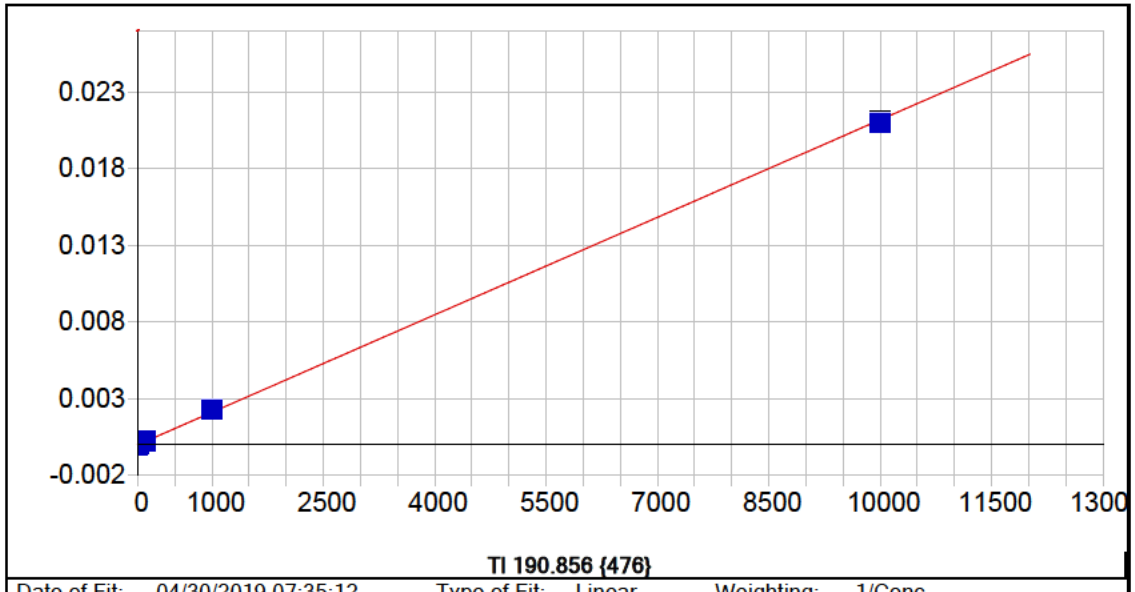



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 30.145855 | | |
| Predicted MQL: | 100.486183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00775 | -.008 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.17 | -13.8 | -1.38 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 9572.5 | -428. | -4.28 | .00169 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.65 | 8.65 | 8.65 | .00002 | .000 | 1 |

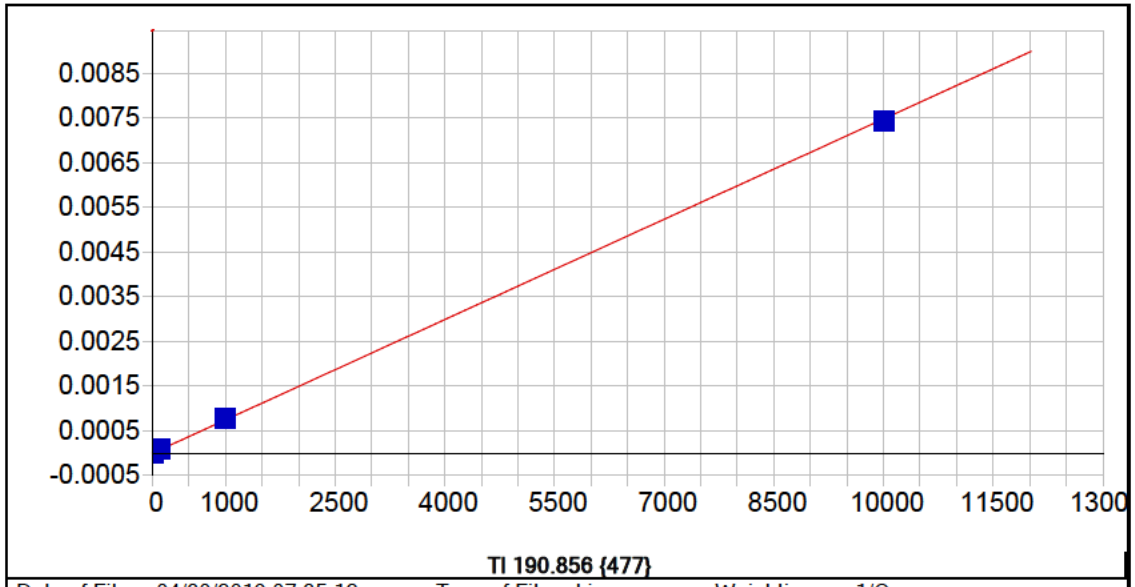



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999490 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.684770 | | |
| Predicted MQL: | 8.949234 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00515 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1077.8 | 77.8 | 7.78 | .00230 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.33 | 19.3 | 19.3 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.537 | 2.54 | 25.4 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9900.3 | -99.7 | -.997 | .02105 | .000 | 1 |

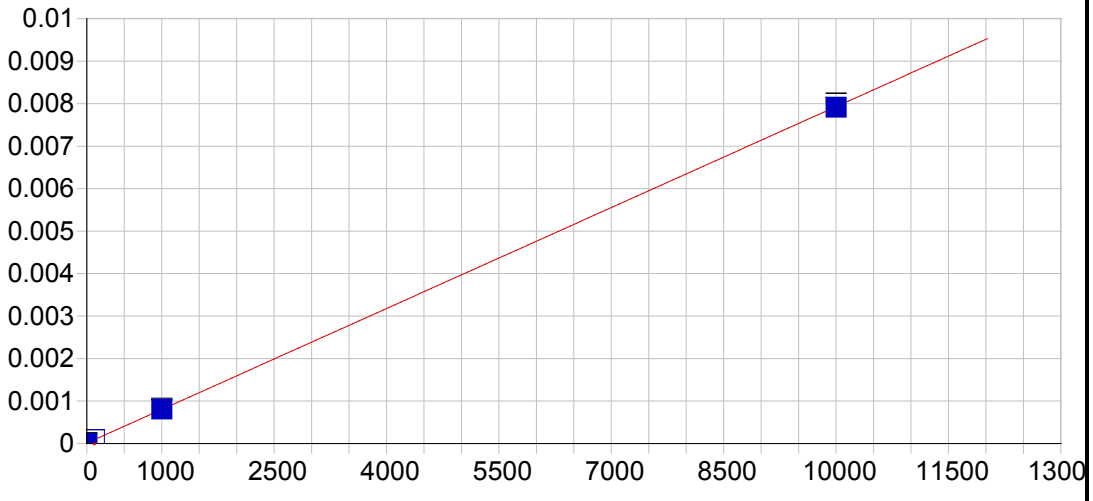



**Tl 190.856 {477}**

Date of Fit: 04/30/2019 07:35:12 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999617 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.300411 | | |
| Predicted MQL: | 17.668036 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00608 | -.006 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .00078 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.22 | 21.2 | 21.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.557 | 3.56 | 35.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9927.9 | -72.1 | -.721 | .00742 | .000 | 1 |

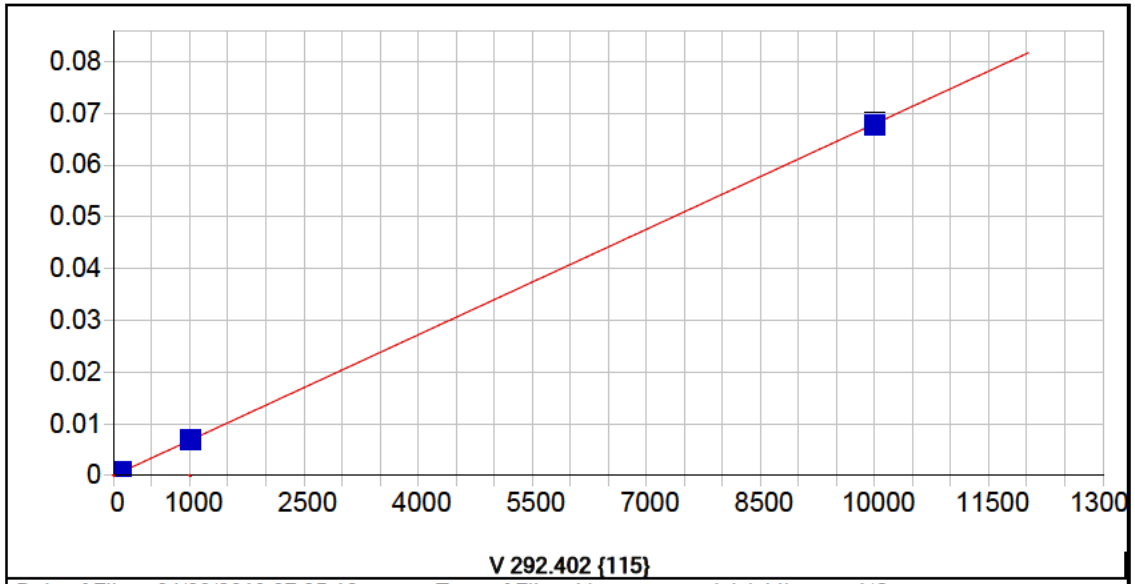



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.314456 | | |
| Predicted MQL: | 24.381519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00843 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.5 | 12.5 | 1.25 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.2 | -19.8 | -.198 | .00792 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.38 | 7.38 | 7.38 | .00009 | .000 | 1 |

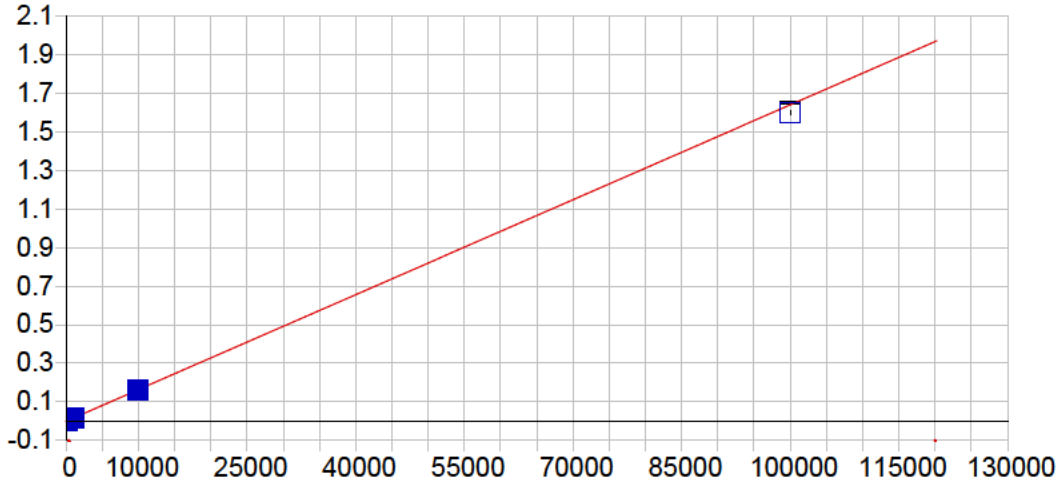



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.605824 | | |
| Predicted MQL: | 2.019414 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00569 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.727 | 5.73 | 11.5 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.2 | 15.2 | 1.52 | .00690 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.702 | 2.70 | 13.5 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.026 | 2.03 | 20.3 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.50 | 10.5 | 10.5 | .00075 | .000 | 1 |
| CalStd10=10 | 10000. | 9964.0 | -36.0 | -.360 | .06796 | .000 | 1 |

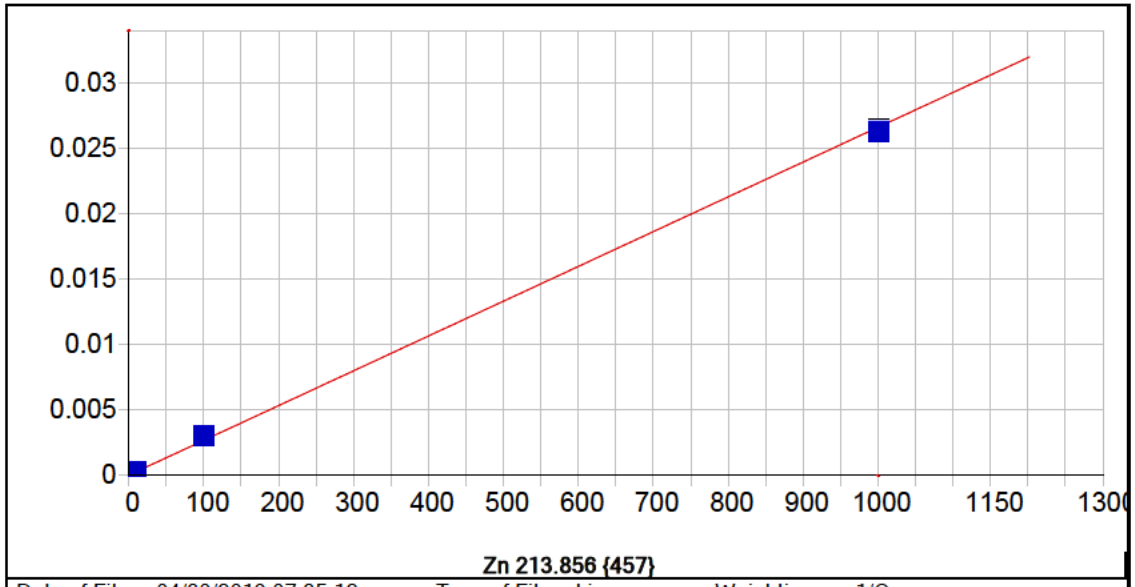



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999282 | Status: | OK. |
| Std Error of Est: | 0.000096 | | |
| Predicted MDL: | 0.398552 | | |
| Predicted MQL: | 1.328506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9868.0 | -132. | -1.32 | .16176 | .000 | 1 |
| Blank | .00000 | -3.1327 | -3.13 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1043.8 | 43.8 | 4.38 | .01716 | .000 | 1 |
| CalStd12=10 | 100000. | 97507. | -2490. | -2.49 | 1.5980 | .008 | 1 |
| CalStd5=10 | 10.000 | 9.1726 | -.827 | -8.27 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.72 | 13.7 | 13.7 | .00192 | .000 | 1 |

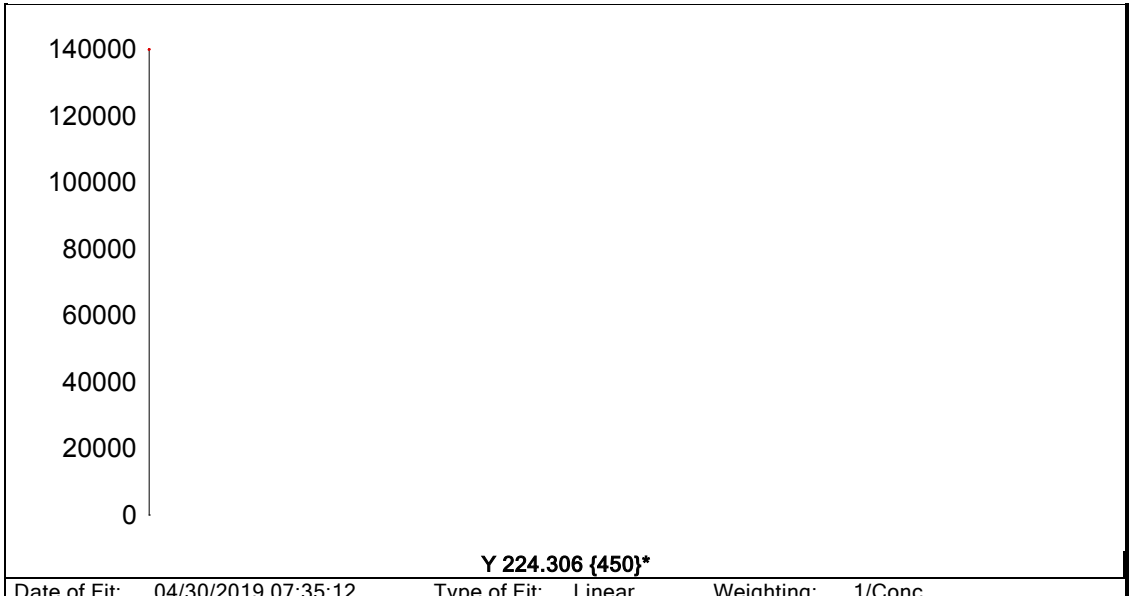



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

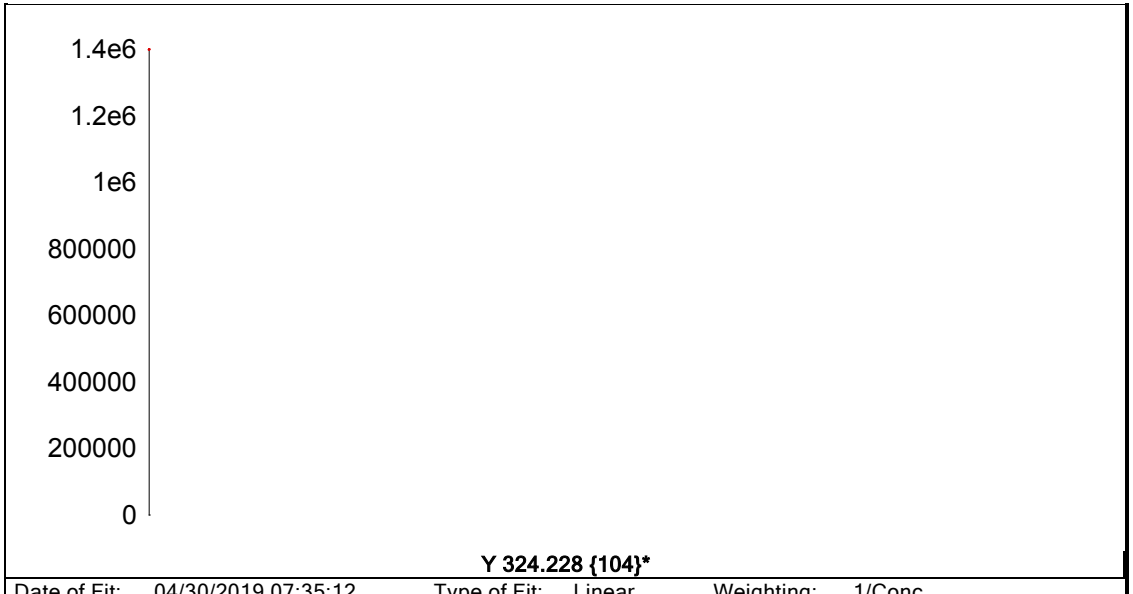
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999114 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.216001 | | |
| Predicted MQL: | 0.720004 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00274 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.00 | -14.0 | -1.40 | .02642 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.646 | 1.65 | 16.5 | .00034 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.36 | 12.4 | 12.4 | .00303 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

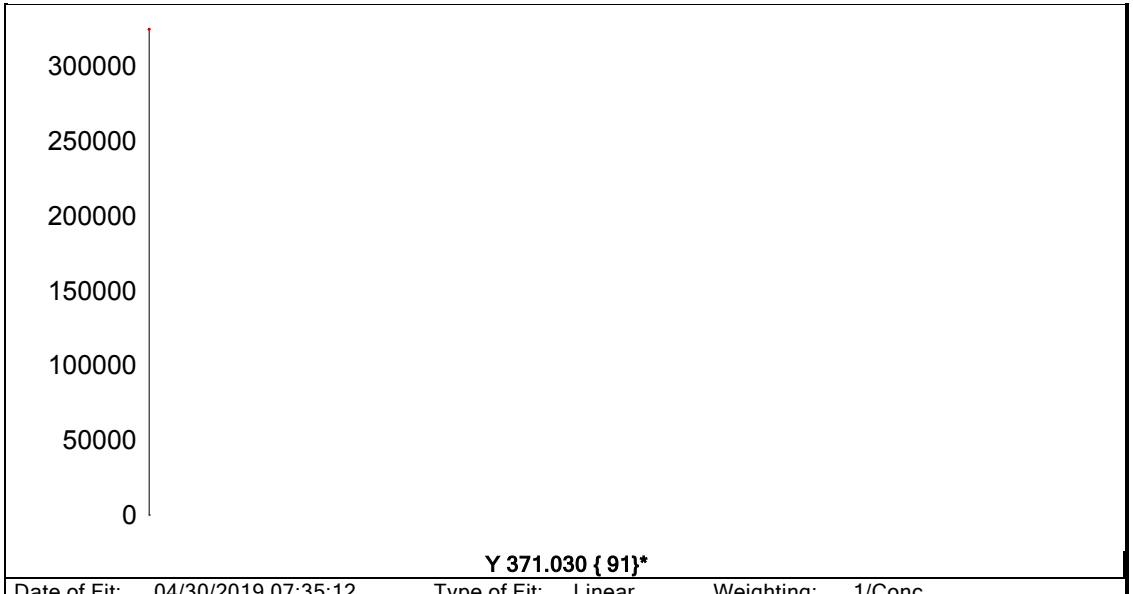
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 123870. | 355. | 1 |




**Y 324.228 {104}***

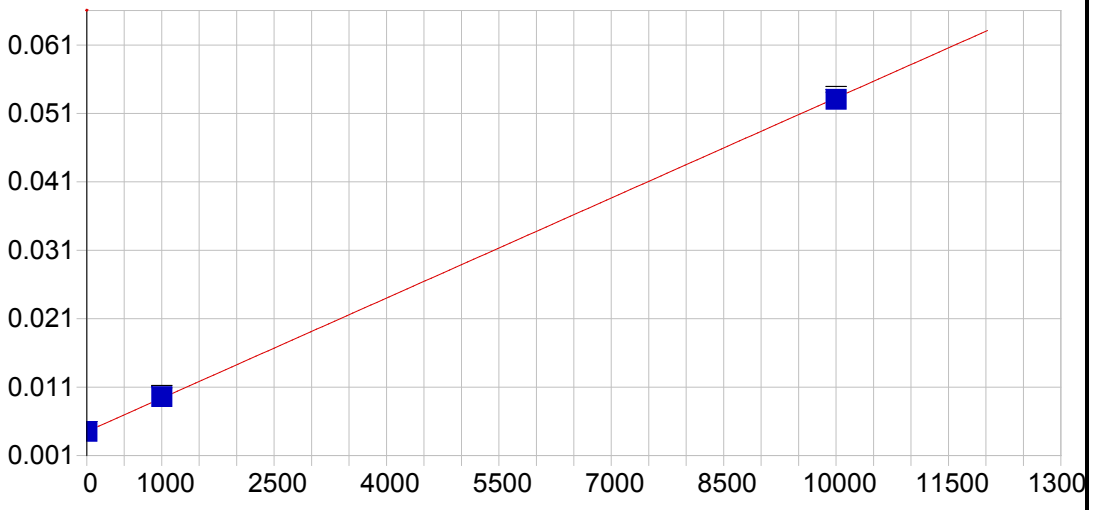
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1276800. | 7160. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 305680. | 3730. | 1 |

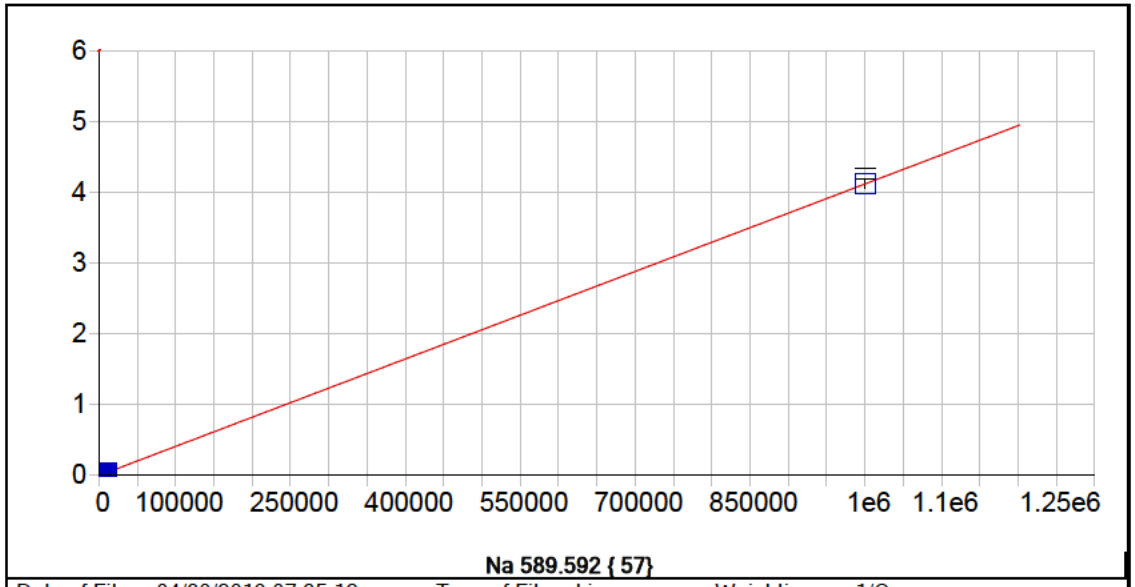



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004511 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999901 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 10.149500 | | |
| Predicted MQL: | 33.831667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04011 | -.040 | .000 | .00451 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.4 | -44.6 | -.446 | .05306 | .000 | 1 |

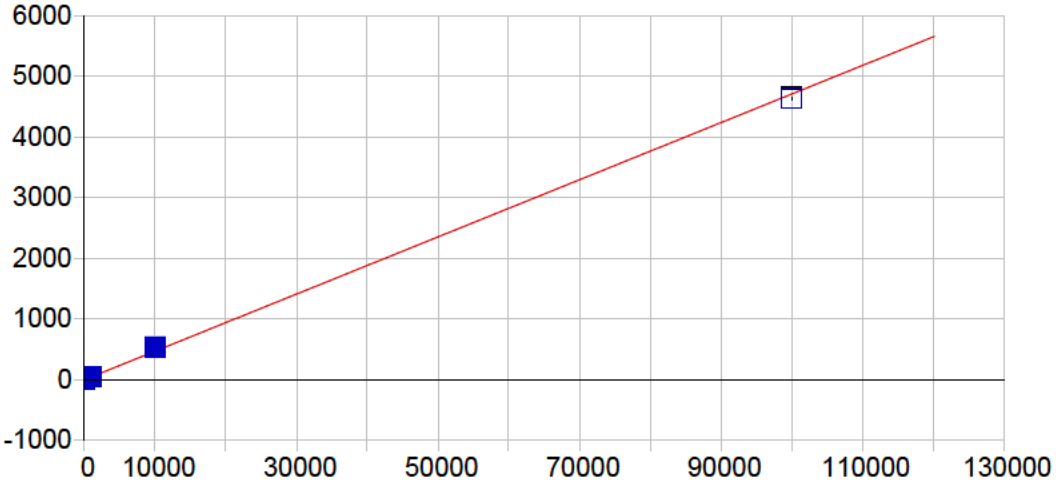



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000063 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000070 | | |
| Predicted MDL: | 7.898158 | | |
| Predicted MQL: | 26.327192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .20773 | .208 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 907.37 | -92.6 | -9.26 | .00380 | .000 | 1 |
| CalStd10=10 | 10000. | 8836.4 | -1160. | -11.6 | .03645 | .000 | 1 |
| CalibStd15= | 1000000. | 1001300. | 1260. | .126 | 4.1233 | .072 | 1 |

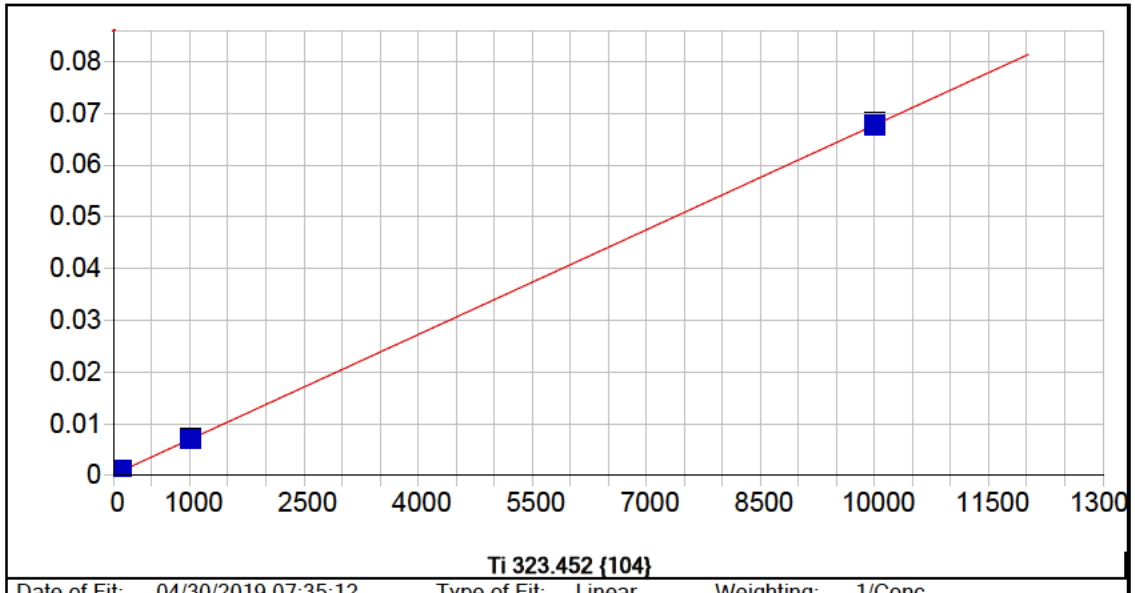



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.892880 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.047065 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998966 | Status: | OK. |
| Std Error of Est: | 1.013831 | | |
| Predicted MDL: | 26.768890 | | |
| Predicted MQL: | 89.229632 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14015 | -.140 | .000 | 1.8863 | 1.89 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | 53.186 | 2.01 | 1 |
| CalStd10=10 | 10000. | 11445. | 1440. | 14.4 | 564.11 | 2.99 | 1 |
| CalibStd15= | 100000. | 98471. | -1530. | -1.53 | 4636.4 | 23.5 | 1 |

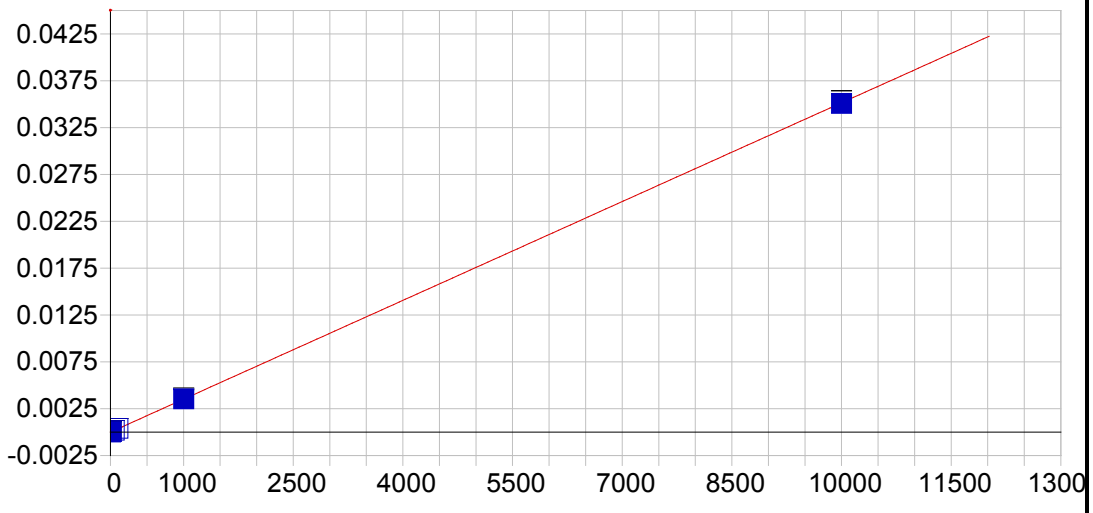



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000227 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999909 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.541505 | | |
| Predicted MQL: | 5.138349 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00014 | .000 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.045 | .045 | .452 | .00029 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.43 | 10.4 | 10.4 | .00097 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.6 | 5.59 | .559 | .00702 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.9 | -20.1 | -.201 | .06767 | .001 | 1 |
| CalStd7=50 | 50.000 | 55.300 | 5.30 | 10.6 | .00060 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.7697 | -1.23 | -24.6 | .00025 | .000 | 1 |

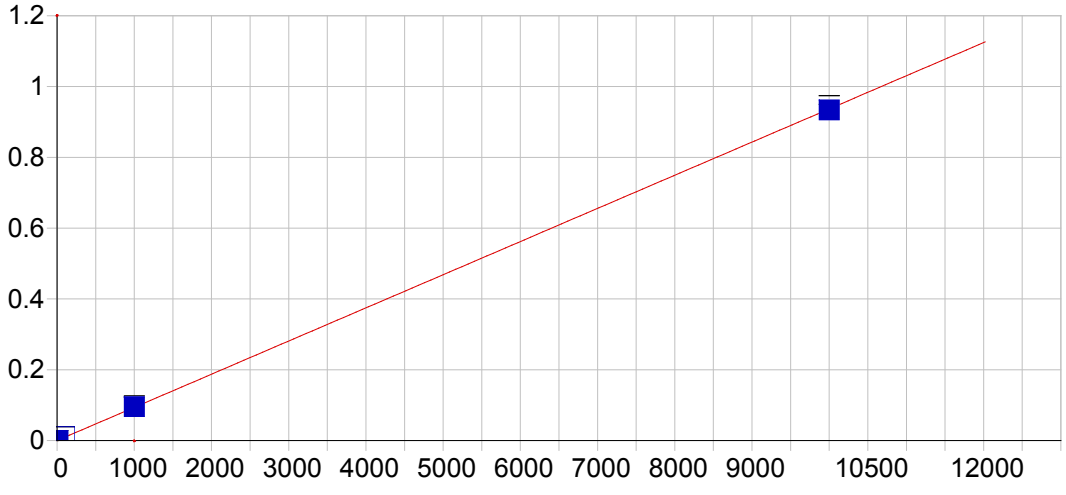



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.063215 | | |
| Predicted MQL: | 6.877382 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00260 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.391 | 1.39 | 13.9 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.61 | 9.61 | 9.61 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.7 | 7.67 | .767 | .00354 | .000 | 1 |
| CalStd10=10 | 10000. | 9975.9 | -24.1 | -.241 | .03508 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.539 | 4.54 | 9.08 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9434 | .943 | 18.9 | .00002 | .000 | 1 |

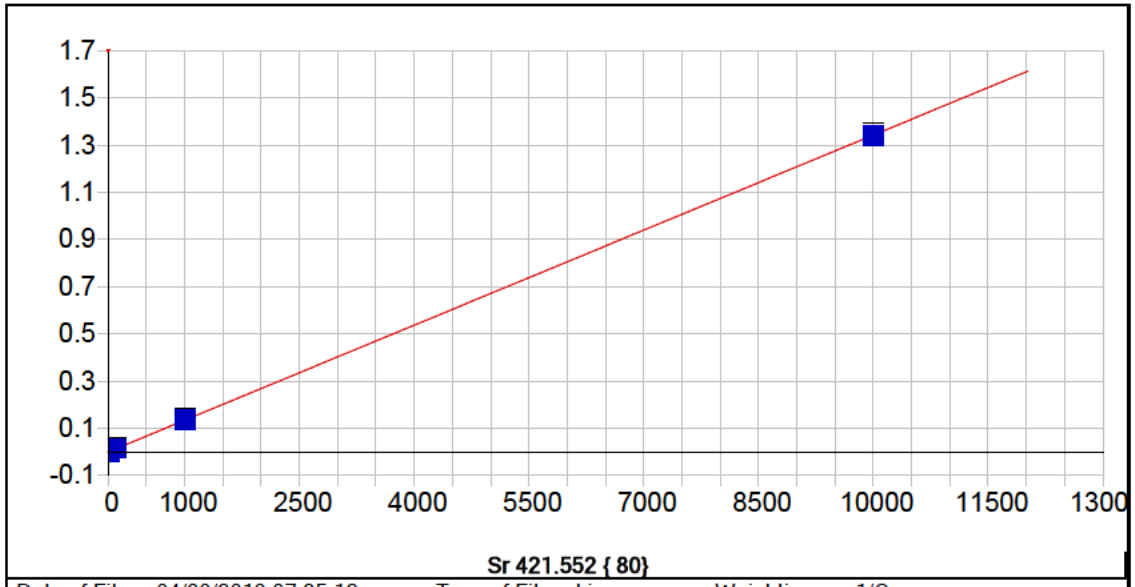



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000065 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000094 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999881 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.175276 | | |
| Predicted MQL: | 0.584252 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00059 | -.001 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0883 | .088 | 8.83 | .00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8487 | .849 | 17.0 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.913 | 1.91 | 19.1 | .00118 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.83 | 12.8 | 12.8 | .01063 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .09553 | .002 | 1 |
| CalStd10=10 | 10000. | 9965.5 | -34.5 | -.345 | .93387 | .012 | 1 |

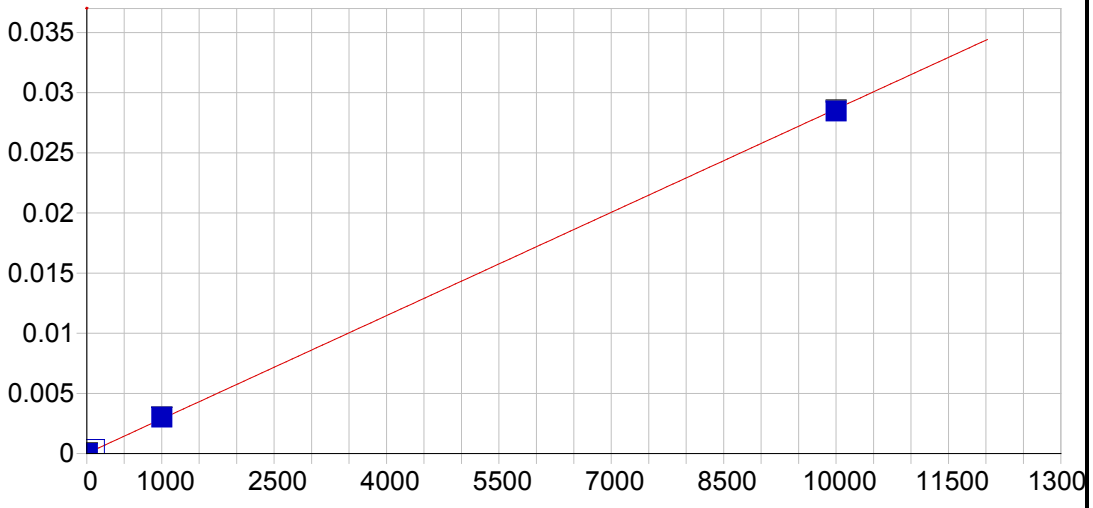



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999886 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.123225 | | |
| Predicted MQL: | 0.410752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00053 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0501 | .050 | 5.01 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7605 | .760 | 15.2 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00160 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.25 | 12.2 | 12.2 | .01508 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1020.8 | 20.8 | 2.08 | .13707 | .003 | 1 |
| CalStd10=10 | 10000. | 9964.3 | -35.7 | -.357 | 1.3379 | .014 | 1 |

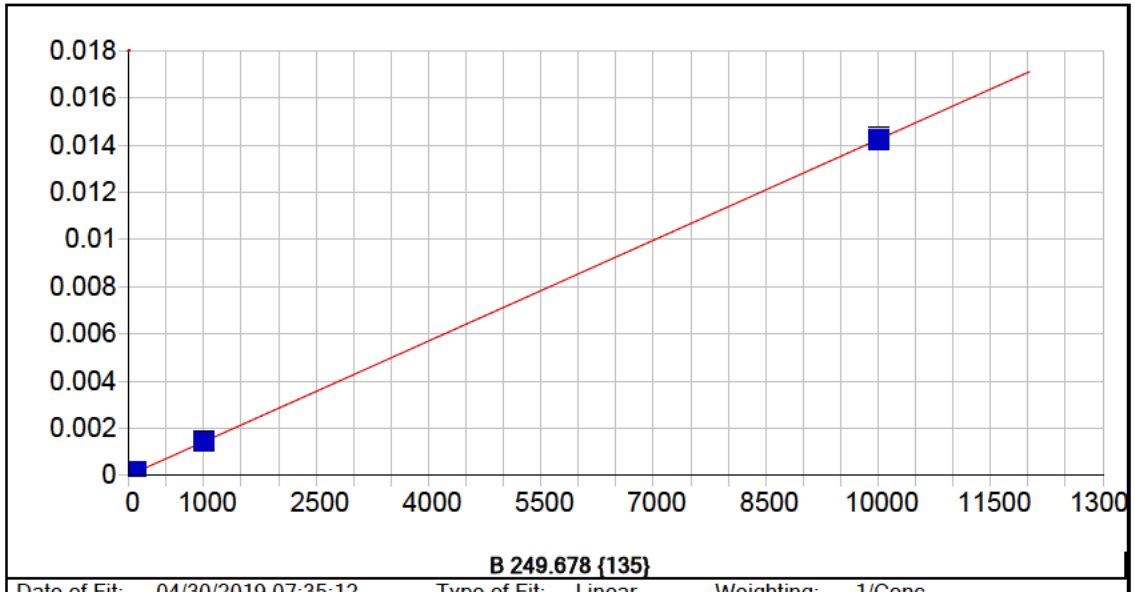



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999812 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.724449 | | |
| Predicted MQL: | 5.748164 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00202 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .02847 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1048.7 | 48.7 | 4.87 | .00302 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.88 | 11.9 | 11.9 | .00034 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.409 | .409 | 4.09 | .00005 | .000 | 1 |

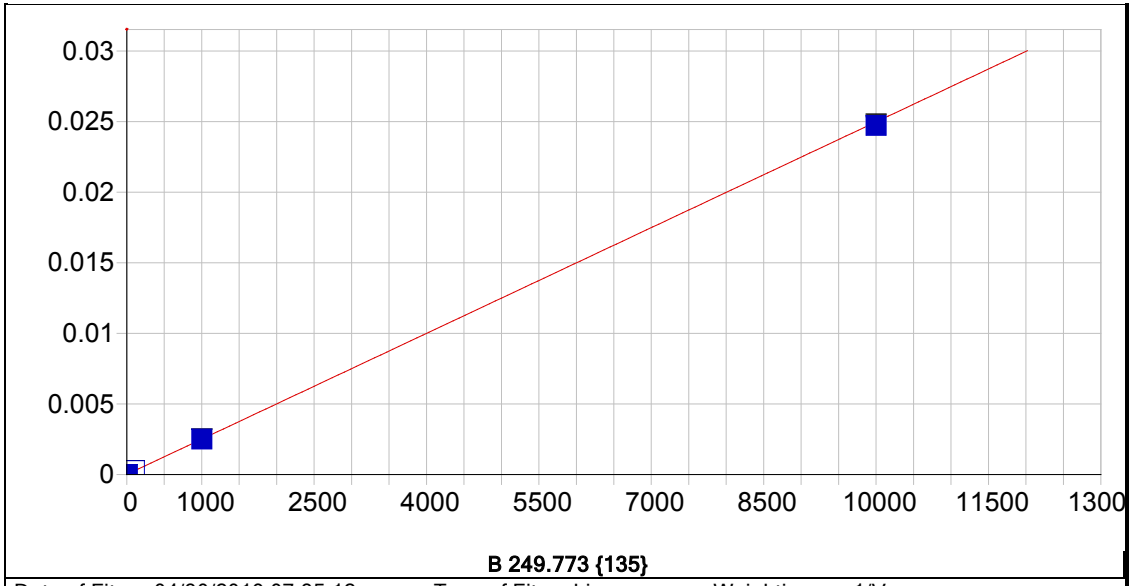



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.368619 | | |
| Predicted MQL: | 4.562062 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00180 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.85 | 4.85 | 4.85 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7549 | -2.25 | -22.5 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.58 | -4.42 | -.442 | .00143 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.81 | .018 | .01429 | .000 | 1 |

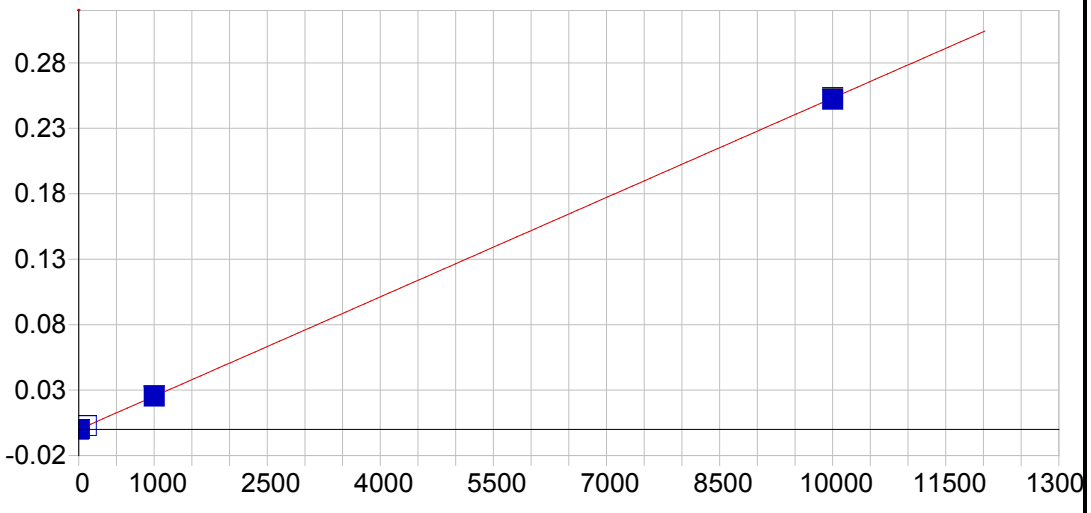



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999668 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.779432 | | |
| Predicted MQL: | 2.598107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.21304 | -.213 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.72 | 6.72 | 6.72 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3288 | -1.67 | -16.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .830 | .083 | .00251 | .000 | 1 |
| CalStd10=10 | 10000. | 9896.9 | -103. | -1.03 | .02473 | .000 | 1 |

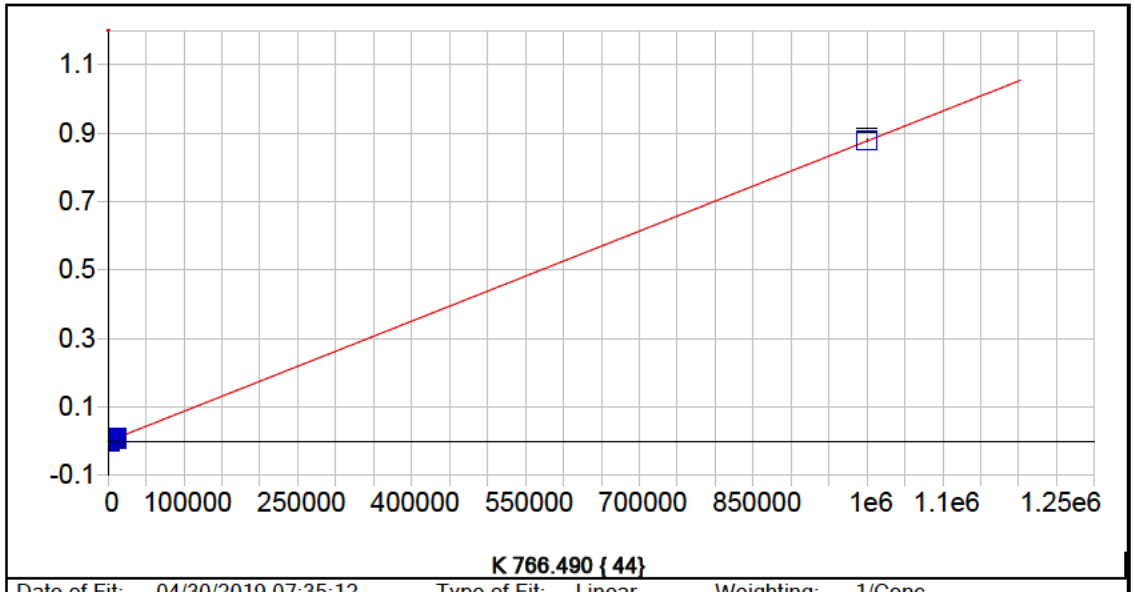



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000045 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000025 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999733 | Status: | OK. |
| Std Error of Est: | 0.000101 | | |
| Predicted MDL: | 1.571556 | | |
| Predicted MQL: | 5.238519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.3398 | -1.34 | .000 | -.00008 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.513 | .513 | 5.13 | .00022 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.42 | 11.4 | 11.4 | .00278 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.88 | .188 | .02532 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.6 | -44.4 | -.444 | .25201 | .001 | 1 |

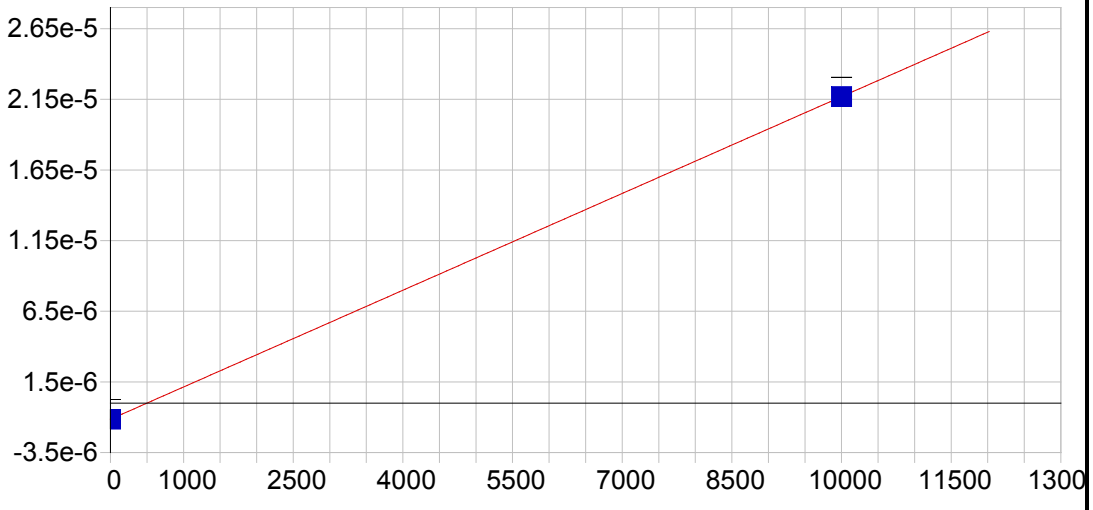



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999837 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 56.288107 | | |
| Predicted MQL: | 187.627024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33122 | .331 | .000 | -.00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 840.32 | -160. | -16.0 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 8265.7 | -1730. | -17.3 | .00721 | .000 | 1 |
| CalibStd15= | 1000000. | 1001900. | 1890. | .189 | .87886 | .004 | 1 |

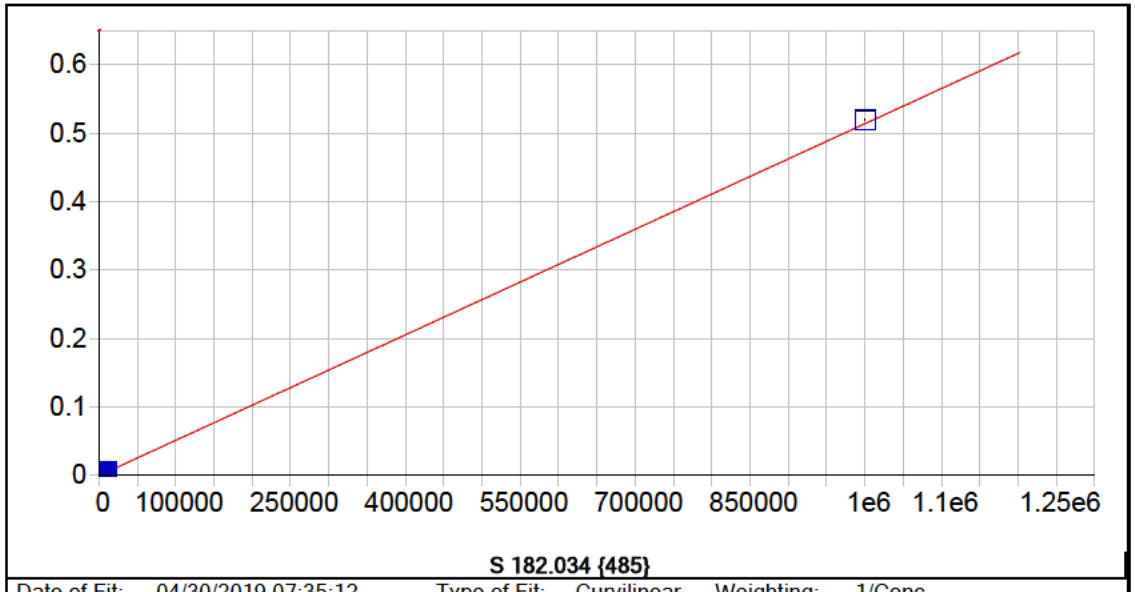



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 230.315837 | | |
| Predicted MQL: | 767.719457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00002 | .000 | 1 |

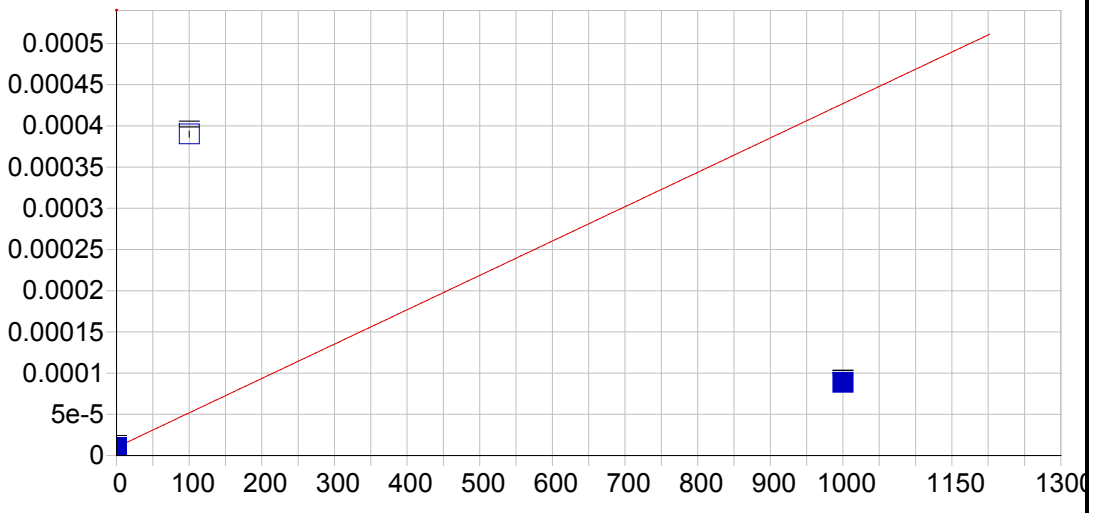



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.218644 | | |
| Predicted MQL: | 20.728815 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00108 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.81 | -1.19 | -.119 | .00053 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.22 | .022 | .00516 | .000 | 1 |
| CalibStd15= | 1000000. | 1010100. | 10100. | 1.01 | .51911 | .001 | 1 |

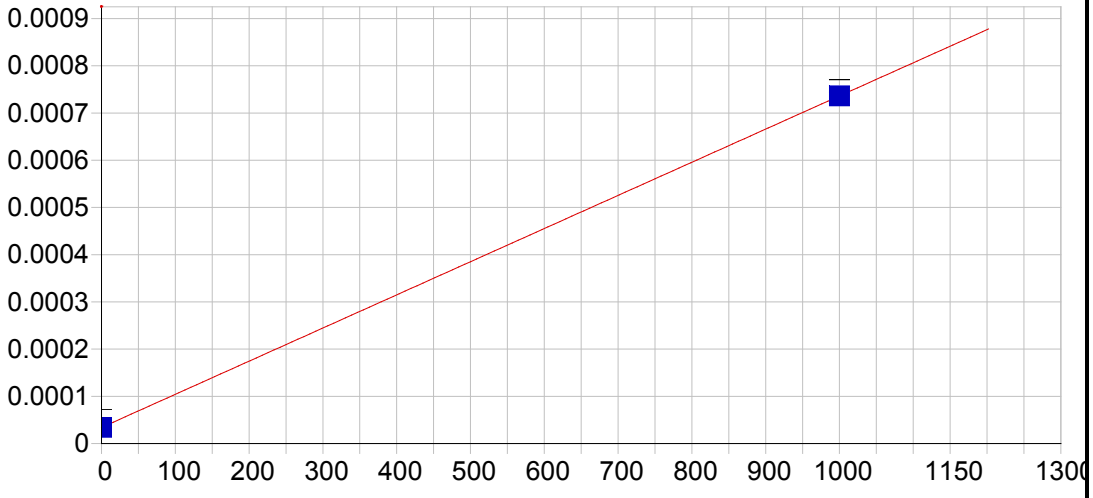



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.362902 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 9.166603 | | |
| Predicted MQL: | 30.555344 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.73038 | -.730 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 911.54 | 812. | 812. | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 188.46 | -812. | -81.2 | .00009 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000034 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.369364 | | |
| Predicted MQL: | 77.897881 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00074 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 14:03:58 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.230** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.002** | **-.000** |
| Stddev | .000 | .000 | .000 | .314 | .000 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 18.9 | 7.68 | 57.8 | 136. | 458. | 58.4 | 1.07 | .588 | 77.7 | 7.57 | 34.9 | 33.5 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **33.0** | **7.17** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.4 | 3.37 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 21.5 | 55.0 | 47.5 | 47.5 | 68.0 | 4.33 | 47.0 | 3.95 | 32.2 | 38.1 | 49.3 | 27.3 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 34.3 | 92.3 | 49.7 | 2550. | 24.5 | 41.6 | 63.8 | 41.4 | 136. | 158. | 86.4 | 102. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 109. | 56.3 | 87.0 | 298. | 18.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123870.** | **1276800.** | **305680.** |
| Stddev | 355. | 7164. | 3726. |
| %RSD | .28650 | .56110 | 1.2191 |

Sample Name: CalStd2=0.5 Acquired: 04/25/2019 14:10:16 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .668 | 62.9 | 9.43 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **123710.** | **1279800.** |
| Stddev | 209. | 2167. |
| %RSD | .16868 | .16933 |

Sample Name: CalStd3=1 Acquired: 04/25/2019 14:16:34 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 9.67 | 17.7 | 2.76 | 41.4 | 6.57 | 27.1 | 36.5 | 103. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123470.** | **1273400.** | **300220.** |
| Stddev | 53. | 3309. | 5495. |
| %RSD | .04317 | .25987 | 1.8302 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 14:22:49 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.2** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 | .000 | .000 | .000 | .000 |
| %RSD | 8.32 | 3.06 | .904 | 1.73 | 6.46 | 6.47 | 29.5 | 36.6 | 2.05 | 2.28 | 10.4 | 4.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 19.5 | 12.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123210.** | **1267300.** | **298290.** |
| Stddev | 373. | 1439. | 4038. |
| %RSD | .30293 | .11357 | 1.3536 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 14:29:06 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.31** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **38.1** |
| Stddev | .000 | .000 | .55 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 |
| %RSD | 2.48 | 3.01 | 42.1 | 79.9 | 2.14 | .865 | 3.01 | .408 | .925 | .511 | 3.45 | 9.62 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **13.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 1.8 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.4 | 1.24 | 4.97 | 4.78 | 7.94 | 39.2 | 11.2 | 19.0 | 14.1 | 5.87 | 7.98 | 1.98 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.49 | 1.23 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123880.** | **1263800.** | **303790.** |
| Stddev | 85. | 8427. | 637. |
| %RSD | .06830 | .66683 | .20965 |

Sample Name: CalStd6=20 Acquired: 04/25/2019 14:35:23 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **42.6** | **16.8** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 2.3 | 2.0 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.06 | 5.44 | 12.2 | .624 | 2.07 | 3.94 | 8.91 | 3.19 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123600.** | **1273700.** | **301630.** |
| Stddev | 282. | 5201. | 1616. |
| %RSD | .22814 | .40833 | .53569 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 14:41:33 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.19** | **.000** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **58.5** | **28.3** | **.001** | **.000** |
| Stddev | .47 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.7 | 2.7 | .000 | .000 |
| %RSD | 11.3 | 19.7 | 3.79 | .473 | .238 | .876 | .380 | 1.89 | 4.63 | 9.42 | .554 | .504 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.52 | .778 | 4.90 | 6.09 | .905 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123380.** | **1273500.** | **300440.** |
| Stddev | 162. | 7440. | 2083. |
| %RSD | .13145 | .58421 | .69323 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 14:47:43 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **7.42** | **.000** | **.001** | **.017** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .28 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .687 | .463 | 3.71 | 5.29 | .765 | 1.32 | .339 | 2.66 | 1.81 | .153 | .355 | .395 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **84.2** | **46.0** | **.003** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 3.1 | 2.2 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .406 | .536 | 1.38 | 3.74 | 4.83 | 3.33 | .267 | .613 | .586 | .331 | .217 | 1.95 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .757 | 1.45 | 4.80 | 14.5 | .894 | 8.43 | .752 | .514 | .525 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123670.** | **1275100.** | **300840.** |
| Stddev | 429. | 5306. | 2101. |
| %RSD | .34723 | .41608 | .69839 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 14:53:51 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **71.2** | **.001** | **.010** | **.068** | **.053** | **.002** | **.000** | **.127** | **.023** | **.045** |
| Stddev | .000 | .000 | .7 | .000 | .000 | .001 | .000 | .000 | .000 | .003 | .000 | .000 |
| %RSD | .462 | 3.29 | .931 | 1.02 | .320 | 1.86 | .491 | 1.88 | 3.18 | 2.06 | .235 | .114 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.020** | **.002** | **.015** | **.002** | **500.** | **356.** | **.000** | **.000** | **.001** | **.000** | **.028** | **.012** |
| Stddev | .000 | .000 | .000 | .000 | 5. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .360 | .687 | .219 | .940 | .919 | 1.77 | .511 | 1.63 | 1.28 | 7.93 | .626 | .471 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.011** | **.011** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.23 | .424 | .210 | .194 | .308 | .206 | .449 | .169 | .313 | .527 | .990 | .727 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.017** | **.026** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.99 | .522 | .341 | .238 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123980.** | **1278100.** | **301510.** |
| Stddev | 184. | 5989. | 3283. |
| %RSD | .14806 | .46862 | 1.0887 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 14:59:32 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.567** | **.003** | **1.17** | **.187** | **.020** | **.142** | **.024** | **4540.** | **3420.** | **.004** |
| Stddev | .000 | .000 | .015 | .000 | .03 | .000 | .000 | .000 | .000 | 11. | 12. | .000 |
| %RSD | .917 | .310 | 2.73 | 1.51 | 2.57 | .261 | .553 | .128 | .482 | .248 | .352 | .561 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.010** | **.000** | **.247** | **.111** | **.031** | **.046** | **.102** | **.108** | **.010** | **.020** | **.020** |
| Stddev | .000 | .000 | .000 | .002 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | 1.28 | .383 | .775 | .501 | 1.08 | .171 | .229 | .229 | .383 | .240 | .282 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.021** | **.008** | **.068** | **.162** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | .355 | .403 | 1.21 | .475 | .151 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122070.** | **1244700.** | **302730.** |
| Stddev | 320. | 4835. | 2234. |
| %RSD | .26239 | .38847 | .73796 |

Sample Name: CalStd12=100K  Acquired: 04/25/2019 15:06:08  Type: Cal
Method: DOD Calibration Updated 060614(v3320)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **49400.** | **37200.** | **.325** | **.114** | **1.60** |
| Stddev | .00 | 482. | 345. | .007 | .001 | .01 |
| %RSD | .098 | .977 | .927 | 2.23 | .459 | .504 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122080.** | **1262900.** | **301480.** |
| Stddev | 124. | 4342. | 3702. |
| %RSD | .10195 | .34385 | 1.2280 |

Sample Name: CalStd13=100000 Acquired: 04/25/2019 15:12:26 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.123** | **.031** | **.041** | **.022** | **.102** | **.003** |
| Stddev | .001 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .556 | .380 | .356 | .284 | .472 | .626 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **120050.** | **1235100.** | **299990.** |
| Stddev | 297. | 1194. | 2475. |
| %RSD | .24707 | .09667 | .82495 |

Sample Name: CalStd14=500000 Acquired: 04/25/2019 15:18:52 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.653** | **.155** | **.107** | **.487** | **.017** |
| Stddev | .011 | .001 | .000 | .001 | .000 |
| %RSD | 1.63 | .344 | .422 | .250 | .295 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **111000.** | **283910.** |
| Stddev | 247. | 1484. |
| %RSD | .22280 | .52282 |

Sample Name: CalibStd15=1000k  Acquired: 04/25/2019 15:25:30  Type: Cal
Method: DOD Calibration Updated 060614(v3320)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **.314** | **.209** | **.035** |
| Stddev | .01 | .002 | .001 | .000 |
| %RSD | 1.09 | .483 | .505 | .395 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **99304.** | **261110.** |
| Stddev | 236. | 668. |
| %RSD | .23784 | .25588 |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **44.4** | **10800.** | **2040.** | **2040.** | **2040.** | **48.4** | **49.3** | **8870.** | **47.6** | **54.4** | **514.** | **201.** |
| Stddev | .4 | 22. | 18. | 7. | 9. | .4 | .4 | 98. | .3 | .2 | 2. | 3. |
| %RSD | .974 | .200 | .900 | .335 | .444 | .752 | .837 | 1.10 | .591 | .351 | .352 | 1.26 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **235.** | **236.** | **4730.** | **10100.** | **475.** | **489.** | **500.** | **511.** | **511.** | **481.** | **480.** | **517.** |
| Stddev | 6. | 11. | 17. | 114. | 2. | 3. | 3. | 4. | 3. | 10. | 7. | 2. |
| %RSD | 2.66 | 4.47 | .348 | 1.13 | .484 | .670 | .646 | .794 | .514 | 2.17 | 1.52 | .384 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **509.** | **1990.** | **2070.** | **510.** | **506.** | **503.** | **488.** |
| Stddev | 3. | 14. | 13. | 6. | 2. | 2. | 2. |
| %RSD | .603 | .702 | .631 | 1.26 | .450 | .480 | .425 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124570.** | **1269300.** | **302840.** |
| Stddev | 137. | 5841. | 1865. |
| %RSD | .10971 | .46021 | .61576 |

Sample Name: ICVLL Acquired: 04/25/2019 15:51:21 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **31.5** | **1250.** | **1270.** | **60.9** | **31.7** | **12.7** | **1610.** | **15.8** | **16.2** | **32.1** | **33.7** | **29.5** |
| Stddev | .5 | 3. | 17. | 5.4 | .1 | .1 | 12. | .2 | .1 | .5 | .7 | 3.1 |
| %RSD | 1.67 | .229 | 1.37 | 8.83 | .471 | .605 | .728 | 1.37 | .436 | 1.62 | 2.08 | 10.4 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **33.6** | **1010.** | **1610.** | **33.1** | **31.8** | **33.4** | **34.4** | **71.5** | **70.5** | **64.5** | **33.7** | **33.8** |
| Stddev | 6.2 | 6. | 8. | .3 | .5 | .7 | .4 | 1.4 | 3.3 | 1.7 | .5 | .2 |
| %RSD | 18.3 | .626 | .512 | .777 | 1.46 | 2.09 | 1.27 | 1.98 | 4.71 | 2.56 | 1.48 | .605 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123990.** | **1259700.** | **301820.** |
| Stddev | 253. | 5434. | 2468. |
| %RSD | .20370 | .43134 | .81780 |

Sample Name: icb Acquired: 04/25/2019 16:03:40 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.715** | **-7.72** | **-4.05** | **-.358** | **-.042** | **-13.4** | **-.083** | **-.056** | **-.592** | **-.222** | **7.97** | **-11.1** |
| Stddev | .874 | .48 | 6.31 | .225 | .029 | .3 | .059 | .186 | .379 | 1.04 | 6.08 | 1.7 |
| %RSD | 122. | 6.17 | 156. | 62.7 | 69.0 | 1.95 | 71.5 | 331. | 64.0 | 469. | 76.3 | 15.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-21.1** | **-1.22** | **-1.40** | **-.444** | **.016** | **-.432** | **-.585** | **-2.33** | **-.039** | **-.561** |
| Stddev | .1 | .03 | .63 | .370 | 3.08 | 3.14 | 4.15 | 1.18 | .398 | .115 |
| %RSD | .504 | 2.51 | 45.4 | 83.3 | 19600. | 727. | 709. | 50.4 | 1020. | 20.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124930.** | **1269000.** | **303230.** |
| Stddev | 408. | 4214. | 1380. |
| %RSD | .32647 | .33204 | .45509 |

Sample Name: MRL/LLOQ Acquired: 04/25/2019 16:09:55 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.7** | **406.** | **19.7** | **9.12** | **4.06** | **500.** | **4.90** | **5.18** | **9.94** | **10.4** | **11.3** | F **17.3** |
| Stddev | .6 | 3. | 10.1 | .37 | .07 | 10. | .29 | .10 | .36 | .8 | 2.2 | 6.3 |
| %RSD | 5.79 | .620 | 51.3 | 4.11 | 1.67 | 2.02 | 5.84 | 1.94 | 3.67 | 8.08 | 19.1 | 36.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | 20.0 | | | | | | | | | | | 10.0 |
| Range | -30.0% | | | | | | | | | | | 30.0% |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **305.** | **503.** | **9.47** | **9.41** | **10.4** | **10.7** | **24.0** | **20.6** | **20.1** | **10.1** | **11.6** |
| Stddev | 4. | 3. | .10 | .26 | .6 | 1.3 | .7 | 2.1 | 3.2 | .4 | .2 |
| %RSD | 1.43 | .520 | 1.09 | 2.76 | 5.40 | 11.7 | 3.05 | 10.3 | 16.1 | 4.26 | 1.94 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124220.** | **1261900.** | **304400.** |
| Stddev | 277. | 7141. | 2207. |
| %RSD | .22331 | .56589 | .72497 |

Sample Name: ICSA Acquired: 04/25/2019 16:16:06 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.18** | **556000.** | **.263** | **.001** | **-.581** | **511000.** | **-.001** | **.702** | **-.214** | **-.735** | **.000** |
| Stddev | .31 | 15600. | 31.6 | 1.54 | .179 | 6610. | .823 | .252 | .486 | .723 | 8.05 |
| %RSD | 14.2 | 2.80 | 12000. | 278000. | 30.9 | 1.29 | 95700. | 35.9 | 228. | 98.4 | 4040000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **492000.** | **501000.** | **-4.13** | **-.177** | **-.556** | **-.253** | **-.729** | **.003** | **-.056** | **11600.** | **3.00** |
| Stddev | 6760. | 5120. | .18 | .743 | .868 | 3.49 | 1.90 | 4.84 | 4.32 | 92. | 2.06 |
| %RSD | 1.37 | 1.02 | 4.45 | 420. | 156. | 1380. | 260. | 169000. | 7720. | .794 | 68.6 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110890.** | **1136000.** | **286170.** |
| Stddev | 351. | 2934. | 807. |
| %RSD | .31660 | .25831 | .28184 |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **486.** | **496000.** | **794.** | **554.** | **477.** | **498.** | **486.** | **455000.** | **506.** | **470.** | **502.** |
| Stddev | 2. | 5510. | 14. | 12. | 2. | 5. | 6. | 4950. | 1. | 1. | 2. |
| %RSD | .321 | 1.11 | 1.72 | 2.15 | .316 | 1.05 | 1.31 | 1.09 | .160 | .261 | .495 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **395.** | **474.** | **440000.** | **446000.** | **463.** | **483.** | **503.** | **457.** | **464.** | **768.** | **413.** |
| Stddev | 1. | 3. | 3480. | 4830. | 2. | 2. | 2. | 3. | 2. | 24. | 4. |
| %RSD | .317 | .705 | .790 | 1.08 | .406 | .429 | .460 | .692 | .466 | 3.09 | .950 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **509.** | **475.** | **490.** | **520.** | **520.** | **472.** | **500.** |
| Stddev | 4. | 5. | 7. | 8. | 9. | 2. | 1. | 3. |
| %RSD | .847 | .902 | 1.50 | 1.63 | 1.75 | .405 | .146 | .563 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112550.** | **1144100.** | **287120.** |
| Stddev | 144. | 3899. | 1802. |
| %RSD | .12834 | .34078 | .62762 |

Sample Name: ccv1 Acquired: 04/25/2019 19:00:50 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **4510.** | **4890.** | **4870.** | **468.** | F **4360.** | **477.** | **4820.** | **4920.** | F **4370.** | **4790.** | **5120.** |
| Stddev | 3. | 14. | 13. | 55. | 6. | 22. | 1. | 19. | 8. | 35. | 148. | 123. |
| %RSD | .685 | .310 | .273 | 1.14 | 1.21 | .501 | .191 | .390 | .156 | .791 | 3.09 | 2.41 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4560.** | **4790.** | **4790.** | **4560.** | **4860.** | **4720.** | **4780.** | **4840.** | **4800.** |
| Stddev | 48. | 15. | 10. | 21. | 10. | 36. | 18. | 40. | 15. |
| %RSD | 1.04 | .304 | .198 | .449 | .201 | .751 | .382 | .819 | .306 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121360.** | **1235100.** | **300520.** |
| Stddev | 203. | 3809. | 1027. |
| %RSD | .16720 | .30835 | .34185 |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **467.** | **481.** | **497.** | **479.** | **509.** | **50.0** | **52.0** | **481.** | **48.8** | **50.9** | **497.** |
| Stddev | .9 | 2. | 6. | 4. | 1. | 7. | .1 | 2.4 | 4. | .3 | .2 | 2. |
| %RSD | 1.89 | .426 | 1.25 | .731 | .112 | 1.28 | .294 | 4.62 | .918 | .561 | .386 | .356 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **462.** | **472.** | **482.** | **470.** | **466.** | **477.** | **488.** | **501.** | **502.** | **479.** | **479.** |
| Stddev | 3. | 10. | 7. | 6. | 2. | 2. | 2. | 1. | 1. | 2. | 8. | 4. |
| %RSD | .595 | 2.19 | 1.54 | 1.16 | .482 | .380 | .357 | .257 | .127 | .489 | 1.61 | .748 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **502.** | **493.** | **516.** | **504.** | **498.** | **497.** | **490.** |
| Stddev | 3. | 4. | 7. | 1. | 7. | 2. | 1. | . |
| %RSD | .556 | .742 | 1.34 | .231 | 1.36 | .498 | .156 | .089 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124170.** | **1264700.** | **302550.** |
| Stddev | 370. | 4814. | 2853. |
| %RSD | .29826 | .38061 | .94303 |

Sample Name: ccb Acquired: 04/25/2019 19:12:08 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.905** | **-10.1** | **-7.60** | **-.385** | **.017** | **-14.1** | **-.062** | **.057** | **.067** | **.135** | **6.29** | **-14.8** |
| Stddev | .960 | .2 | 7.49 | .284 | .009 | .8 | .232 | .117 | .235 | .529 | 6.80 | 1.7 |
| %RSD | 106. | 2.41 | 98.5 | 73.6 | 52.2 | 5.38 | 374. | 206. | 349. | 393. | 108. | 11.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.6** | **-.842** | **.474** | **.171** | **1.21** | **-.309** | **3.78** | **-.395** | **-.159** | **-.163** |
| Stddev | .1 | .054 | .506 | .271 | 2.29 | 2.81 | 3.45 | 2.11 | .434 | .139 |
| %RSD | .280 | 6.43 | 107. | 159. | 190. | 909. | 91.3 | 535. | 273. | 85.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124240.** | **1271400.** | **302340.** |
| Stddev | 75. | 3984. | 990. |
| %RSD | .06008 | .31339 | .32745 |

Sample Name: 254965 Acquired: 04/25/2019 19:57:13 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.39** | **40400.** | **86.9** | **181.** | **214.** | **1.16** | **2880.** | **-1.43** | **.505** | **15.8** | **64.4** | **37.5** |
| Stddev | 1.18 | 1020. | 10.2 | 3. | 10. | .05 | 73. | .31 | .170 | .5 | 1.9 | 2.4 |
| %RSD | 84.6 | 2.52 | 11.7 | 1.39 | 4.57 | 3.95 | 2.53 | 21.9 | 33.7 | 2.97 | 2.88 | 6.37 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.4** | **66100.** | **4660.** | **1330.** | **.480** | **42.7** | **87.2** | **.232** | **1.07** | **11.5** | **106.** | **103.** |
| Stddev | 7.6 | 1750. | 166. | 34. | .356 | 1.1 | 2.0 | 1.97 | 3.28 | 2.7 | 4. | 3. |
| %RSD | 16.1 | 2.64 | 3.56 | 2.51 | 74.1 | 2.50 | 2.33 | 848. | 306. | 23.3 | 4.12 | 2.52 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **115.** |
| Stddev | 1. |
| %RSD | .979 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125910.** | **1281700.** | **309090.** |
| Stddev | 215. | 5391. | 1826. |
| %RSD | .17073 | .42060 | .59068 |

Sample Name: L254965 Acquired: 04/25/2019 20:03:20 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.01** | **12200.** | **16.5** | **35.7** | **.351** | **904.** | **-.912** | **-.160** | **3.38** | **19.0** | **12.5** | **15.4** |
| Stddev | .42 | 209. | 9.4 | 5.6 | .011 | 17. | .228 | .061 | .68 | 1.0 | 5.0 | 5.5 |
| %RSD | 41.7 | 1.71 | 56.9 | 15.8 | 3.05 | 1.84 | 25.1 | 38.0 | 20.0 | 5.32 | 39.8 | 35.4 |

| Elem | Fe2599 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **20100.** | **1170.** | **214.** | **-.740** | **11.1** | **15.5** | **.967** | **-1.28** | **3.34** | **30.5** | **26.1** |
| Stddev | 355. | 47. | 9. | .397 | 1.8 | 4.0 | 1.32 | 4.65 | 1.82 | 1.7 | 4.6 |
| %RSD | 1.77 | 4.02 | 4.03 | 53.7 | 16.5 | 25.8 | 136. | 363. | 54.4 | 5.64 | 17.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126530.** | **1283700.** | **309020.** |
| Stddev | 368. | 1545. | 1148. |
| %RSD | .29065 | .12031 | .37138 |

Sample Name: 1DUP254965 Acquired: 04/25/2019 20:09:22 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.898** | **37400.** | **74.4** | **138.** | **156.** | **1.08** | **2670.** | **-1.40** | **.353** | **15.0** | **64.7** | **28.1** |
| Stddev | .547 | 672. | 16.3 | 2. | 6. | .03 | 32. | .28 | .041 | .4 | 1.5 | 3.7 |
| %RSD | 60.9 | 1.80 | 21.9 | 1.50 | 4.00 | 2.73 | 1.18 | 20.3 | 11.6 | 2.96 | 2.27 | 13.1 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **36.0** | **61700.** | **4350.** | **598.** | **-.226** | **42.3** | **58.4** | **-.015** | **.381** | **11.3** | **104.** | **98.2** |
| Stddev | 6.4 | 951. | 85. | 15. | .349 | 1.8 | 1.7 | 1.68 | 3.99 | 1.6 | 9. | 2.4 |
| %RSD | 17.9 | 1.54 | 1.95 | 2.49 | 155. | 4.29 | 2.91 | 11400. | 1050. | 14.5 | 8.80 | 2.49 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **107.** |
| Stddev | 1. |
| %RSD | 1.27 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125930.** | **1278700.** | **309040.** |
| Stddev | 346. | 4484. | 3529. |
| %RSD | .27458 | .35064 | 1.1418 |

Sample Name: MSS254965 Acquired: 04/25/2019 20:15:31 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.08** | **36200.** | **1760.** | **1720.** | **136.** | **158.** | **1.08** | **2740.** | **-1.27** | **5.52** | **14.8** | **59.1** |
| Stddev | .64 | 623. | 20. | 24. | 1. | 3. | .11 | 21. | .33 | .13 | .2 | 2.0 |
| %RSD | 58.9 | 1.72 | 1.13 | 1.42 | 1.02 | 2.15 | 9.89 | .782 | 25.7 | 2.42 | 1.59 | 3.35 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **29.4** | **41.8** | **62300.** | **4320.** | **2210.** | **2500.** | **-.444** | **40.0** | **53.7** | **-1.20** | **1.54** | **11.9** |
| Stddev | 4.7 | 7.8 | 934. | 87. | 58. | 21. | .259 | 1.3 | 1.4 | 3.22 | 5.27 | 3.2 |
| %RSD | 15.8 | 18.8 | 1.50 | 2.02 | 2.64 | .826 | 58.3 | 3.27 | 2.52 | 269. | 343. | 26.6 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **96.0** | **104.** |
| Stddev | 2.8 | 2. |
| %RSD | 2.94 | 2.13 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125700.** | **1285800.** | **307540.** |
| Stddev | 369. | 3414. | 2466. |
| %RSD | .29352 | .26547 | .80185 |

Sample Name: ccv1 Acquired: 04/25/2019 20:21:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4540.** | **4880.** | **4870.** | **469.** | F **4330.** | **478.** | **4810.** | **4900.** | F **4360.** | **4830.** | **4950.** |
| Stddev | 2. | 72. | 8. | 45. | 1. | 13. | . | 28. | 1. | 26. | 229. | 103. |
| %RSD | .354 | 1.58 | .161 | .917 | .210 | .309 | .092 | .576 | .014 | .589 | 4.74 | 2.07 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4530.** | **4790.** | **4800.** | **4580.** | **4860.** | **4690.** | **4800.** | **4840.** | **4810.** |
| Stddev | 31. | 11. | 10. | 14. | 8. | 33. | 19. | 42. | 10. |
| %RSD | .677 | .224 | .205 | .316 | .162 | .705 | .388 | .876 | .199 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121260.** | **1237200.** | **300720.** |
| Stddev | 95. | 4335. | 2794. |
| %RSD | .07846 | .35041 | .92894 |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.3** | **467.** | **473.** | **492.** | **478.** | **505.** | **49.6** | **49.9** | **478.** | **48.8** | **50.9** | **496.** |
| Stddev | .1 | 1. | 15. | 6. | 1. | 7. | .3 | .7 | 7. | .2 | .1 | 2. |
| %RSD | .278 | .292 | 3.10 | 1.20 | .232 | 1.43 | .564 | 1.43 | 1.41 | .428 | .225 | .366 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **495.** | **457.** | **468.** | **482.** | **467.** | **466.** | **477.** | **487.** | **499.** | **501.** | **479.** | **476.** |
| Stddev | 3. | 3. | 3. | 4. | 3. | 3. | 3. | 2. | 2. | 2. | 6. | 5. |
| %RSD | .599 | .631 | .613 | .729 | .744 | .695 | .578 | .433 | .312 | .354 | 1.26 | 1.13 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **500.** | **491.** | **516.** | **498.** | **496.** | **496.** | **488.** |
| Stddev | 3. | 3. | 6. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .549 | .541 | 1.30 | .651 | .929 | .354 | .428 | .228 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124480.** | **1266700.** | **303030.** |
| Stddev | 212. | 2501. | 2034. |
| %RSD | .17053 | .19745 | .67130 |

Sample Name: ccb Acquired: 04/25/2019 20:33:00 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.616** | **-9.58** | **-3.94** | **-.200** | **-.005** | **-13.7** | **.063** | **.028** | **-.048** | **.082** | **5.21** | **-11.7** |
| Stddev | .319 | .74 | 6.55 | .212 | .032 | .7 | .093 | .104 | .089 | .671 | 3.41 | .7 |
| %RSD | 51.8 | 7.68 | 166. | 106. | 712. | 5.27 | 148. | 373. | 184. | 815. | 65.5 | 6.23 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.3** | **-.623** | **.265** | **.240** | **.628** | **1.95** | **3.11** | **-.114** | **.550** | **.028** |
| Stddev | .1 | .058 | .421 | .630 | 2.16 | .70 | 2.91 | 2.07 | .338 | .202 |
| %RSD | .254 | 9.23 | 159. | 262. | 344. | 35.8 | 93.5 | 1820. | 61.5 | 710. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124710.** | **1266200.** | **303360.** |
| Stddev | 246. | 7402. | 2134. |
| %RSD | .19686 | .58455 | .70331 |

Sample Name: MSDS254965 Acquired: 04/25/2019 20:39:16 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.842** | **32400.** | **1890.** | **1820.** | **142.** | **150.** | **1.14** | **2650.** | **-.900** | **5.81** | **15.4** | **59.6** |
| Stddev | .706 | 633. | 13. | 13. | 1. | 4. | .02 | 32. | .159 | .16 | .2 | .8 |
| %RSD | 83.8 | 1.95 | .673 | .704 | .644 | 2.85 | 1.63 | 1.22 | 17.7 | 2.81 | 1.33 | 1.42 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **27.1** | **36.9** | **58500.** | **4050.** | **2320.** | **2500.** | **.340** | **41.3** | **59.3** | **-1.16** | **1.63** | **11.4** |
| Stddev | 4.3 | 6.9 | 857. | 179. | 24. | 37. | .151 | .7 | 3.5 | 2.06 | 4.83 | .7 |
| %RSD | 15.9 | 18.6 | 1.47 | 4.43 | 1.02 | 1.50 | 44.4 | 1.63 | 5.97 | 178. | 297. | 6.25 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **95.1** | **105.** |
| Stddev | 1.1 | 1. |
| %RSD | 1.14 | 1.11 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126150.** | **1283900.** | **307310.** |
| Stddev | 369. | 5562. | 3955. |
| %RSD | .29247 | .43317 | 1.2869 |

Sample Name: PDSS254965 Acquired: 04/25/2019 20:45:24 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **66.1** | **39700.** | **2610.** | **2730.** | **3660.** | **71.6** | **82.0** | **321000.** | **57.4** | **72.0** | **648.** |
| Stddev | 2.6 | 868. | 154. | 172. | 274. | 2.5 | 7.1 | 25000. | 3.6 | 4.0 | 39. |
| %RSD | 3.97 | 2.19 | 5.91 | 6.28 | 7.50 | 3.43 | 8.67 | 7.80 | 6.22 | 5.62 | 6.09 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **345.** | **412.** | **433.** | **57600.** | **161000.** | **1200.** | **-.886** | **654.** | **657.** | **698.** | **632.** |
| Stddev | 12. | 27. | 34. | 1380. | 11900. | 31. | .671 | 39. | 40. | 44. | 36. |
| %RSD | 3.43 | 6.58 | 7.88 | 2.39 | 7.36 | 2.58 | 75.8 | 5.90 | 6.11 | 6.33 | 5.73 |

| Elem | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **667.** | **661.** | **2570.** | **2430.** | **976.** | **831.** | **709.** | **715.** |
| Stddev | 40. | 42. | 165. | 143. | 73. | 25. | 40. | 46. |
| %RSD | 6.03 | 6.33 | 6.42 | 5.90 | 7.43 | 3.06 | 5.63 | 6.37 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117470.** | **1199100.** | **296150.** |
| Stddev | 596. | 3343. | 3367. |
| %RSD | .50778 | .27878 | 1.1370 |

Sample Name: 255856 Acquired: 04/25/2019 20:51:34 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.788** | **13000.** | **38.4** | **226.** | **268.** | **.774** | **1100.** | **-.343** | **.339** | **5.38** | **27.4** | **80.8** |
| Stddev | .516 | 177. | 8.8 | 2. | 5. | .020 | 99. | .177 | .049 | .29 | 1.3 | 2.0 |
| %RSD | 65.5 | 1.36 | 22.8 | .843 | 1.77 | 2.60 | 9.06 | 51.5 | 14.4 | 5.35 | 4.81 | 2.50 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **91.3** | **22100.** | **1230.** | **6640.** | **-.366** | **22.1** | **281.** | **9.98** | **1.88** | **6.79** | **37.5** | **126.** |
| Stddev | 6.4 | 456. | 28. | 90. | .514 | .6 | 3. | 3.07 | 3.07 | .86 | 1.3 | 2. |
| %RSD | 6.98 | 2.06 | 2.30 | 1.35 | 141. | 2.68 | 1.14 | 30.8 | 163. | 12.6 | 3.53 | 1.20 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126060.** | **1281800.** | **308990.** |
| Stddev | 107. | 3379. | 3367. |
| %RSD | .08475 | .26360 | 1.0897 |

Sample Name: 255857 Acquired: 04/25/2019 20:57:32 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.18** | **15200.** | **31.8** | **180.** | **217.** | **.712** | **13600.** | **-.308** | **.571** | **6.86** | **34.9** | **86.6** |
| Stddev | .71 | 147. | 5.6 | 3. | 2. | .059 | 178. | .297 | .150 | .23 | 1.0 | 2.0 |
| %RSD | 59.9 | .963 | 17.6 | 1.88 | .992 | 8.27 | 1.31 | 96.4 | 26.2 | 3.42 | 2.76 | 2.28 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **93.0** | **21000.** | **5850.** | **9520.** | **.125** | **26.6** | **573.** | **552.** | **1.22** | **.051** | **5.00** | **61.0** |
| Stddev | 5.5 | 283. | 60. | 126. | .664 | .5 | 14. | 9. | 2.81 | 5.44 | 2.76 | 1.6 |
| %RSD | 5.90 | 1.35 | 1.03 | 1.33 | 530. | 1.90 | 2.50 | 1.60 | 230. | 10800. | 55.2 | 2.66 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **143.** |
| Stddev | 3. |
| %RSD | 1.81 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125740.** | **1275900.** | **307340.** |
| Stddev | 180. | 4950. | 1246. |
| %RSD | .14344 | .38794 | .40537 |

Sample Name: 255881 Acquired: 04/25/2019 21:04:03 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 3
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.08** | **98700.** | **295.** | **941.** | **998.** | **3.83** | **31900.** | **5.70** | **8.44** | **49.8** | **339.** |
| Stddev | .58 | 869. | 15. | 1. | 9. | .03 | 307. | .32 | .16 | .6 | 2. |
| %RSD | 18.8 | .881 | 5.08 | .148 | .946 | .817 | .962 | 5.55 | 1.91 | 1.13 | .443 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **610.** | **642.** | **177000.** | **14300.** | **17400.** | **7.57** | **146.** | **2140.** | **3.17** | **15.8** | **36.7** |
| Stddev | 7. | 8. | 1690. | 162. | 82. | .89 | 1. | 8. | 1.04 | 5.7 | 4.1 |
| %RSD | 1.12 | 1.30 | .955 | 1.13 | .475 | 11.7 | .891 | .365 | 33.0 | 36.2 | 11.1 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **345.** | **347.** | **2260.** |
| Stddev | 1. | 2. | 6. |
| %RSD | .357 | .665 | .267 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122860.** | **1242900.** | **304720.** |
| Stddev | 345. | 4334. | 1345. |
| %RSD | .28083 | .34873 | .44143 |

Sample Name: 255884 Acquired: 04/25/2019 21:10:33 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.66** | **18100.** | **39.0** | **852.** | **1010.** | **1.09** | **25500.** | **1.24** | **2.17** | **15.8** | **42.4** | **1160.** |
| Stddev | .68 | 685. | 4.1 | 7. | 35. | .03 | 689. | .21 | .17 | .4 | .6 | 38. |
| %RSD | 25.5 | 3.79 | 10.6 | .788 | 3.44 | 2.82 | 2.70 | 17.2 | 7.97 | 2.55 | 1.30 | 3.25 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **31900.** | **14800.** | **59700.** | **7.00** | **29.4** | **677.** | **637.** | **1.64** | **5.87** | **33.1** | **81.2** | **802.** |
| Stddev | 1250. | 418. | 1840. | .68 | .7 | 11. | 6. | 1.15 | 5.15 | 2.4 | 1.2 | 10. |
| %RSD | 3.91 | 2.82 | 3.08 | 9.64 | 2.23 | 1.56 | .975 | 70.4 | 87.8 | 7.17 | 1.45 | 1.21 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **792.** |
| Stddev | 7. |
| %RSD | .909 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124950.** | **1268600.** | **306840.** |
| Stddev | 91. | 2819. | 2554. |
| %RSD | .07297 | .22223 | .83236 |

Sample Name: 255885 Acquired: 04/25/2019 21:17:08 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.07** | **10800.** | **9.68** | **143.** | **163.** | **.719** | **3840.** | **-.176** | **.283** | **4.67** | **18.2** | **144.** |
| Stddev | .40 | 140. | 3.56 | 2. | 3. | .033 | 102. | .189 | .117 | .44 | .9 | 5. |
| %RSD | 37.1 | 1.30 | 36.8 | 1.16 | 1.89 | 4.55 | 2.65 | 108. | 41.5 | 9.42 | 4.82 | 3.56 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **154.** | **13300.** | **2680.** | **1970.** | **2150.** | **-1.41** | **10.2** | **96.9** | **-.310** | **-.401** | **2.00** | **26.1** |
| Stddev | 3. | 286. | 136. | 28. | 73. | .13 | .5 | 3.6 | 2.08 | 4.21 | 1.69 | .6 |
| %RSD | 2.04 | 2.15 | 5.09 | 1.40 | 3.38 | 9.00 | 5.01 | 3.77 | 672. | 1050. | 84.1 | 2.48 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **155.** |
| Stddev | . |
| %RSD | .269 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125500.** | **1282300.** | **305540.** |
| Stddev | 299. | 4367. | 1160. |
| %RSD | .23795 | .34058 | .37965 |

Sample Name: 255886 Acquired: 04/25/2019 21:23:19 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-4.29** | **15000.** | **14.8** | **3440.** | **1.29** | **6100.** | **1.49** | **1.21** | **35.5** | **9.56** | **678.** |
| Stddev | 1.10 | 337. | 4.5 | 93. | .02 | 113. | .24 | .13 | .3 | 1.37 | 27. |
| %RSD | 25.7 | 2.25 | 30.5 | 2.71 | 1.85 | 1.84 | 15.9 | 10.3 | .855 | 14.3 | 3.98 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **697.** | **19400.** | **2100.** | **135000.** | **16.5** | **21.8** | **1810.** | **2.32** | **14.5** | **78.9** | **155.** |
| Stddev | 12. | 446. | 78. | 3360. | .5 | .4 | 13. | 3.18 | 3.4 | 1.0 | 1. |
| %RSD | 1.67 | 2.30 | 3.69 | 2.49 | 3.08 | 1.80 | .732 | 137. | 23.5 | 1.30 | .843 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **141.** | **456.** | **445.** |
| Stddev | 3. | 2. | 3. |
| %RSD | 2.02 | .466 | .590 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124900.** | **1265600.** | **307980.** |
| Stddev | 258. | 4131. | 3846. |
| %RSD | .20693 | .32640 | 1.2488 |

Sample Name: 255887 Acquired: 04/25/2019 21:29:49 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.53** | **13500.** | **6.34** | **509.** | **536.** | **.739** | **1890.** | **.771** | **1.18** | **9.44** | **38.0** | **776.** |
| Stddev | 1.11 | 164. | 5.17 | 3. | 4. | .054 | 20. | .338 | .12 | .25 | .6 | 24. |
| %RSD | 72.5 | 1.21 | 81.6 | .493 | .679 | 7.28 | 1.04 | 43.8 | 9.72 | 2.68 | 1.49 | 3.10 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **811.** | **23900.** | **1590.** | **14700.** | **1.56** | **15.3** | **328.** | **.748** | **1.30** | **12.2** | **59.1** | **648.** |
| Stddev | 7. | 180. | 11. | 114. | .78 | .4 | 4. | .879 | 2.12 | 1.4 | .3 | 4. |
| %RSD | .831 | .752 | .673 | .774 | 50.1 | 2.29 | 1.09 | 117. | 163. | 11.3 | .509 | .581 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **636.** |
| Stddev | 3. |
| %RSD | .519 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125530.** | **1277400.** | **312000.** |
| Stddev | 220. | 4166. | 1207. |
| %RSD | .17535 | .32609 | .38700 |

Sample Name: ccv1 Acquired: 04/25/2019 21:41:44 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4530.** | **4860.** | **4860.** | **474.** | F **4410.** | **478.** | **4810.** | **4900.** | F **4350.** | **4630.** | **5040.** |
| Stddev | 2. | 44. | 16. | 47. | 6. | 50. | 1. | 25. | 5. | 47. | 62. | 98. |
| %RSD | .414 | .962 | .323 | .959 | 1.22 | 1.13 | .234 | .528 | .092 | 1.07 | 1.33 | 1.95 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4590.** | **4790.** | **4810.** | **4570.** | **4850.** | **4710.** | **4790.** | **4900.** | **4840.** |
| Stddev | 11. | 9. | 9. | 9. | 12. | 42. | 20. | 16. | 13. |
| %RSD | .241 | .197 | .177 | .187 | .253 | .896 | .419 | .317 | .268 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123120.** | **1256400.** | **301320.** |
| Stddev | 184. | 4473. | 1583. |
| %RSD | .14971 | .35599 | .52551 |

Sample Name: ccv2 Acquired: 04/25/2019 21:47:20 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.3** | **467.** | **478.** | **491.** | **478.** | **497.** | **50.3** | **51.0** | **473.** | **48.9** | **50.7** | **497.** |
| Stddev | .7 | 1. | 13. | 8. | . | 3. | .3 | 2.3 | 3. | .2 | .2 | 2. |
| %RSD | 1.49 | .220 | 2.65 | 1.64 | .028 | .698 | .572 | 4.54 | .607 | .457 | .456 | .462 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **500.** | **461.** | **471.** | **481.** | **473.** | **469.** | **479.** | **488.** | **501.** | **502.** | **476.** | **480.** |
| Stddev | 4. | 2. | 2. | 4. | 3. | 3. | 3. | 1. | 2. | 1. | 5. | 1. |
| %RSD | .792 | .362 | .404 | .782 | .564 | .707 | .546 | .189 | .322 | .258 | .991 | .246 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **503.** | **503.** | **492.** | **520.** | **504.** | **499.** | **497.** | **488.** |
| Stddev | 3. | 4. | 3. | 3. | 9. | 3. | 1. | . |
| %RSD | .497 | .889 | .593 | .664 | 1.74 | .674 | .259 | .096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 21:47:20 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **125190.** | **1270800.** | **306540.** |
| Stddev | 377. | 4168. | 1961. |
| %RSD | .30144 | .32799 | .63960 |

Sample Name: ccb Acquired: 04/25/2019 21:53:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.919** | **-8.70** | **1.12** | **.355** | **.023** | **-13.3** | **-.069** | **-.045** | **.059** | **.362** | **2.16** | **-15.3** |
| Stddev | .552 | .59 | 6.26 | .233 | .066 | .7 | .142 | .049 | .444 | .315 | 9.97 | 1.1 |
| %RSD | 60.1 | 6.77 | 557. | 65.6 | 291. | 5.24 | 206. | 109. | 749. | 87.0 | 461. | 7.26 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.0** | **-.297** | **.826** | **.328** | **1.80** | **.445** | **3.71** | **-.541** | **.542** | **.204** |
| Stddev | .0 | .064 | .110 | .339 | 4.52 | 1.79 | 2.67 | 3.26 | .327 | .221 |
| %RSD | .210 | 21.7 | 13.3 | 103. | 251. | 403. | 71.9 | 603. | 60.3 | 108. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

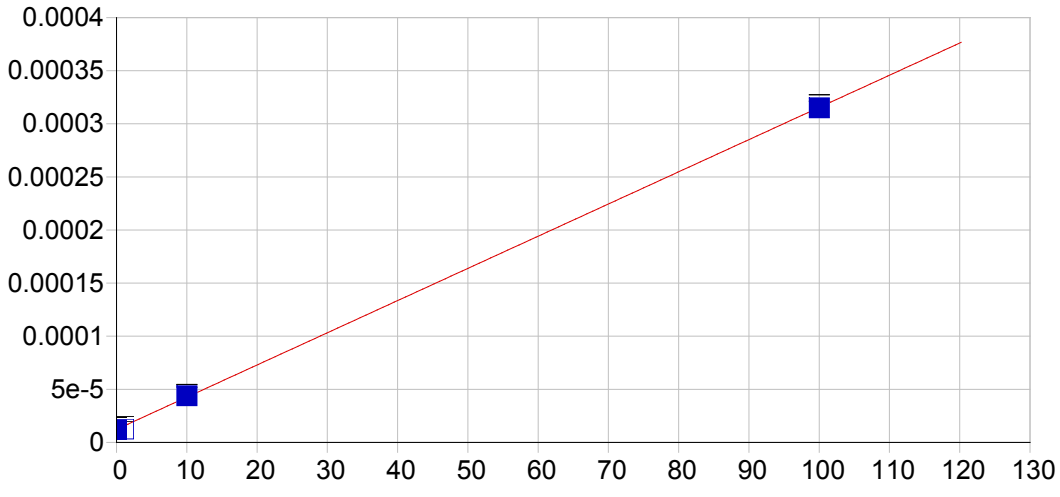
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **125360.** | **1274200.** | **305780.** |
| Stddev | 122. | 4485. | 3458. |
| %RSD | .09692 | .35199 | 1.1308 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:04:13 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000002 | 0.771259 | 2.570863 |
| Ag 338.289 {100} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.962425 | 0.000002 | 18.287510 | 60.958366 |
| Al 167.079 {501} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | None | 0.000058 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000014 | 0.663610 | 2.212032 |
| Al 308.215 {109} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.992739 | 0.000216 | 35.529198 | 118.43066 |
| Al 396.152 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Curvili | 1/Conc | -0.000023 | 0.000001 | 0.000000 | 1.000000 | 0.999721 | 0.000063 | 12.909176 | 43.030588 |
| As 193.759 {474} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Var | 0.539750 | 0.187381 | 0.000000 | 1.000000 | 0.999781 | 1.235779 | 3.306742 | 11.022473 |
| As 197.262 {471} | 04/30/2019 08:01:24 | 04/29/2019 15:16:22 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.998967 | 0.000000 | 7.150038 | 23.833460 |
| Ba 233.527 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.998869 | 0.000001 | 0.388630 | 1.295433 |
| Ba 455.403 { 74} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000125 | 0.000046 | 0.000000 | 1.000000 | 0.998156 | 0.000011 | 0.424860 | 1.416201 |
| Ba 493.409 { 68} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.010947 | 0.000056 | 0.000000 | 1.000000 | 0.998653 | 0.000137 | 0.907157 | 3.023855 |
| Be 313.042 {108} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | -0.000185 | 0.000058 | 0.000000 | 1.000000 | 0.999544 | 0.000002 | 0.049429 | 0.164762 |
| Be 234.861 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999290 | 0.000001 | 1.414818 | 4.716060 |
| Ca 315.887 {107} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.000054 | 0.000000 | 0.000000 | 1.000000 | 0.999799 | 0.000011 | 12.463600 | 41.545332 |
| Ca 317.933 {106} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.002916 | 0.000001 | 0.000000 | 1.000000 | 0.999746 | 0.000028 | 6.859728 | 22.865759 |
| Ca 393.366 { 86} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Var | 0.008895 | 0.000188 | 0.000000 | 1.000000 | 0.999982 | 0.000207 | 0.074229 | 0.247430 |
| Ca 396.847 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.008134 | 0.000111 | 0.000000 | 1.000000 | 0.998837 | 0.000251 | 0.118050 | 0.393499 |
| Cd 226.502 {449} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | -0.000010 | 0.000026 | 0.000000 | 1.000000 | 0.997348 | 0.000002 | 0.233555 | 0.778515 |
| Cd 228.802 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | 0.000024 | 0.000048 | 0.000000 | 1.000000 | 0.991474 | 0.000006 | 0.157317 | 0.524389 |
| Co 228.616 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000017 | 0.000018 | 0.000000 | 1.000000 | 0.996680 | 0.000006 | 0.449246 | 1.497487 |
| Co 238.892 {141} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.998281 | 0.000005 | 0.890001 | 2.966671 |
| Cr 205.560 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Var | 0.000037 | 0.000015 | 0.000000 | 1.000000 | 0.997498 | 0.000145 | 0.312030 | 1.040101 |
| Cr 267.716 {126} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.998132 | 0.000001 | 0.923046 | 3.076818 |
| Cu 224.700 {450} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | -0.000001 | 0.000006 | 0.000000 | 1.000000 | 0.999425 | 0.000011 | 0.447985 | 1.493282 |
| Cu 324.754 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | 32.917937 | 0.432226 | 0.000000 | 1.000000 | 0.999630 | 0.452439 | 5.608774 | 18.695912 |
| Cu 327.396 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 7.187822 | 0.321888 | 0.000000 | 1.000000 | 0.999459 | 0.282912 | 9.835319 | 32.784397 |
| Fe 234.349 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Curvili | 1/Var | 0.000030 | 0.000000 | 0.000000 | 1.000000 | 0.999923 | 0.000006 | 1.861928 | 6.206425 |
| Fe 239.562 {140} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000013 | 0.000000 | 0.000000 | 1.000000 | 0.994823 | 0.000040 | 17.270833 | 57.569443 |
| Fe 259.940 {129} | 04/30/2019 08:01:24 | 04/29/2019 15:35:49 | Curvili | 1/Var | 0.000065 | 0.000001 | 0.000000 | 1.000000 | 0.997286 | 0.000158 | 5.216183 | 17.387276 |
| Mg 202.582 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999696 | 0.000343 | 2.203469 | 7.344897 |
| Mg 279.079 {121} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.100000 | 0.999980 | 0.000001 | 225.46699 | 751.55664 |
| Mg 280.270 {120} | 04/30/2019 08:01:24 | 04/29/2019 15:16:24 | Linear | 1/Var | 0.001262 | 0.000024 | 0.000000 | 1.000000 | 0.992448 | 0.000619 | 0.051519 | 0.171731 |
| Mn 257.610 {131} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000029 | 0.000012 | 0.000000 | 1.000000 | 0.995548 | 0.000011 | 0.097079 | 0.323597 |
| Mn 259.373 {130} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999811 | 0.000028 | 1.512228 | 5.040759 |
| Mo 202.030 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Conc | 0.000010 | 0.000009 | 0.000000 | 1.000000 | 0.918937 | 0.000011 | 0.461169 | 1.537230 |
| Mo 203.844 {465} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Var | 0.000022 | 0.000006 | 0.000000 | 1.000000 | 0.999869 | 0.000018 | 0.801215 | 2.670716 |
| Mo 204.598 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999653 | 0.000025 | 0.916548 | 3.055158 |
| Ni 221.647 {452} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.998093 | 0.000030 | 0.768351 | 2.561171 |
| Ni 231.604 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000020 | 0.000011 | 0.000000 | 1.000000 | 0.984592 | 0.000007 | 0.735570 | 2.451899 |
| Pb 216.999 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000015 | 0.000001 | 0.000000 | 1.000000 | 0.999773 | 0.000038 | 5.620225 | 18.734085 |
| Pb 220.353 {453} | 04/30/2019 08:01:24 | 04/29/2019 15:09:57 | Linear | 1/Conc | 0.000028 | 0.000003 | 0.000000 | 1.000000 | 0.878400 | 0.000005 | 2.481162 | 8.270541 |
| Pb 220.353 {153} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999653 | 0.000000 | 6.969384 | 23.231279 |
| Sb 206.833 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.998562 | 0.000001 | 2.581313 | 8.604377 |
| Sb 217.581 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.933696 | 0.000006 | 2.801324 | 9.337748 |
| Se 196.090 {472} | 04/30/2019 08:01:24 | 04/29/2019 15:09:58 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999198 | 0.000000 | 4.389697 | 14.632322 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Curvili | 1/Conc | 0.000004 | 0.000000 | -0.000000 | 1.000000 | 0.999688 | 0.000000 | 28.202163 | 94.007210 |
| Tl 190.856 {476} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.997608 | 0.000002 | 2.696044 | 8.986812 |
| Tl 190.856 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.997785 | 0.000001 | 5.738296 | 19.127652 |
| V 290.882 {116} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.998924 | 0.000002 | 8.162286 | 27.207619 |
| V 292.402 {115} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000005 | 0.000007 | 0.000000 | 1.000000 | 0.998319 | 0.000005 | 0.630081 | 2.100271 |
| Zn 206.200 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000061 | 0.000017 | 0.000000 | 1.000000 | 0.996075 | 0.000214 | 0.372954 | 1.243179 |
| Zn 213.856 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:09:59 | Linear | 1/Conc | 0.000030 | 0.000027 | 0.000000 | 1.000000 | 0.999485 | 0.000004 | 0.208095 | 0.693650 |
| Y 224.306 {450}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.004901 | 0.000005 | 0.000000 | 1.000000 | 0.999164 | 0.000037 | 10.509748 | 35.032492 |
| Na 589.592 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 0.000353 | 0.000005 | 0.000000 | 1.000000 | 0.999651 | 0.000172 | 7.542021 | 25.140069 |
| Si 251.611 {134} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 5.496233 | 0.049700 | 0.000000 | 1.000000 | 0.999713 | 0.563773 | 25.456914 | 84.856379 |
| Ti 323.452 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000229 | 0.000006 | 0.000000 | 1.000000 | 0.998823 | 0.000003 | 1.679766 | 5.599219 |
| Ti 334.941 {101} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000004 | 0.000000 | 1.000000 | 0.999000 | 0.000001 | 2.153927 | 7.179758 |
| Sr 407.771 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000090 | 0.000090 | 0.000000 | 1.000000 | 0.998548 | 0.000019 | 0.191487 | 0.638289 |
| Sr 421.552 { 80} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000064 | 0.000134 | 0.000000 | 1.000000 | 0.998725 | 0.000027 | 0.129437 | 0.431456 |
| Sn 189.989 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.998477 | 0.000002 | 1.686047 | 5.620155 |
| B 249.678 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999110 | 0.000001 | 1.384749 | 4.615829 |
| B 249.773 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.996375 | 0.000019 | 0.746113 | 2.487044 |
| Li 670.784 { 50} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000113 | 0.000026 | 0.000000 | 1.000000 | 0.996196 | 0.000316 | 1.644438 | 5.481459 |
| K 766.490 { 44} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | -0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999481 | 0.000045 | 53.224850 | 177.41616 |
| P 213.618 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:16:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1106.1553 | 3687.1846 |
| S 182.034 {485} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Curvili | 1/Conc | 0.000025 | 0.000000 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 6.539657 | 21.798855 |
| Hg 184.950 {482} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.351706 | 0.000021 | 8.769662 | 29.232206 |
| Ce 404.076 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000036 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.280330 | 74.267767 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

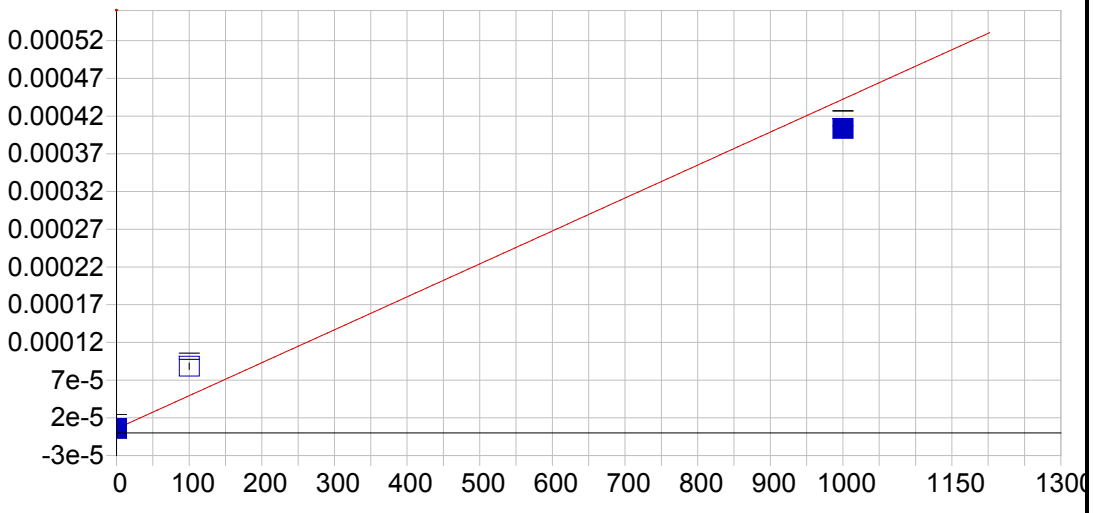



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.771259 | | |
| Predicted MQL: | 2.570863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.20712 | -.207 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.392 | .392 | 3.92 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.814 | -.186 | -.186 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .06215 | -.938 | -93.8 | .00001 | .000 | 1 |

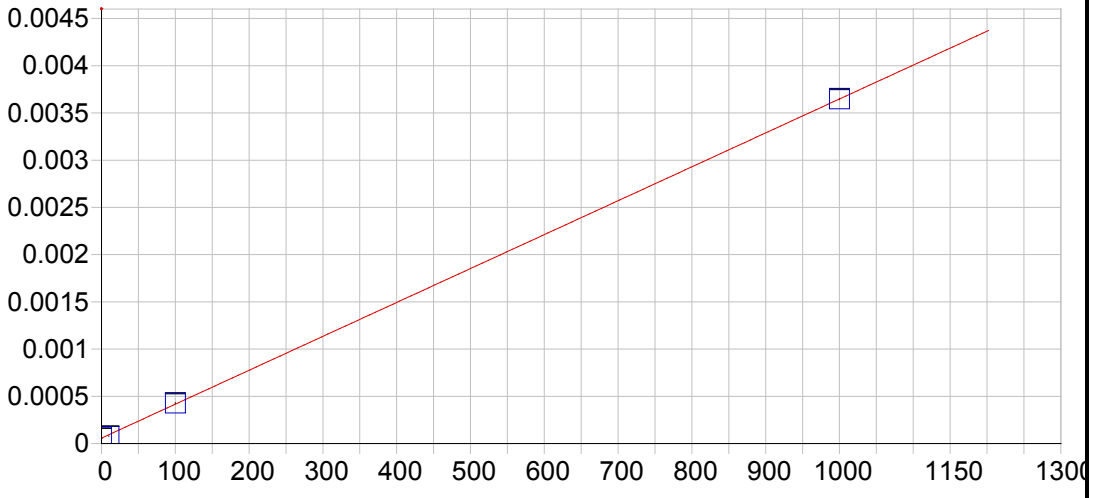



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.962425 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 18.287510 | | |
| Predicted MQL: | 60.958366 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08027 | -.080 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 189.19 | 89.2 | 89.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 910.83 | -89.2 | -8.92 | .00040 | .000 | 1 |

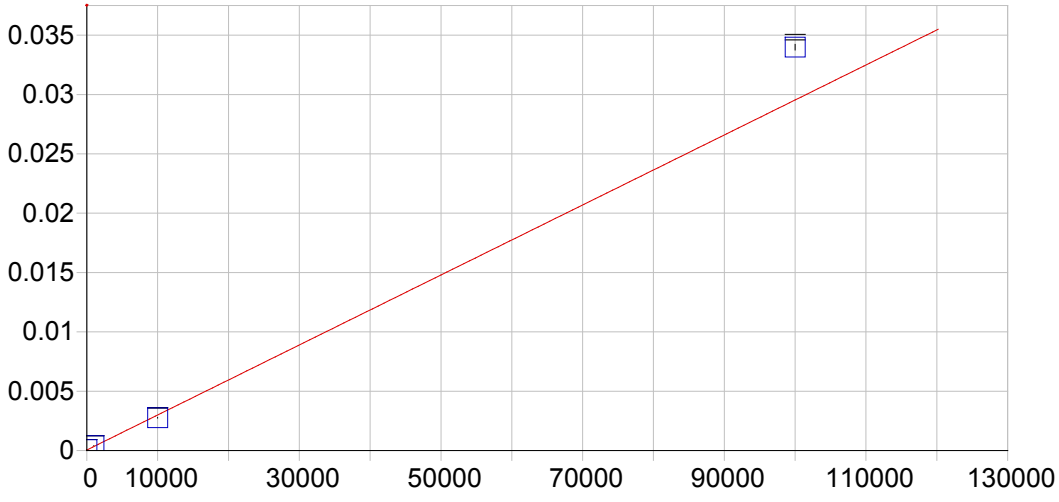



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.663610 | | |
| Predicted MQL: | 2.212032 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.0288 | 2.03 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.78 | -.219 | -.022 | .00365 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.5578 | -4.44 | -44.4 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.63 | 2.63 | 2.63 | .00043 | .000 | 1 |

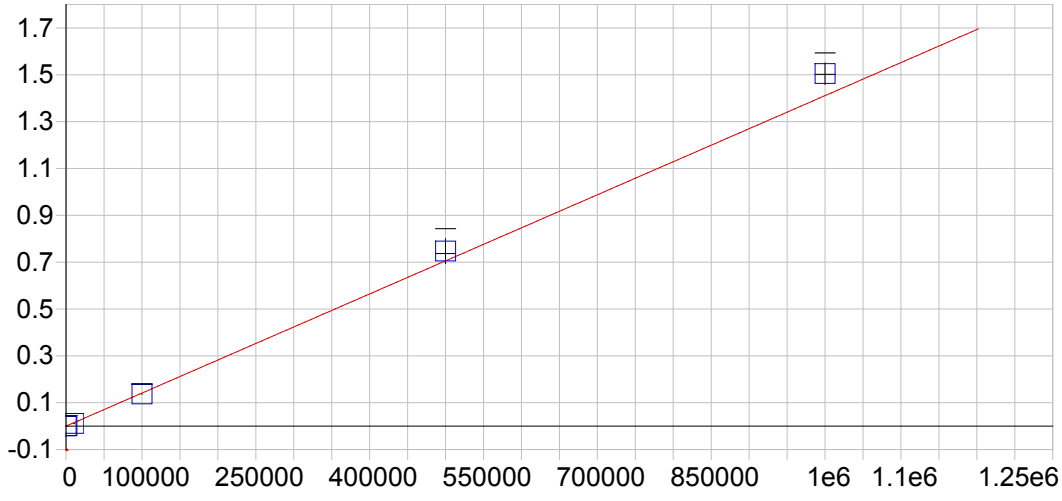



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992739 | Status: | OK. |
| Std Error of Est: | 0.000216 | | |
| Predicted MDL: | 35.529198 | | |
| Predicted MQL: | 118.430662 | | |

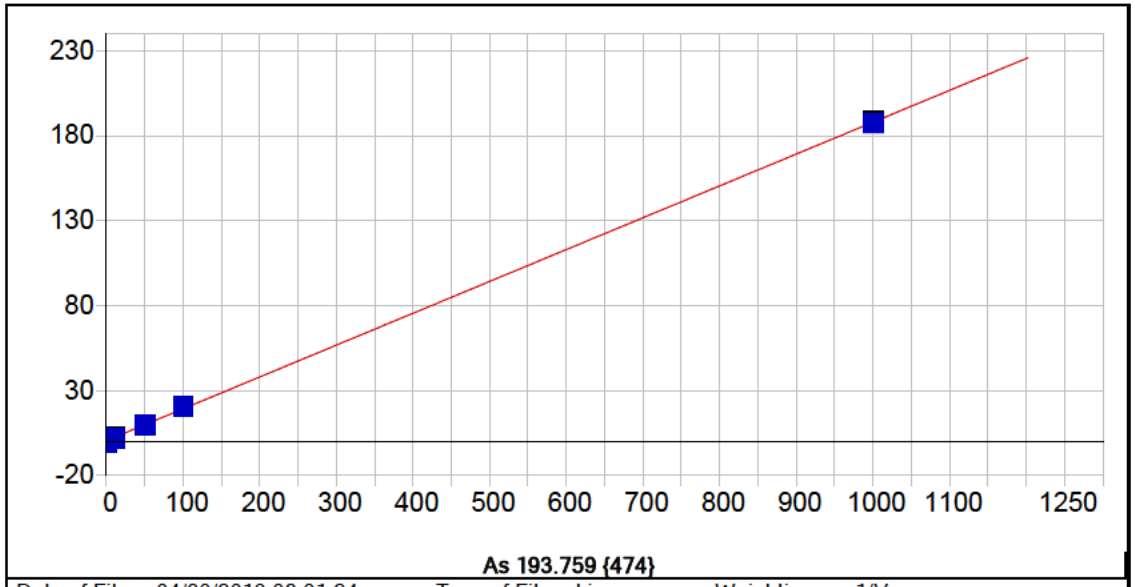
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 75.924 | 75.9 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9189.9 | -810. | -8.10 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1201.1 | 201. | 20.1 | .00040 | .000 | 1 |
| CalStd13=10 | 100000. | 115080. | 15100. | 15.1 | .03399 | .000 | 1 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000023 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999721 | | Status: | OK. | |
| Std Error of Est: | 0.000063 | | | | |
| Predicted MDL: | 12.909176 | | | | |
| Predicted MQL: | 43.030588 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33758 | .338 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 529520. | 29500. | 5.90 | .74706 | .053 | 1 |
| CalStd13=10 | 100000. | 96995. | -3010. | -3.01 | .13683 | .001 | 1 |
| CalStd10=10 | 10000. | 7635.5 | -2360. | -23.6 | .01075 | .000 | 1 |
| CalStd9=100 | 1000.0 | 919.15 | -80.8 | -8.08 | .00127 | .000 | 1 |
| CalibStd15= | 1000000. | 1066400. | 66400. | 6.64 | 1.5046 | .045 | 1 |

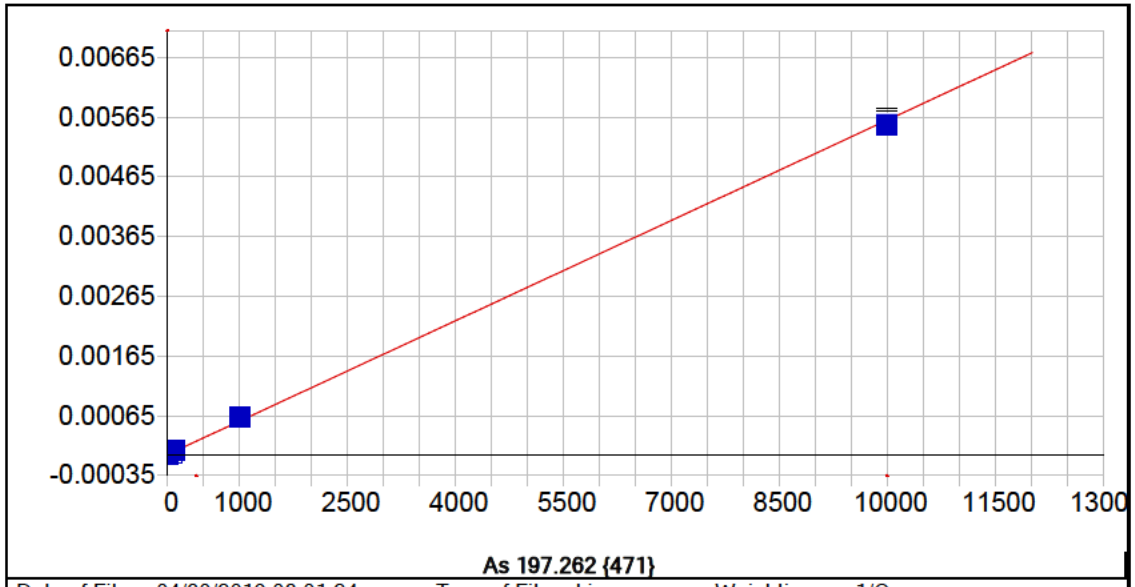



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.539750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.187381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 1.235779 | | |
| Predicted MDL: | 3.306742 | | |
| Predicted MQL: | 11.022473 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0560 | -6.06 | .000 | -.59503 | .623 | 1 |
| CalStd9=100 | 1000.0 | 997.06 | -2.94 | -.294 | 186.75 | 1.12 | 1 |
| CalStd7=50 | 50.000 | 47.791 | -2.21 | -4.42 | 9.4735 | .588 | 1 |
| CalStd5=10 | 10.000 | 7.5505 | -2.45 | -24.5 | 1.9497 | .990 | 1 |
| CalStd8=100 | 100.00 | 106.54 | 6.54 | 6.54 | 20.442 | .494 | 1 |

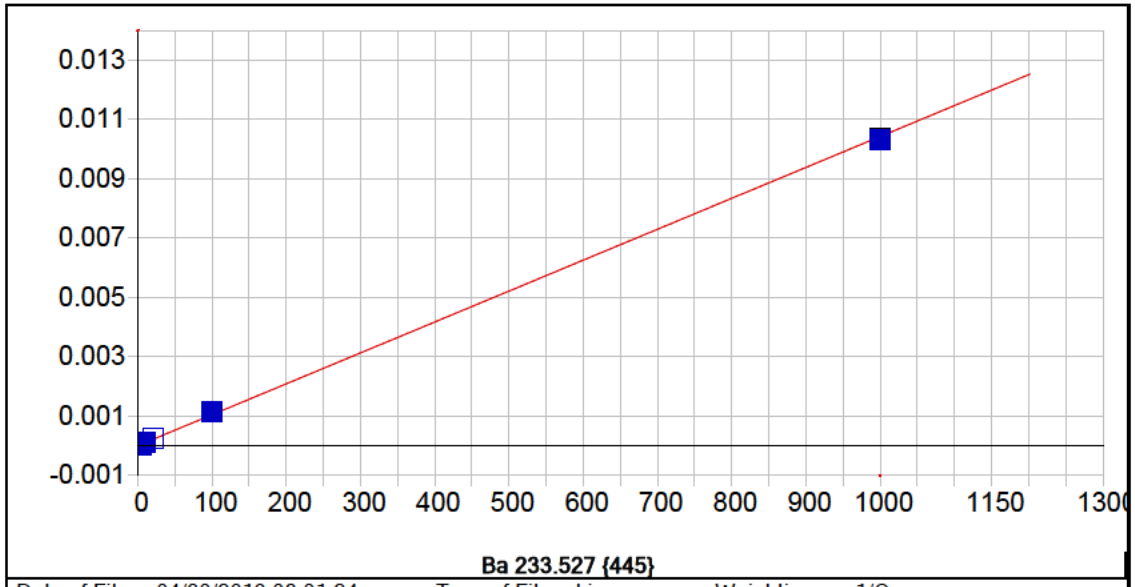



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.150038 | | |
| Predicted MQL: | 23.833460 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00548 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.8 | 132. | 13.2 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.208 | 8.21 | 16.4 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.48 | 14.5 | 14.5 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.4 | -156. | -1.56 | .00555 | .000 | 1 |

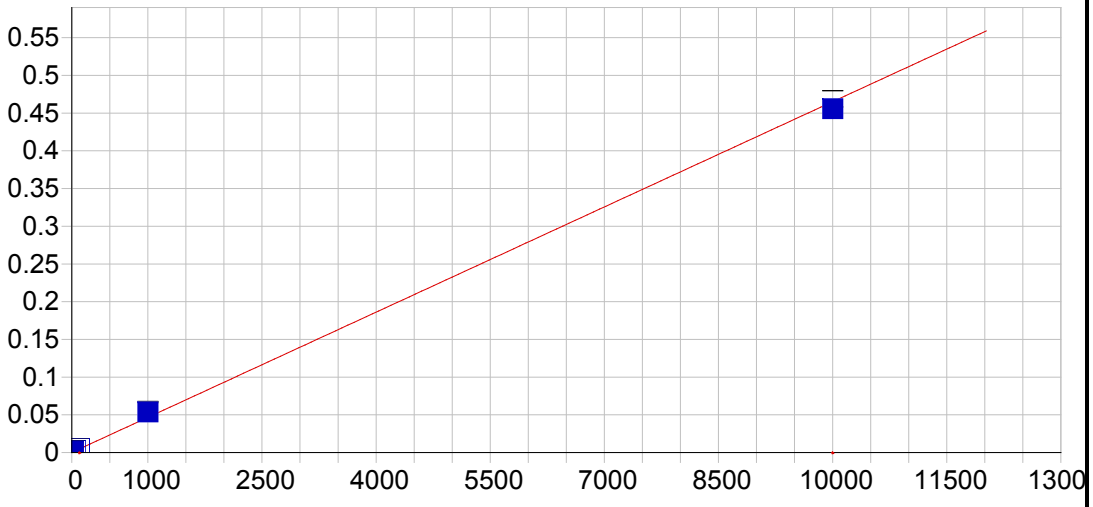



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998869 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.388630 | | |
| Predicted MQL: | 1.295433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.685 | 1.69 | 16.9 | .00013 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.379 | 2.38 | 11.9 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.99 | 8.99 | 8.99 | .00114 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.5664 | -1.43 | -28.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.19 | -10.8 | -1.08 | .01031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .18135 | -.819 | -81.9 | .00001 | .000 | 1 |

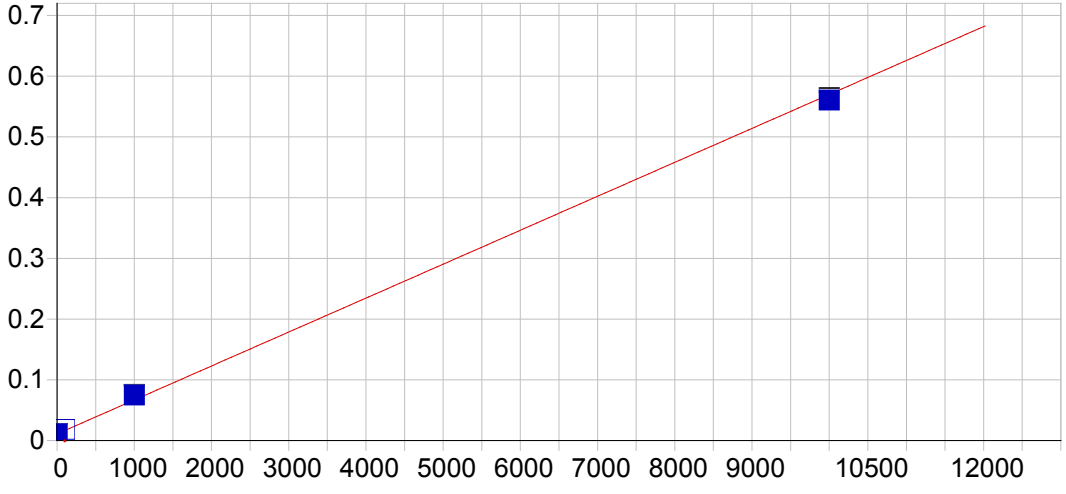



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000125 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998156 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.424860 | | |
| Predicted MQL: | 1.416201 | | |

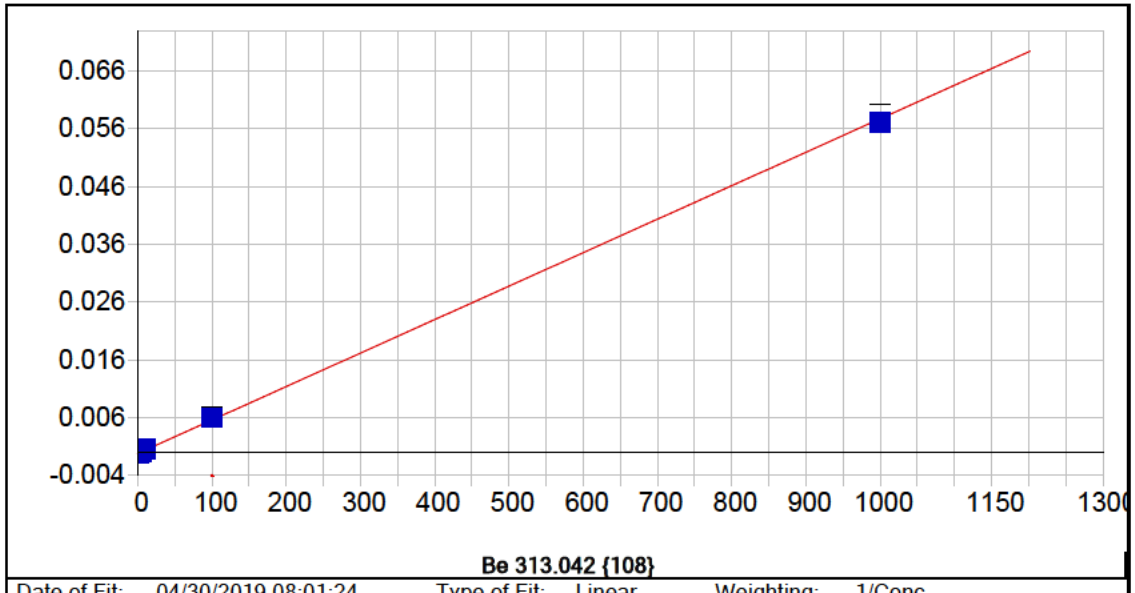
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00102 | -.001 | .000 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.838 | 15.8 | 31.7 | .00319 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.147 | 3.15 | 31.5 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.954 | 5.95 | 29.8 | .00133 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.81 | 24.8 | 24.8 | .00593 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9621 | .962 | 19.2 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.5 | 151. | 15.1 | .05367 | .001 | 1 |
| CalStd3=1 | 1.0000 | .51857 | -.481 | -48.1 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.3 | -202. | -2.02 | .45572 | .011 | 1 |




**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.010947 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000056 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.998653 | | Status: | OK. | |
| Std Error of Est: | 0.000137 | | | | |
| Predicted MDL: | 0.907157 | | | | |
| Predicted MQL: | 3.023855 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03968 | -.040 | .000 | .01094 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1140.3 | 140. | 14.0 | .07469 | .001 | 1 |
| CalStd8=100 | 100.00 | 127.32 | 27.3 | 27.3 | .01806 | .000 | 1 |
| CalStd10=10 | 10000. | 9832.4 | -168. | -1.68 | .56060 | .003 | 1 |

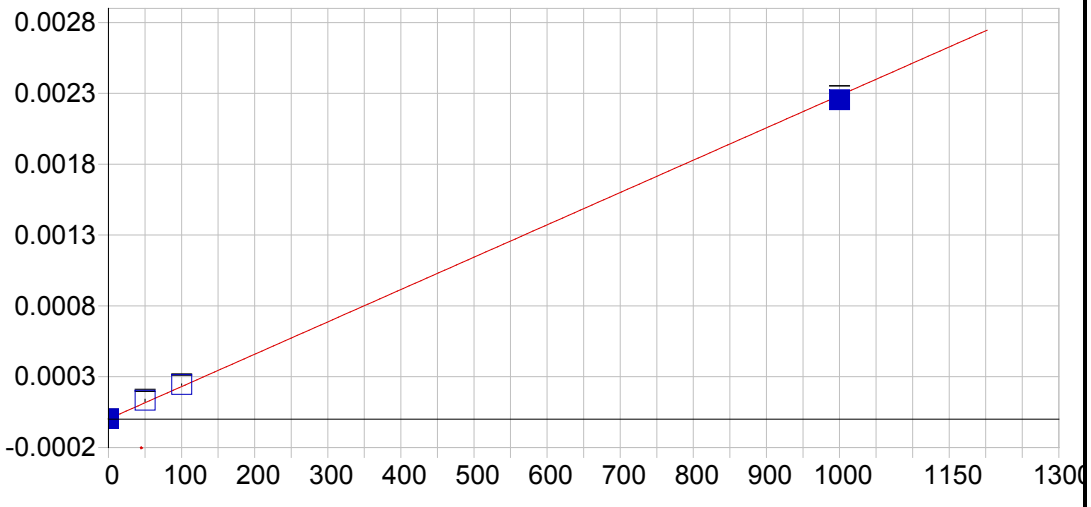



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000185 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000058 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999544 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.049429 | | |
| Predicted MQL: | 0.164762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.811 | 1.81 | 18.1 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.89 | 6.89 | 6.89 | .00601 | .000 | 1 |
| CalStd2=0.5 | .50000 | .48965 | -.010 | -2.07 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7741 | .774 | 15.5 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.47 | -9.53 | -.953 | .05717 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0666 | .067 | 6.66 | -.00012 | .000 | 1 |

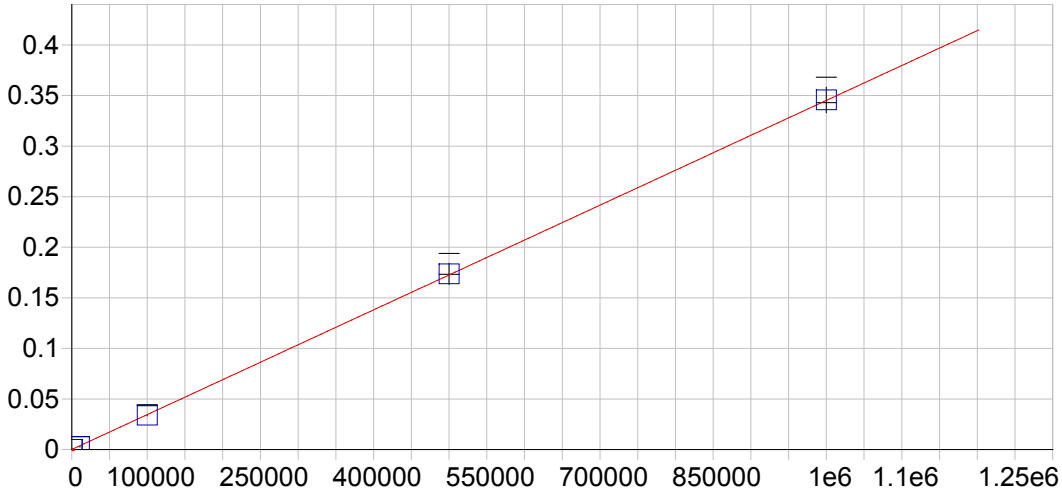



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999290 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.414818 | | |
| Predicted MQL: | 4.716060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00973 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.57 | -13.4 | -1.34 | .00225 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.08 | 6.08 | 6.08 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.360 | 7.36 | 14.7 | .00013 | .000 | 1 |

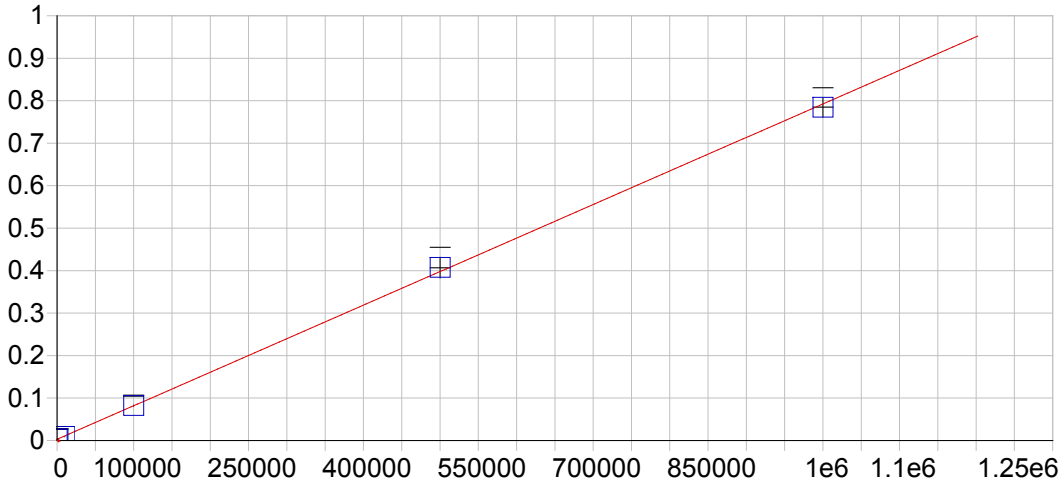



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999799 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 12.463600 | | |
| Predicted MQL: | 41.545332 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .37459 | .375 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 7609.8 | -2390. | -23.9 | .00268 | .000 | 1 |
| CalStd13=10 | 100000. | 97961. | -2040. | -2.04 | .03386 | .001 | 1 |
| CalStd14=50 | 500000. | 503050. | 3050. | .611 | .17366 | .010 | 1 |
| CalStd9=100 | 1000.0 | 877.21 | -123. | -12.3 | .00036 | .000 | 1 |
| CalibStd15= | 1000000. | 1001500. | 1500. | .150 | .34568 | .013 | 1 |

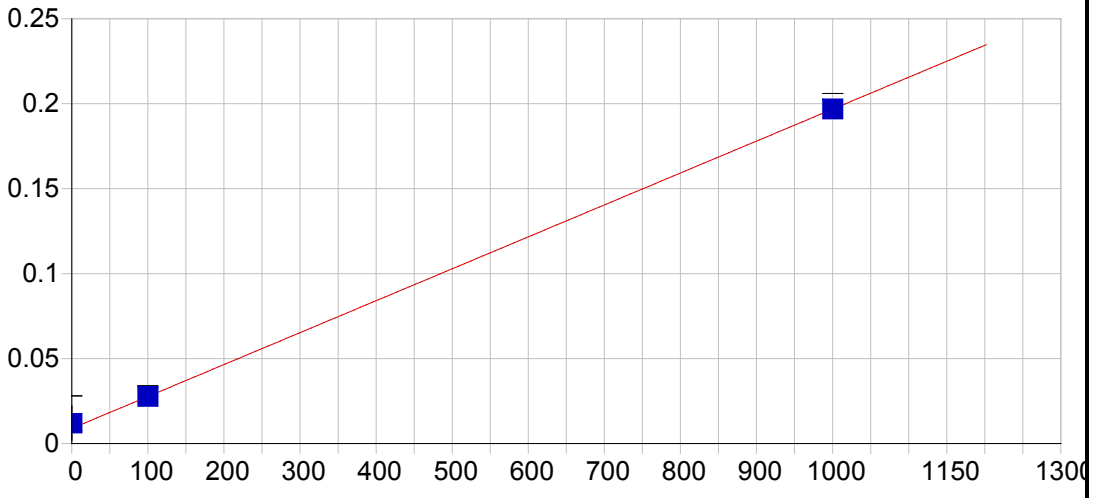



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002916 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 6.859728 | | |
| Predicted MQL: | 22.865759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13150 | .131 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 7981.1 | -2020. | -20.2 | .00922 | .000 | 1 |
| CalStd13=10 | 100000. | 100320. | 322. | .322 | .08212 | .001 | 1 |
| CalStd14=50 | 500000. | 512170. | 12200. | 2.43 | .40730 | .024 | 1 |
| CalStd9=100 | 1000.0 | 1053.4 | 53.4 | 5.34 | .00375 | .000 | 1 |
| CalibStd15= | 1000000. | 989470. | -10500. | -1.05 | .78415 | .023 | 1 |

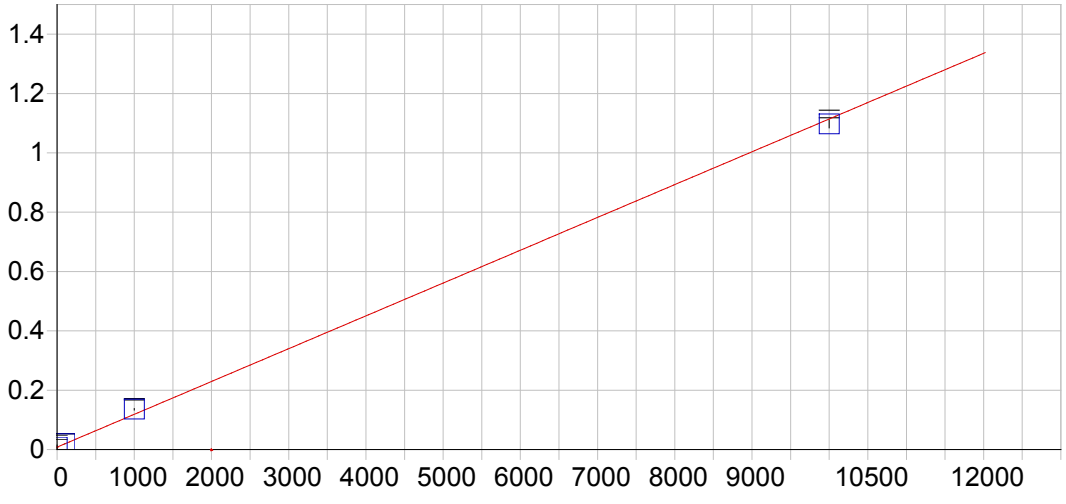



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008895 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000188 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999982 | Status: | OK. |
| Std Error of Est: | 0.000207 | | |
| Predicted MDL: | 0.074229 | | |
| Predicted MQL: | 0.247430 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 16.421 | 16.4 | .000 | .01198 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .196 | .020 | .19683 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.972 | -.028 | -.028 | .02768 | .000 | 1 |

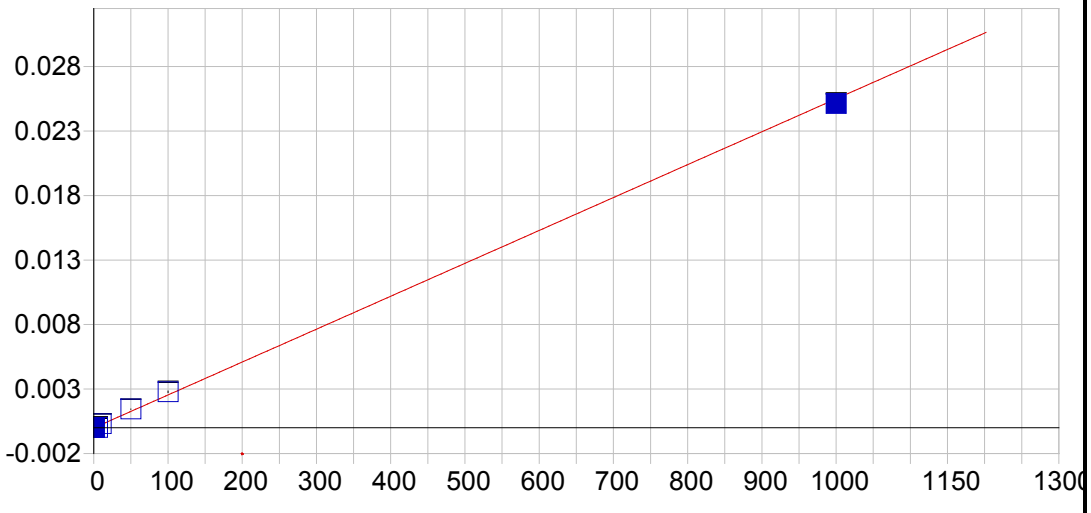



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000111 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998837 | Status: | OK. |
| Std Error of Est: | 0.000251 | | |
| Predicted MDL: | 0.118050 | | |
| Predicted MQL: | 0.393499 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01340 | -.013 | .000 | .00813 | .007 | 1 |
| CalStd10=10 | 10000. | 9847.0 | -153. | -1.53 | 1.0973 | .013 | 1 |
| CalStd8=100 | 100.00 | 99.586 | -.414 | -.414 | .01915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1153.4 | 153. | 15.3 | .13571 | .002 | 1 |

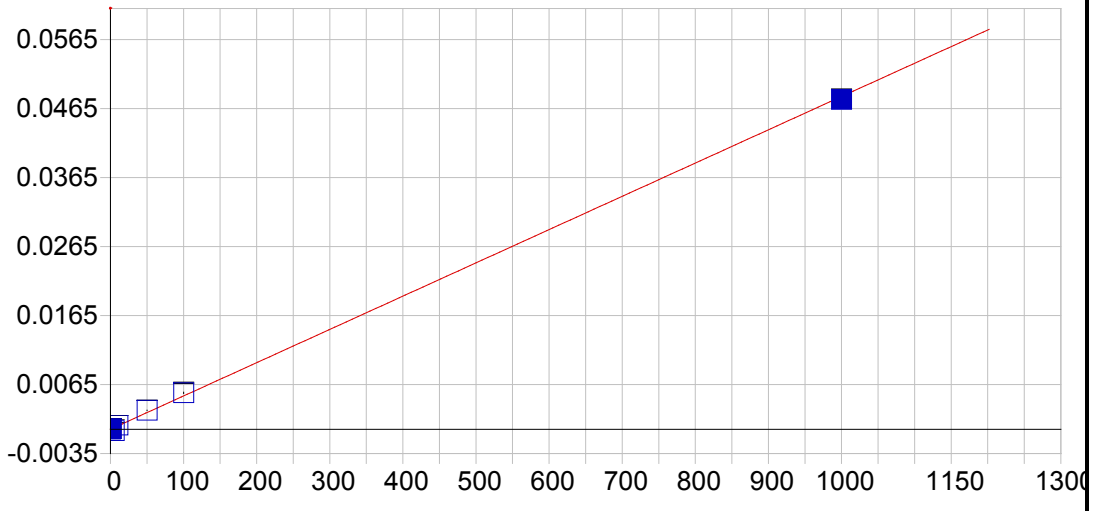



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997348 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.233555 | | |
| Predicted MQL: | 0.778515 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.865 | 6.87 | 13.7 | .00144 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2285 | .228 | 22.8 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61713 | .117 | 23.4 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | .73284 | -4.27 | -85.3 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.55 | 9.55 | 9.55 | .00278 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.062 | 2.06 | 20.6 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.44 | -14.6 | -1.46 | .02513 | .000 | 1 |

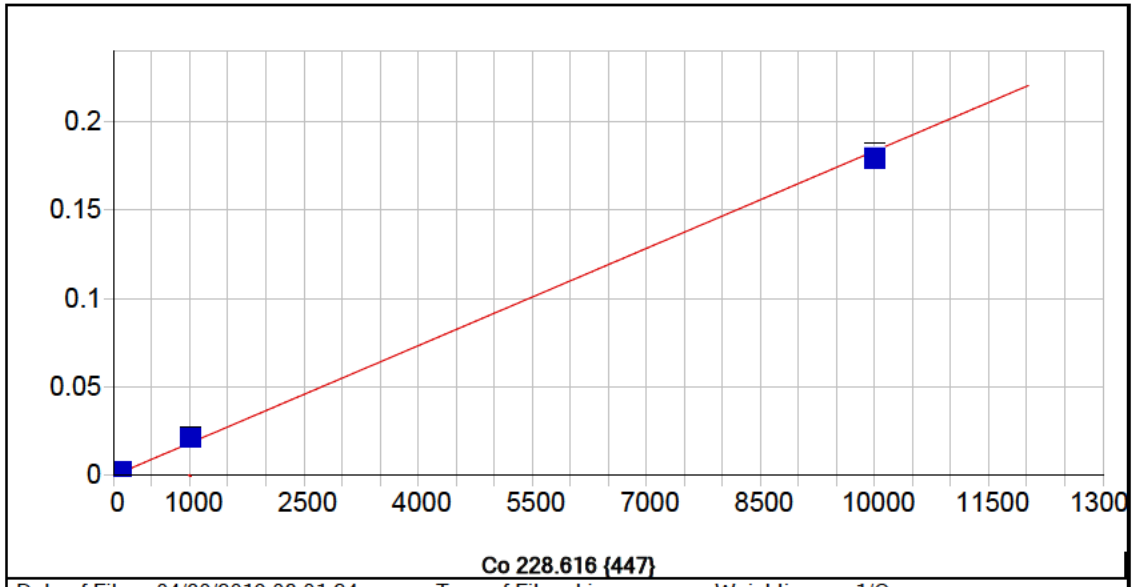



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991474 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.157317 | | |
| Predicted MQL: | 0.524389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.791 | 6.79 | 13.6 | .00276 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1739 | .174 | 17.4 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71504 | .215 | 43.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | -4.4200 | -9.42 | -188. | -.00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00530 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.002 | 2.00 | 20.0 | .00060 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.91 | -9.09 | -.909 | .04781 | .000 | 1 |

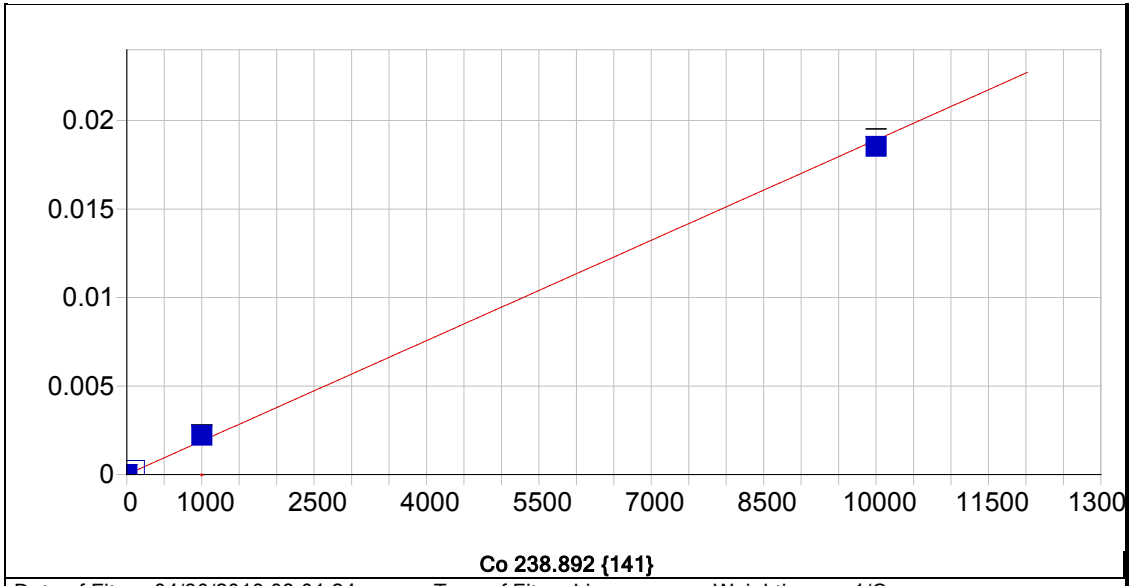



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996680 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.449246 | | |
| Predicted MQL: | 1.497487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00352 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.275 | 16.3 | 32.6 | .00123 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.608 | 3.61 | 36.1 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 16.987 | 12.0 | 240. | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 127.97 | 28.0 | 28.0 | .00236 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1163.2 | 163. | 16.3 | .02135 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0124 | .012 | 1.24 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9777.2 | -223. | -2.23 | .17958 | .003 | 1 |

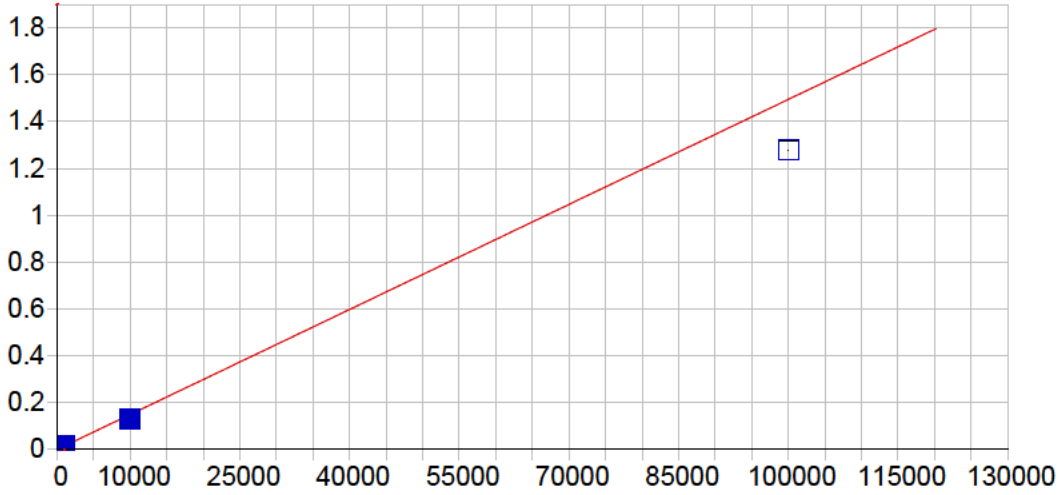



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998281 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.890001 | | |
| Predicted MQL: | 2.966671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03977 | -.040 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1168.3 | 168. | 16.8 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9806.8 | -193. | -1.93 | .01854 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.86 | 24.9 | 24.9 | .00024 | .000 | 1 |

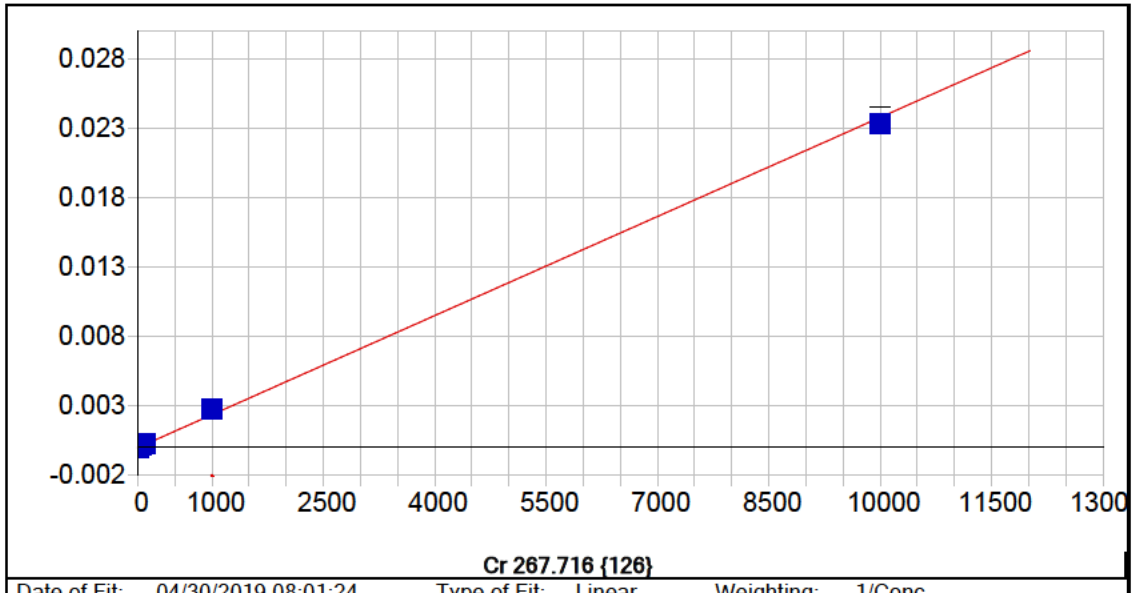



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997498 | Status: | OK. |
| Std Error of Est: | 0.000145 | | |
| Predicted MDL: | 0.312030 | | |
| Predicted MQL: | 1.040101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.1414 | -2.14 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9178 | -.082 | -.822 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.687 | 5.69 | 11.4 | .00087 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.5 | 30.5 | 3.05 | .01544 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.35 | 9.35 | 9.35 | .00167 | .000 | 1 |
| CalStd4=5 | 5.0000 | 51.363 | 46.4 | 927. | .00080 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.5639 | -2.56 | -256. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 8651.3 | -1350. | -13.5 | .12935 | .002 | 1 |
| CalStd12=10 | 100000. | 85458. | -14500. | -14.5 | 1.2774 | .003 | 1 |

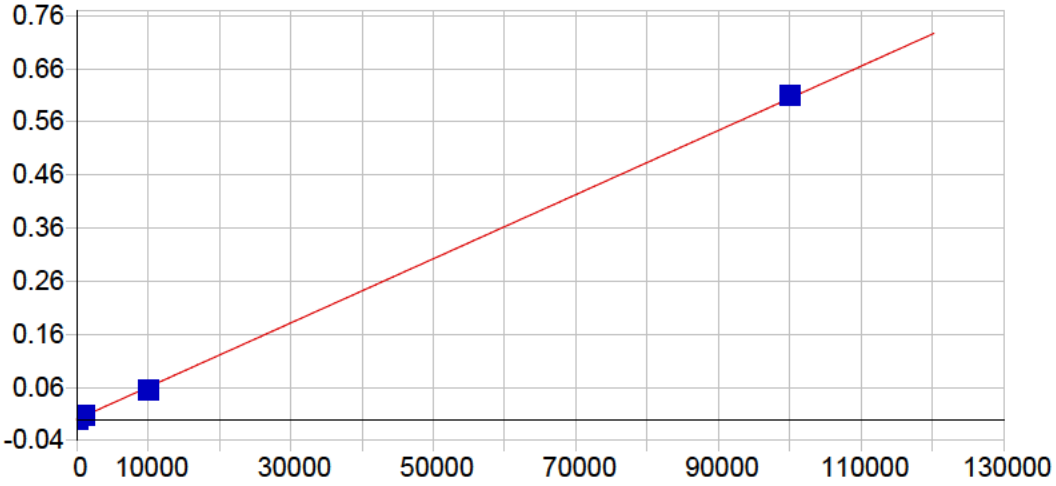



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998132 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.923046 | | |
| Predicted MQL: | 3.076818 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00873 | -.009 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.160 | 3.16 | 31.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 63.410 | 13.4 | 26.8 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1156.3 | 156. | 15.6 | .00275 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.83 | 23.8 | 23.8 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 8.9402 | 3.94 | 78.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9799.4 | -201. | -2.01 | .02328 | .001 | 1 |

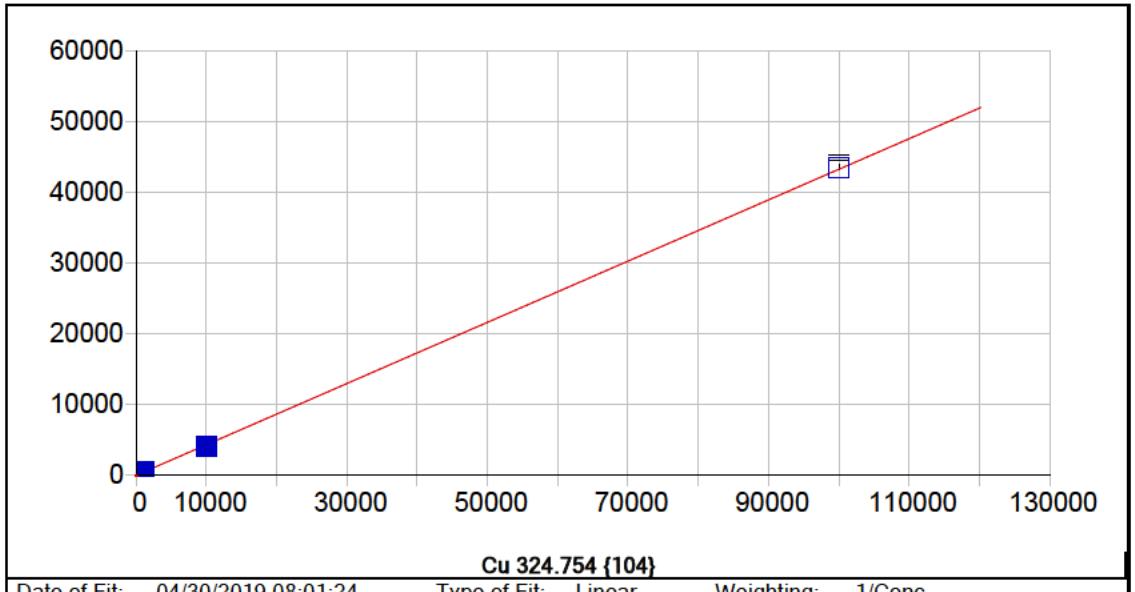



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999425 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.447985 | | |
| Predicted MQL: | 1.493282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03345 | .033 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.2 | 44.2 | 4.42 | .00631 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.011 | -27.0 | -54.0 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.772 | -33.2 | -33.2 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.7070 | -15.3 | -76.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100930. | 926. | .926 | .60996 | .000 | 1 |
| CalStd10=10 | 10000. | 9105.5 | -895. | -8.95 | .05503 | .001 | 1 |

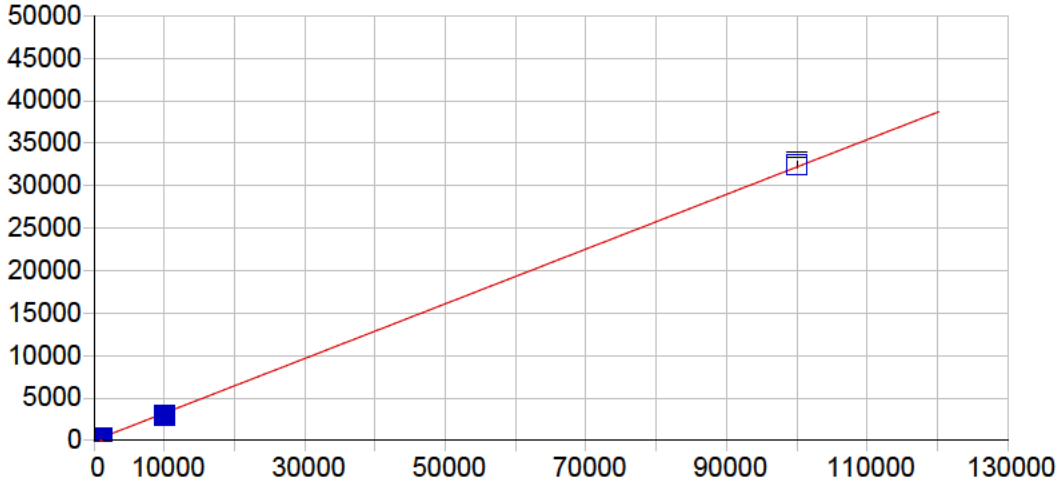



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 32.917937 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.432226 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999630 | Status: | OK. |
| Std Error of Est: | 0.452439 | | |
| Predicted MDL: | 5.608774 | | |
| Predicted MQL: | 18.695912 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01484 | -.015 | .000 | 32.912 | 1.24 | 1 |
| CalStd9=100 | 1000.0 | 1083.9 | 83.9 | 8.39 | 501.38 | 9.93 | 1 |
| CalStd8=100 | 100.00 | 121.35 | 21.4 | 21.4 | 85.370 | 1.21 | 1 |
| CalStd10=10 | 10000. | 9248.4 | -752. | -7.52 | 4030.0 | 17.9 | 1 |
| CalStd12=10 | 100000. | 100620. | 619. | .619 | 43523. | 365. | 1 |
| CalStd5=10 | 10.000 | 15.681 | 5.68 | 56.8 | 39.696 | 3.29 | 1 |
| CalStd6=20 | 20.000 | 28.281 | 8.28 | 41.4 | 45.142 | .661 | 1 |
| CalStd7=50 | 50.000 | 63.663 | 13.7 | 27.3 | 60.435 | .678 | 1 |

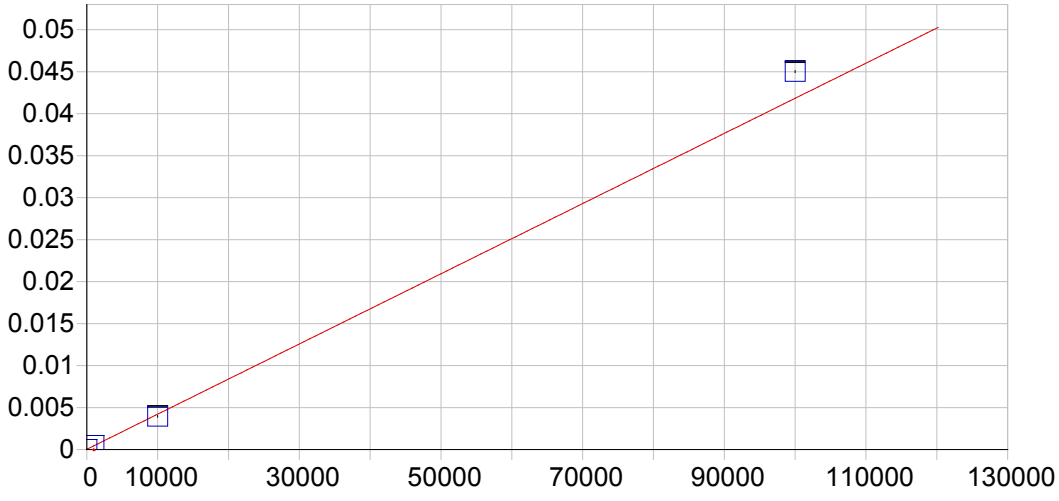



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.187822 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.321888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999459 | Status: | OK. |
| Std Error of Est: | 0.282912 | | |
| Predicted MDL: | 9.835319 | | |
| Predicted MQL: | 32.784397 | | |

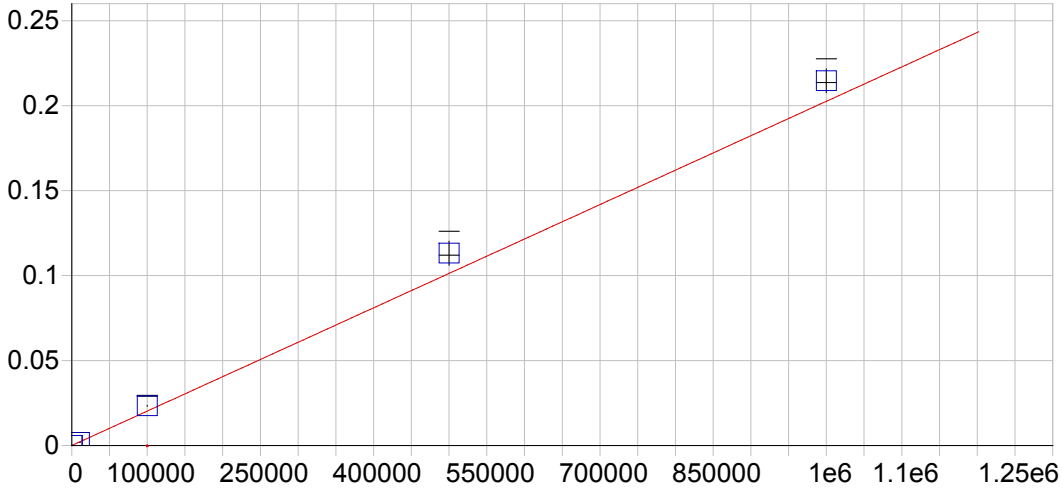
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01440 | -.014 | .000 | 7.1832 | 2.95 | 1 |
| CalStd6=20 | 20.000 | 24.984 | 4.98 | 24.9 | 15.226 | 3.16 | 1 |
| CalStd7=50 | 50.000 | 66.452 | 16.5 | 32.9 | 28.568 | 1.65 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | 46.347 | 5.06 | 1 |
| CalStd9=100 | 1000.0 | 1078.5 | 78.5 | 7.85 | 354.16 | 6.84 | 1 |
| CalStd10=10 | 10000. | 9093.8 | -906. | -9.06 | 2934.4 | 26.3 | 1 |
| CalStd12=10 | 100000. | 100770. | 771. | .771 | 32444. | 356. | 1 |
| CalStd4=5 | 5.0000 | 12.546 | 7.55 | 151. | 11.225 | 2.33 | 1 |
| CalStd5=10 | 10.000 | 15.797 | 5.80 | 58.0 | 12.271 | 2.94 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000030 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999923 | | Status: | OK. | |
| Std Error of Est: | 0.000006 | | | | |
| Predicted MDL: | 1.861928 | | | | |
| Predicted MQL: | 6.206425 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23485 | -.235 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9375.0 | -625. | -6.25 | .00395 | .000 | 1 |
| CalStd13=10 | 100000. | 107610. | 7610. | 7.61 | .04501 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1097.8 | 97.8 | 9.78 | .00049 | .000 | 1 |

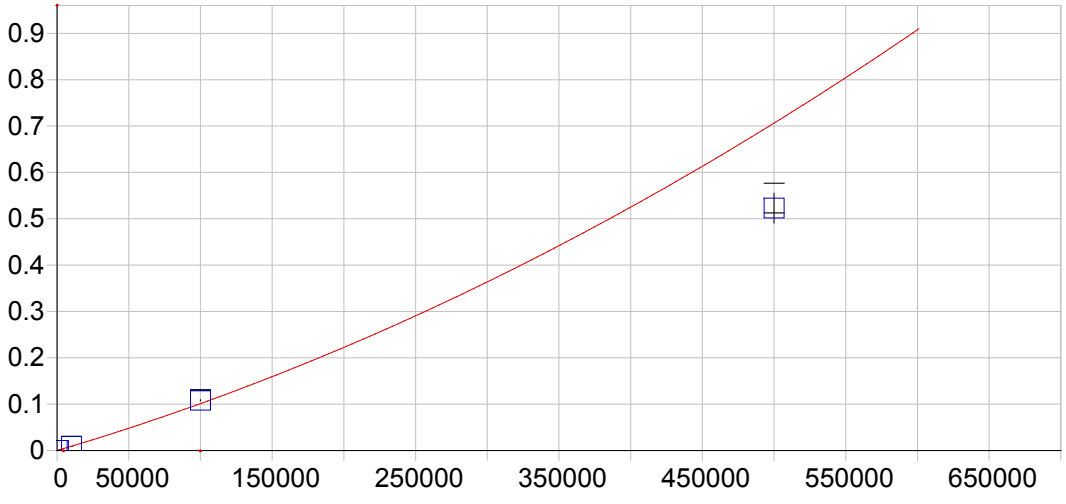



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994823 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 17.270833 | | |
| Predicted MQL: | 57.569443 | | |

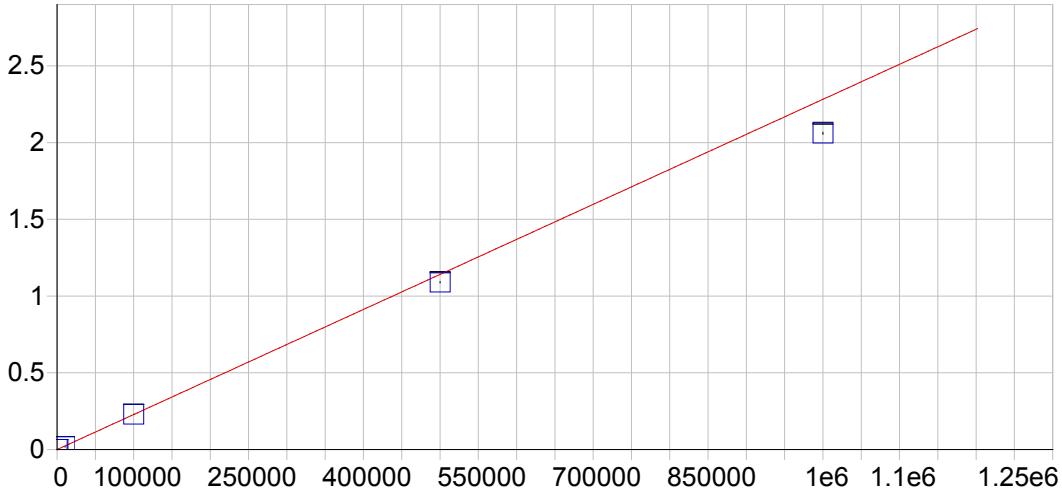
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0192 | -2.02 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9267.3 | -733. | -7.33 | .00189 | .000 | 1 |
| CalStd13=10 | 100000. | 115270. | 15300. | 15.3 | .02336 | .000 | 1 |
| CalStd14=50 | 500000. | 558690. | 58700. | 11.7 | .11317 | .007 | 1 |
| CalStd9=100 | 1000.0 | 1068.1 | 68.1 | 6.81 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 1059600. | 59600. | 5.96 | .21464 | .007 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000065 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997286 | | Status: | Warning | Positive Curvature |
| Std Error of Est: | 0.000158 | | | | |
| Predicted MDL: | 5.216183 | | | | |
| Predicted MQL: | 17.387276 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.898 | -24.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9540.9 | -459. | -4.59 | .00886 | .000 | 1 |
| CalStd13=10 | 100000. | 106310. | 6310. | 6.31 | .10833 | .001 | 1 |
| CalStd14=50 | 500000. | 398750. | -101000. | -20.2 | .52289 | .032 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .00106 | .000 | 1 |

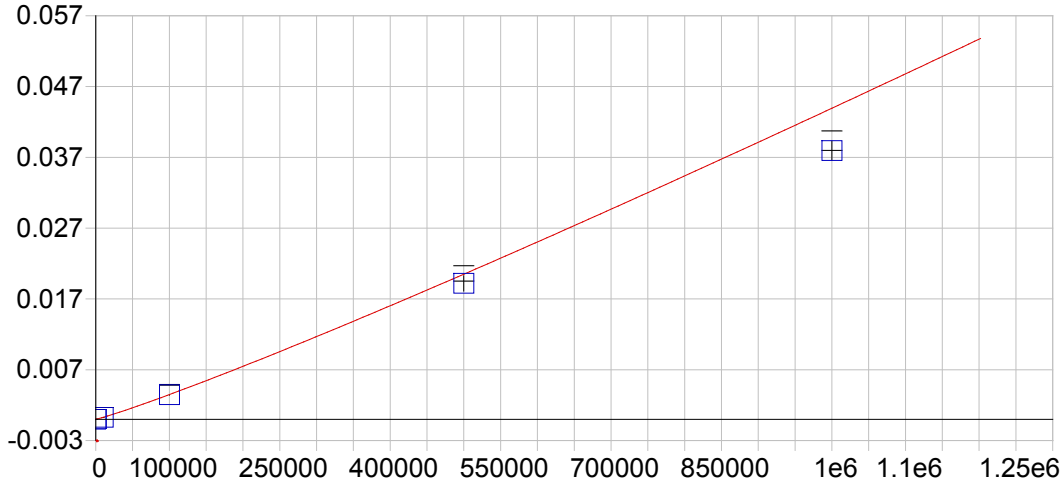



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999696 | Status: | OK. |
| Std Error of Est: | 0.000343 | | |
| Predicted MDL: | 2.203469 | | |
| Predicted MQL: | 7.344897 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 23.811 | 23.8 | .000 | .00006 | .000 | 1 |
| CalStd13=10 | 100000. | 100590. | 591. | .591 | .22957 | .000 | 1 |
| CalStd10=10 | 10000. | 7754.8 | -2250. | -22.5 | .01770 | .000 | 1 |
| CalStd14=50 | 500000. | 477620. | -22400. | -4.48 | 1.0900 | .004 | 1 |
| CalStd9=100 | 1000.0 | 997.86 | -2.14 | -.214 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 903090. | -96900. | -9.69 | 2.0610 | .006 | 1 |

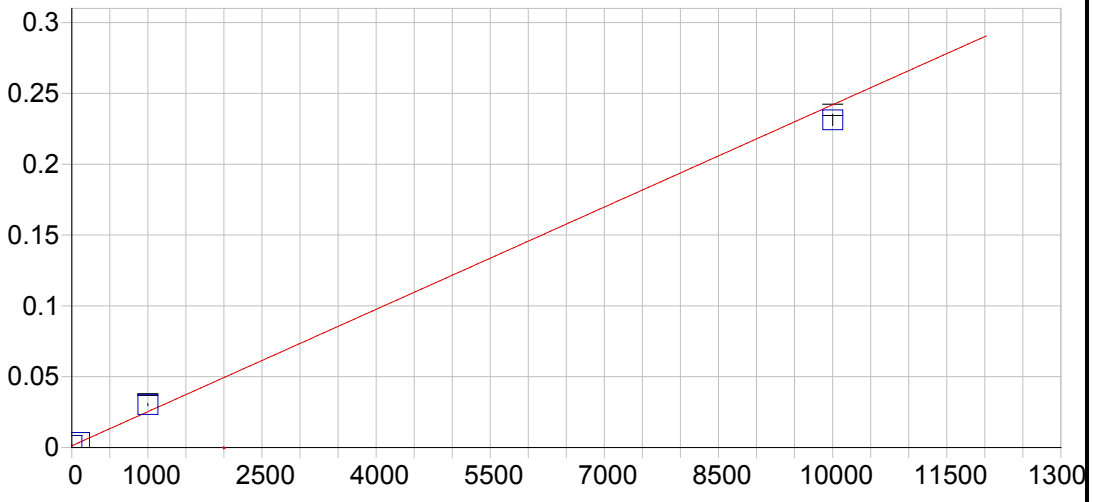



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.100000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 225.466994 | | |
| Predicted MQL: | 751.556647 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99264. | -736. | -.736 | .00346 | .000 | 1 |
| CalStd10=10 | 10000. | 9429.9 | -570. | -5.70 | .00026 | .000 | 1 |
| CalStd14=50 | 500000. | 470980. | -29000. | -5.80 | .01919 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1323.1 | 323. | 32.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 875190. | -125000. | -12.5 | .03794 | .001 | 1 |

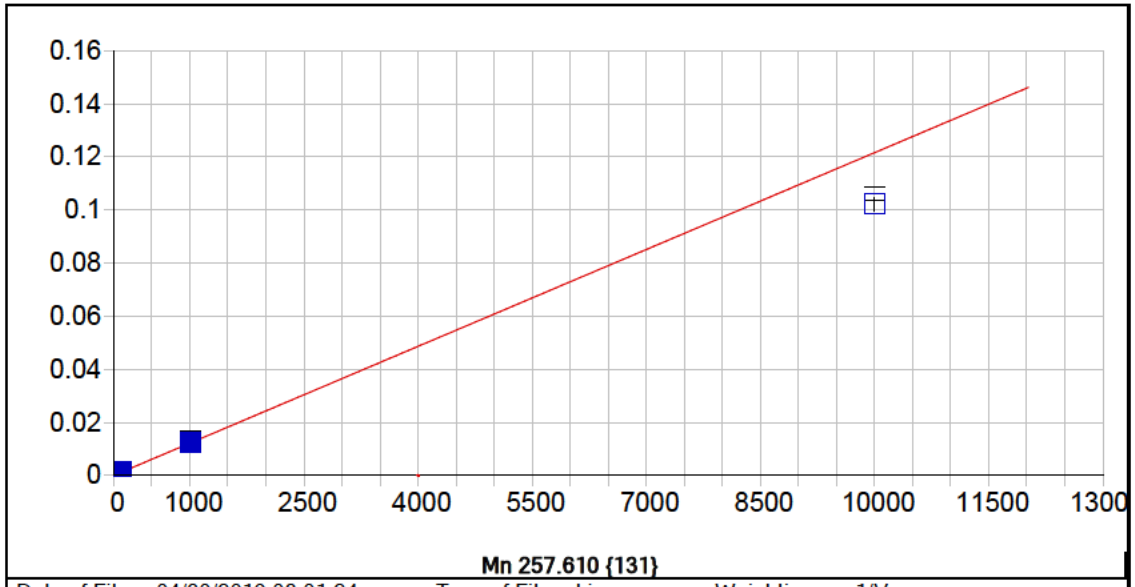



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001262 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992448 | Status: | OK. |
| Std Error of Est: | 0.000619 | | |
| Predicted MDL: | 0.051519 | | |
| Predicted MQL: | 0.171731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.739 | 11.7 | .000 | .00154 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1206.8 | 207. | 20.7 | .03031 | .001 | 1 |
| CalStd10=10 | 10000. | 9556.1 | -444. | -4.44 | .23129 | .004 | 1 |
| CalStd8=100 | 100.00 | 93.604 | -6.40 | -6.40 | .00351 | .000 | 1 |

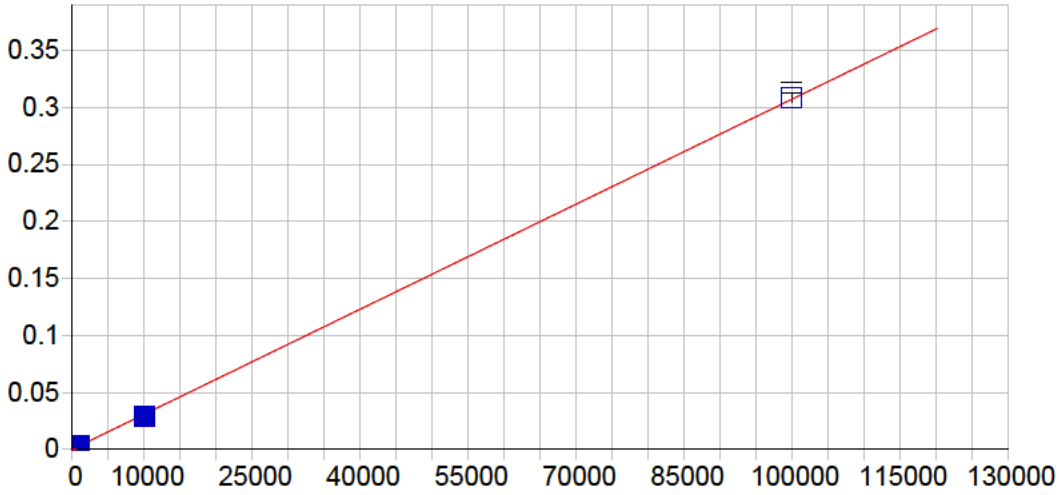



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995548 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.097079 | | |
| Predicted MQL: | 0.323597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04516 | -.045 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.003 | 5.00 | 10.0 | .00070 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.805 | .805 | 4.02 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.55 | 8.55 | 8.55 | .00135 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2295 | -.770 | -15.4 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.2 | 22.2 | 2.22 | .01246 | .000 | 1 |
| CalStd10=10 | 10000. | 8405.2 | -1590. | -15.9 | .10223 | .003 | 1 |

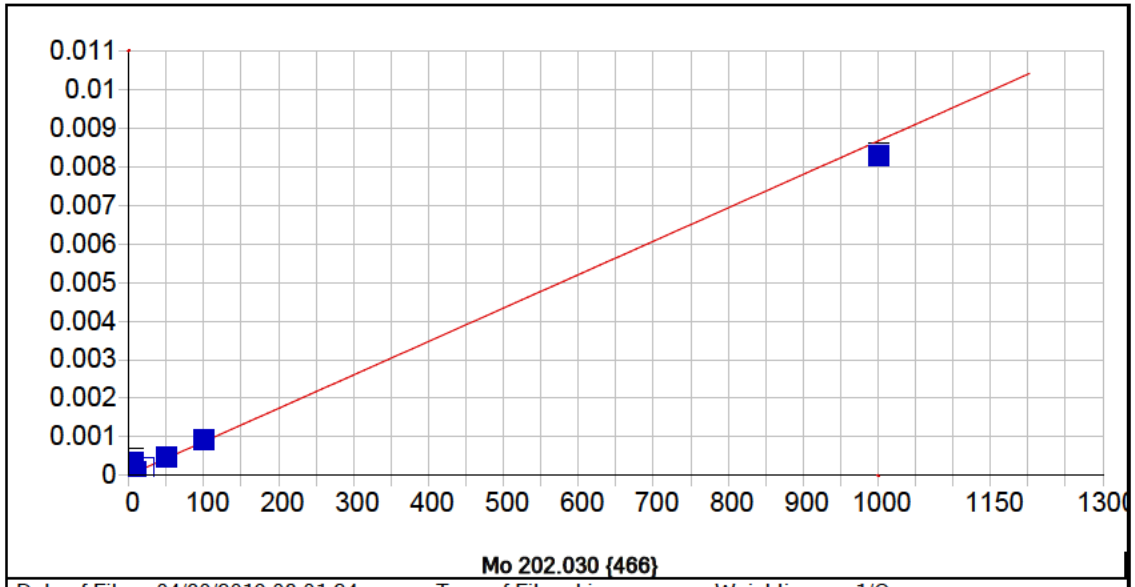



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999811 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 1.512228 | | |
| Predicted MQL: | 5.040759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04534 | -.045 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9446.9 | -553. | -5.53 | .02904 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1096.1 | 96.1 | 9.61 | .00338 | .000 | 1 |
| CalStd12=10 | 100000. | 100460. | 458. | .458 | .30829 | .005 | 1 |

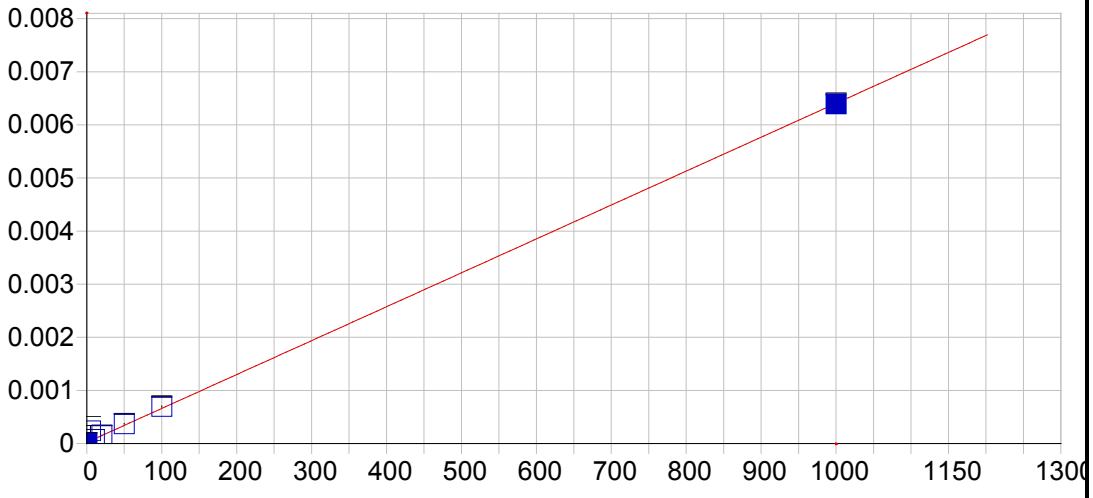



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.918937 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.461169 | | |
| Predicted MQL: | 1.537230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03405 | -.034 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.376 | 4.38 | 8.75 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.645 | 1.65 | 8.23 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.38 | 4.38 | 4.38 | .00092 | .000 | 1 |
| CalStd4=5 | 5.0000 | 37.919 | 32.9 | 658. | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.12 | -43.9 | -4.39 | .00831 | .000 | 1 |

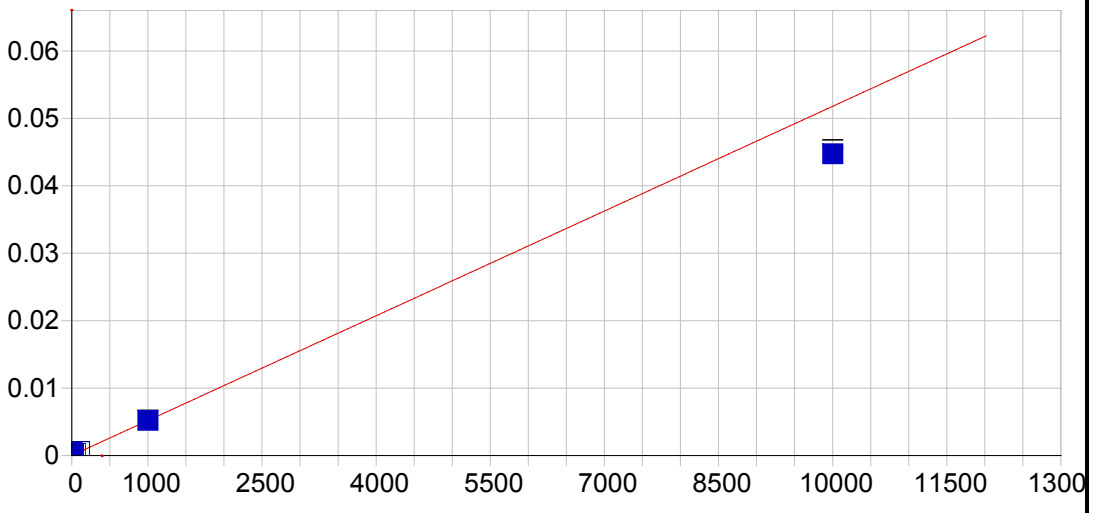



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999869 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.801215 | | |
| Predicted MQL: | 2.670716 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8973 | -1.90 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.529 | 4.53 | 9.06 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.586 | .586 | 2.93 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1156 | -.884 | -8.84 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.51 | 5.51 | 5.51 | .00070 | .000 | 1 |
| CalStd4=5 | 5.0000 | 33.690 | 28.7 | 574. | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.91 | -2.09 | -.209 | .00639 | .000 | 1 |

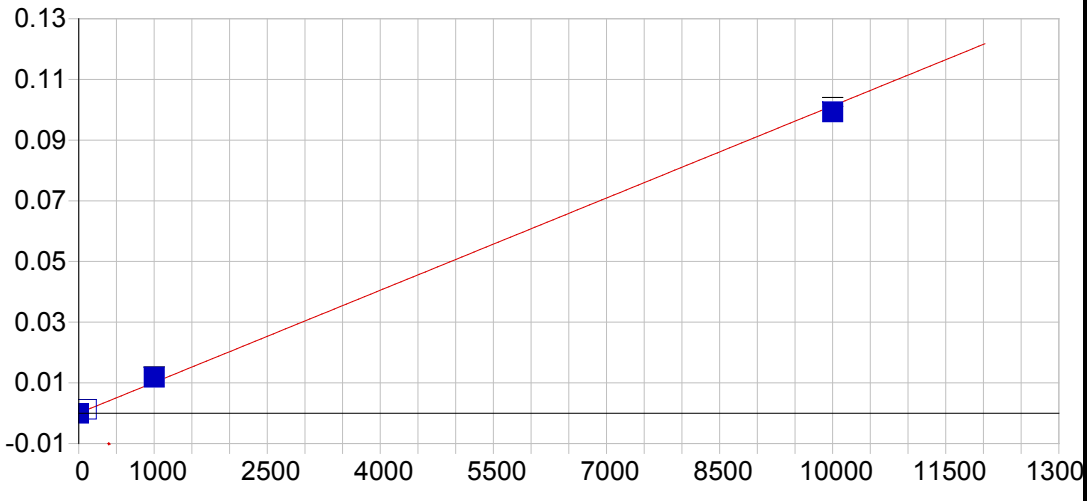



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.916548 | | |
| Predicted MQL: | 3.055158 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3158 | -2.32 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.135 | 5.14 | 10.3 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.378 | .378 | 1.89 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6092 | -.391 | -3.91 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.62 | 7.62 | 7.62 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 83.457 | 78.5 | 1570. | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.19 | .219 | .00520 | .000 | 1 |
| CalStd10=10 | 10000. | 8637.4 | -1360. | -13.6 | .04474 | .001 | 1 |

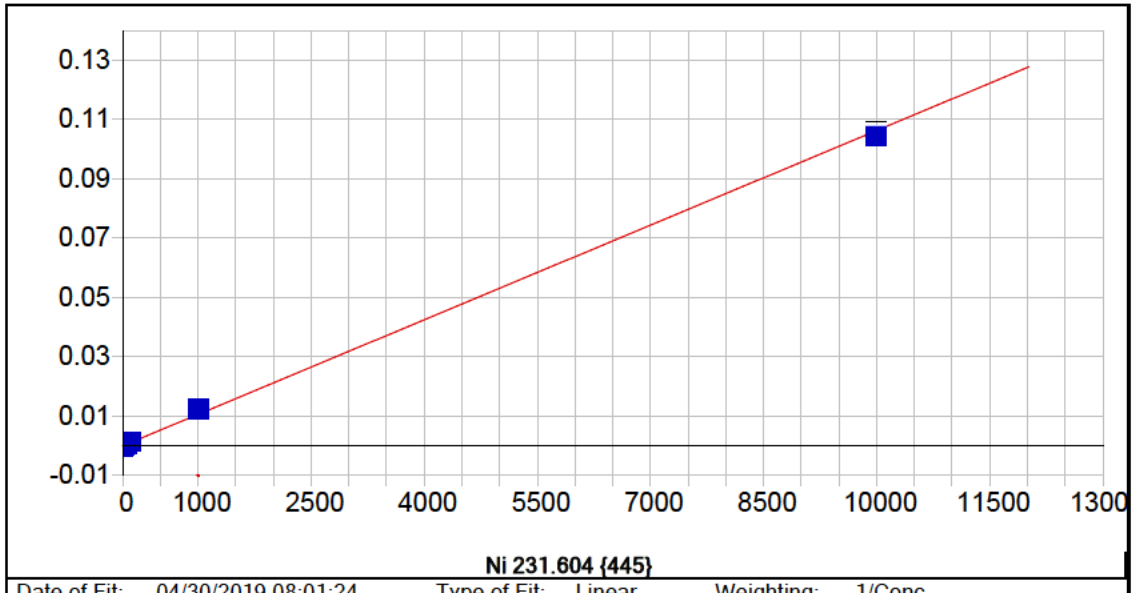



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998093 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 0.768351 | | |
| Predicted MQL: | 2.561171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04496 | -.045 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.5 | -202. | -2.02 | .09927 | .001 | 1 |
| CalStd8=100 | 100.00 | 129.81 | 29.8 | 29.8 | .00132 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1171.7 | 172. | 17.2 | .01187 | .000 | 1 |

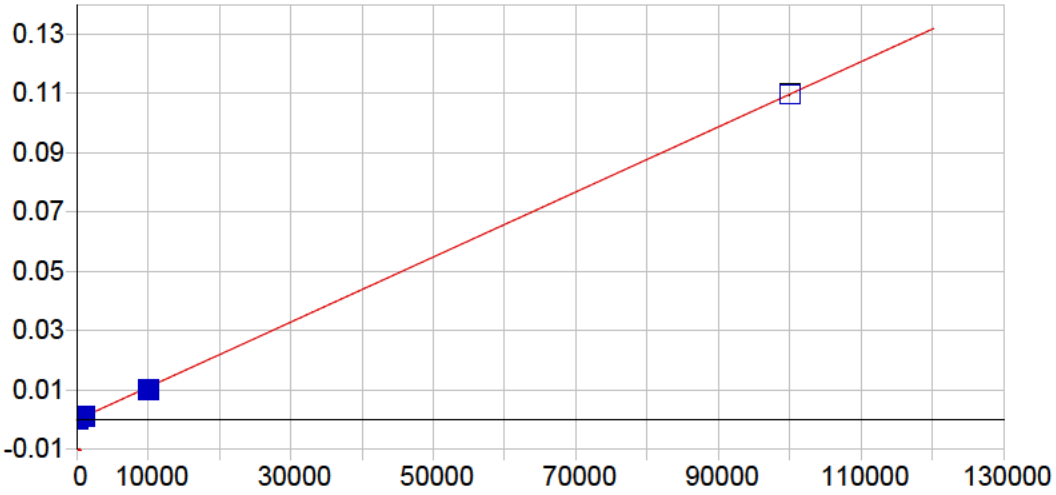



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.984592 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.735570 | | |
| Predicted MQL: | 2.451899 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00668 | .007 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 67.596 | 17.6 | 35.2 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.230 | 4.23 | 42.3 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 130.34 | 30.3 | 30.3 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | -33.889 | -38.9 | -778. | -.00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1173.8 | 174. | 17.4 | .01246 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86059 | -.139 | -13.9 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9813.3 | -187. | -1.87 | .10451 | .002 | 1 |

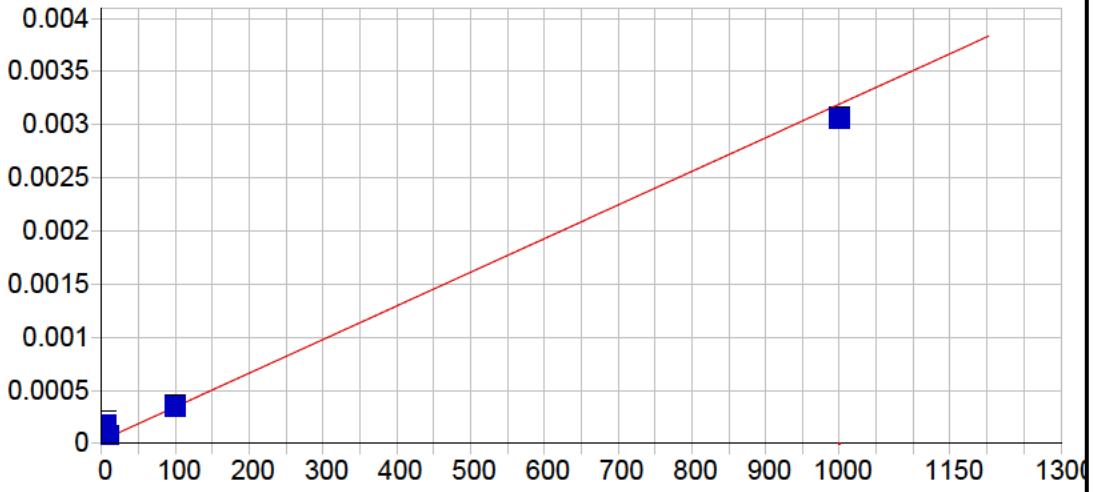



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999773 | Status: | OK. |
| Std Error of Est: | 0.000038 | | |
| Predicted MDL: | 5.620225 | | |
| Predicted MQL: | 18.734085 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.705 | -15.7 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1080.9 | 80.9 | 8.09 | .00120 | .000 | 1 |
| CalStd10=10 | 10000. | 9090.5 | -909. | -9.09 | .00999 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.63 | 8.63 | 8.63 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.9071 | -7.09 | -70.9 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99918. | -82.0 | -.082 | .10965 | .000 | 1 |

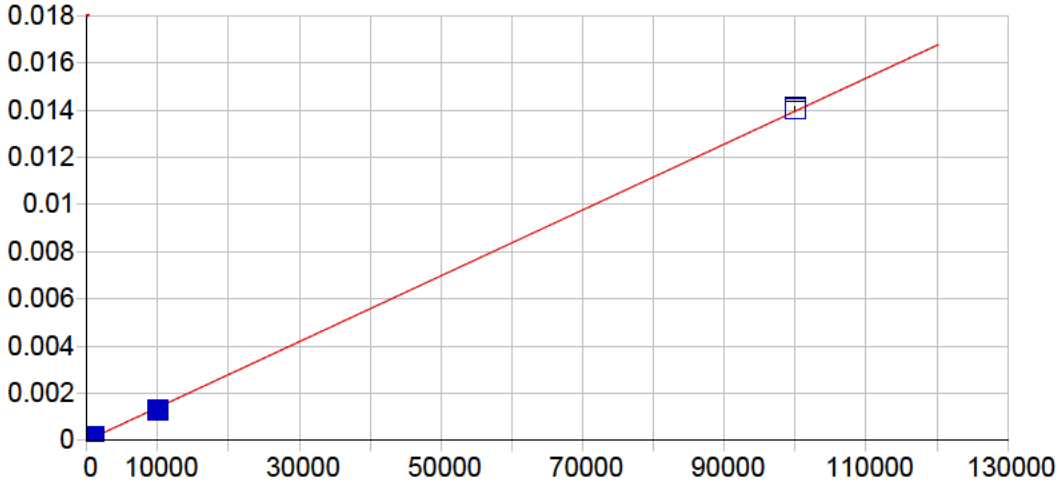



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.878400 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.481162 | | |
| Predicted MQL: | 8.270541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04083 | -.041 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.034 | 1.03 | 10.3 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.10 | 2.10 | 2.10 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 45.423 | 40.4 | 808. | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.47 | -43.5 | -4.35 | .00305 | .000 | 1 |

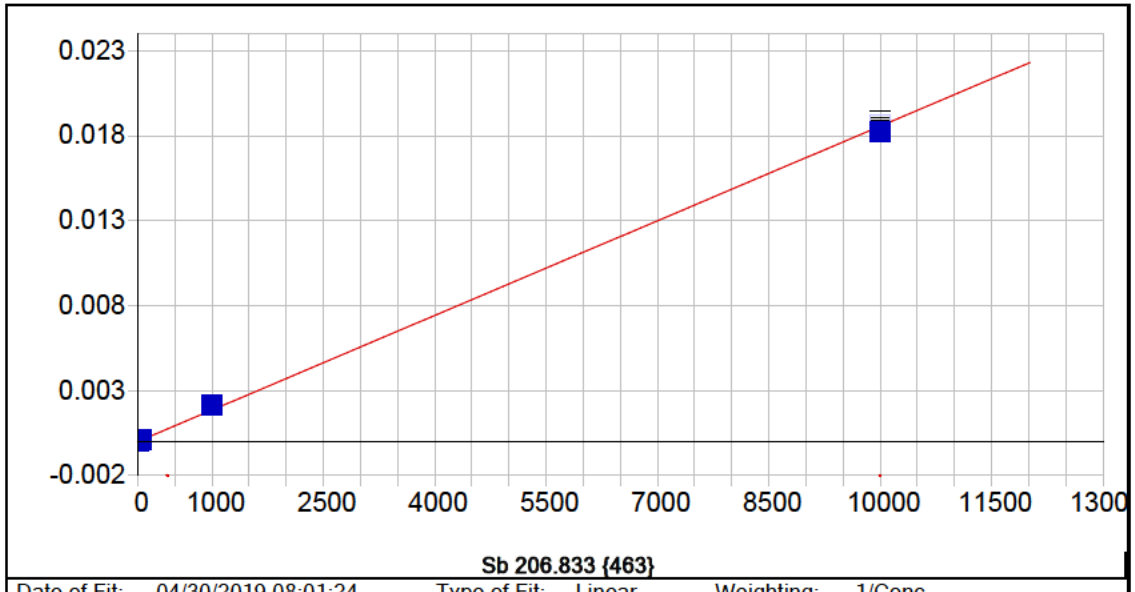



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.969384 | | |
| Predicted MQL: | 23.231279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01616 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1112.0 | 112. | 11.2 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9232.4 | -768. | -7.68 | .00129 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.00 | 12.0 | 12.0 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100640. | 644. | .644 | .01405 | .000 | 1 |

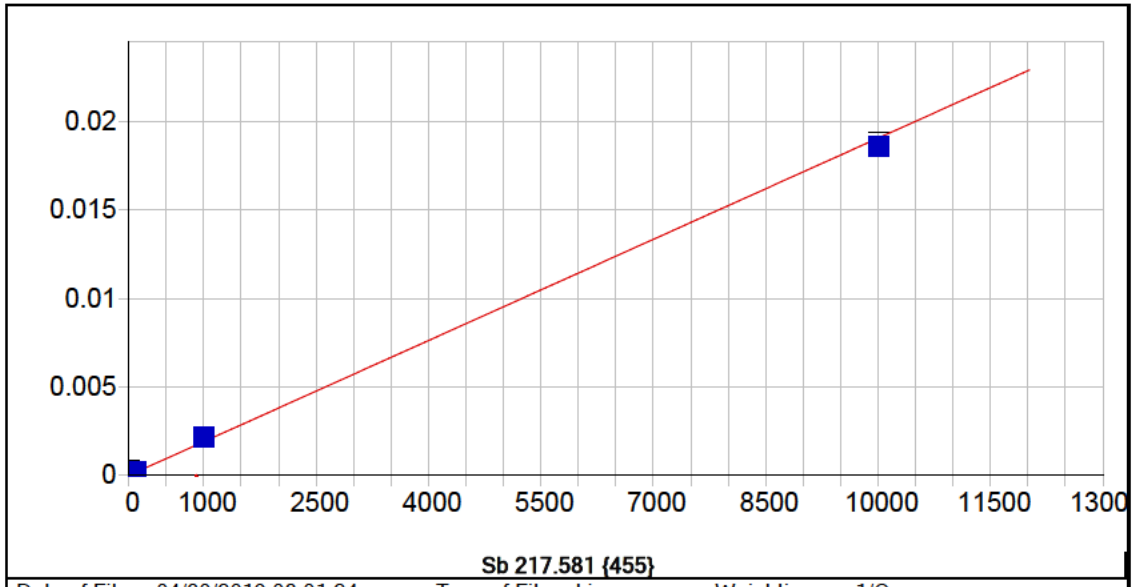



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998562 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.581313 | | |
| Predicted MQL: | 8.604377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00953 | -.010 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1149.7 | 150. | 15.0 | .00217 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.959 | 4.96 | 49.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.221 | 16.2 | 32.4 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.1 | -171. | -1.71 | .01859 | .000 | 1 |

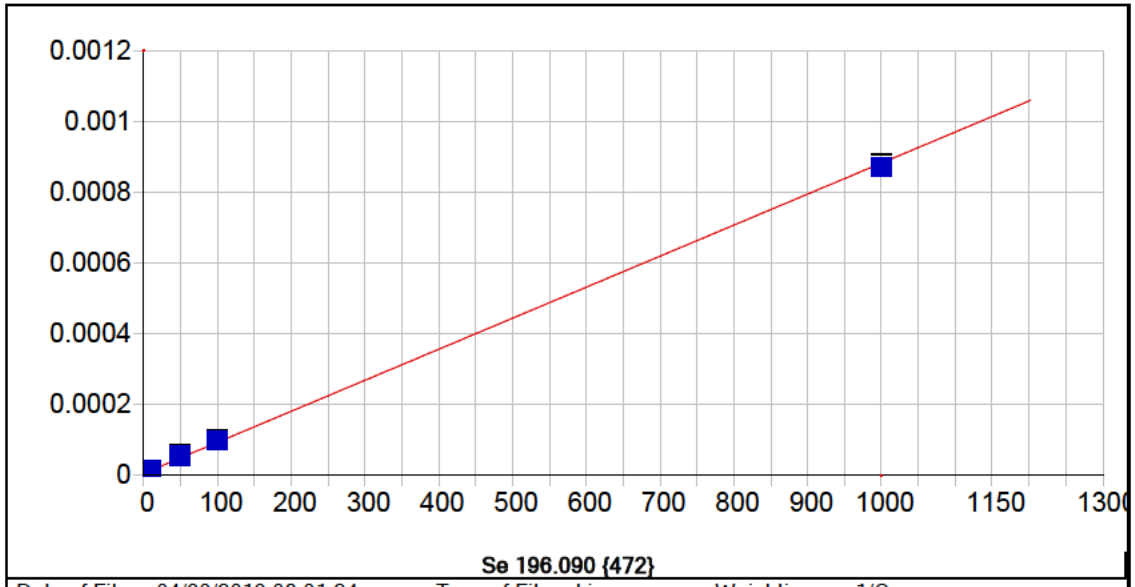



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.933696 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 2.801324 | | |
| Predicted MQL: | 9.337748 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09365 | -.094 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1135.8 | 136. | 13.6 | .00217 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.009 | 5.01 | 25.0 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.209 | 2.21 | 22.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.01 | 24.0 | 24.0 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 94.543 | 89.5 | 1790. | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9743.4 | -257. | -2.57 | .01856 | .000 | 1 |

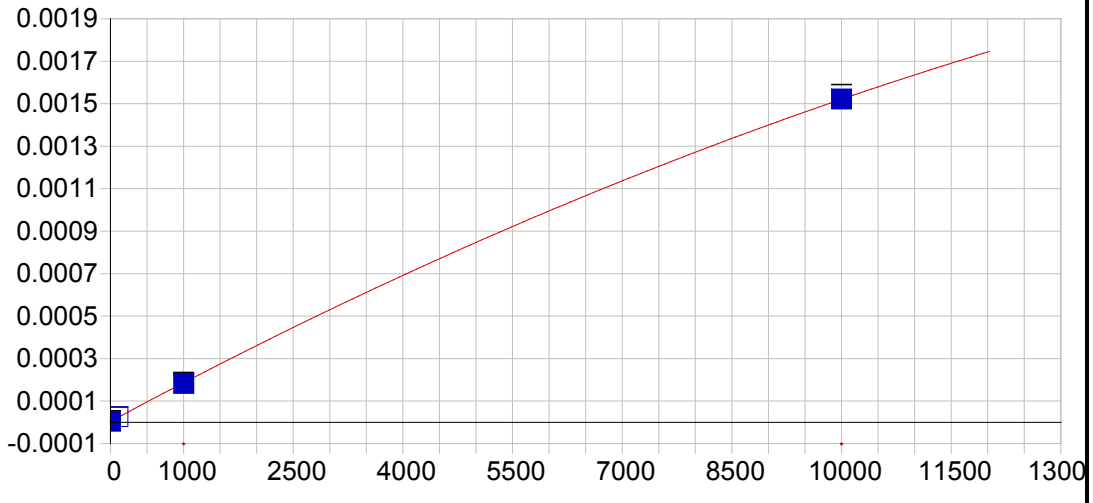



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999198 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.389697 | | |
| Predicted MQL: | 14.632322 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00167 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.114 | 8.11 | 16.2 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.41 | -13.6 | -1.36 | .00087 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5938 | -.406 | -4.06 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.88 | 5.88 | 5.88 | .00010 | .000 | 1 |

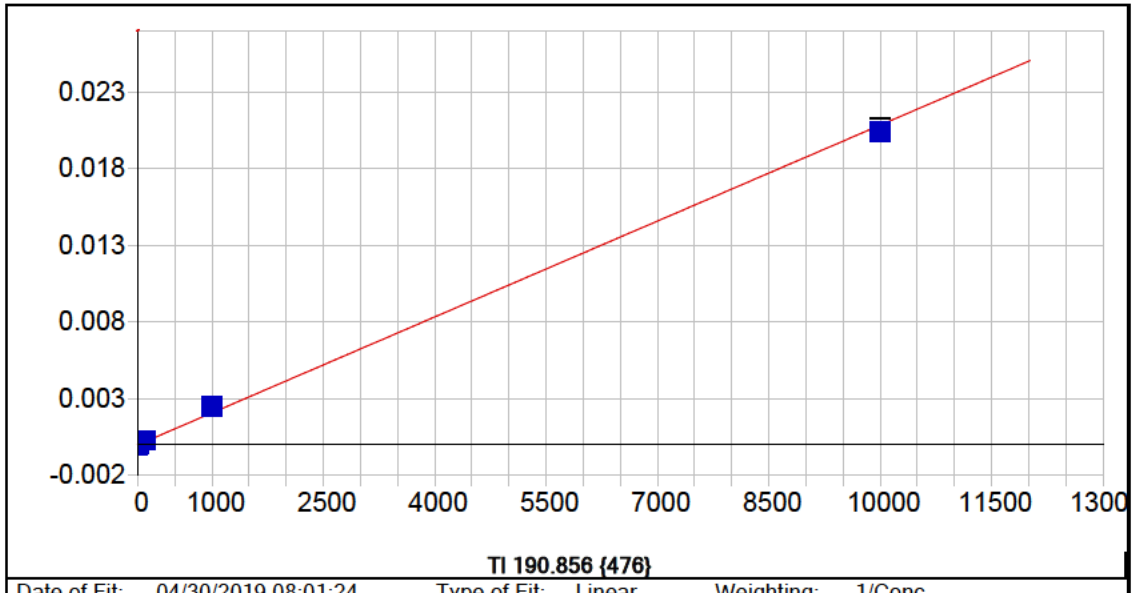



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999688 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.202163 | | |
| Predicted MQL: | 94.007210 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01855 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.30 | -23.7 | -2.37 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.26 | .033 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.89 | 20.9 | 20.9 | .00003 | .000 | 1 |

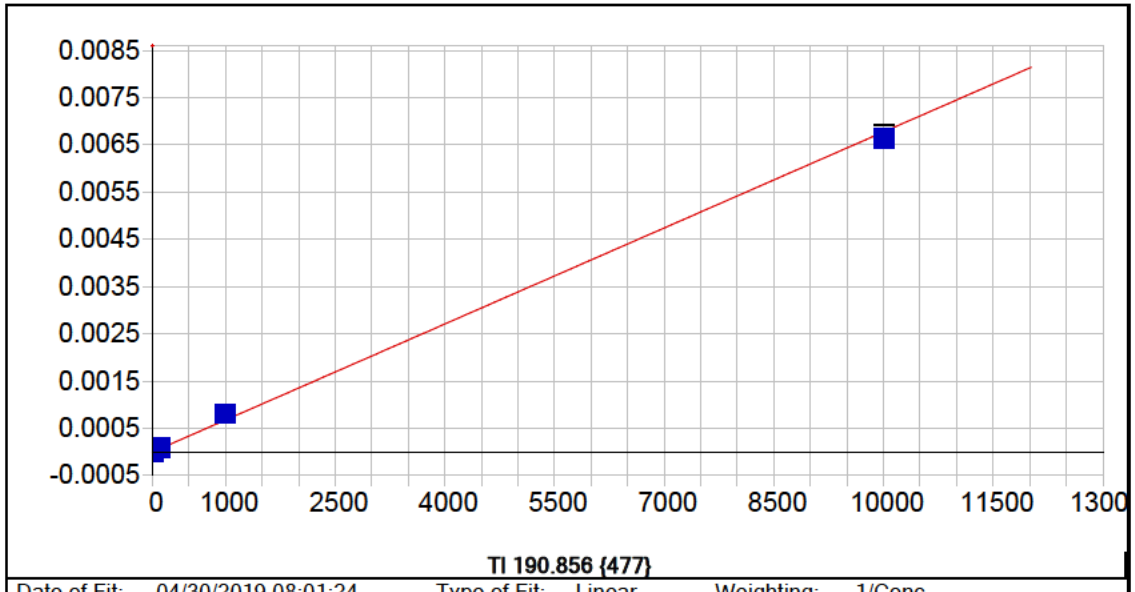



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997608 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 2.696044 | | |
| Predicted MQL: | 8.986812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00879 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1186.9 | 187. | 18.7 | .00248 | .000 | 1 |
| CalStd8=100 | 100.00 | 135.27 | 35.3 | 35.3 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.620 | 3.62 | 36.2 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9774.2 | -226. | -2.26 | .02045 | .000 | 1 |

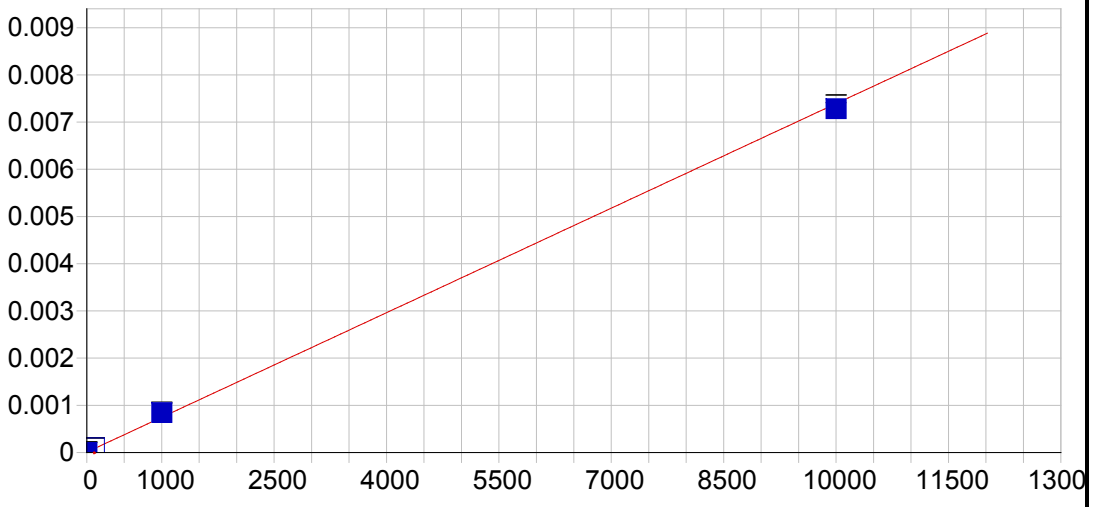



**Tl 190.856 {477}**

Date of Fit: 04/30/2019 08:01:24 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997785 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.738296 | | |
| Predicted MQL: | 19.127652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00518 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1191.3 | 191. | 19.1 | .00081 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.17 | 28.2 | 28.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.666 | .666 | 6.66 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9779.8 | -220. | -2.20 | .00663 | .000 | 1 |

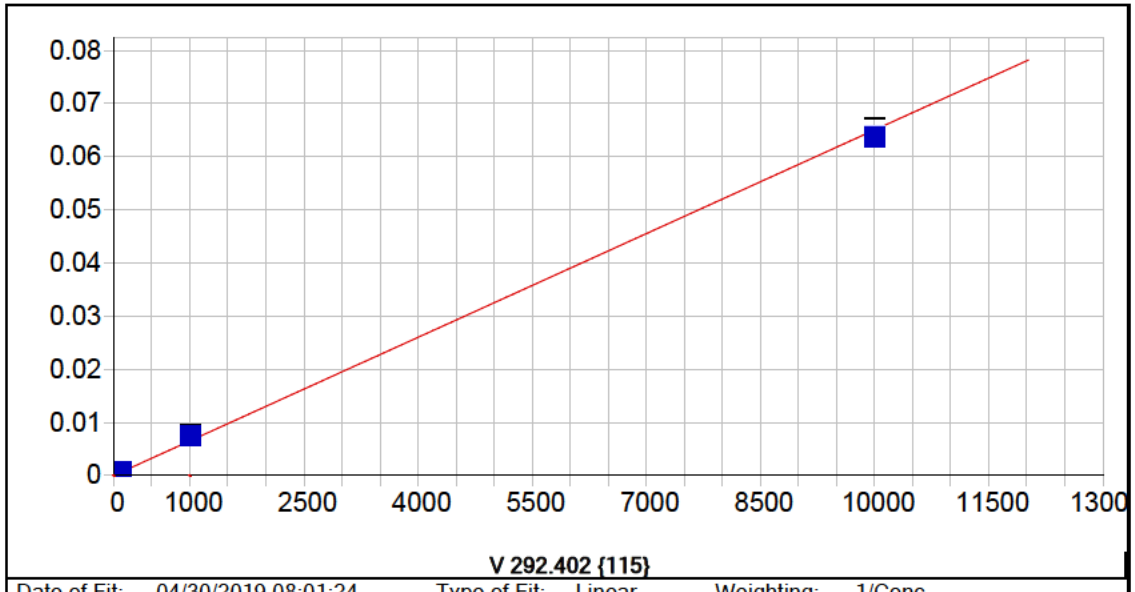



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998924 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 8.162286 | | |
| Predicted MQL: | 27.207619 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03327 | -.033 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1129.9 | 130. | 13.0 | .00084 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.3 | -152. | -1.52 | .00728 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.80 | 21.8 | 21.8 | .00010 | .000 | 1 |

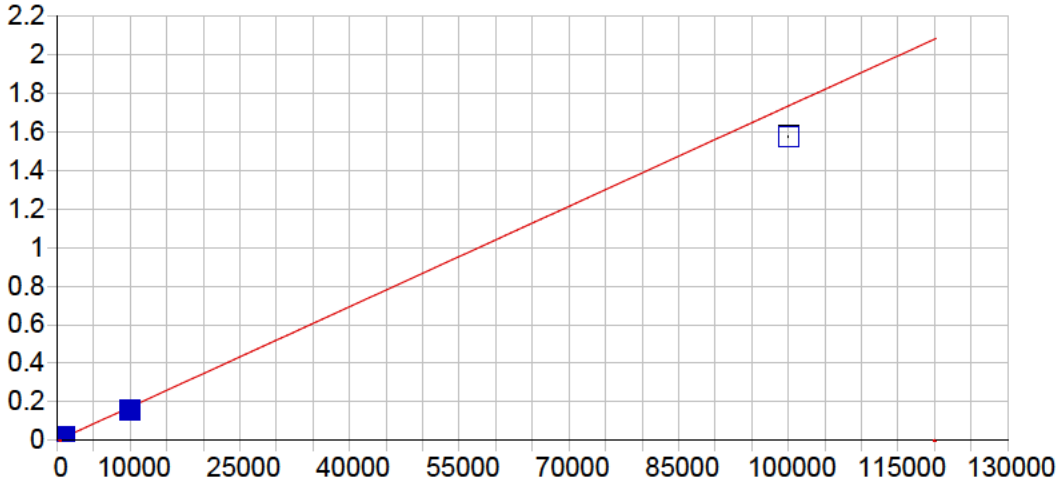



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998319 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.630081 | | |
| Predicted MQL: | 2.100271 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01257 | -.013 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 62.800 | 12.8 | 25.6 | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1150.5 | 150. | 15.0 | .00749 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.252 | 5.25 | 26.3 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.751 | 3.75 | 37.5 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.26 | 23.3 | 23.3 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9805.2 | -195. | -1.95 | .06401 | .002 | 1 |

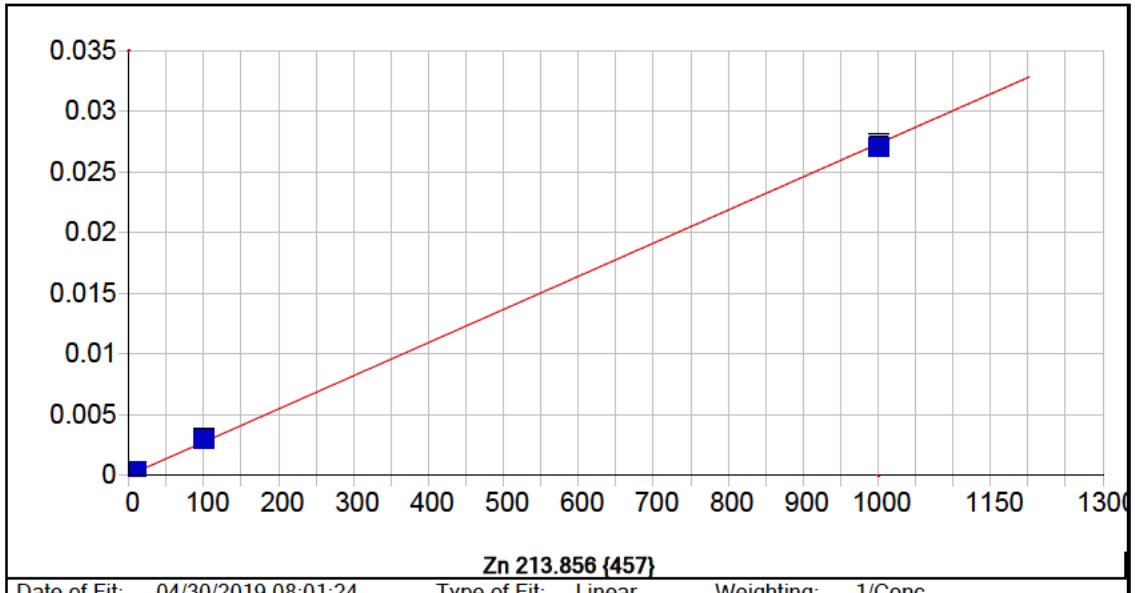



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996075 | Status: | OK. |
| Std Error of Est: | 0.000214 | | |
| Predicted MDL: | 0.372954 | | |
| Predicted MQL: | 1.243179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9095.3 | -905. | -9.05 | .15761 | .003 | 1 |
| Blank | .00000 | -2.7928 | -2.79 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01879 | .000 | 1 |
| CalStd12=10 | 100000. | 90861. | -9140. | -9.14 | 1.5740 | .004 | 1 |
| CalStd5=10 | 10.000 | 10.445 | .445 | 4.45 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.52 | 19.5 | 19.5 | .00213 | .000 | 1 |

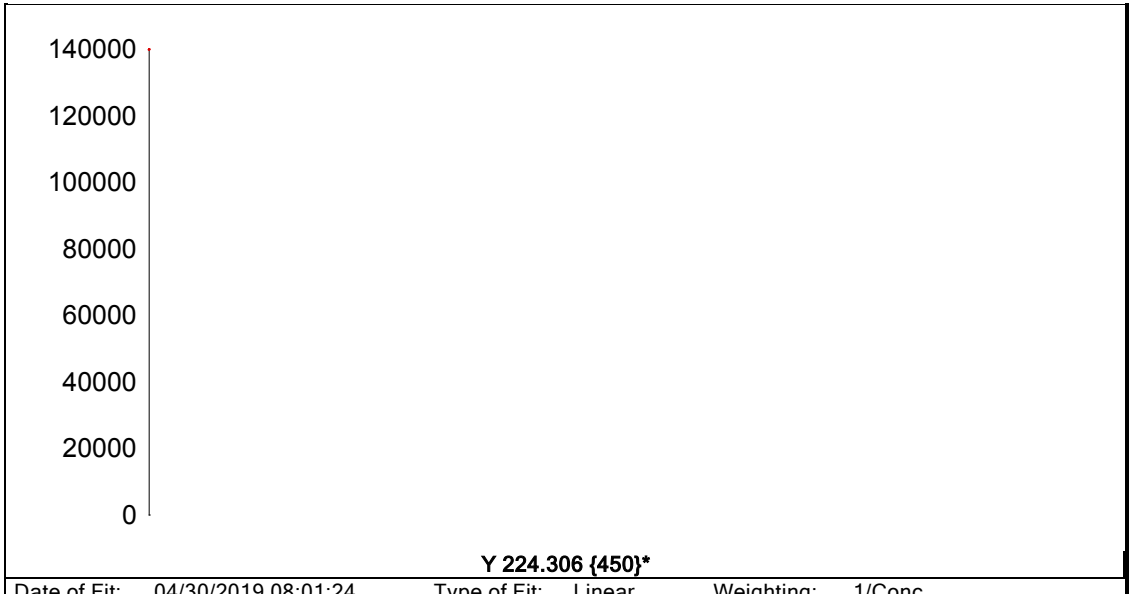



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

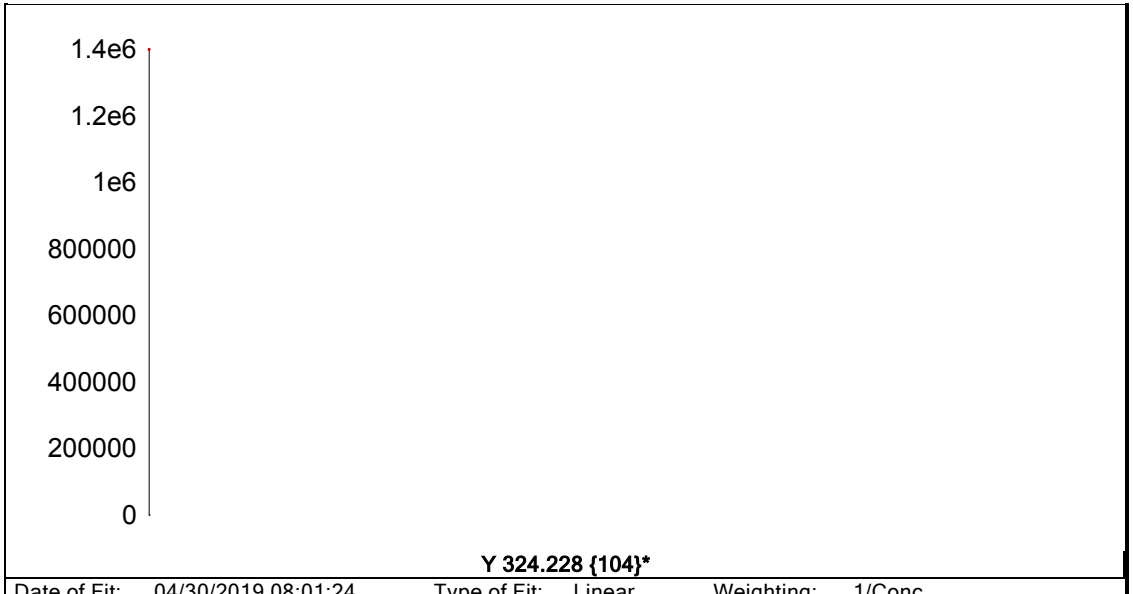
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999485 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.208095 | | |
| Predicted MQL: | 0.693650 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00259 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.74 | -10.3 | -1.03 | .02724 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.852 | 1.85 | 18.5 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.42 | 8.42 | 8.42 | .00301 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

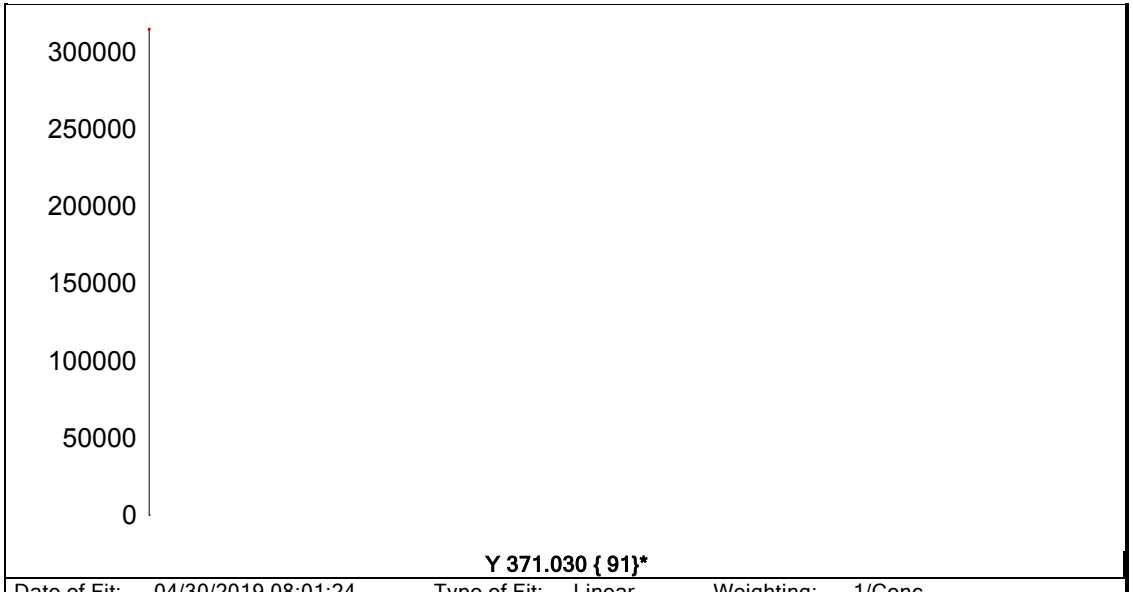
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 126700. | 632. | 1 |




**Y 324.228 {104}***

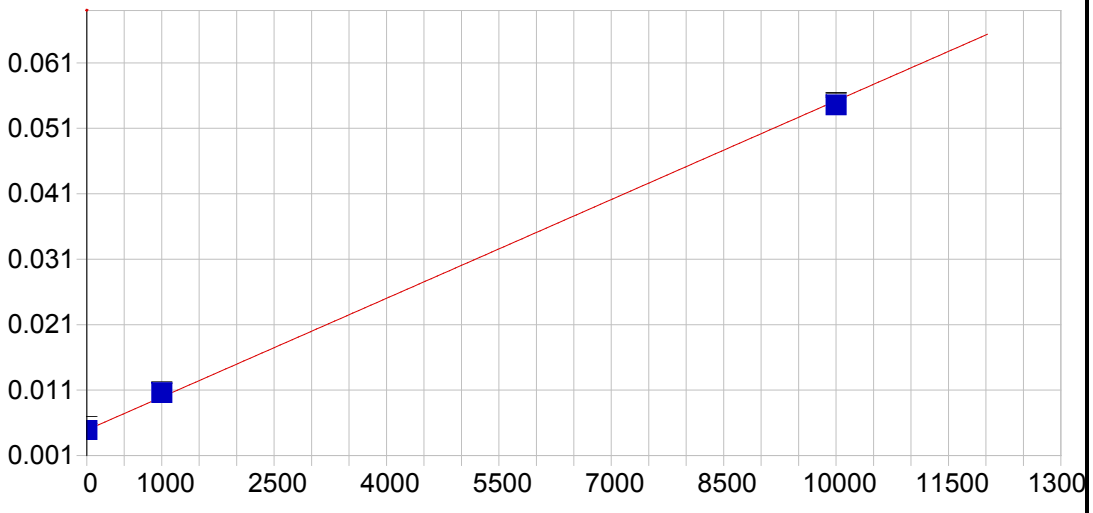
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1295600. | 3610. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 287860. | 9200. | 1 |

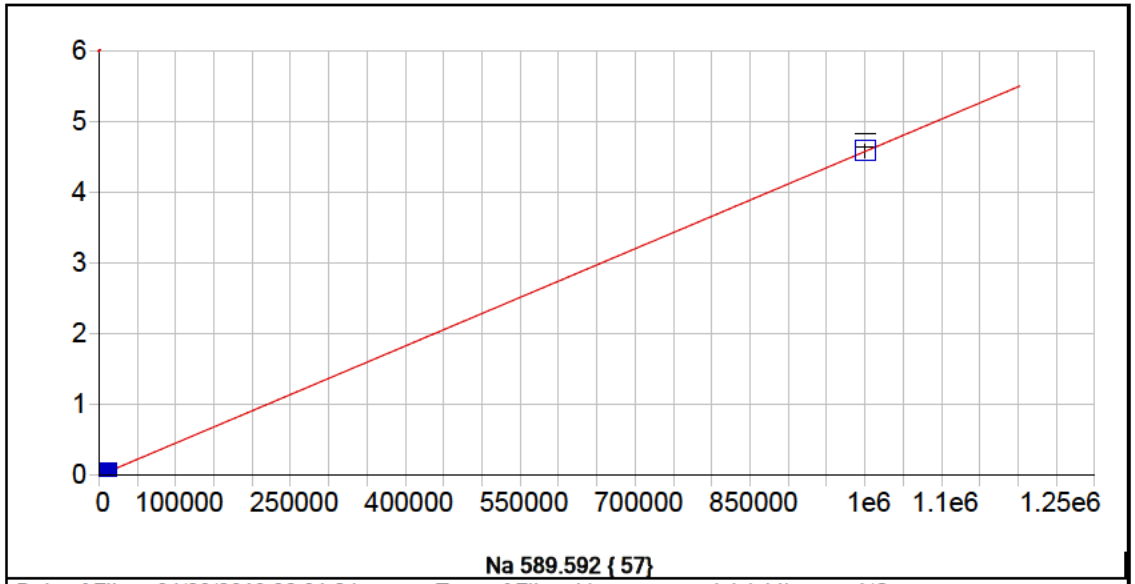



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004901 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999164 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 10.509748 | | |
| Predicted MQL: | 35.032492 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11639 | -.116 | .000 | .00490 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | .01058 | .000 | 1 |
| CalStd10=10 | 10000. | 9870.7 | -129. | -1.29 | .05456 | .000 | 1 |

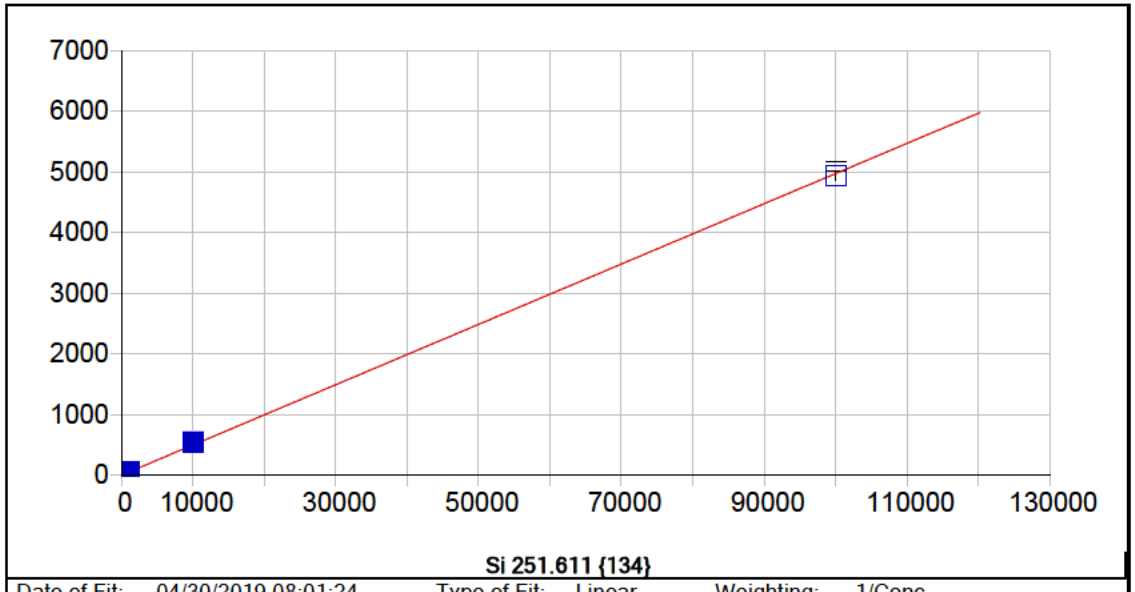



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000353 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 7.542021 | | |
| Predicted MQL: | 25.140069 | | |

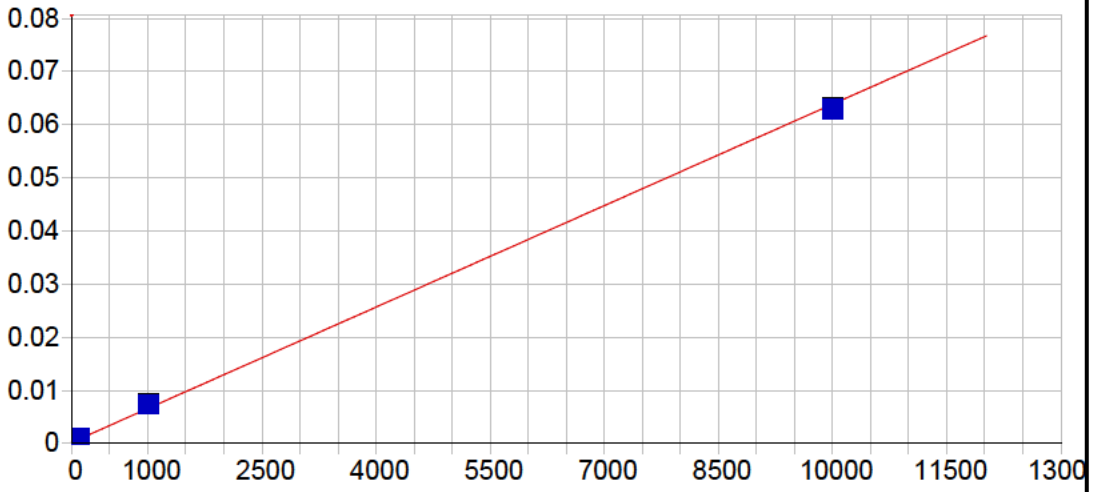
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44012 | .440 | .000 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 814.88 | -185. | -18.5 | .00408 | .000 | 1 |
| CalStd10=10 | 10000. | 7422.4 | -2580. | -25.8 | .03432 | .000 | 1 |
| CalibStd15= | 1000000. | 1002800. | 2760. | .276 | 4.5893 | .089 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.496233 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.049700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.563773 | | |
| Predicted MDL: | 25.456914 | | |
| Predicted MQL: | 84.856379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05943 | -.059 | .000 | 5.4933 | 3.24 | 1 |
| CalStd9=100 | 1000.0 | 991.13 | -8.87 | -.887 | 58.676 | 3.89 | 1 |
| CalStd10=10 | 10000. | 10762. | 762. | 7.62 | 565.27 | 4.29 | 1 |
| CalibStd15= | 100000. | 99209. | -791. | -.791 | 4936.2 | 82.1 | 1 |

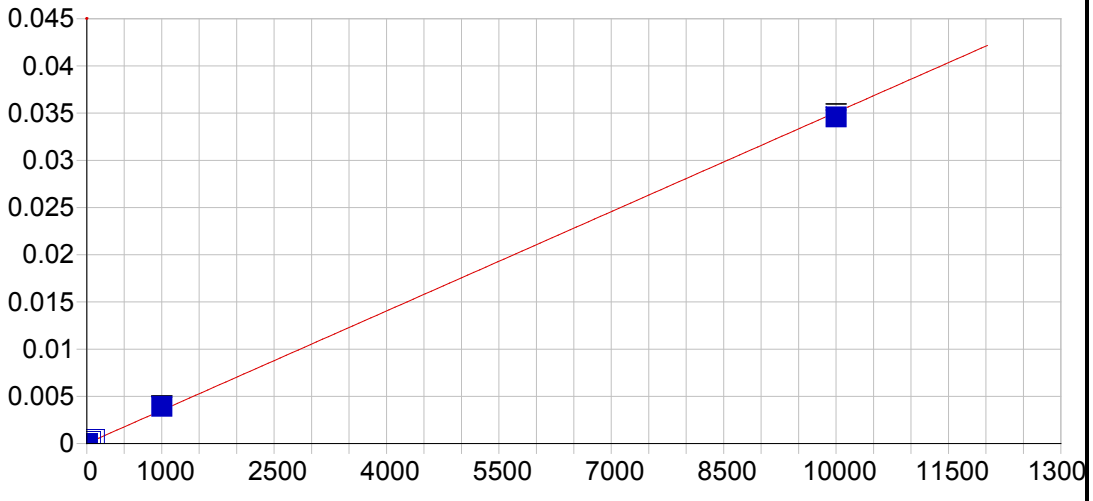



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000229 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998823 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.679766 | | |
| Predicted MQL: | 5.599219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00312 | -.003 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.426 | 1.43 | 14.3 | .00030 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.46 | 21.5 | 21.5 | .00100 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1118.2 | 118. | 11.8 | .00735 | .000 | 1 |
| CalStd10=10 | 10000. | 9843.9 | -156. | -1.56 | .06295 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.862 | 15.9 | 31.7 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2356 | -.764 | -15.3 | .00026 | .000 | 1 |

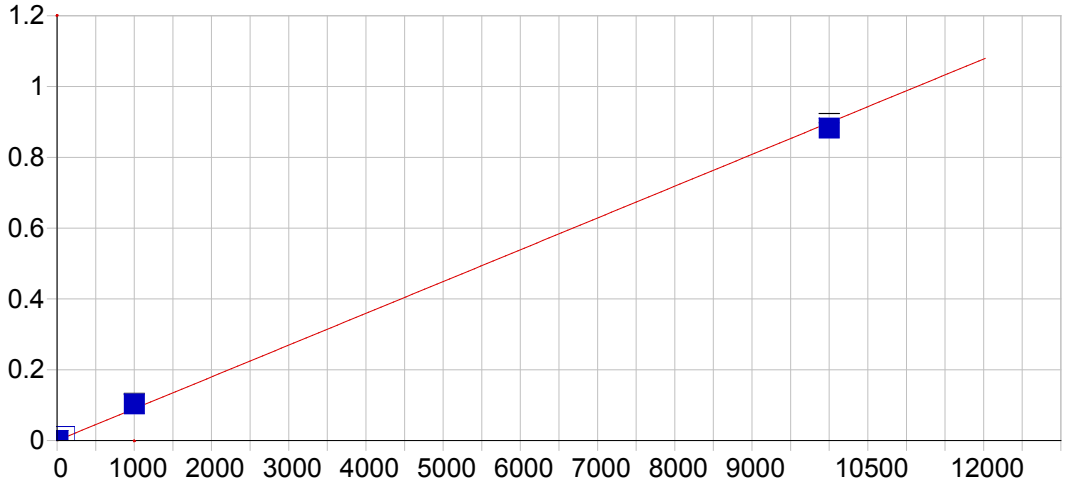



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.153927 | | |
| Predicted MQL: | 7.179758 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.46 | 18.5 | 18.5 | .00043 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1115.8 | 116. | 11.6 | .00393 | .000 | 1 |
| CalStd10=10 | 10000. | 9857.1 | -143. | -1.43 | .03460 | .000 | 1 |
| CalStd7=50 | 50.000 | 60.626 | 10.6 | 21.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5173 | -2.48 | -49.7 | .00002 | .000 | 1 |

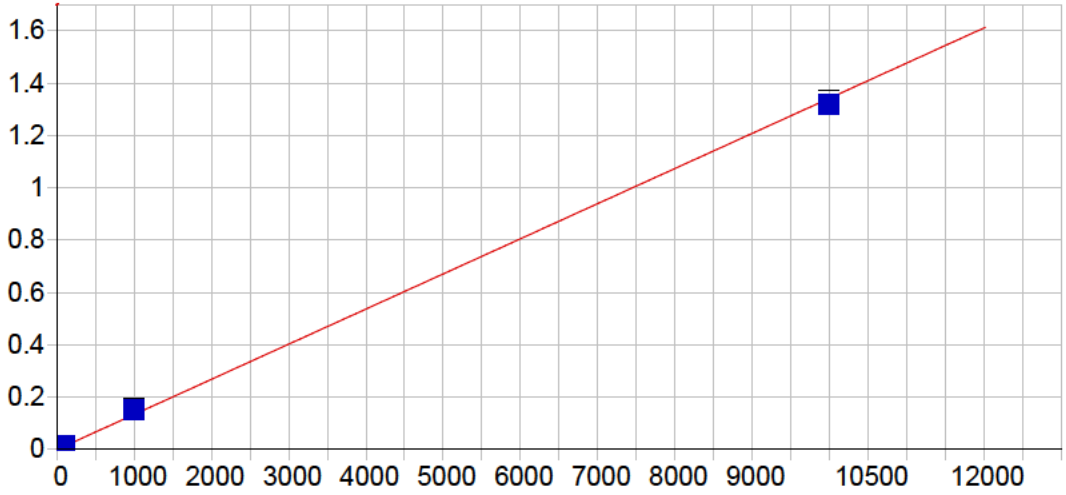



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000090 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998548 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.191487 | | |
| Predicted MQL: | 0.638289 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00094 | -.001 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .96922 | -.031 | -3.08 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.2802 | 1.28 | 25.6 | .00065 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.494 | 3.49 | 34.9 | .00130 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.84 | 23.8 | 23.8 | .01121 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1148.3 | 148. | 14.8 | .10324 | .002 | 1 |
| CalStd10=10 | 10000. | 9823.1 | -177. | -1.77 | .88250 | .013 | 1 |

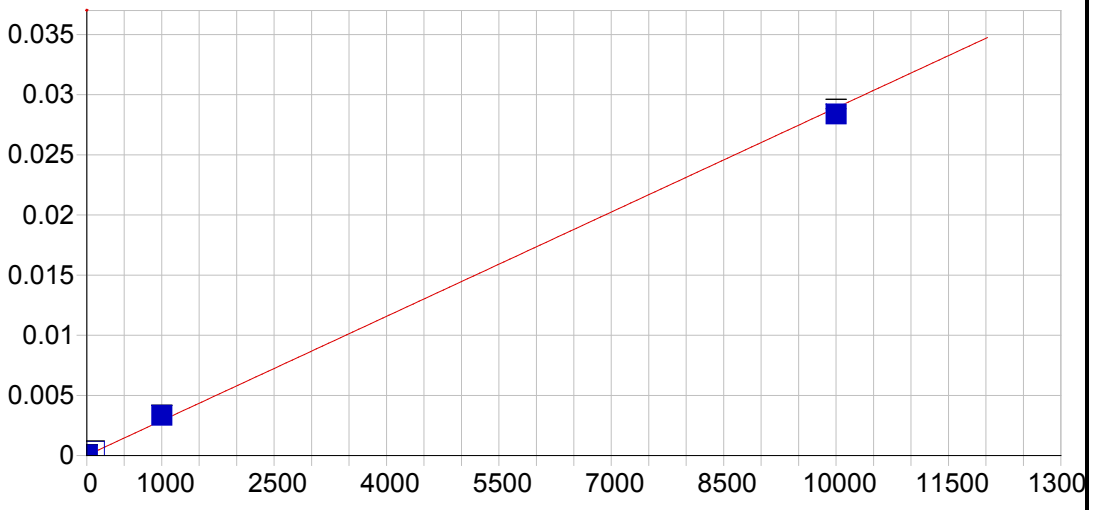



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998725 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.129437 | | |
| Predicted MQL: | 0.431456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | .59172 | -.408 | -40.8 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0861 | 1.09 | 21.7 | .00088 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.395 | 3.40 | 34.0 | .00186 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.02 | 23.0 | 23.0 | .01657 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1137.3 | 137. | 13.7 | .15263 | .003 | 1 |
| CalStd10=10 | 10000. | 9835.6 | -164. | -1.64 | 1.3195 | .013 | 1 |

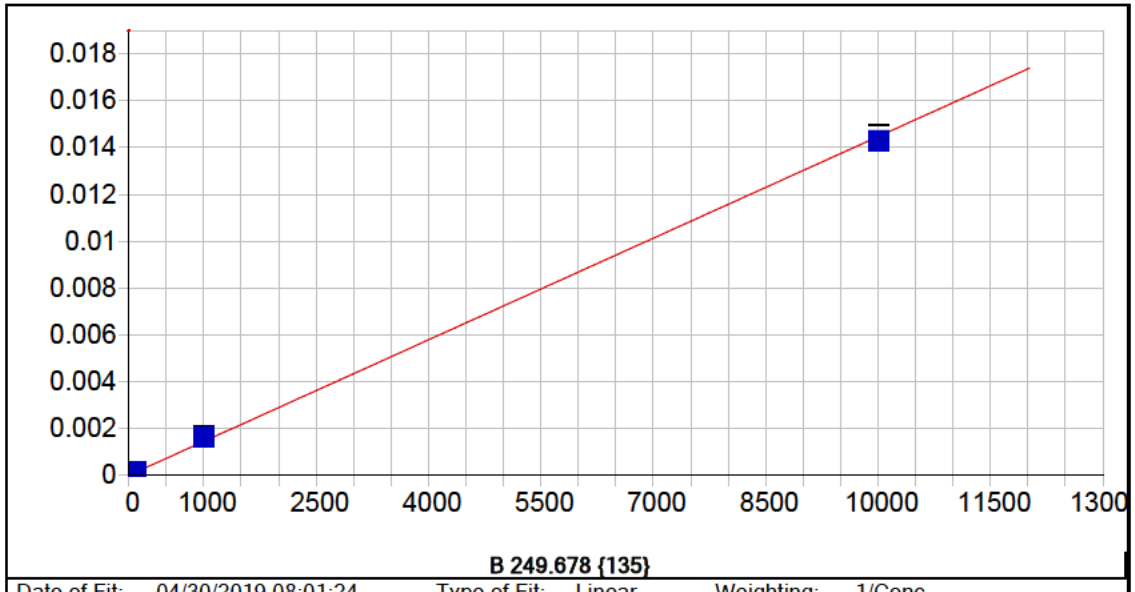



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998477 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.686047 | | |
| Predicted MQL: | 5.620155 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00781 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9819.9 | -180. | -1.80 | .02839 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.1 | 151. | 15.1 | .00334 | .000 | 1 |
| CalStd8=100 | 100.00 | 125.03 | 25.0 | 25.0 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.973 | 3.97 | 39.7 | .00005 | .000 | 1 |

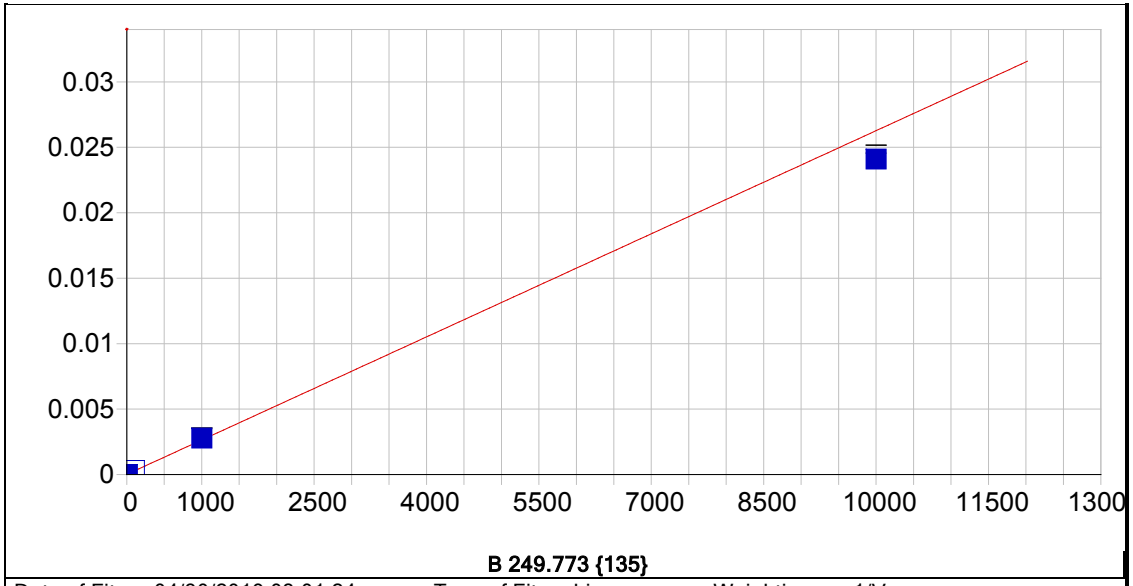



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999110 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.384749 | | |
| Predicted MQL: | 4.615829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00023 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.83 | 15.8 | 15.8 | .00018 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1048 | -2.90 | -29.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1121.6 | 122. | 12.2 | .00164 | .000 | 1 |
| CalStd10=10 | 10000. | 9865.4 | -135. | -1.35 | .01433 | .000 | 1 |

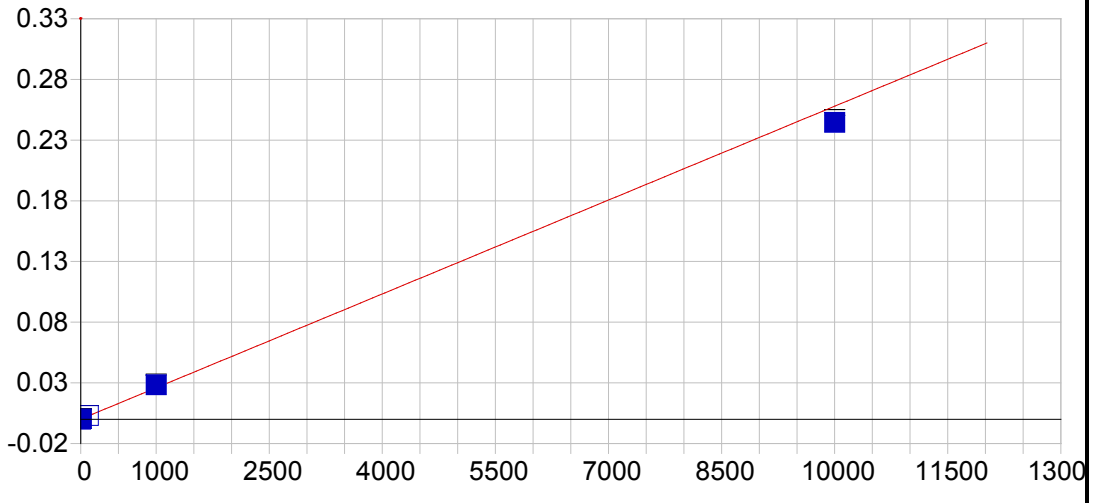



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996375 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.746113 | | |
| Predicted MQL: | 2.487044 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .98371 | .984 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.20 | 10.2 | 10.2 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9208 | -2.08 | -20.8 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.7 | 51.7 | 5.17 | .00278 | .000 | 1 |
| CalStd10=10 | 10000. | 9170.7 | -829. | -8.29 | .02410 | .000 | 1 |

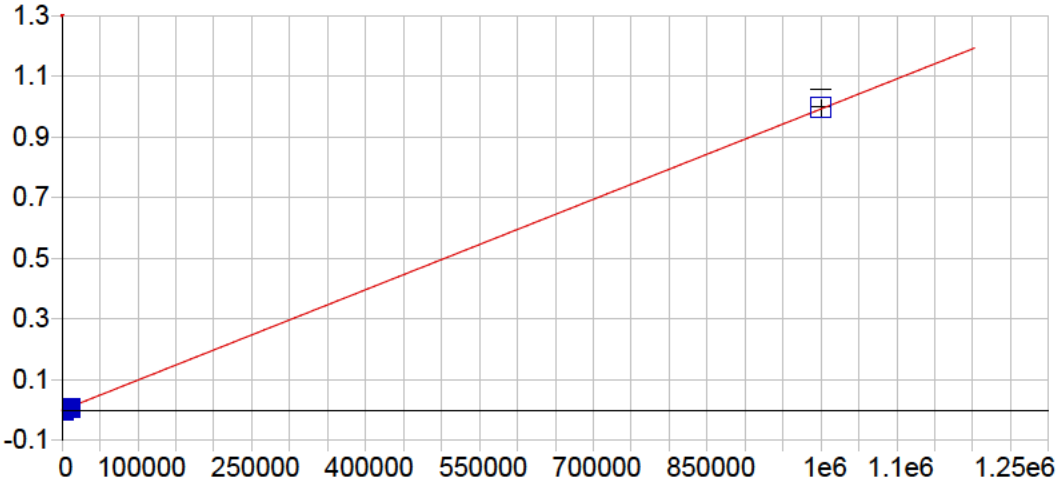



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996196 | Status: | OK. |
| Std Error of Est: | 0.000316 | | |
| Predicted MDL: | 1.644438 | | |
| Predicted MQL: | 5.481459 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.7449 | -7.74 | .000 | -.00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4820 | -3.52 | -35.2 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.33 | 12.3 | 12.3 | .00301 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1095.5 | 95.5 | 9.55 | .02836 | .001 | 1 |
| CalStd10=10 | 10000. | 9480.5 | -520. | -5.20 | .24456 | .002 | 1 |

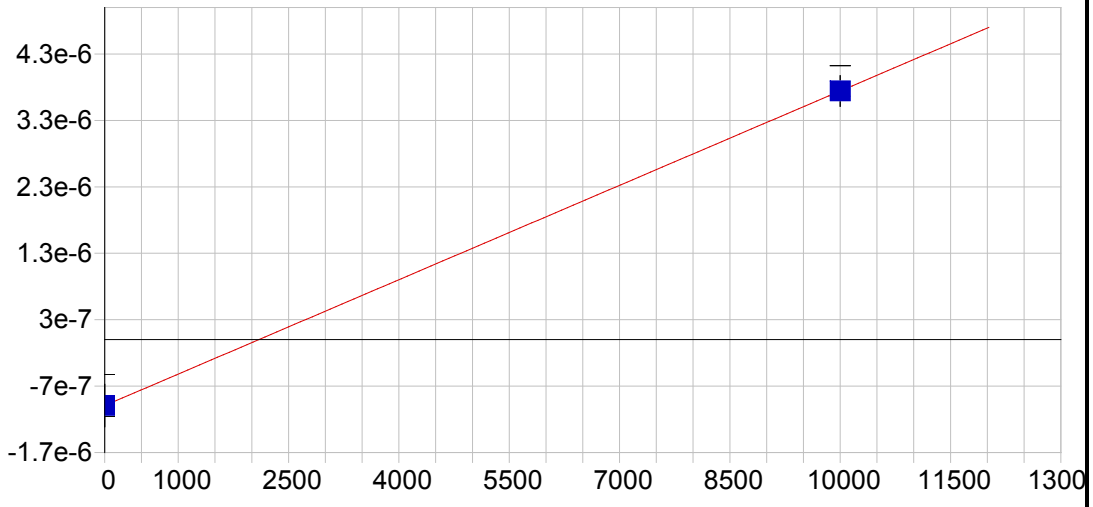



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999481 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 53.224850 | | |
| Predicted MQL: | 177.416168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .55818 | .558 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 750.89 | -249. | -24.9 | .00072 | .000 | 1 |
| CalStd10=10 | 10000. | 6875.5 | -3120. | -31.2 | .00680 | .000 | 1 |
| CalibStd15= | 1000000. | 1003400. | 3370. | .337 | .99608 | .027 | 1 |

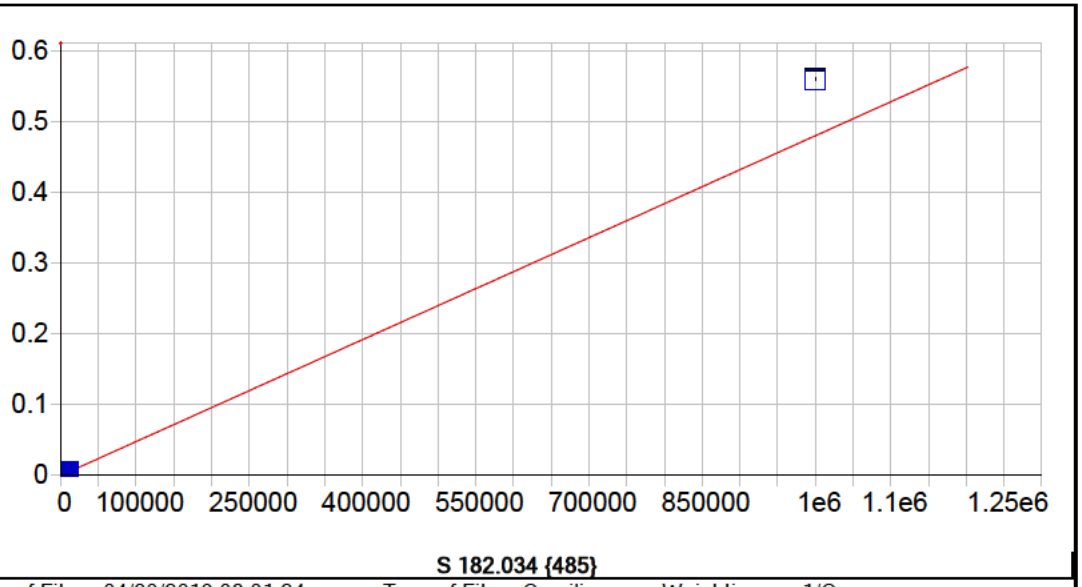



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1106.155392 | | |
| Predicted MQL: | 3687.184641 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00000 | .000 | 1 |

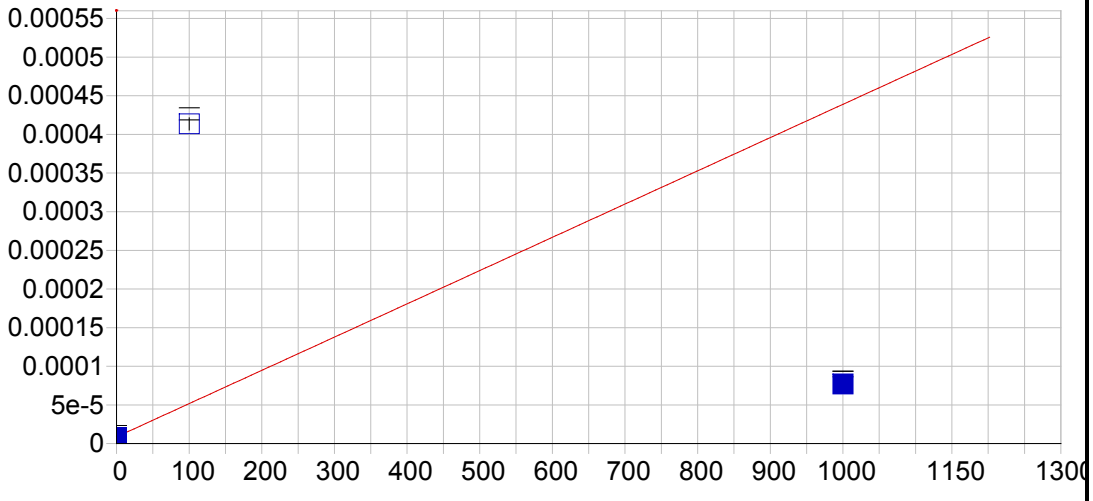



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 6.539657 | | |
| Predicted MQL: | 21.798855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09299 | -.093 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1103.6 | 104. | 10.4 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9912.2 | -87.8 | -.878 | .00479 | .000 | 1 |
| CalibStd15= | 1000000. | 1166000. | 166000. | 16.6 | .55925 | .001 | 1 |

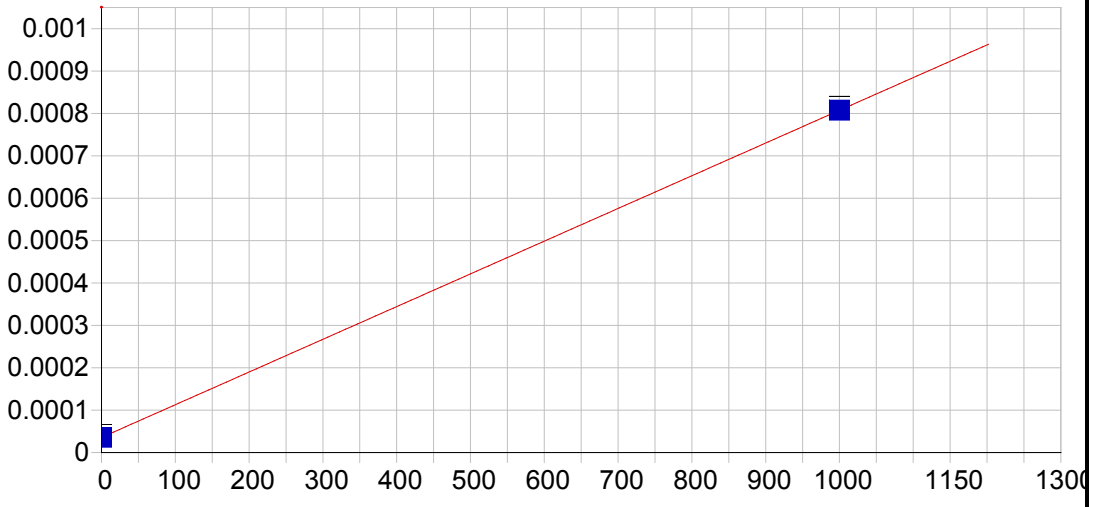



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.351706 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 8.769662 | | |
| Predicted MQL: | 29.232206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75710 | -.757 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 941.22 | 841. | 841. | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 158.78 | -841. | -84.1 | .00008 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000036 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.280330 | | |
| Predicted MQL: | 74.267767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00081 | .000 | 1 |

Sample Name: Blank Acquired: 04/29/2019 14:05:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.595** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.008** | **-.000** |
| Stddev | .000 | .000 | .000 | .623 | .000 | .000 | .000 | .000 | .000 | .000 | .007 | .000 |
| %RSD | 21.1 | 19.7 | 44.3 | 105. | 1380. | 95.5 | 2.89 | 1.22 | 136. | 31.2 | 84.8 | 17.3 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **32.9** | **7.18** | **.000** | **.000** | **.000** | **-.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.2 | 2.95 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.5 | 57.1 | 10.1 | 74.1 | 84.2 | 3.76 | 41.1 | 1.97 | 17.8 | 25.0 | 263. | 5.86 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.35 | 50.7 | 26.0 | 86.5 | 234. | 16.4 | 200. | 9.31 | 190. | 77.9 | 46.1 | 122. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 129. | 53.8 | 28.8 | 40.4 | 12.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1295600.** | **287860.** |
| Stddev | 632. | 3609. | 9201. |
| %RSD | .49904 | .27857 | 3.1964 |

Sample Name: CalStd2=0.5 Acquired: 04/29/2019 14:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.22 | 142. | 3.55 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **126980.** | **1297900.** |
| Stddev | 274. | 2751. |
| %RSD | .21587 | .21197 |

Sample Name: CalStd3=1 Acquired: 04/29/2019 14:18:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.2 | 22.5 | 1.42 | 9.82 | 6.90 | 16.6 | 23.9 | 50.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1298300.** | **279670.** |
| Stddev | 1171. | 9813. | 1746. |
| %RSD | .92435 | .75586 | .62446 |

Sample Name: CalStd4=5 Acquired: 04/29/2019 14:24:48 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.001** | **.000** | **11.2** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.3 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 10.9 | 840. | 123. | 28.5 | 37.1 | 35.4 | 20.7 | 17.1 | 35.4 | 46.7 | 45.9 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 21.1 | 52.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117820.** | **1258200.** | **279990.** |
| Stddev | 1002. | 22700. | 4543. |
| %RSD | .85066 | 1.8042 | 1.6225 |

Sample Name: CalStd5=10 Acquired: 04/29/2019 14:38:57 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.95** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **39.7** |
| Stddev | .000 | .000 | .99 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.3 |
| %RSD | 3.06 | 3.33 | 50.8 | 29.0 | 2.78 | 1.22 | .861 | 1.90 | 1.46 | 1.04 | 1.45 | 8.29 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 23.9 | 1.07 | 1.95 | 4.86 | 2.85 | 22.0 | 10.6 | 8.52 | 5.57 | 6.62 | 12.2 | 3.48 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.54 | .513 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127470.** | **1314900.** | **279840.** |
| Stddev | 543. | 5916. | 2698. |
| %RSD | .42597 | .44994 | .96416 |

Sample Name: CalStd6=20 Acquired: 04/29/2019 14:45:45 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **45.1** | **15.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .7 | 3.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.50 | 1.46 | 20.8 | 4.06 | 1.08 | 2.09 | 7.34 | 4.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127230.** | **1336500.** | **281290.** |
| Stddev | 281. | 43722. | 4762. |
| %RSD | .22067 | 3.2714 | 1.6930 |

Sample Name: CalStd7=50 Acquired: 04/29/2019 14:51:59 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **9.47** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **60.4** | **28.6** | **.001** | **.000** |
| Stddev | .59 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .7 | 1.7 | .000 | .000 |
| %RSD | 6.20 | 13.3 | 6.05 | .715 | .561 | .416 | .571 | 4.00 | 1.12 | 5.76 | 3.81 | .557 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.92 | .610 | 2.57 | 4.98 | 4.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127250.** | **1316800.** | **277460.** |
| Stddev | 420. | 21696. | 1525. |
| %RSD | .32990 | 1.6476 | .54972 |

Sample Name: CalStd8=100 Acquired: 04/29/2019 14:58:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **20.4** | **.000** | **.001** | **.018** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .963 | 1.50 | 2.42 | 3.40 | 1.41 | .981 | 1.80 | 2.05 | 1.32 | 1.97 | 1.86 | 1.68 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **85.4** | **46.3** | **.004** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 1.2 | 5.1 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.44 | 2.03 | 1.56 | 1.42 | 10.9 | 1.66 | 1.75 | 1.48 | 1.88 | 1.49 | 1.90 | 3.34 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.75 | 3.28 | 1.72 | 9.43 | 1.14 | 9.36 | 2.05 | 1.72 | 2.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127180.** | **1310400.** | **281060.** |
| Stddev | 947. | 4674. | 2562. |
| %RSD | .74427 | .35668 | .91156 |

Sample Name: CalStd9=1000 Acquired: 04/29/2019 15:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **187.** | **.001** | **.010** | **.075** | **.057** | **.002** | **.000** | **.136** | **.025** | **.048** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .001 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .200 | 3.18 | .600 | .448 | .355 | 1.58 | 2.26 | 1.21 | 2.00 | 1.68 | .171 | .112 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.003** | **501.** | **354.** | **.000** | **.000** | **.001** | **.000** | **.030** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 7. | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .177 | 2.19 | .085 | 2.28 | 1.98 | 1.93 | 2.35 | 1.99 | 1.63 | 7.99 | 2.19 | 2.33 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.012** | **.012** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.08 | .308 | .184 | .205 | .238 | .841 | .510 | .345 | .214 | .911 | 3.43 | .458 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.019** | **.027** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | 2.36 | .194 | .212 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127570.** | **1307300.** | **280800.** |
| Stddev | 349. | 1896. | 1299. |
| %RSD | .27346 | .14504 | .46270 |

Sample Name: CalStd10=10000 Acquired: 04/29/2019 15:10:04 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.561** | **.003** | **1.10** | **.180** | **.019** | **.129** | **.023** | **4030.** | **2930.** | **.004** |
| Stddev | .000 | .000 | .003 | .000 | .01 | .003 | .000 | .002 | .001 | 18. | 26. | .000 |
| %RSD | 1.36 | 1.33 | .608 | .509 | 1.17 | 1.45 | 2.27 | 1.41 | 2.34 | .443 | .897 | 2.36 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.009** | **.000** | **.231** | **.084** | **.029** | **.045** | **.099** | **.105** | **.010** | **.019** | **.019** |
| Stddev | .000 | .000 | .000 | .004 | .002 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | .808 | .895 | 1.21 | 1.72 | 1.97 | .795 | 1.32 | 1.49 | 1.45 | 1.24 | 1.27 | 1.21 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.020** | **.007** | **.064** | **.158** |
| Stddev | .000 | .000 | .000 | .002 | .003 |
| %RSD | 1.31 | 1.21 | 1.12 | 2.37 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125980.** | **1287600.** | **280530.** |
| Stddev | 699. | 6558. | 1857. |
| %RSD | .55457 | .50933 | .66194 |

Sample Name: CalStd12=100K  Acquired: 04/29/2019 15:16:31  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.28** | **43500.** | **32400.** | **.308** | **.110** | **1.57** |
| Stddev | .00 | 365. | 356. | .005 | .000 | .00 |
| %RSD | .220 | .838 | 1.10 | 1.48 | .171 | .244 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126080.** | **1291400.** | **280400.** |
| Stddev | 291. | 5332. | 3029. |
| %RSD | .23081 | .41287 | 1.0804 |

Sample Name: CalStd13=100000 Acquired: 04/29/2019 15:22:50 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.137** | **.034** | **.045** | **.023** | **.108** | **.003** |
| Stddev | .001 | .001 | .000 | .000 | .001 | .000 |
| %RSD | .846 | 1.58 | .264 | 1.03 | 1.09 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122870.** | **1255700.** | **276750.** |
| Stddev | 346. | 2861. | 2131. |
| %RSD | .28177 | .22782 | .77016 |

Sample Name: CalStd14=500000 Acquired: 04/29/2019 15:29:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.747** | **.174** | **.113** | **.523** | **.019** |
| Stddev | .053 | .010 | .007 | .032 | .001 |
| %RSD | 7.08 | 5.95 | 6.23 | 6.16 | 5.67 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **113070.** | **256400.** |
| Stddev | 158. | 15182. |
| %RSD | .13942 | 5.9212 |

Sample Name: CalibStd15=1000k Acquired: 04/29/2019 15:35:54 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.50** | **.346** | **.215** | **.038** |
| Stddev | .04 | .013 | .007 | .001 |
| %RSD | 3.02 | 3.65 | 3.25 | 3.63 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100510.** | **240940.** |
| Stddev | 265. | 3898. |
| %RSD | .26327 | 1.6180 |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.1** | **9800.** | **1980.** | **2230.** | **2200.** | **47.0** | **8230.** | **47.2** | **53.9** | **567.** | **220.** | **261.** |
| Stddev | .9 | 149. | 22. | 31. | 36. | .8 | 95. | .3 | .7 | 7. | 3. | 3. |
| %RSD | 2.04 | 1.52 | 1.13 | 1.40 | 1.65 | 1.77 | 1.15 | .728 | 1.23 | 1.26 | 1.50 | 1.18 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **266.** | **5250.** | **10400.** | **489.** | **521.** | **465.** | **487.** | **566.** | **565.** | **504.** | **454.** | **558.** |
| Stddev | 8. | 77. | 198. | 9. | 10. | 6. | 5. | 8. | 8. | 13. | 11. | 7. |
| %RSD | 3.18 | 1.46 | 1.90 | 1.87 | 1.91 | 1.24 | .992 | 1.46 | 1.33 | 2.48 | 2.32 | 1.32 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **553.** | **1940.** | **2280.** | **545.** | **552.** | **516.** | **463.** |
| Stddev | 7. | 36. | 21. | 7. | 11. | 8. | 8. |
| %RSD | 1.28 | 1.87 | .934 | 1.24 | 2.07 | 1.49 | 1.77 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127840.** | **1307600.** | **282500.** |
| Stddev | 723. | 3041. | 3053. |
| %RSD | .56570 | .23256 | 1.0807 |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.7** | **1190.** | **1090.** | **62.9** | **29.9** | **11.9** | **1690.** | **15.5** | **15.6** | **34.8** | **35.4** | **33.5** |
| Stddev | .6 | 4. | 10. | 2.2 | .6 | .0 | 19. | .2 | .1 | .6 | .8 | 5.8 |
| %RSD | 2.07 | .337 | .895 | 3.47 | 2.00 | .210 | 1.10 | 1.29 | .722 | 1.84 | 2.40 | 17.5 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2790 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.9** | **1010.** | F **2000.** | **1770.** | **31.3** | **30.8** | **36.0** | **27.9** | F **73.5** | **65.8** | **71.9** | **34.5** |
| Stddev | 9.5 | 7. | 9. | 11. | .1 | .4 | .2 | 1.2 | 3.3 | 3.7 | 1.4 | .2 |
| %RSD | 27.2 | .689 | .472 | .607 | .360 | 1.44 | .578 | 4.12 | 4.43 | 5.66 | 1.91 | .643 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 1500. | | | | | | 60.0 | | | |
| Range | | | 20.0% | | | | | | 20.0% | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.8** |
| Stddev | .5 |
| %RSD | 1.78 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126440.** | **1299100.** | **281370.** |
| Stddev | 219. | 5591. | 1830. |
| %RSD | .17330 | .43034 | .65021 |

Sample Name: icb Acquired: 04/29/2019 16:14:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.28** | **-7.66** | **-3.49** | **-.678** | **.040** | **-65.2** | **-.007** | **-.012** | **-.389** | **-1.22** | **-4.14** | **-25.7** |
| Stddev | .34 | .15 | 1.09 | .359 | .035 | .2 | .032 | .075 | .382 | .46 | 9.91 | 1.7 |
| %RSD | 26.3 | 1.92 | 31.4 | 53.0 | 88.7 | .234 | 459. | 599. | 98.2 | 37.6 | 240. | 6.64 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-45.1** | **-2.33** | **-.779** | **-.444** | **-1.13** | **-1.37** | **-3.02** | **.005** | **-.886** | **-.475** |
| Stddev | .0 | .06 | .620 | .386 | 1.46 | 2.34 | 3.42 | 1.60 | .585 | .118 |
| %RSD | .069 | 2.49 | 79.6 | 87.1 | 129. | 171. | 113. | 35200. | 66.0 | 24.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127950.** | **1314600.** | **279150.** |
| Stddev | 183. | 1396. | 1497. |
| %RSD | .14280 | .10615 | .53616 |

Sample Name: MRL/LLOQ  Acquired: 04/29/2019 16:20:21  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.83** | **399.** | **17.3** | **9.58** | **3.95** | **517.** | **5.09** | **5.18** | **11.3** | **11.0** | F **13.3** | **7.86** |
| Stddev | 1.05 | 1. | 2.5 | .18 | .05 | 14. | .17 | .15 | .5 | .5 | 4.8 | 7.22 |
| %RSD | 10.7 | .244 | 14.5 | 1.86 | 1.29 | 2.78 | 3.44 | 2.86 | 4.58 | 4.90 | 36.2 | 91.9 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 20.0 | | | | | | | | | | 10.0 | |
| Range | -30.0% | | | | | | | | | | 30.0% | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **307.** | **557.** | **8.25** | **9.62** | **11.6** | **8.10** | **21.4** | **19.7** | **23.6** | **10.9** | **10.8** |
| Stddev | 2. | 4. | .12 | .52 | .7 | 1.19 | .9 | 3.6 | 1.2 | .6 | .2 |
| %RSD | .663 | .694 | 1.39 | 5.44 | 5.69 | 14.7 | 4.16 | 18.0 | 4.87 | 5.32 | 1.75 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127160.** | **1305200.** | **281920.** |
| Stddev | 119. | 3887. | 2379. |
| %RSD | .09325 | .29784 | .84390 |

Sample Name: ICSA Acquired: 04/29/2019 16:26:32 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.57** | **526000.** | **.004** | **.000** | **-.667** | **500000.** | **-.001** | **1.18** | **-.018** | **-1.26** | **.003** |
| Stddev | 1.50 | 23900. | 6.63 | 1.21 | .217 | 7850. | .538 | .23 | .727 | 1.07 | 6.54 |
| %RSD | 95.8 | 4.54 | 159000. | 2500000. | 32.5 | 1.57 | 58400. | 19.2 | 4030. | 84.3 | 198000. |
| Check ? | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **542000.** | **473000.** | **-5.48** | **2.51** | **-.575** | **1.54** | **-4.63** | **-11.4** | **-.063** | **13300.** | **-6.89** |
| Stddev | 8100. | 7050. | .16 | .71 | 1.79 | 2.10 | 5.91 | 8.1 | 1.69 | 228. | 1.94 |
| %RSD | 1.49 | 1.49 | 2.86 | 28.5 | 311. | 136. | 128. | 71.3 | 2680. | 1.71 | 28.2 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112330.** | **1167300.** | **261400.** |
| Stddev | 184. | 5118. | 4079. |
| %RSD | .16359 | .43841 | 1.5603 |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **431000.** | **536.** | **577.** | **460.** | **533.** | **447.** | **407000.** | **484.** | **514.** | **523.** |
| Stddev | 1. | 3080. | 4. | 12. | 6. | 2. | 5. | 4890. | 7. | 8. | 4. |
| %RSD | .232 | .714 | .730 | 2.06 | 1.40 | .354 | 1.09 | 1.20 | 1.47 | 1.63 | .686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2025 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | **498.** | **446000.** | **402000.** | **452.** | **521.** | **454.** | **480.** | **503.** | **504.** | F **765.** |
| Stddev | 4. | 12. | 2900. | 6120. | 2. | 7. | 7. | 8. | 8. | 7. | 23. |
| %RSD | .885 | 2.37 | .651 | 1.52 | .475 | 1.27 | 1.59 | 1.59 | 1.58 | 1.40 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | | | 500. |
| Range | | | | | | | | | | | 20.0% |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F **395.** | **502.** | **528.** | **444.** | **534.** | **550.** | **539.** | **482.** | **444.** |
| Stddev | 11. | 6. | 16. | 11. | 8. | 7. | 3. | 7. | 8. |
| %RSD | 2.70 | 1.22 | 3.02 | 2.45 | 1.51 | 1.28 | .483 | 1.39 | 1.80 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | |
| Range | -20.0% | | | | | | | | |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114940.** | **1185100.** | **265530.** |
| Stddev | 897. | 3486. | 319. |
| %RSD | .78024 | .29412 | .12000 |

Sample Name: 255886 Acquired: 04/29/2019 17:24:24 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.25** | **1470.** | **1470.** | **3.12** | **326.** | **426.** | **.200** | **781.** | **.767** | **.127** | **3.89** | **.064** |
| Stddev | .71 | 5. | 17. | 3.23 | 2. | 11. | .221 | 11. | .106 | .119 | .52 | .840 |
| %RSD | 56.8 | .318 | 1.15 | 104. | .466 | 2.55 | 110. | 1.38 | 13.8 | 93.6 | 13.3 | 1310. |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **107.** | **85.4** | **2250.** | **292.** | **17600.** | **.473** | **3.03** | **185.** | **-.216** | **-1.04** | **9.51** | **16.1** |
| Stddev | 5. | 5.8 | 102. | 31. | 262. | .377 | .23 | 3. | 1.03 | 3.59 | 2.00 | 1.3 |
| %RSD | 5.04 | 6.74 | 4.52 | 10.6 | 1.49 | 79.7 | 7.75 | 1.46 | 478. | 346. | 21.1 | 7.89 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **44.7** |
| Stddev | .3 |
| %RSD | .564 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **130160.** | **1313000.** | **286970.** |
| Stddev | 465. | 87107. | 5896. |
| %RSD | .35724 | 6.6342 | 2.0546 |

Sample Name: ccv1 Acquired: 04/29/2019 17:49:42 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **460.** | F **4050.** | **5450.** | **5400.** | **459.** | F **4140.** | **485.** | **5340.** | **4640.** | **5180.** | **5240.** | **5390.** |
| Stddev | 23. | 56. | 22. | 119. | 10. | 64. | 1. | 231. | 5. | 83. | 101. | 145. |
| %RSD | 4.89 | 1.38 | .395 | 2.20 | 2.25 | 1.53 | .210 | 4.32 | .106 | 1.61 | 1.93 | 2.68 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | | | |
| Range | | -10.4% | | | | -10.4% | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5320.** | **4980.** | F **5680.** | **5170.** | **5450.** | **4810.** | F **5640.** | **5330.** | **5300.** |
| Stddev | 118. | 28. | 24. | 34. | 22. | 36. | 28. | 105. | 16. |
| %RSD | 2.22 | .563 | .413 | .664 | .403 | .738 | .505 | 1.96 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | 5000. | | |
| Range | | | 10.4% | | | | 10.4% | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123080.** | **1257500.** | **274160.** |
| Stddev | 473. | 75307. | 1908. |
| %RSD | .38434 | 5.9889 | .69588 |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **480.** | **485.** | F **553.** | **503.** | F **587.** | **49.4** | **50.2** | **527.** | **52.0** | **52.2** | F **591.** |
| Stddev | .5 | 1. | 3. | 4. | . | 2. | .6 | 1.1 | 2. | .3 | .1 | 1. |
| %RSD | 1.01 | .272 | .694 | .689 | .096 | .255 | 1.19 | 2.10 | .320 | .565 | .221 | .179 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. | | 500. | | | | | | 500. |
| Range | | | | 10.4% | | 10.4% | | | | | | 10.4% |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **552.** | F **561.** | **514.** | **510.** | **544.** | **472.** | F **556.** | **491.** | **514.** | F **596.** | F **592.** | **545.** |
| Stddev | 5. | 4. | 12. | 5. | 7. | 5. | 1. | 1. | 1. | . | 1. | 4. |
| %RSD | .948 | .784 | 2.34 | 1.03 | 1.33 | 1.15 | .112 | .260 | .267 | .047 | .196 | .745 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | 500. | 500. | | | | | 500. | | | 500. | 500. | |
| Range | 10.4% | 10.4% | | | | | 10.4% | | | 10.4% | 10.4% | |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **480.** | F **565.** | F **558.** | **498.** | F **615.** | F **554.** | **544.** | **552.** | **455.** |
| Stddev | 3. | 1. | 3. | 5. | 4. | 11. | 5. | 2. | 1. |
| %RSD | .704 | .182 | .537 | .979 | .574 | 1.95 | .948 | .367 | .247 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 500. | 500. | | 500. | 500. | | | |
| Range | | 10.4% | 10.4% | | 10.4% | 10.4% | | | |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126540.** | **1325700.** | **275670.** |
| Stddev | 143. | 8007. | 1112. |
| %RSD | .11323 | .60400 | .40336 |

Sample Name: ccb Acquired: 04/29/2019 18:00:55 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.615** | **-12.1** | **-4.13** | **-.238** | **.260** | **-64.5** | **.217** | **.078** | **.468** | **.061** | **-3.75** | **-28.2** |
| Stddev | .604 | .2 | 3.07 | .527 | .060 | .6 | .114 | .159 | .143 | .576 | 6.55 | 1.5 |
| %RSD | 98.2 | 1.65 | 74.3 | 221. | 23.2 | .865 | 52.5 | 205. | 30.5 | 946. | 175. | 5.41 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-47.9** | **-1.73** | **1.70** | **.564** | **-.448** | **-.133** | **-1.41** | **1.69** | **.185** | **.066** |
| Stddev | .1 | .15 | .60 | .584 | 3.79 | 2.55 | 3.40 | 2.46 | .360 | .070 |
| %RSD | .188 | 8.63 | 35.3 | 104. | 848. | 1920. | 241. | 146. | 195. | 106. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

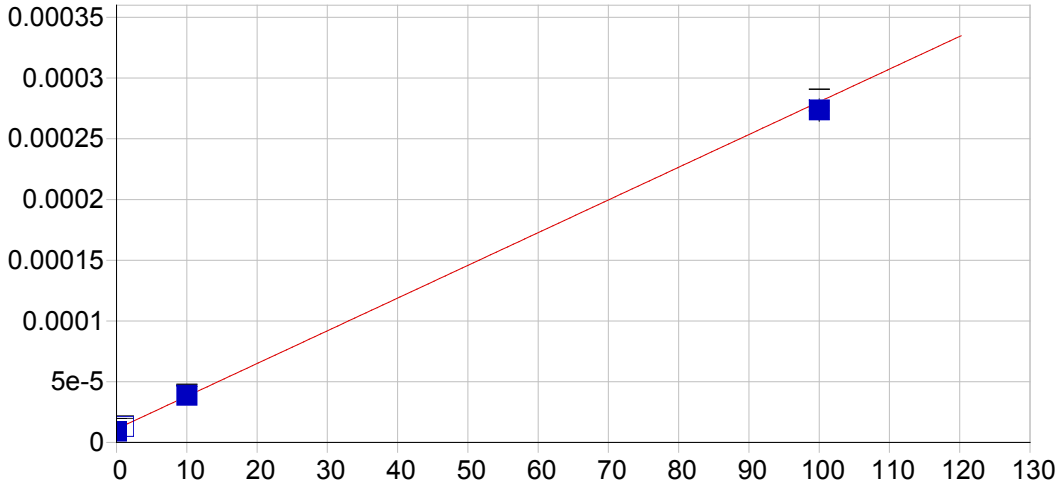
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126900.** | **1349400.** | **276260.** |
| Stddev | 436. | 24445. | 4406. |
| %RSD | .34375 | 1.8115 | 1.5949 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/12/2019 12:30:12 | 04/03/2019 14:55:03 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.998948 | 0.000002 | 0.840534 | 2.801781 |
| Ag 338.289 {100} | 04/12/2019 12:30:12 | 04/03/2019 15:00:39 | Linear | 1/Conc | 0.000003 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 9.469763 | 31.565876 |
| Al 167.079 {501} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | None | 0.000038 | 0.000005 | 0.000000 | 1.000000 | 0.999974 | 0.000020 | 0.710137 | 2.367124 |
| Al 308.215 {109} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Linear | 1/Var | 0.000061 | 0.000000 | 0.000000 | 1.000000 | 0.999866 | 0.000013 | 29.257129 | 97.523765 |
| Al 396.152 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:34:05 | Curvili | 1/Conc | -0.000025 | 0.000001 | 0.000000 | 1.000000 | 0.999969 | 0.000016 | 14.461269 | 48.204230 |
| As 193.759 {474} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Var | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999984 | 0.000002 | 3.702299 | 12.340998 |
| As 197.262 {471} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | -0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 8.640076 | 28.800254 |
| Ba 233.527 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:00:40 | Linear | 1/Conc | -0.000000 | 0.000014 | 0.000000 | 1.000000 | 0.999978 | 0.000000 | 0.385605 | 1.285350 |
| Ba 455.403 { 74} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.000059 | 0.000044 | 0.000000 | 1.000000 | 0.999967 | 0.000001 | 0.386546 | 1.288486 |
| Ba 493.409 { 68} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Var | 0.008860 | 0.000040 | 0.000000 | 1.000000 | 0.999994 | 0.000024 | 1.031177 | 3.437257 |
| Be 313.042 {108} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000024 | 0.000054 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.038732 | 0.129107 |
| Be 234.861 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999985 | 0.000000 | 1.063490 | 3.544965 |
| Ca 315.887 {107} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000073 | 0.000000 | 0.000000 | 1.000000 | 0.999814 | 0.000026 | 12.703344 | 42.344479 |
| Ca 317.933 {106} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.003777 | 0.000001 | 0.000000 | 1.000000 | 0.999902 | 0.000015 | 7.356272 | 24.520908 |
| Ca 393.366 { 86} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Var | 0.005182 | 0.000159 | 0.000000 | 1.000000 | 0.995263 | 0.005641 | 0.080763 | 0.269209 |
| Ca 396.847 { 85} | 04/12/2019 12:30:12 | 04/03/2019 15:07:14 | Linear | 1/Conc | 0.017159 | 0.000120 | 0.000000 | 1.000000 | 0.994122 | 0.000616 | 0.099859 | 0.332864 |
| Cd 226.502 {449} | 04/12/2019 12:30:12 | 04/03/2019 15:00:41 | Linear | 1/Conc | -0.000013 | 0.000034 | 0.000000 | 1.000000 | 0.999928 | 0.000000 | 0.235113 | 0.783710 |
| Cd 228.802 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:00:42 | Linear | 1/Conc | 0.000028 | 0.000062 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 0.164609 | 0.548698 |
| Co 228.616 {447} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000006 | 0.000029 | 0.000000 | 1.000000 | 0.999923 | 0.000001 | 0.387286 | 1.290953 |
| Co 238.892 {141} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999986 | 0.000001 | 0.807762 | 2.692542 |
| Cr 205.560 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Var | 0.000020 | 0.000016 | 0.000000 | 1.000000 | 0.997587 | 0.000066 | 0.368554 | 1.228514 |
| Cr 267.716 {126} | 04/12/2019 12:30:12 | 04/03/2019 15:07:15 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.932952 | 3.109840 |
| Cu 224.700 {450} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999685 | 0.000011 | 0.487339 | 1.624464 |
| Cu 324.754 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:13:37 | Linear | 1/Conc | 198.71895 | 0.845033 | 0.000000 | 1.000000 | 0.999907 | 0.442229 | 3.237496 | 10.791653 |
| Cu 327.396 {103} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 7.283647 | 0.431855 | 0.000000 | 1.000000 | 0.999882 | 0.176994 | 8.308669 | 27.695563 |
| Fe 234.349 {144} | 04/12/2019 12:30:12 | 04/03/2019 15:20:01 | Curvili | 1/Var | 0.000019 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000000 | 1.712355 | 5.707849 |
| Fe 239.562 {140} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000029 | 0.000000 | 0.000000 | 1.000000 | 0.998865 | 0.000064 | 11.697136 | 38.990454 |
| Fe 259.940 {129} | 04/12/2019 12:30:12 | 04/03/2019 15:26:42 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.998255 | 0.000033 | 3.951315 | 13.171051 |
| Mg 202.582 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Var | 0.000058 | 0.000003 | 0.000000 | 1.000000 | 0.999028 | 0.000109 | 2.561991 | 8.539971 |
| Mg 279.079 {121} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Full Fit | 1/Conc | -0.000003 | 0.000000 | 0.000000 | 1.030000 | 0.999974 | 0.000001 | 87.004312 | 290.01437 |
| Mg 280.270 {120} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | 0.000148 | 0.000027 | 0.000000 | 1.000000 | 0.999796 | 0.000033 | 0.040780 | 0.135933 |
| Mn 257.610 {131} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Conc | 0.000001 | 0.000009 | 0.000000 | 1.000000 | 0.999926 | 0.000001 | 0.120880 | 0.402933 |
| Mn 259.373 {130} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999853 | 0.000026 | 1.336755 | 4.455850 |
| Mo 202.030 {466} | 04/12/2019 12:30:12 | 04/03/2019 15:00:43 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.468446 | 1.561488 |
| Mo 203.844 {465} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Var | 0.000008 | 0.000008 | 0.000000 | 1.000000 | 0.999951 | 0.000008 | 0.885886 | 2.952955 |
| Mo 204.598 {464} | 04/12/2019 12:30:12 | 04/03/2019 15:07:16 | Linear | 1/Var | -0.000007 | 0.000007 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 0.880737 | 2.935789 |
| Ni 221.647 {452} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999923 | 0.000009 | 0.659772 | 2.199241 |
| Ni 231.604 {445} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000031 | 0.000017 | 0.000000 | 1.000000 | 0.999914 | 0.000001 | 0.636840 | 2.122800 |
| Pb 216.999 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999755 | 0.000022 | 5.202291 | 17.340971 |
| Pb 220.353 {453} | 04/12/2019 12:30:12 | 04/03/2019 15:00:44 | Linear | 1/Conc | 0.000030 | 0.000004 | 0.000000 | 1.000000 | 0.999244 | 0.000000 | 2.562058 | 8.540192 |
| Pb 220.353 {153} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999906 | 0.000000 | 6.767648 | 22.558828 |
| Sb 206.833 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | -0.000007 | 0.000003 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 2.380937 | 7.936456 |
| Sb 217.581 {455} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Linear | 1/Conc | 0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999893 | 0.000000 | 2.579773 | 8.599243 |
| Se 196.090 {472} | 04/12/2019 12:30:12 | 04/03/2019 15:00:45 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999018 | 0.000000 | 4.530040 | 15.100132 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:07:17 | Curvili | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999905 | 0.000000 | 23.155478 | 77.184928 |
| Tl 190.856 {476} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999705 | 0.000001 | 2.323578 | 7.745262 |
| Tl 190.856 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999828 | 0.000000 | 5.817160 | 19.390533 |
| V 290.882 {116} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 5.979888 | 19.932959 |
| V 292.402 {115} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999995 | 0.000000 | 0.564743 | 1.882477 |
| Zn 206.200 {463} | 04/12/2019 12:30:12 | 04/03/2019 15:13:38 | Linear | 1/Var | 0.000041 | 0.000024 | 0.000000 | 1.000000 | 0.997616 | 0.000150 | 0.362951 | 1.209837 |
| Zn 213.856 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:00:46 | Linear | 1/Conc | 0.000072 | 0.000044 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.176452 | 0.588174 |
| Y 224.306 {450}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/12/2019 12:30:12 | 04/03/2019 14:11:38 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:07:18 | Linear | 1/Conc | 0.004390 | 0.000005 | 0.000000 | 1.000000 | 1.000000 | 0.000001 | 8.191976 | 27.306587 |
| Na 589.592 { 57} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000051 | 0.000003 | 0.000000 | 1.000000 | 1.000000 | 0.000003 | 9.323428 | 31.078092 |
| Si 251.611 {134} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.092998 | 0.072976 | 0.000000 | 1.000000 | 0.998832 | 1.671194 | 19.062042 | 63.540140 |
| Ti 323.452 {104} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000253 | 0.000008 | 0.000000 | 1.000000 | 0.999959 | 0.000001 | 1.317547 | 4.391824 |
| Ti 334.941 {101} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000002 | 0.000005 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 1.513558 | 5.045195 |
| Sr 407.771 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000066 | 0.000090 | 0.000000 | 1.000000 | 0.999998 | 0.000001 | 0.170987 | 0.569955 |
| Sr 421.552 { 80} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000007 | 0.000084 | 0.000000 | 1.000000 | 0.999990 | 0.000001 | 0.184340 | 0.614467 |
| Sn 189.989 {477} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999932 | 0.000001 | 1.392712 | 4.642373 |
| B 249.678 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 1.807993 | 6.026642 |
| B 249.773 {135} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999987 | 0.000001 | 0.680433 | 2.268110 |
| Li 670.784 { 50} | 04/12/2019 12:30:12 | 04/03/2019 15:07:19 | Linear | 1/Var | 0.000001 | 0.000034 | 0.000000 | 1.000000 | 0.999980 | 0.000015 | 1.018434 | 3.394779 |
| K 766.490 { 44} | 04/12/2019 12:30:12 | 04/03/2019 15:34:06 | Linear | 1/Conc | 0.000066 | 0.000002 | 0.000000 | 1.000000 | 1.000000 | 0.000002 | 27.773860 | 92.579535 |
| P 213.618 {457} | 04/12/2019 12:30:12 | 04/03/2019 15:07:20 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.557307 | 15.191024 |
| S 182.034 {485} | 04/12/2019 12:30:12 | 04/03/2019 15:34:07 | Curvili | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.132317 | 20.441056 |
| Hg 184.950 {482} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000009 | 0.000005 | 0.000000 | 1.000000 | 0.999910 | 0.000001 | 1.117100 | 3.723667 |
| Ce 404.076 { 83} | 04/12/2019 12:30:12 | 04/03/2019 15:00:48 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 21.843516 | 72.811721 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

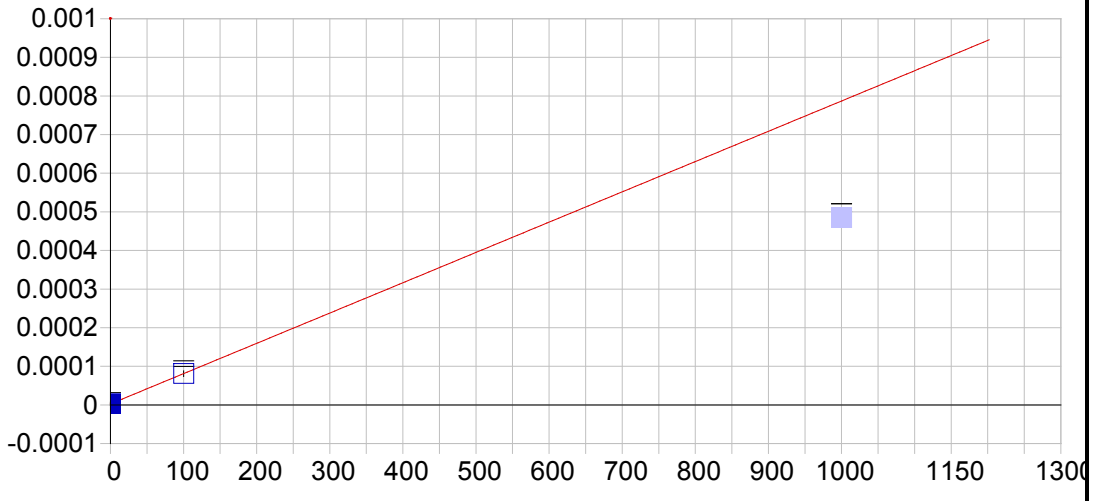



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998948 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.840534 | | |
| Predicted MQL: | 2.801781 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.69812 | -.698 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.271 | .271 | 2.71 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.483 | -2.52 | -2.52 | .00027 | .000 | 1 |
| CalStd3=1 | 1.0000 | .69860 | -.301 | -30.1 | .00001 | .000 | 1 |

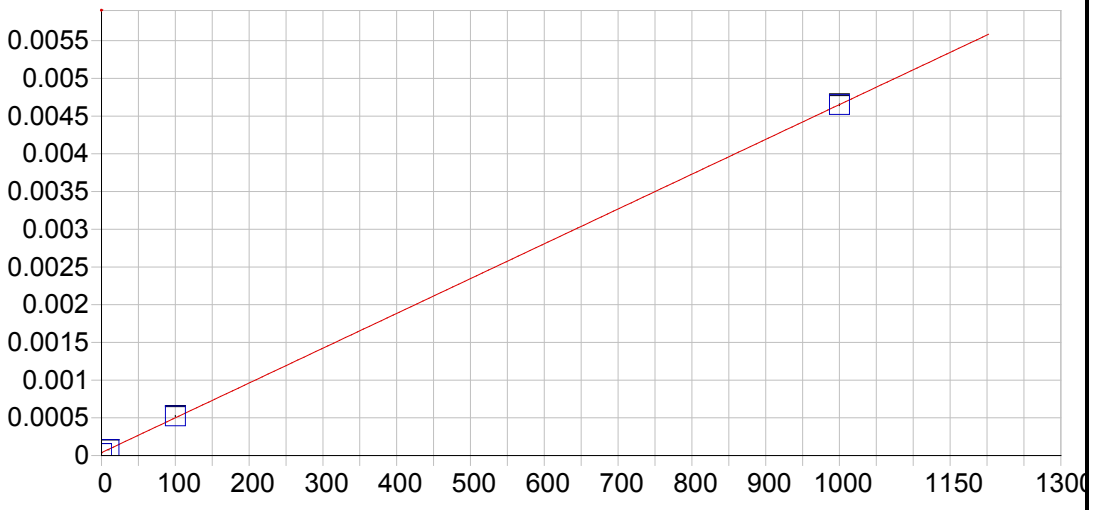



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 9.469763 | | |
| Predicted MQL: | 31.565876 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.00 | .000 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 614.67 | -385. | -38.5 | .00048 | .000 | 0 |

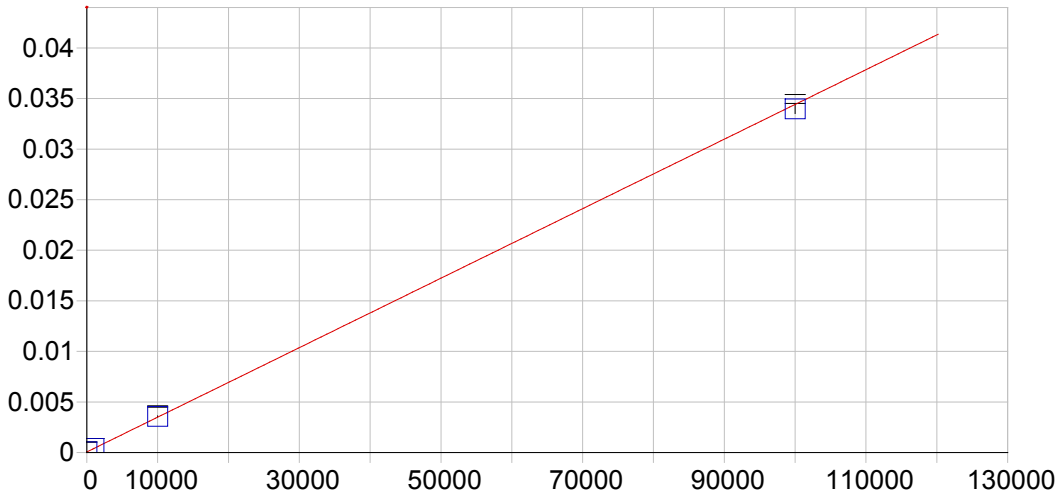



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 0.710137 | | |
| Predicted MQL: | 2.367124 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.9331 | -2.93 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.51 | -.488 | -.049 | .00465 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3797 | -1.62 | -16.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.04 | 5.04 | 5.04 | .00052 | .000 | 1 |

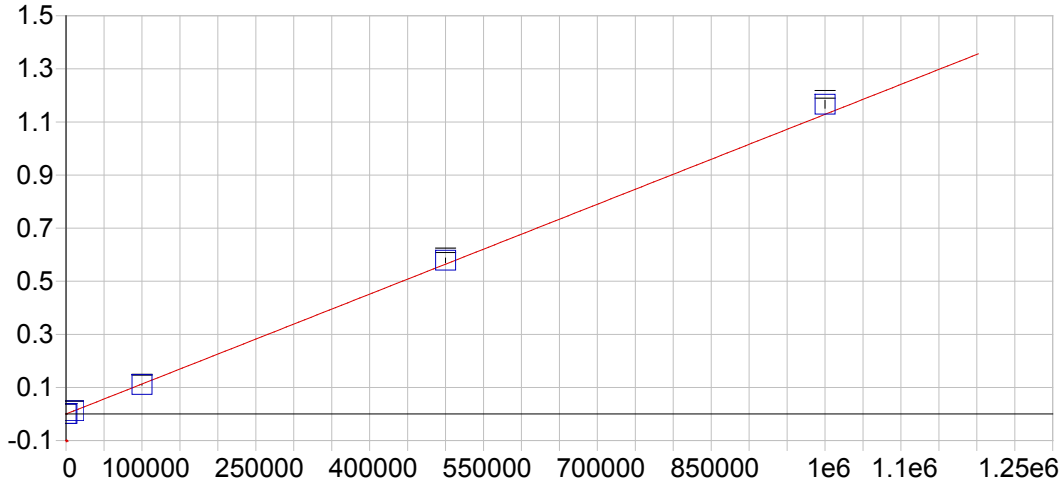



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 29.257129 | | |
| Predicted MQL: | 97.523765 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -11.568 | -11.6 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10191. | 191. | 1.91 | .00356 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.7 | 6.70 | .670 | .00041 | .000 | 1 |
| CalStd13=10 | 100000. | 98668. | -1330. | -1.33 | .03396 | .000 | 1 |

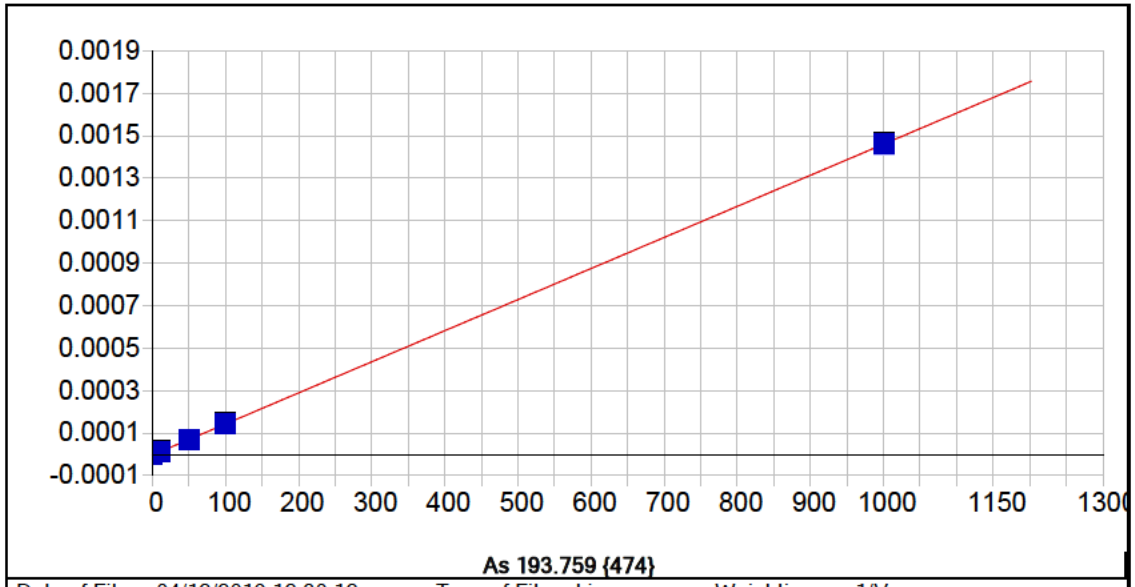



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 14.461269 | | |
| Predicted MQL: | 48.204230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02340 | -.023 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 512920. | 12900. | 2.58 | .57884 | .009 | 1 |
| CalStd13=10 | 100000. | 97807. | -2190. | -2.19 | .11036 | .002 | 1 |
| CalStd10=10 | 10000. | 10194. | 194. | 1.94 | .01148 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.3 | 23.3 | 2.33 | .00113 | .000 | 1 |
| CalibStd15= | 1000000. | 1033300. | 33300. | 3.33 | 1.1661 | .014 | 1 |

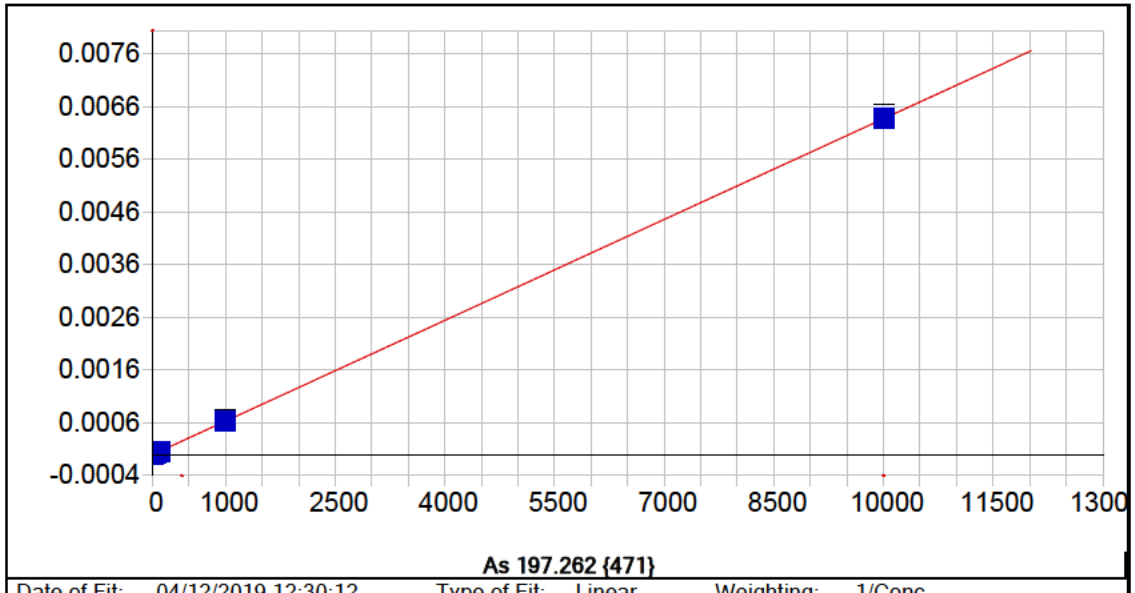



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 3.702299 | | |
| Predicted MQL: | 12.340998 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.7697 | 1.77 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .522 | .052 | .00146 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.090 | -.910 | -1.82 | .00007 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.885 | .885 | 8.85 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.42 | .418 | .418 | .00014 | .000 | 1 |

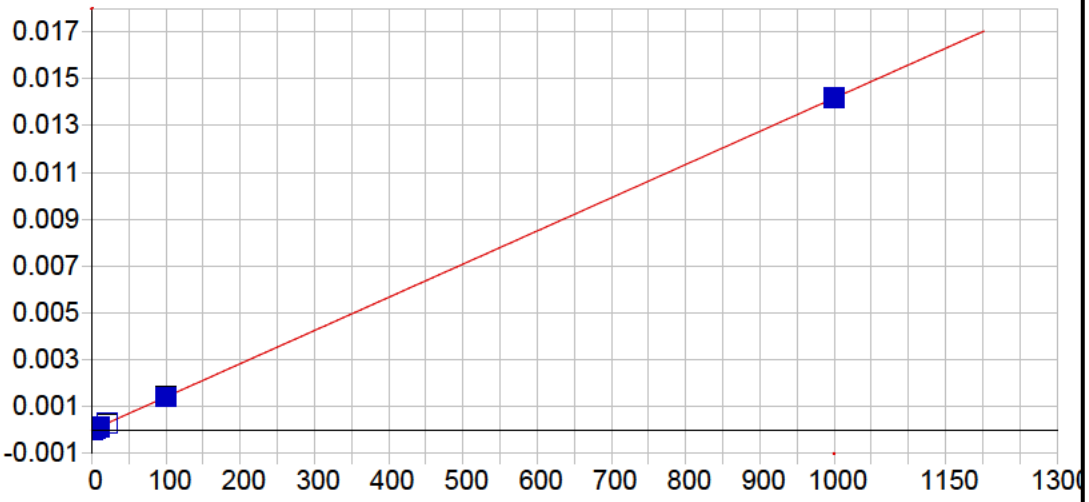



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.640076 | | |
| Predicted MQL: | 28.800254 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00220 | .002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.1 | 8.14 | .814 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.623 | -1.38 | -2.75 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7994 | -2.20 | -22.0 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.98 | 1.98 | 1.98 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.4 | -6.56 | -.066 | .00641 | .000 | 1 |

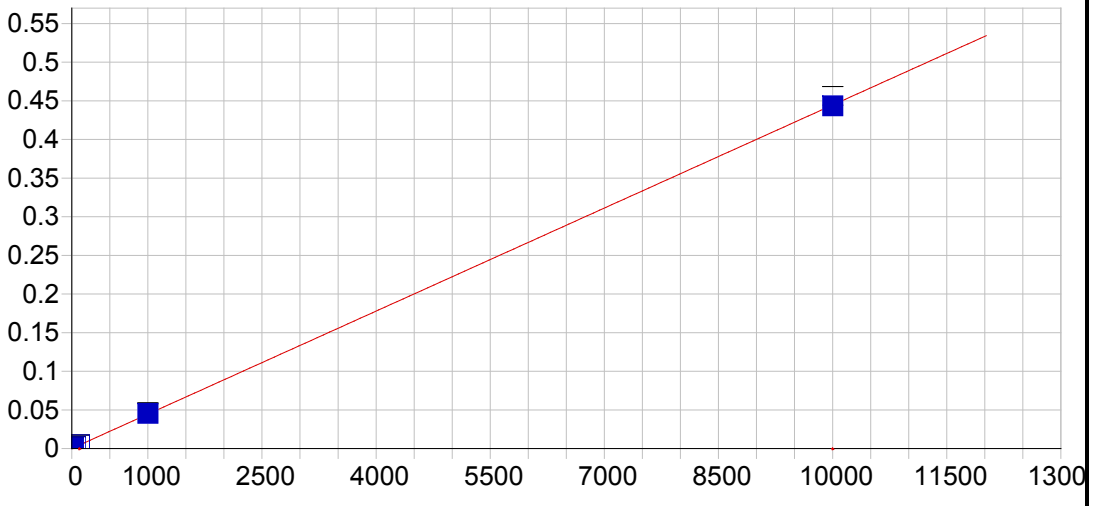



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.385605 | | |
| Predicted MQL: | 1.285350 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00007 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.489 | .489 | 4.89 | .00015 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.897 | -.103 | -.514 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00141 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6838 | -.316 | -6.32 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .462 | .046 | .01418 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95385 | -.046 | -4.62 | .00001 | .000 | 1 |

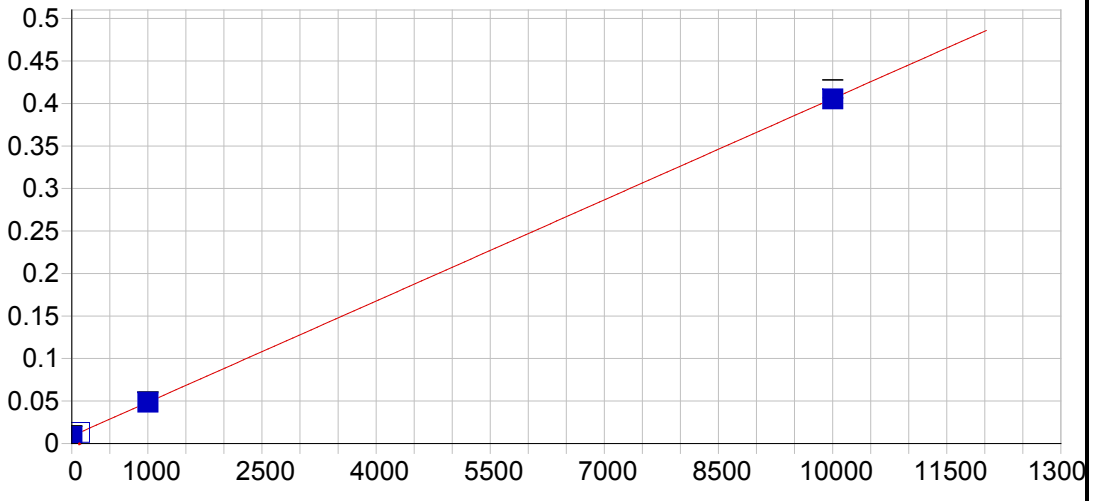



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000059 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.386546 | | |
| Predicted MQL: | 1.288486 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.643 | .643 | 1.29 | .00231 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.735 | .735 | 7.35 | .00054 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.036 | .036 | .179 | .00095 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.69 | 3.69 | 3.69 | .00467 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9429 | -.057 | -1.14 | .00028 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.5 | 21.5 | 2.15 | .04547 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0828 | .083 | 8.28 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9973.4 | -26.6 | -.266 | .44343 | .012 | 1 |

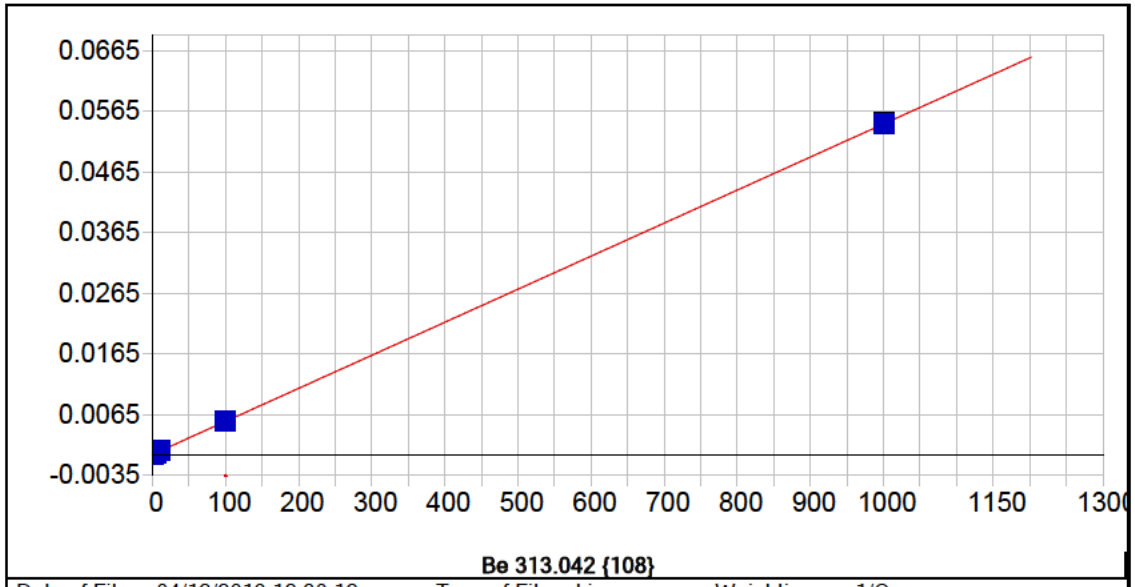



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008860 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000040 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 1.031177 | | |
| Predicted MQL: | 3.437257 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05731 | -.057 | .000 | .00886 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.74 | -.258 | -.026 | .04854 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.90 | 2.90 | 2.90 | .01294 | .000 | 1 |
| CalStd10=10 | 10000. | 9990.0 | -9.96 | -.100 | .40536 | .011 | 1 |

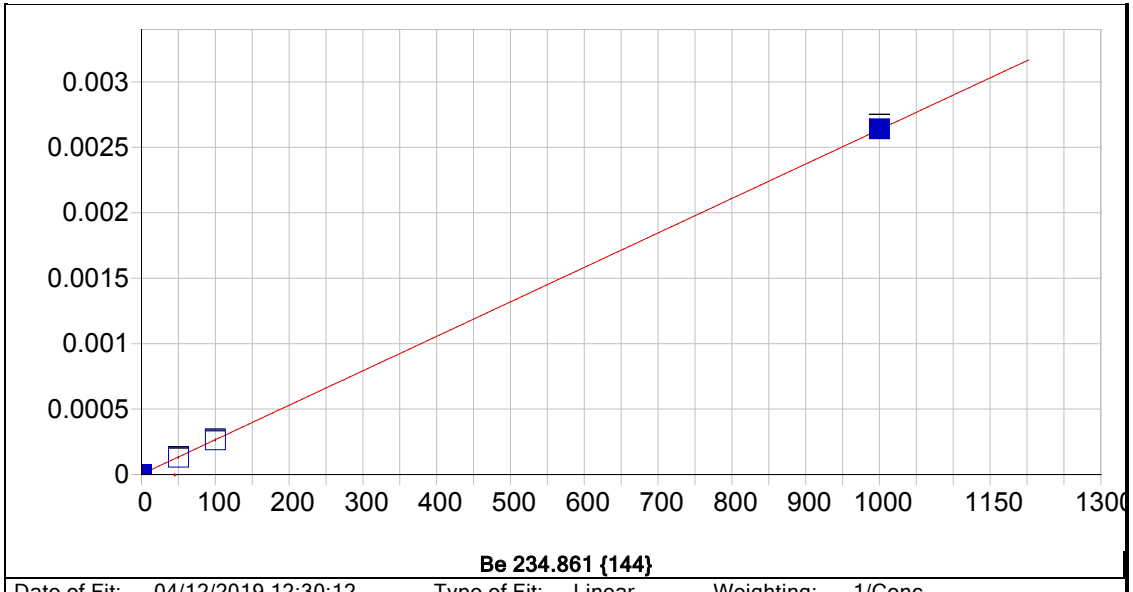



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.038732 | | |
| Predicted MQL: | 0.129107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00002 | .000 | .000 | -.00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.342 | .342 | 3.42 | .00054 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.895 | -1.11 | -1.11 | .00536 | .000 | 1 |
| CalStd2=0.5 | .50000 | .49707 | -.003 | -.586 | .00000 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8966 | -.103 | -2.07 | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .913 | .091 | .05447 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95674 | -.043 | -4.33 | .00003 | .000 | 1 |

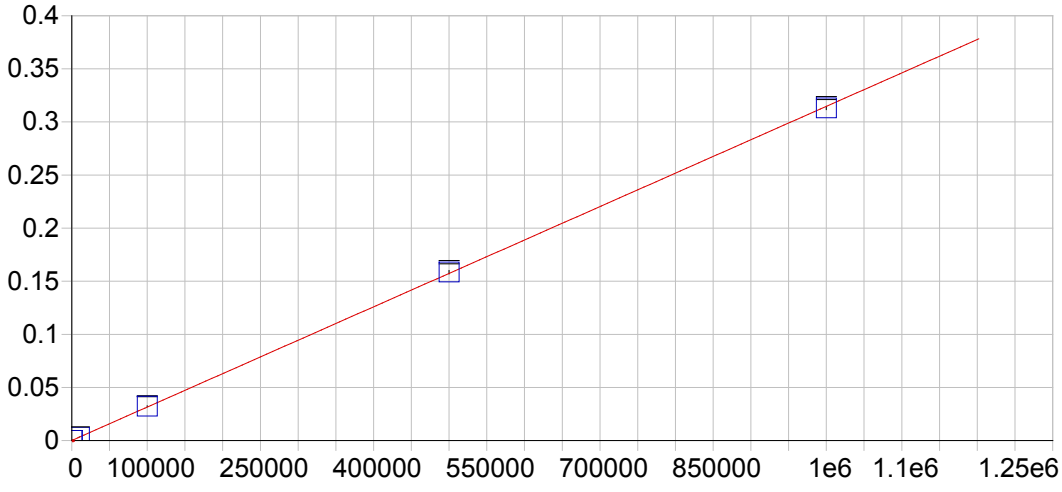



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.063490 | | |
| Predicted MQL: | 3.544965 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00139 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.312 | -.688 | -.688 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00013 | .000 | 1 |

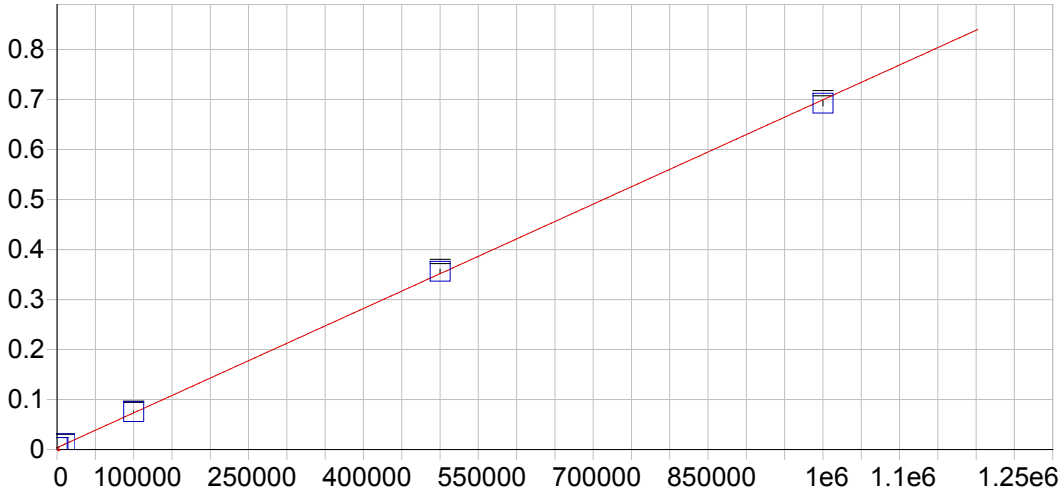



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000073 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999814 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 12.703344 | | |
| Predicted MQL: | 42.344479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 49.256 | 49.3 | .000 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 10409. | 409. | 4.09 | .00335 | .000 | 1 |
| CalStd13=10 | 100000. | 102410. | 2410. | 2.41 | .03229 | .000 | 1 |
| CalStd14=50 | 500000. | 503620. | 3620. | .724 | .15852 | .002 | 1 |
| CalStd9=100 | 1000.0 | 954.41 | -45.6 | -4.56 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 994810. | -5190. | -.519 | .31306 | .001 | 1 |

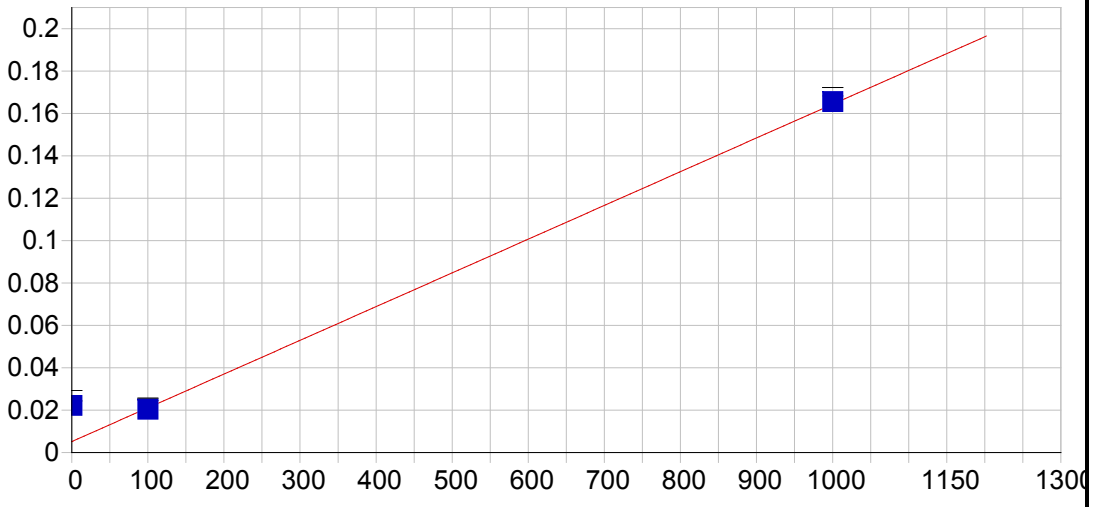



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003777 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999902 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 7.356272 | | |
| Predicted MQL: | 24.520908 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02441 | .024 | .000 | .00378 | .000 | 1 |
| CalStd10=10 | 10000. | 10475. | 475. | 4.75 | .01106 | .000 | 1 |
| CalStd13=10 | 100000. | 103110. | 3110. | 3.11 | .07551 | .001 | 1 |
| CalStd14=50 | 500000. | 506500. | 6500. | 1.30 | .35615 | .004 | 1 |
| CalStd9=100 | 1000.0 | 893.99 | -106. | -10.6 | .00440 | .000 | 1 |
| CalibStd15= | 1000000. | 990030. | -9970. | -.997 | .69254 | .005 | 1 |

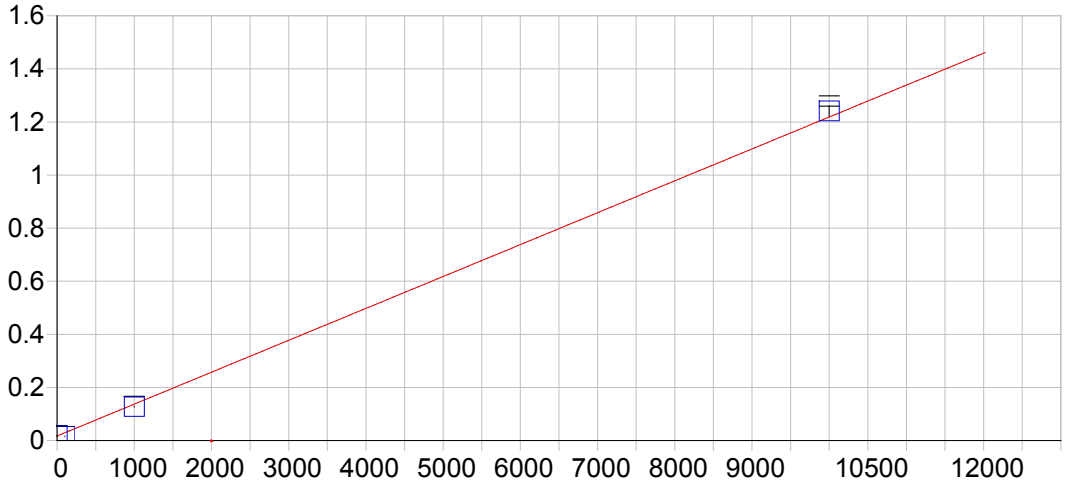



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005182 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000159 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995263 | Status: | OK. |
| Std Error of Est: | 0.005641 | | |
| Predicted MDL: | 0.080763 | | |
| Predicted MQL: | 0.269209 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 106.57 | 107. | .000 | .02215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1007.3 | 7.32 | .732 | .16553 | .002 | 1 |
| CalStd8=100 | 100.00 | 95.448 | -4.55 | -4.55 | .02038 | .000 | 1 |

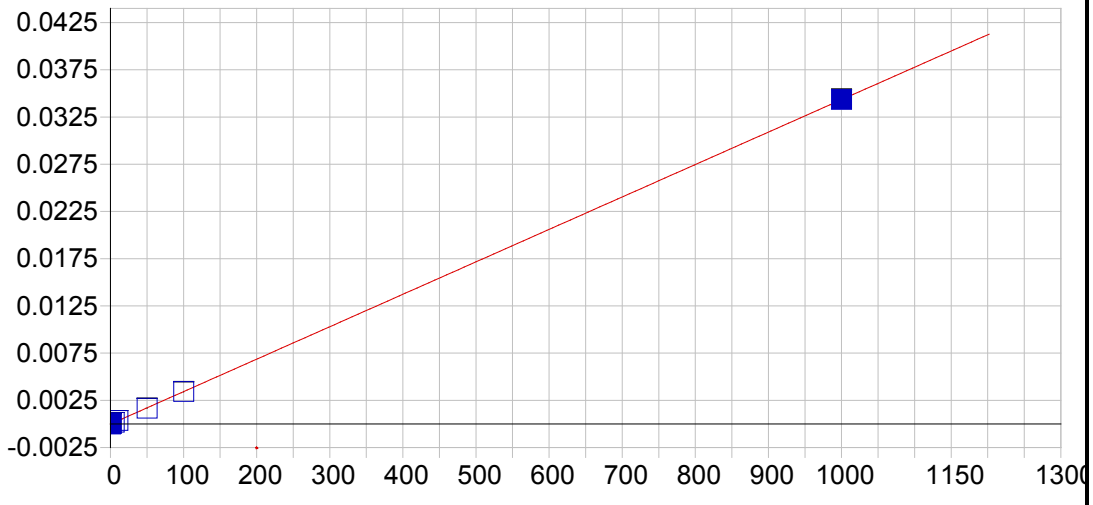



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.017159 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000120 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994122 | Status: | OK. |
| Std Error of Est: | 0.000616 | | |
| Predicted MDL: | 0.099859 | | |
| Predicted MQL: | 0.332864 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11631 | .116 | .000 | .01717 | .002 | 1 |
| CalStd10=10 | 10000. | 10188. | 188. | 1.88 | 1.2411 | .019 | 1 |
| CalStd8=100 | 100.00 | -10.442 | -110. | -110. | .01590 | .000 | 1 |
| CalStd9=100 | 1000.0 | 922.57 | -77.4 | -7.74 | .12800 | .001 | 1 |

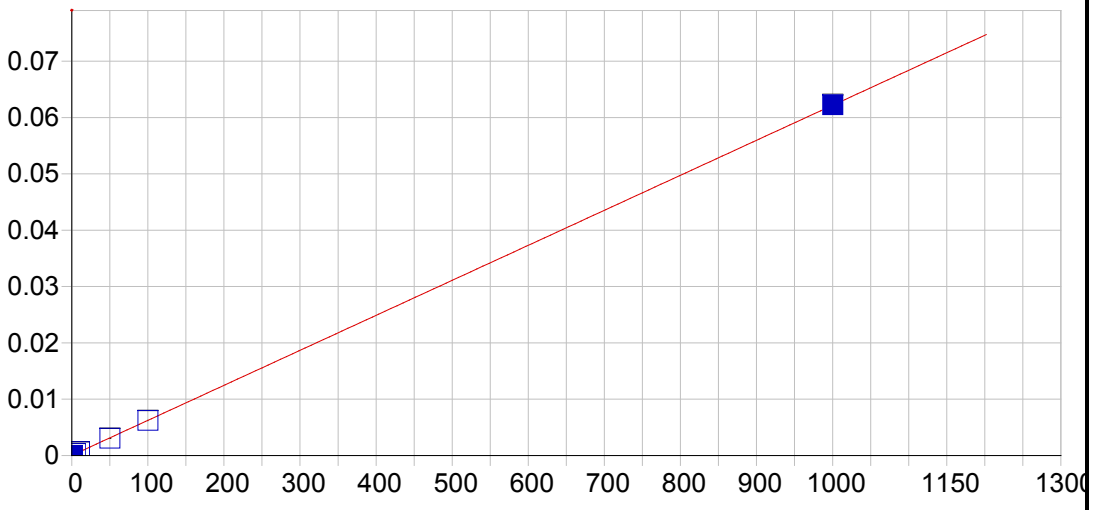



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.235113 | | |
| Predicted MQL: | 0.783710 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00026 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.536 | -1.46 | -2.93 | .00165 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1985 | .199 | 19.9 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .62555 | .126 | 25.1 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0937 | .094 | 1.87 | .00016 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.923 | -.077 | -.077 | .00342 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.717 | .717 | 7.17 | .00035 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .406 | .041 | .03435 | .000 | 1 |

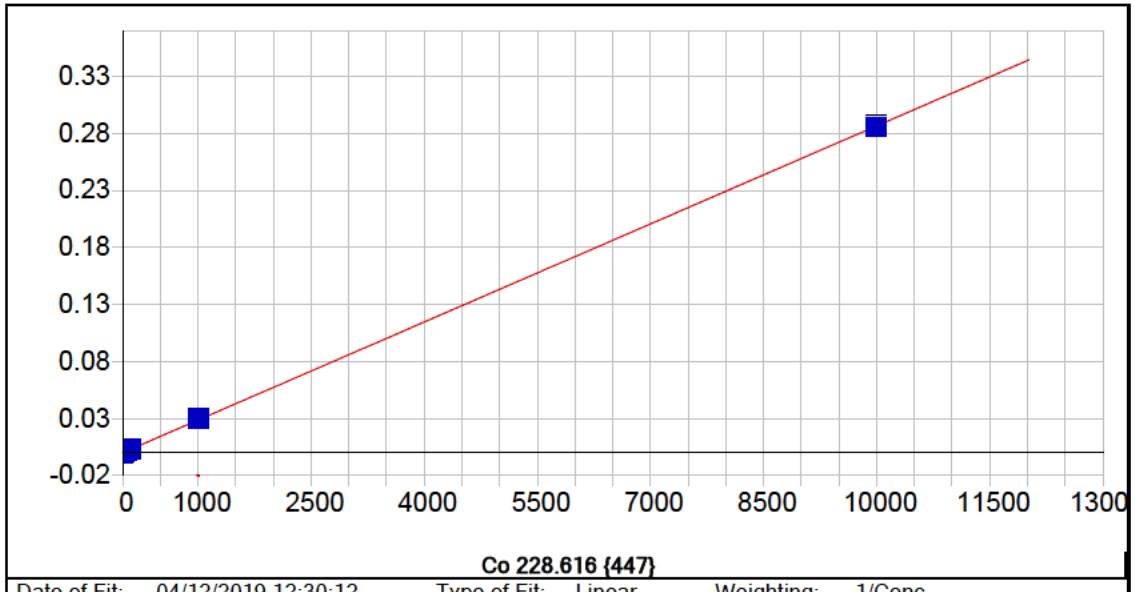



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.164609 | | |
| Predicted MQL: | 0.548698 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00007 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.735 | -1.26 | -2.53 | .00306 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0788 | .079 | 7.88 | .00010 | .000 | 1 |
| CalStd2=0.5 | .50000 | .53614 | .036 | 7.23 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9219 | -.078 | -1.56 | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.720 | -.280 | -.280 | .00623 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.327 | .327 | 3.27 | .00067 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.2 | 1.18 | .118 | .06225 | .000 | 1 |

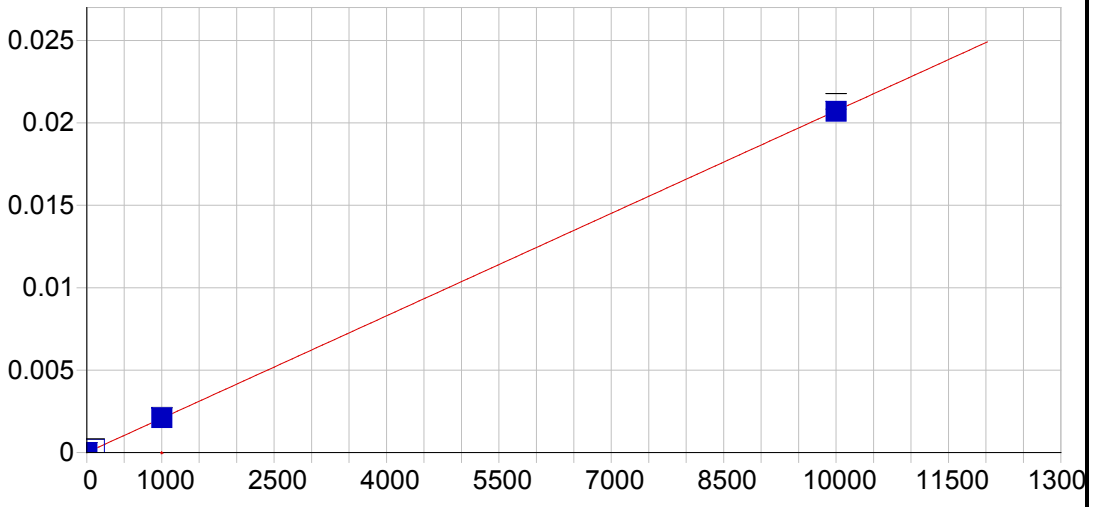



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000029 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.387286 | | |
| Predicted MQL: | 1.290953 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00075 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.263 | 1.26 | 2.53 | .00148 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.964 | .964 | 9.64 | .00032 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6897 | .690 | 13.8 | .00017 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.99 | 3.99 | 3.99 | .00299 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.7 | 31.7 | 3.17 | .02958 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4274 | .427 | 42.7 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9961.0 | -39.0 | -.390 | .28586 | .002 | 1 |

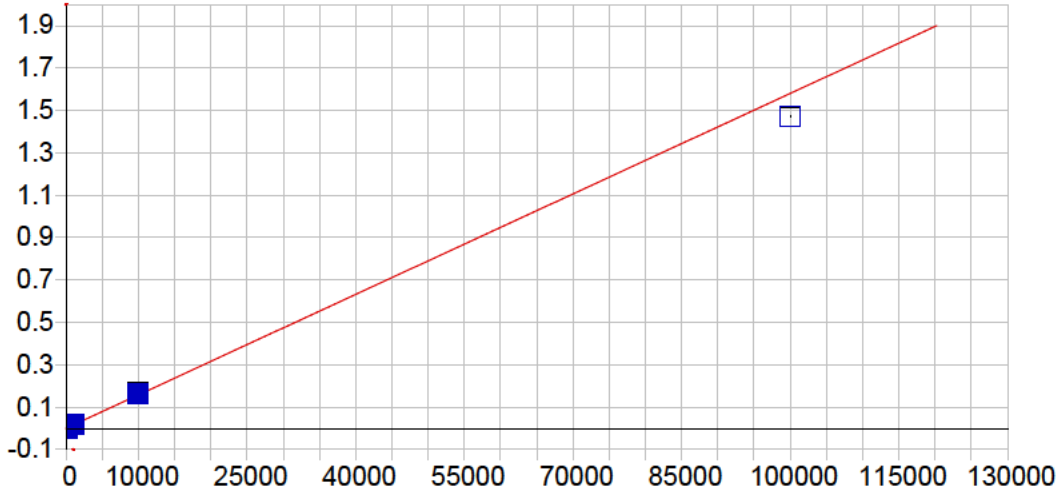



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.807762 | | |
| Predicted MQL: | 2.692542 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00322 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.0 | 16.0 | 1.60 | .00211 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.2 | -17.8 | -.178 | .02070 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.80 | 1.80 | 1.80 | .00021 | .000 | 1 |

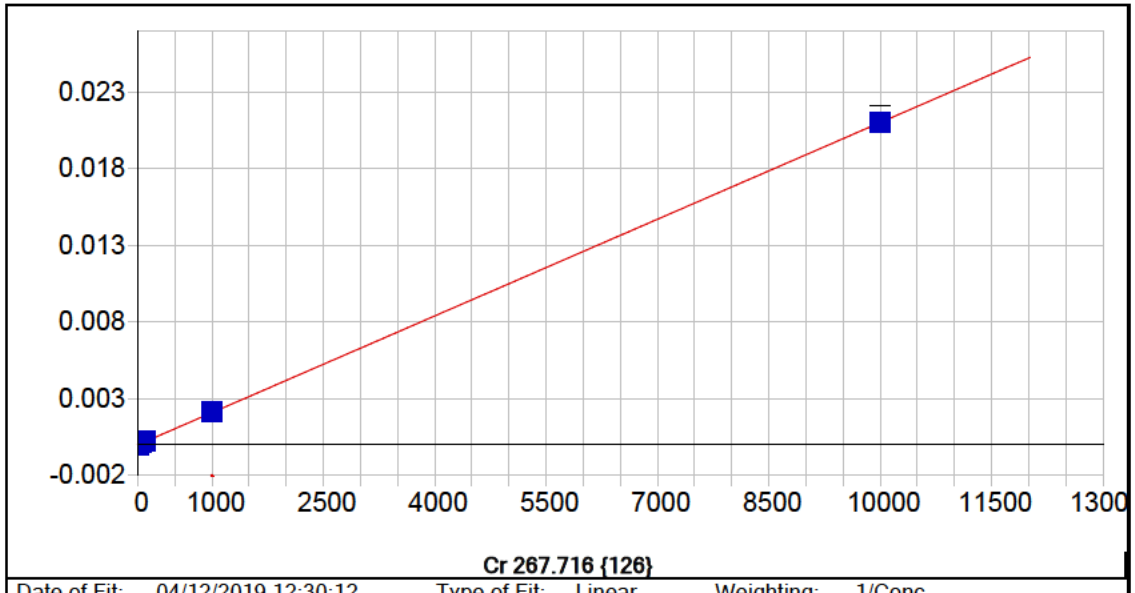



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997587 | Status: | OK. |
| Std Error of Est: | 0.000066 | | |
| Predicted MDL: | 0.368554 | | |
| Predicted MQL: | 1.228514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8471 | -1.85 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4526 | -.547 | -5.47 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.308 | .308 | .615 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1079.6 | 79.6 | 7.96 | .01708 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | .00166 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8868 | -1.11 | -22.3 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -.73498 | -1.73 | -173. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10462. | 462. | 4.62 | .16539 | .001 | 1 |
| CalStd12=10 | 100000. | 93104. | -6900. | -6.90 | 1.4716 | .004 | 1 |

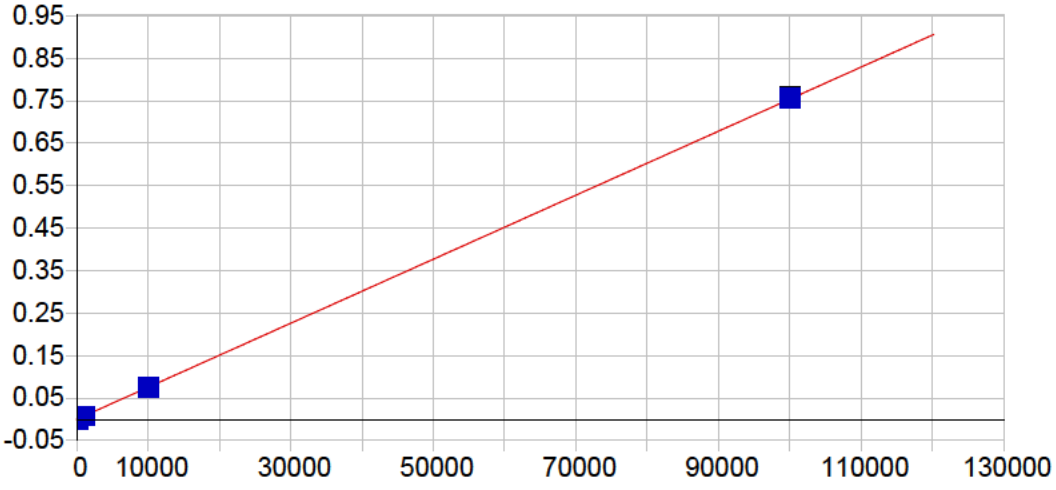



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.932952 | | |
| Predicted MQL: | 3.109840 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00114 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.003 | 1.00 | 10.0 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.830 | -.170 | -.339 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.7 | 9.72 | .972 | .00212 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.836 | -.164 | -.164 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6215 | .621 | 12.4 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.0 | -11.0 | -.110 | .02098 | .000 | 1 |

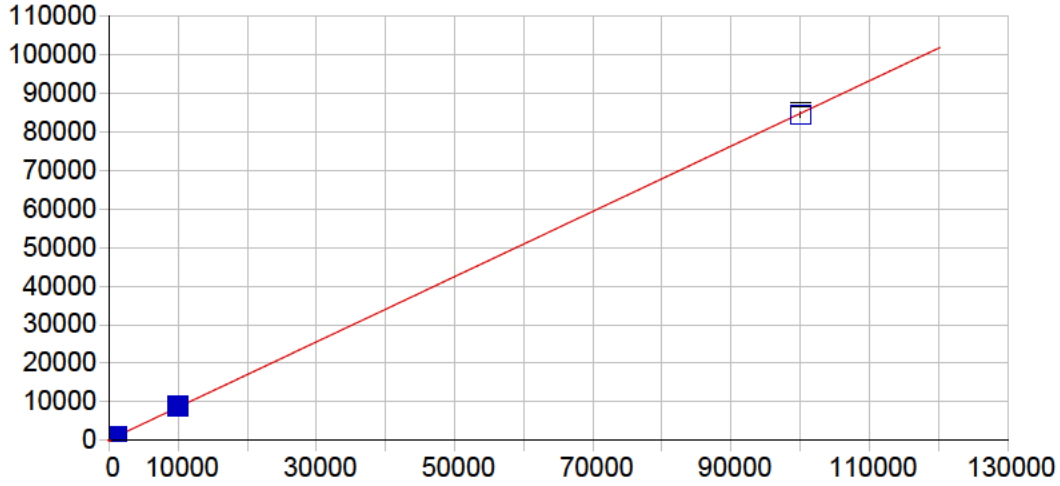



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999685 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.487339 | | |
| Predicted MQL: | 1.624464 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .04243 | .042 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 975.82 | -24.2 | -2.42 | .00735 | .000 | 1 |
| CalStd7=50 | 50.000 | 10.378 | -39.6 | -79.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 50.380 | -49.6 | -49.6 | .00038 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.8599 | -16.1 | -80.7 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100160. | 162. | .162 | .75474 | .006 | 1 |
| CalStd10=10 | 10000. | 9967.6 | -32.4 | -.324 | .07511 | .001 | 1 |

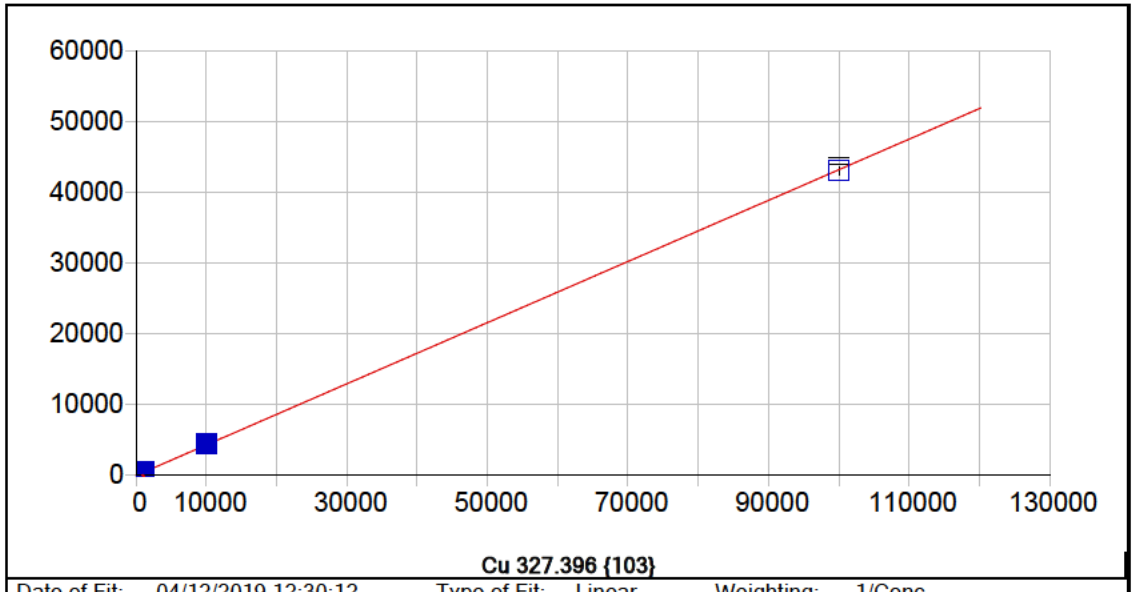



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 198.718958 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.845033 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999907 | Status: | OK. |
| Std Error of Est: | 0.442229 | | |
| Predicted MDL: | 3.237496 | | |
| Predicted MQL: | 10.791653 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00638 | .006 | .000 | 198.72 | 2.77 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | 1082.6 | 11.6 | 1 |
| CalStd8=100 | 100.00 | 100.50 | .505 | .505 | 283.65 | 4.53 | 1 |
| CalStd10=10 | 10000. | 10367. | 367. | 3.67 | 8958.9 | 92.7 | 1 |
| CalStd12=10 | 100000. | 99602. | -398. | -.398 | 84365. | 667. | 1 |
| CalStd5=10 | 10.000 | 6.5763 | -3.42 | -34.2 | 204.28 | 2.61 | 1 |
| CalStd6=20 | 20.000 | 15.469 | -4.53 | -22.7 | 211.79 | 2.62 | 1 |
| CalStd7=50 | 50.000 | 42.368 | -7.63 | -15.3 | 234.52 | .971 | 1 |

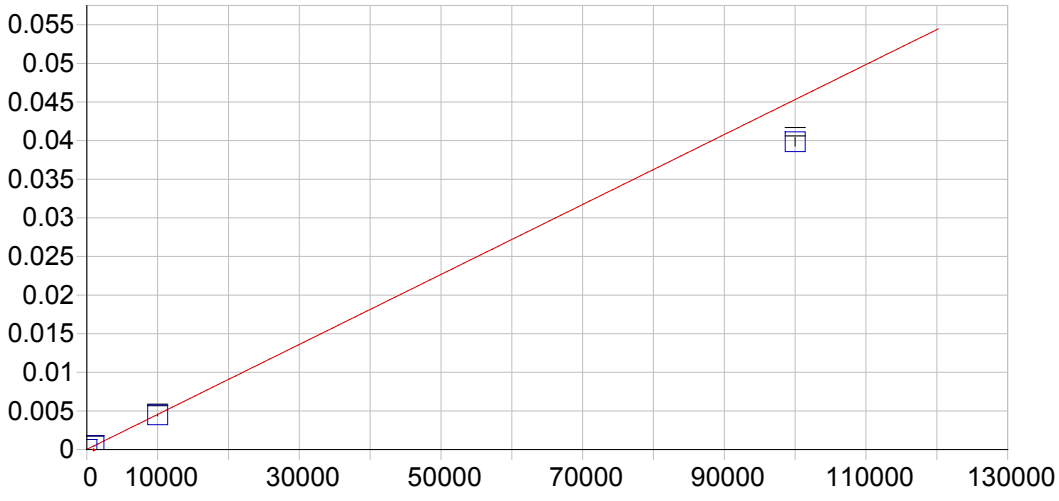



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.283647 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.431855 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.176994 | | |
| Predicted MDL: | 8.308669 | | |
| Predicted MQL: | 27.695563 | | |

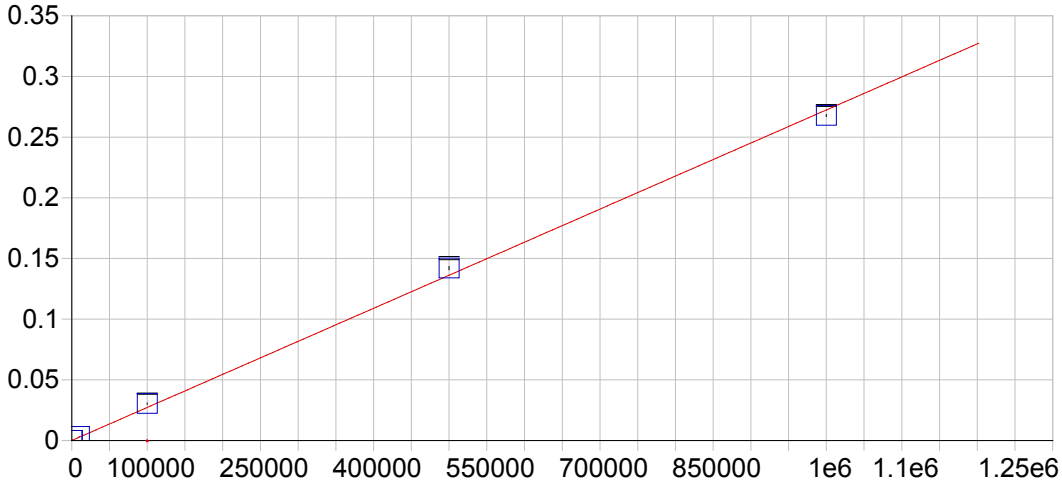
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00942 | -.009 | .000 | 7.2796 | 1.90 | 1 |
| CalStd6=20 | 20.000 | 25.187 | 5.19 | 25.9 | 18.156 | 2.77 | 1 |
| CalStd7=50 | 50.000 | 51.906 | 1.91 | 3.81 | 29.687 | 2.69 | 1 |
| CalStd8=100 | 100.00 | 108.69 | 8.69 | 8.69 | 54.196 | 2.95 | 1 |
| CalStd9=100 | 1000.0 | 1048.4 | 48.4 | 4.84 | 459.79 | 5.77 | 1 |
| CalStd10=10 | 10000. | 10300. | 300. | 3.00 | 4455.6 | 59.3 | 1 |
| CalStd12=10 | 100000. | 99623. | -377. | -.377 | 43030. | 510. | 1 |
| CalStd4=5 | 5.0000 | 7.0329 | 2.03 | 40.7 | 10.320 | 4.08 | 1 |
| CalStd5=10 | 10.000 | 20.184 | 10.2 | 102. | 15.998 | 2.74 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000019 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999999 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 1.712355 | | | | |
| Predicted MQL: | 5.707849 | | | | |

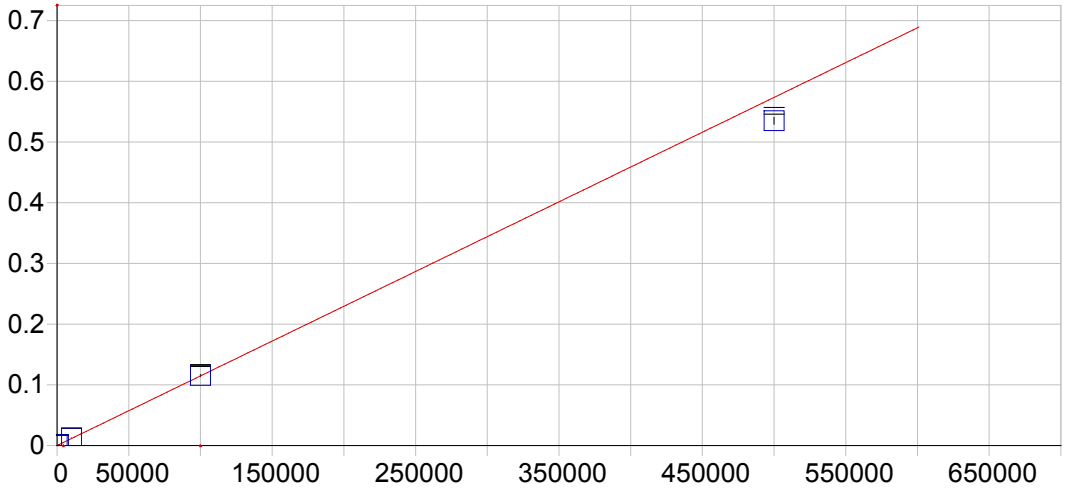
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00371 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9842.6 | -157. | -1.57 | .00448 | .000 | 1 |
| CalStd13=10 | 100000. | 87917. | -12100. | -12.1 | .03984 | .001 | 1 |
| CalStd9=100 | 1000.0 | 999.28 | -.719 | -.072 | .00047 | .000 | 1 |




**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000029 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.998865 | | Status: | OK. | |
| Std Error of Est: | 0.000064 | | | | |
| Predicted MDL: | 11.697136 | | | | |
| Predicted MQL: | 38.990454 | | | | |

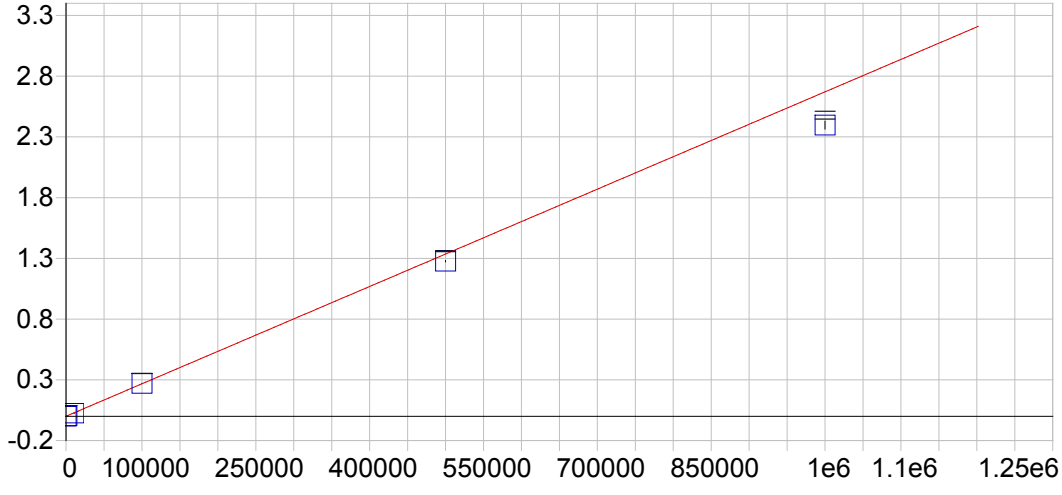
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -86.800 | -86.8 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 11756. | 1760. | 17.6 | .00323 | .000 | 1 |
| CalStd13=10 | 100000. | 111610. | 11600. | 11.6 | .03043 | .000 | 1 |
| CalStd14=50 | 500000. | 521270. | 21300. | 4.25 | .14200 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1098.5 | 98.5 | 9.85 | .00033 | .000 | 1 |
| CalibStd15= | 1000000. | 983110. | -16900. | -1.69 | .26778 | .001 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000013 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.998255 | | Status: | OK. | |
| Std Error of Est: | 0.000033 | | | | |
| Predicted MDL: | 3.951315 | | | | |
| Predicted MQL: | 13.171051 | | | | |

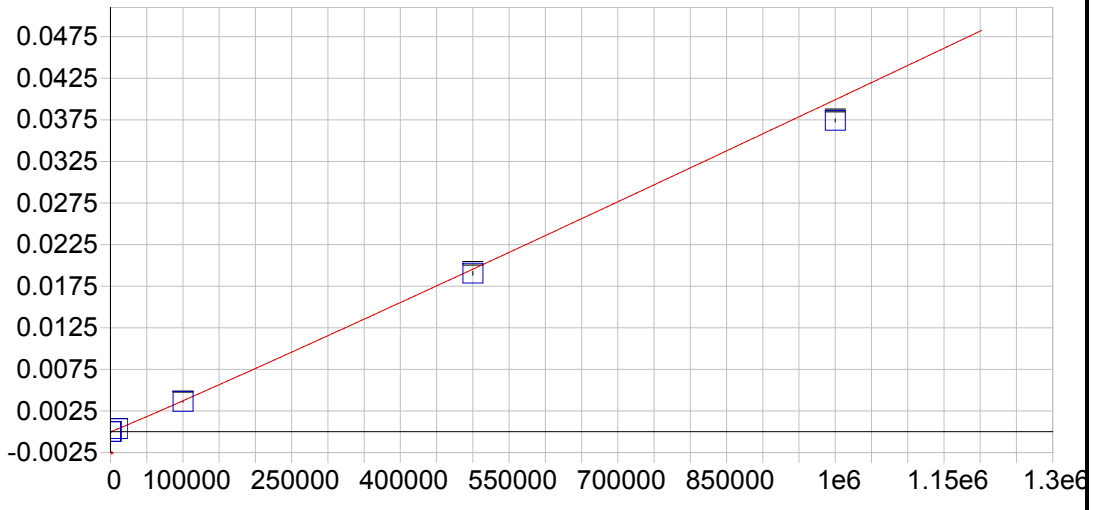
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0632 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10666. | 666. | 6.66 | .01225 | .000 | 1 |
| CalStd13=10 | 100000. | 100420. | 420. | .420 | .11519 | .001 | 1 |
| CalStd14=50 | 500000. | 466320. | -33700. | -6.74 | .53486 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1063.7 | 63.7 | 6.37 | .00123 | .000 | 1 |




**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000058 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000003 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999028 | | Status: | OK. | |
| Std Error of Est: | 0.000109 | | | | |
| Predicted MDL: | 2.561991 | | | | |
| Predicted MQL: | 8.539971 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -21.852 | -21.9 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 100950. | 947. | .947 | .26969 | .002 | 1 |
| CalStd10=10 | 10000. | 9590.2 | -410. | -4.10 | .02567 | .000 | 1 |
| CalStd14=50 | 500000. | 477840. | -22200. | -4.43 | 1.2764 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1022.1 | 22.1 | 2.21 | .00279 | .000 | 1 |
| CalibStd15= | 1000000. | 897240. | -103000. | -10.3 | 2.3966 | .032 | 1 |

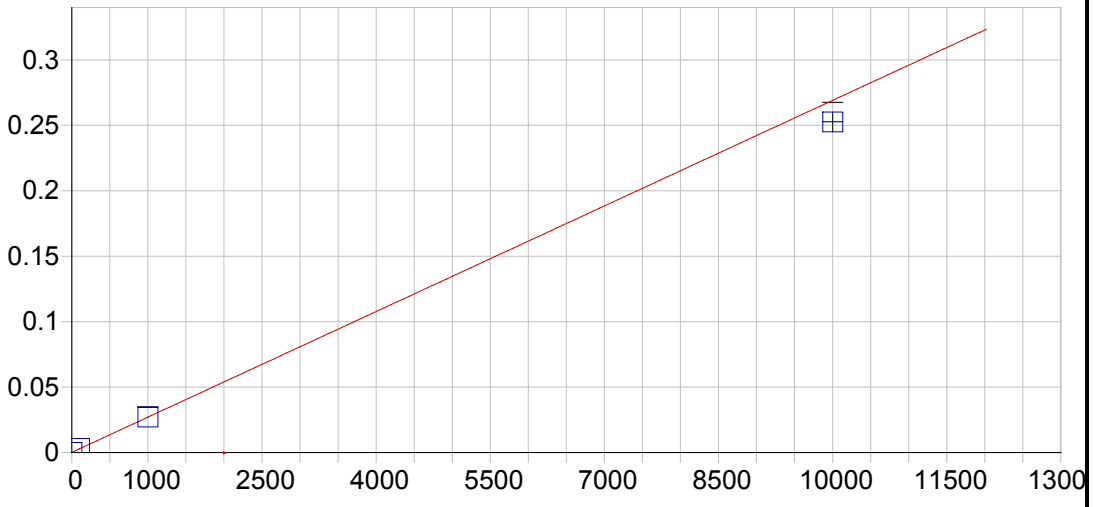



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.030000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 87.004312 | | |
| Predicted MQL: | 290.014373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97451. | -2550. | -2.55 | .00363 | .000 | 1 |
| CalStd10=10 | 10000. | 10451. | 451. | 4.51 | .00036 | .000 | 1 |
| CalStd14=50 | 500000. | 487720. | -12300. | -2.46 | .01905 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1117.3 | 117. | 11.7 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 939270. | -60700. | -6.07 | .03742 | .000 | 1 |

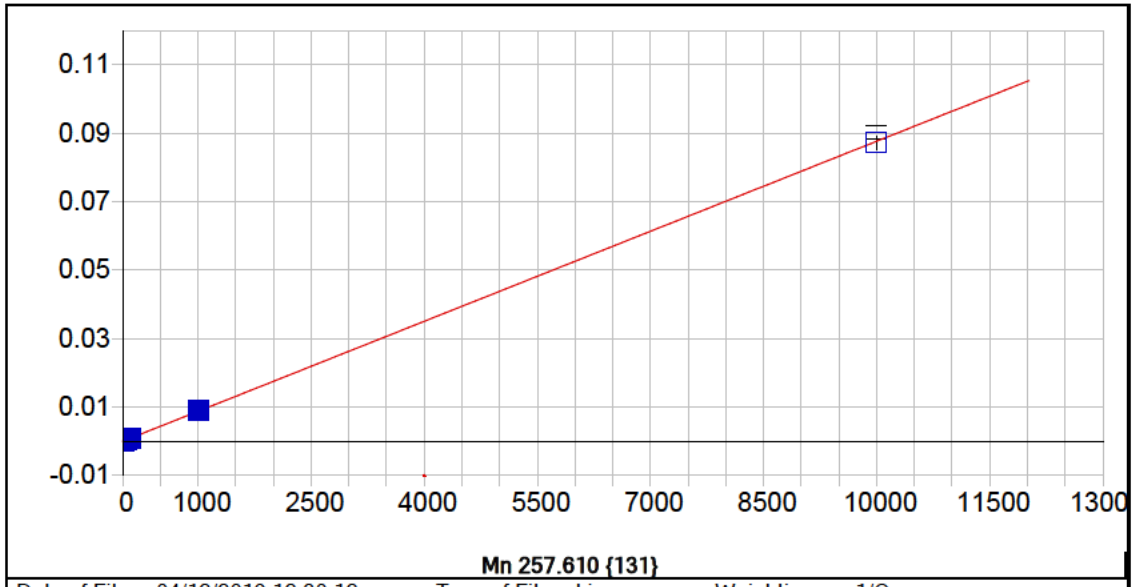



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000148 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999796 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 0.040780 | | |
| Predicted MQL: | 0.135933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.06296 | -.063 | .000 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.06 | -.935 | -.094 | .02701 | .000 | 1 |
| CalStd10=10 | 10000. | 9383.2 | -617. | -6.17 | .25247 | .007 | 1 |
| CalStd8=100 | 100.00 | 107.03 | 7.03 | 7.03 | .00303 | .000 | 1 |

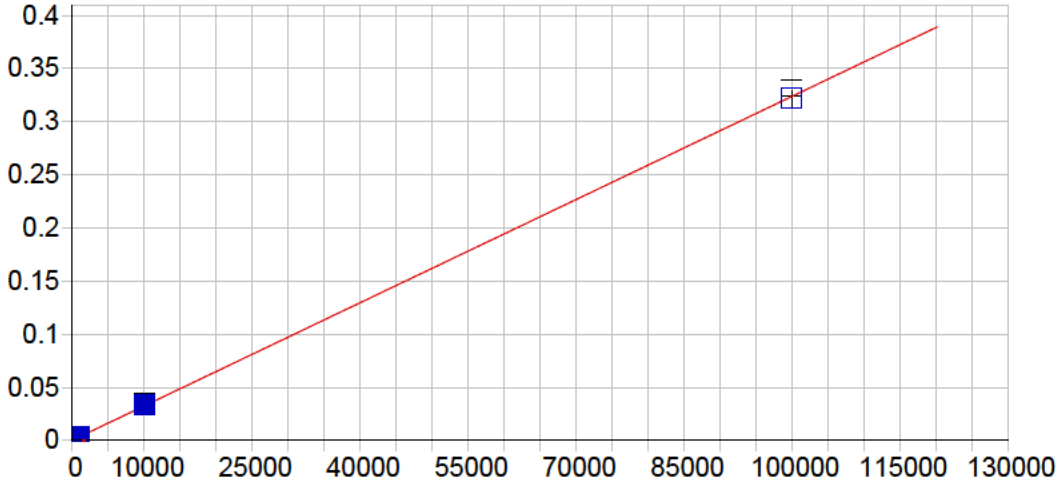



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999926 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.120880 | | |
| Predicted MQL: | 0.402933 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00125 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.773 | .773 | 7.73 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.792 | .792 | 1.58 | .00045 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.275 | .275 | 1.38 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.73 | 3.73 | 3.73 | .00091 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3757 | .376 | 7.51 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.3 | 35.3 | 3.53 | .00908 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.7 | -41.3 | -.413 | .08729 | .002 | 1 |

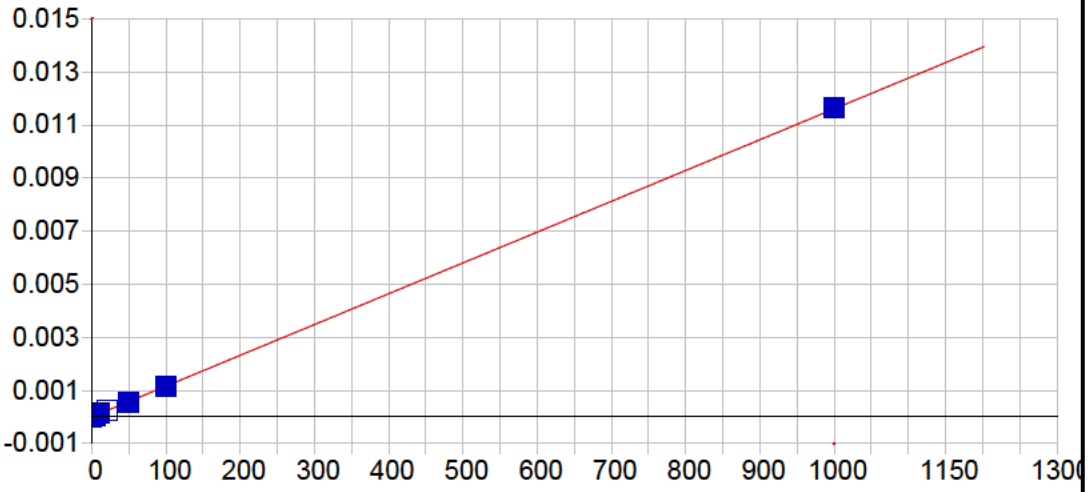



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999853 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 1.336755 | | |
| Predicted MQL: | 4.455850 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09654 | -.097 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10518. | 518. | 5.18 | .03410 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1050.4 | 50.4 | 5.04 | .00341 | .000 | 1 |
| CalStd12=10 | 100000. | 99431. | -569. | -.569 | .32194 | .007 | 1 |

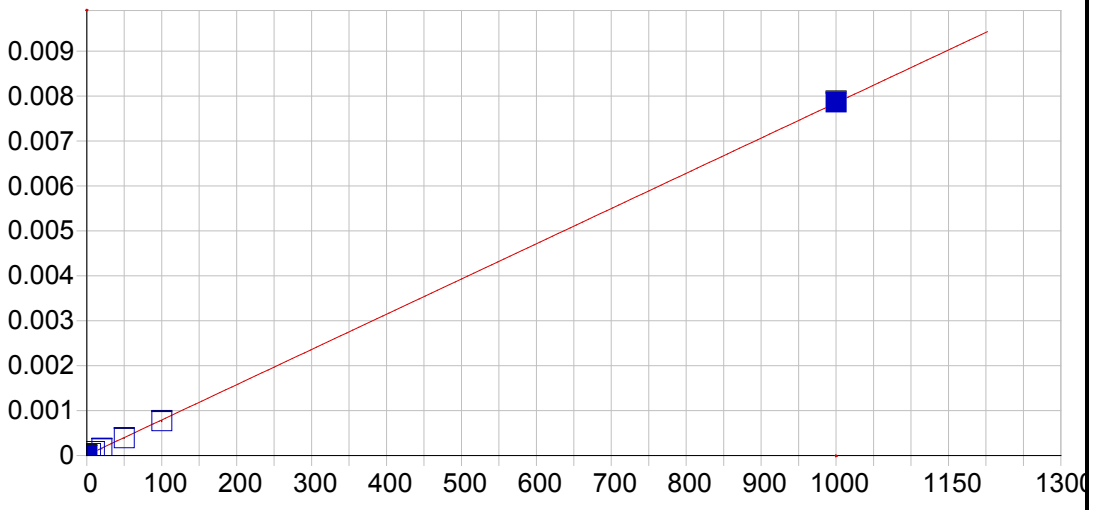



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.468446 | | |
| Predicted MQL: | 1.561488 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00011 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.448 | -1.55 | -3.10 | .00057 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.754 | -.246 | -1.23 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.528 | .528 | 5.28 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.223 | -.777 | -.777 | .00116 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8741 | -.126 | -2.52 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.17 | .217 | .01165 | .000 | 1 |

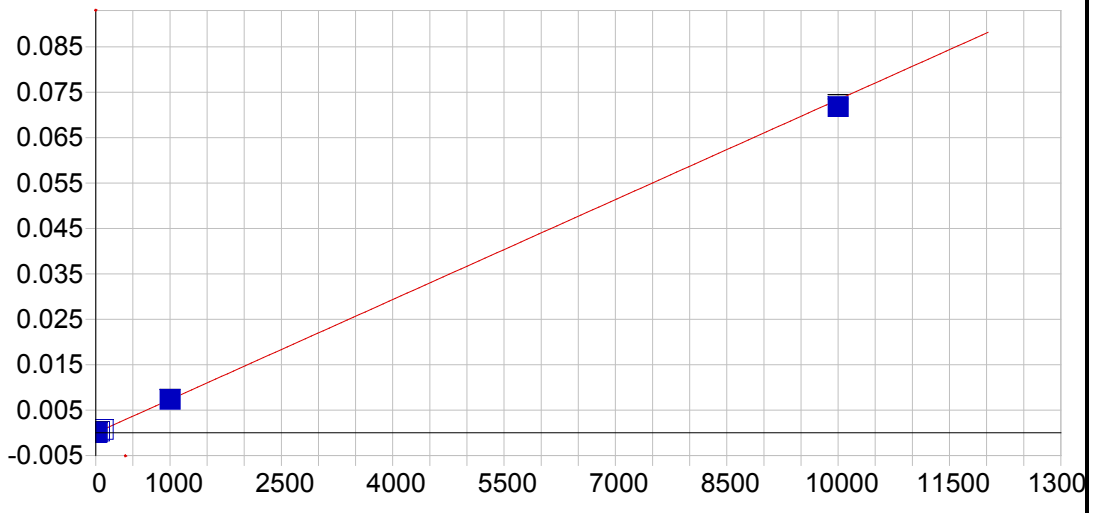



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999951 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.885886 | | |
| Predicted MQL: | 2.952955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .17179 | .172 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.589 | -1.41 | -2.82 | .00039 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.954 | -1.05 | -5.23 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.634 | .634 | 6.34 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.851 | -3.15 | -3.15 | .00077 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7680 | -.232 | -4.64 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00786 | .000 | 1 |

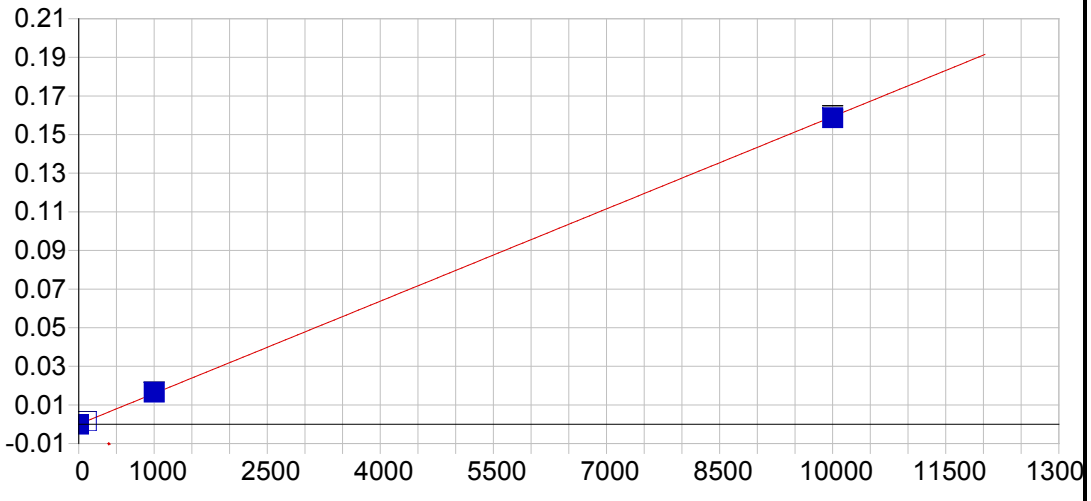



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.880737 | | |
| Predicted MQL: | 2.935789 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .12357 | .124 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.302 | -.698 | -1.40 | .00036 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.989 | -.011 | -.057 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.727 | .727 | 7.27 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.790 | -.210 | -.210 | .00073 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9852 | -.015 | -.296 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.3 | .333 | .033 | .00733 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.0 | -215. | -2.15 | .07180 | .000 | 1 |

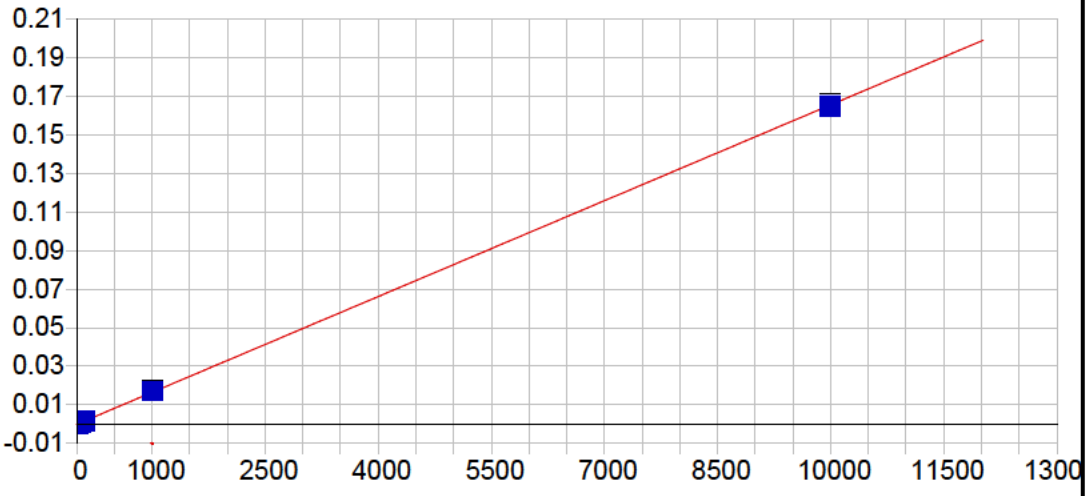



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.659772 | | |
| Predicted MQL: | 2.199241 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00701 | -.007 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9958.8 | -41.2 | -.412 | .15867 | .001 | 1 |
| CalStd8=100 | 100.00 | 103.67 | 3.67 | 3.67 | .00165 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.6 | 37.6 | 3.76 | .01653 | .000 | 1 |

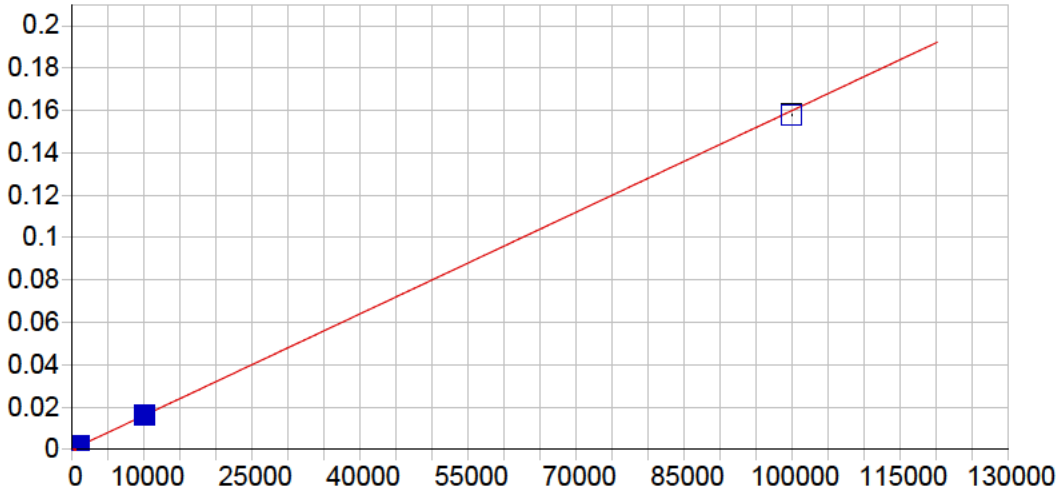



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000031 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999914 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.636840 | | |
| Predicted MQL: | 2.122800 | | |

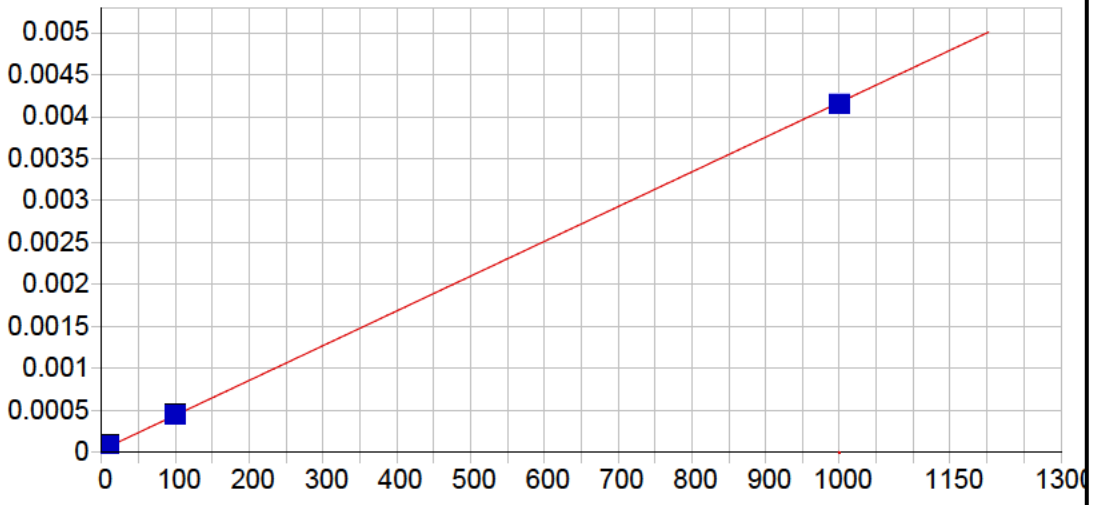
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00042 | -.000 | .000 | -.00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.044 | .044 | .088 | .00080 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.998 | .998 | 9.98 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.76 | 3.76 | 3.76 | .00169 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0907 | .091 | 1.81 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1037.9 | 37.9 | 3.79 | .01714 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2347 | .235 | 23.5 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.0 | -43.0 | -.430 | .16501 | .001 | 1 |




**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000010 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000002 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999755 | | Status: | OK. | |
| Std Error of Est: | 0.000022 | | | | |
| Predicted MDL: | 5.202291 | | | | |
| Predicted MQL: | 17.340971 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1114 | -3.11 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1054.0 | 54.0 | 5.40 | .00170 | .000 | 1 |
| CalStd10=10 | 10000. | 10128. | 128. | 1.28 | .01620 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.27 | 1.27 | 1.27 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.5570 | -3.44 | -34.4 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 98862. | -1140. | -1.14 | .15805 | .000 | 1 |

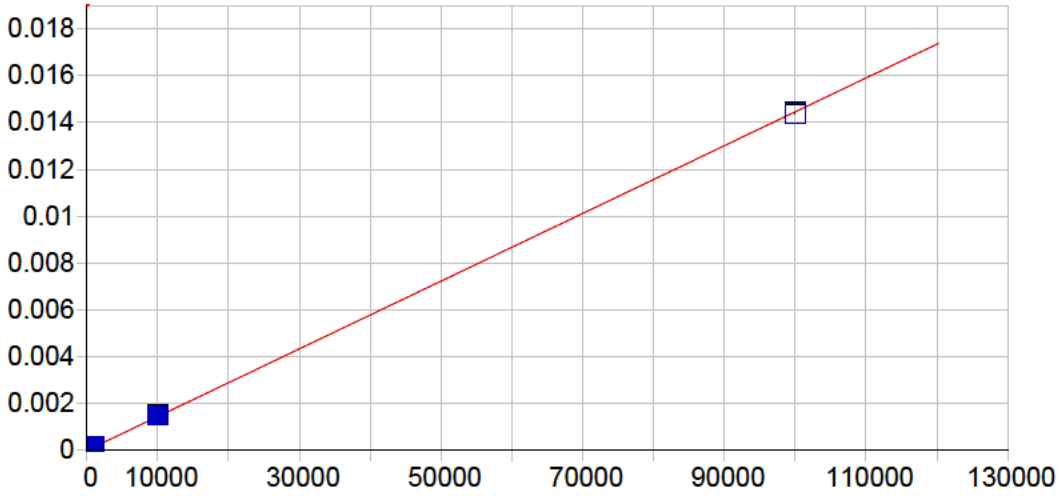



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999244 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.562058 | | |
| Predicted MQL: | 8.540192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00338 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.254 | 1.25 | 12.5 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.86 | .861 | .861 | .00045 | .000 | 1 |
| CalStd4=5 | 5.0000 | 7.7362 | 2.74 | 54.7 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.15 | -4.85 | -.485 | .00415 | .000 | 1 |

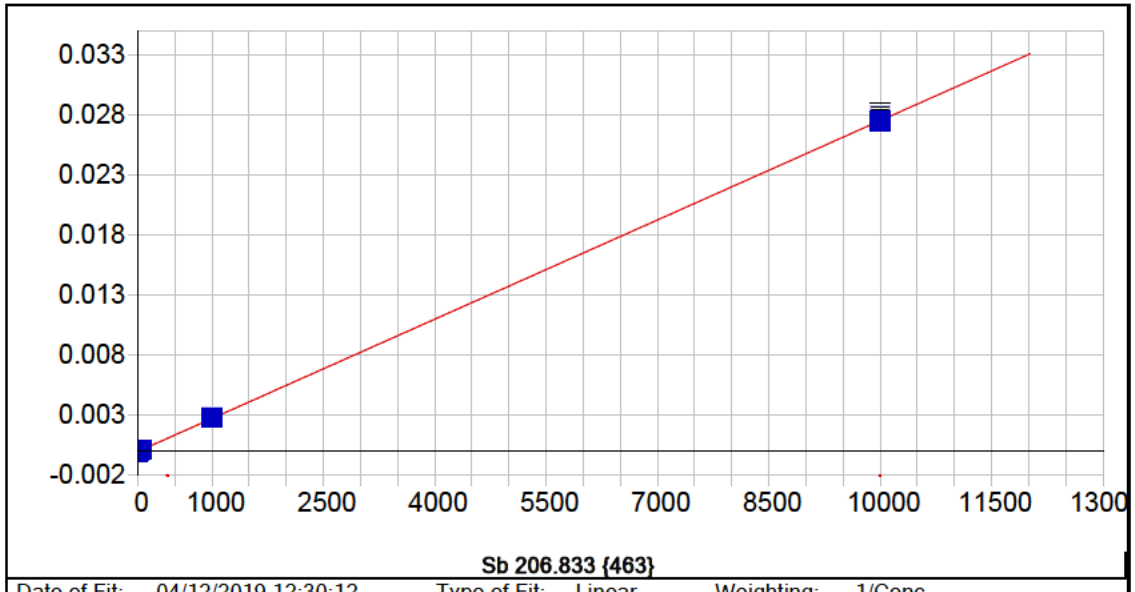



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.767648 | | |
| Predicted MQL: | 22.558828 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02275 | -.023 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1071.6 | 71.6 | 7.16 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 10350. | 350. | 3.50 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.53 | 12.5 | 12.5 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99566. | -434. | -.434 | .01440 | .000 | 1 |

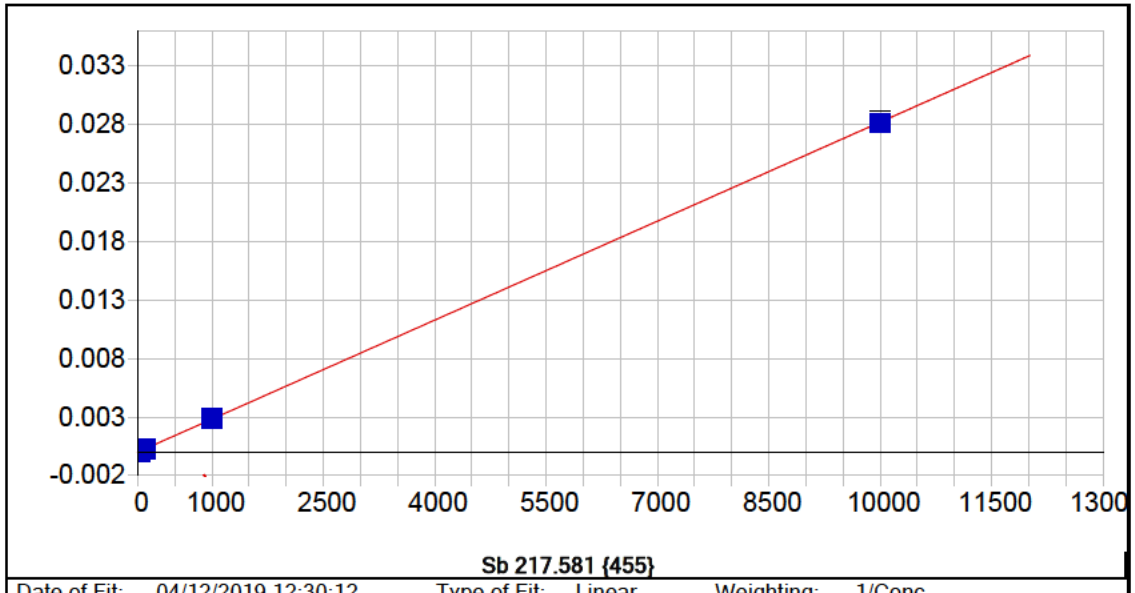



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.380937 | | |
| Predicted MQL: | 7.936456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00221 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.0 | 21.0 | 2.10 | .00285 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.803 | .803 | 1.61 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9976.3 | -23.7 | -.237 | .02795 | .000 | 1 |

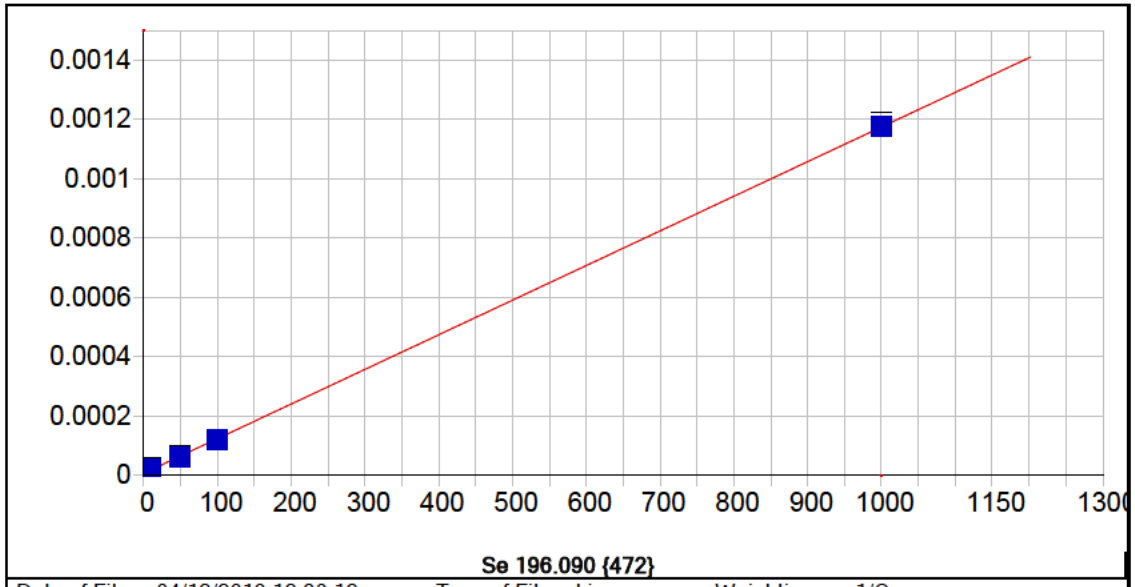



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999893 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.579773 | | |
| Predicted MQL: | 8.599243 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00385 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1024.5 | 24.5 | 2.45 | .00289 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.721 | 1.72 | 8.61 | .00006 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.974 | 2.97 | 29.7 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.61 | 1.61 | 1.61 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7418 | 1.74 | 34.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.4 | -32.6 | -.326 | .02809 | .000 | 1 |

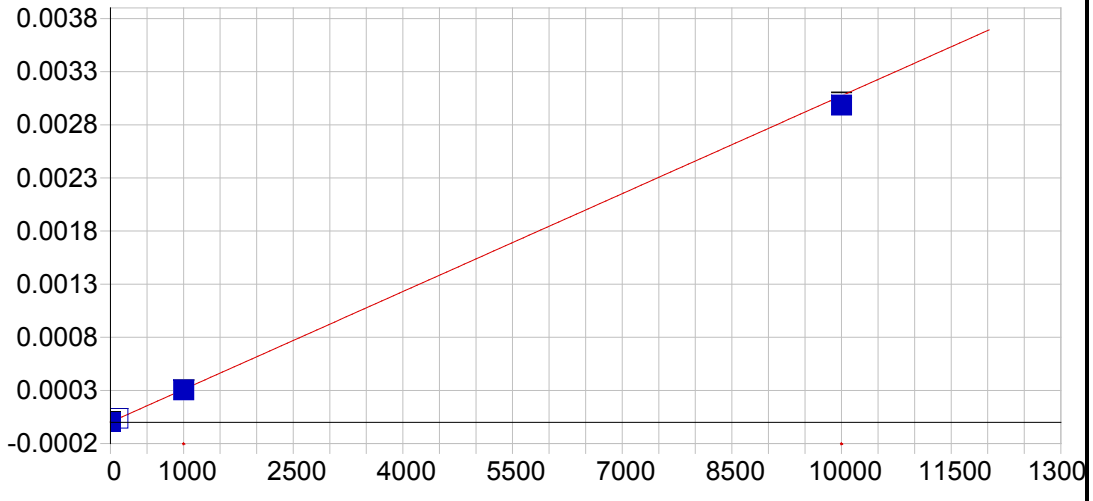



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999018 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.530040 | | |
| Predicted MQL: | 15.100132 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00354 | -.004 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.484 | -2.52 | -5.03 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.3 | 2.28 | .228 | .00118 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.441 | 4.44 | 44.4 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.794 | -4.21 | -4.21 | .00012 | .000 | 1 |

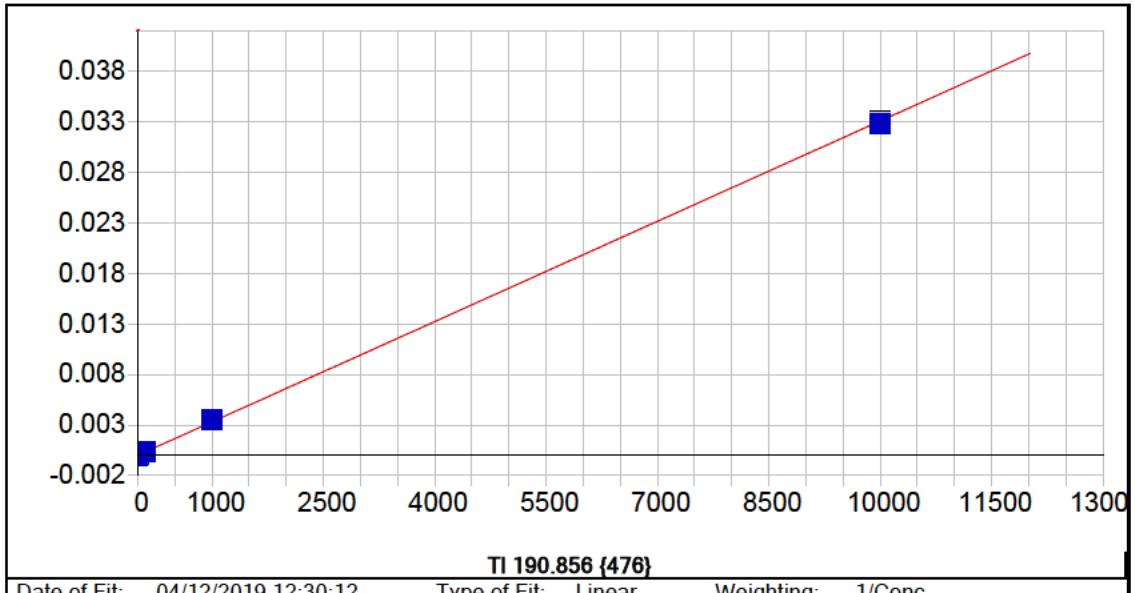



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999905 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.155478 | | |
| Predicted MQL: | 77.184928 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01194 | -.012 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.34 | -17.7 | -1.77 | .00030 | .000 | 1 |
| CalStd10=10 | 10000. | 9706.8 | -293. | -2.93 | .00299 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.37 | 13.4 | 13.4 | .00004 | .000 | 1 |

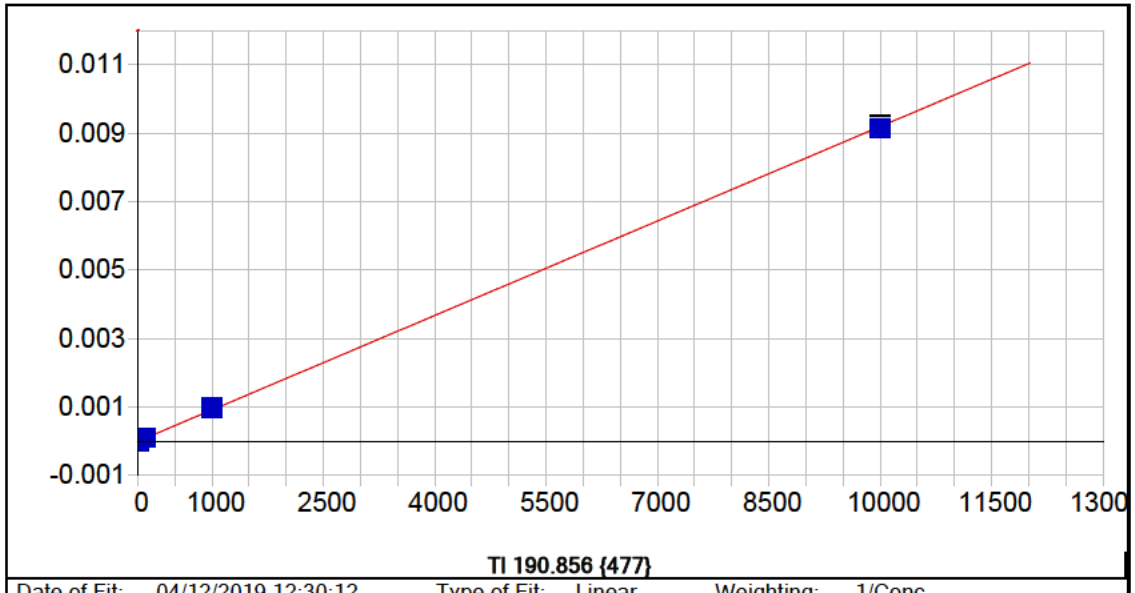



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999705 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.323578 | | |
| Predicted MQL: | 7.745262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00356 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.8 | 67.8 | 6.78 | .00354 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.89 | 9.89 | 9.89 | .00036 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.977 | 1.98 | 19.8 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9920.3 | -79.7 | -.797 | .03293 | .000 | 1 |

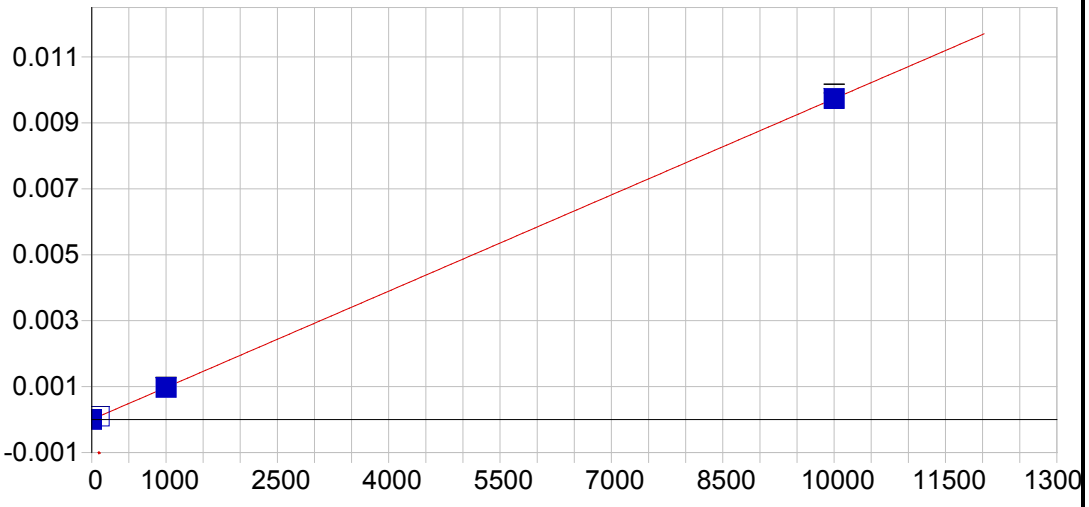



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999828 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.817160 | | |
| Predicted MQL: | 19.390533 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00108 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.9 | 52.9 | 5.29 | .00097 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7966 | -.203 | -2.03 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .00914 | .000 | 1 |

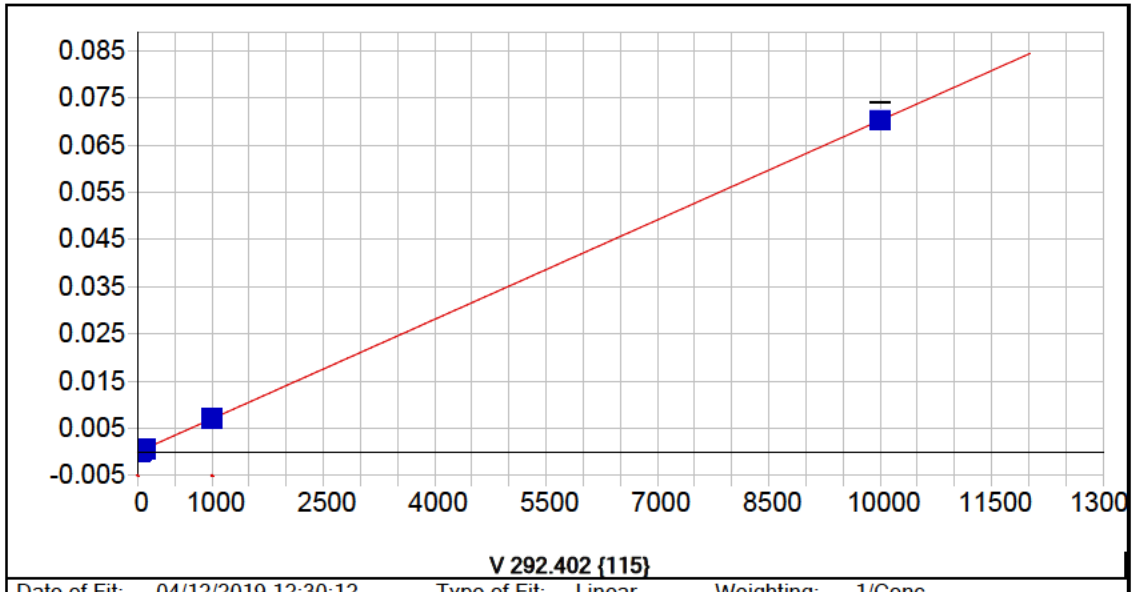



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.979888 | | |
| Predicted MQL: | 19.932959 | | |

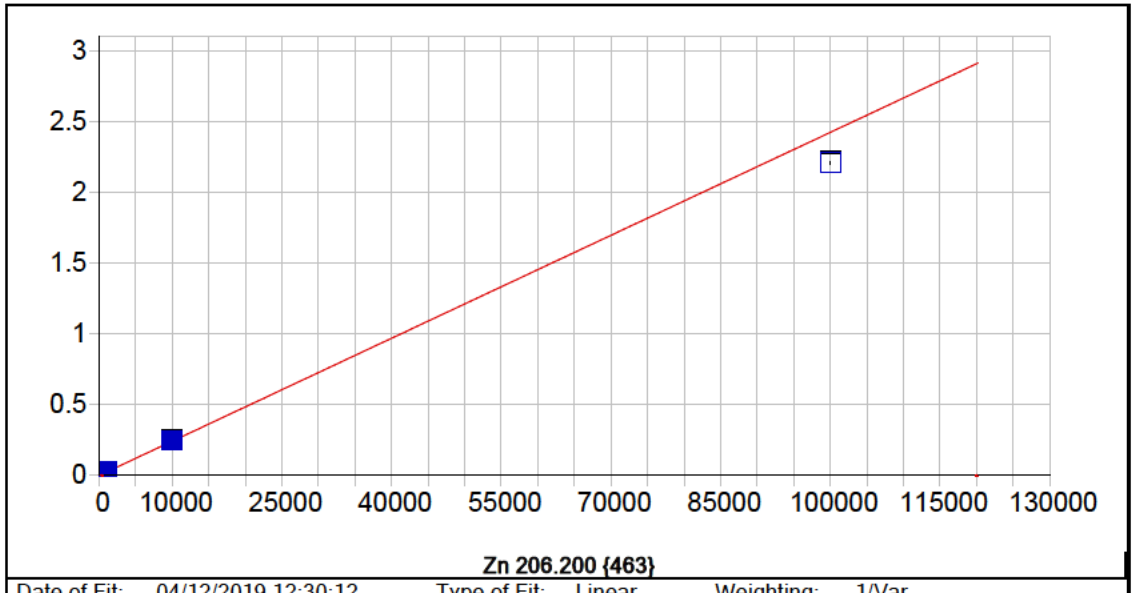
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00253 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.69 | -5.31 | -.531 | .00097 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.27 | .023 | .00974 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.04 | 3.04 | 3.04 | .00010 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.564743 | | |
| Predicted MQL: | 1.882477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.192 | -1.81 | -3.62 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.16 | .416 | .00705 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.266 | -.734 | -3.67 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.279 | .279 | 2.79 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.303 | -.697 | -.697 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 9998.8 | -1.20 | -.012 | .07046 | .002 | 1 |

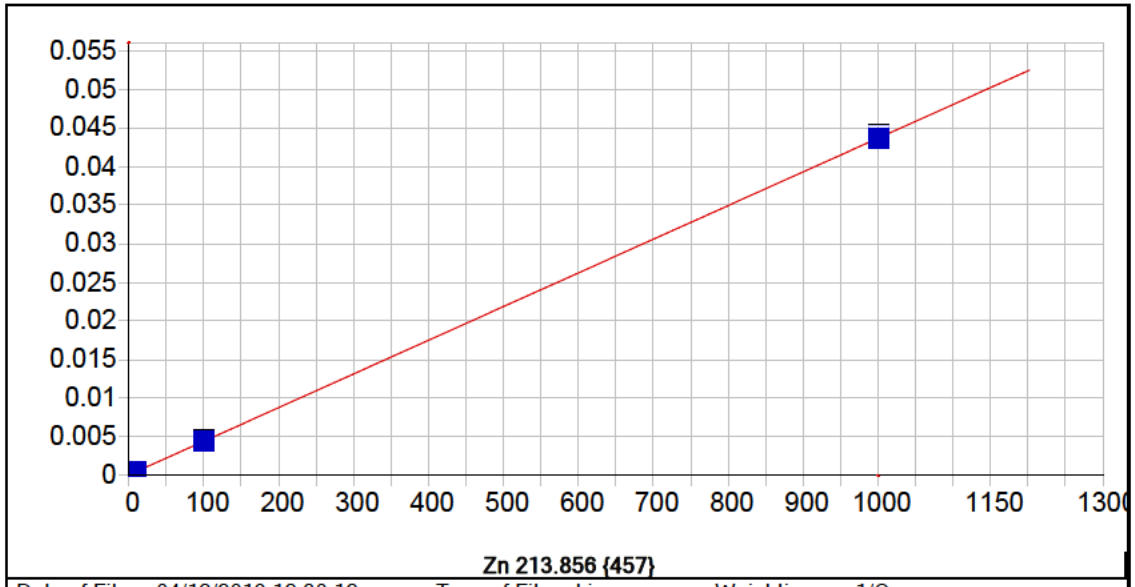



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000041 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997616 | Status: | OK. |
| Std Error of Est: | 0.000150 | | |
| Predicted MDL: | 0.362951 | | |
| Predicted MQL: | 1.209837 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10196. | 196. | 1.96 | .24704 | .002 | 1 |
| Blank | .00000 | -.53103 | -.531 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1057.2 | 57.2 | 5.72 | .02565 | .000 | 1 |
| CalStd12=10 | 100000. | 91151. | -8850. | -8.85 | 2.2081 | .007 | 1 |
| CalStd5=10 | 10.000 | 9.9077 | -.092 | -.923 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.31 | 5.31 | 5.31 | .00259 | .000 | 1 |

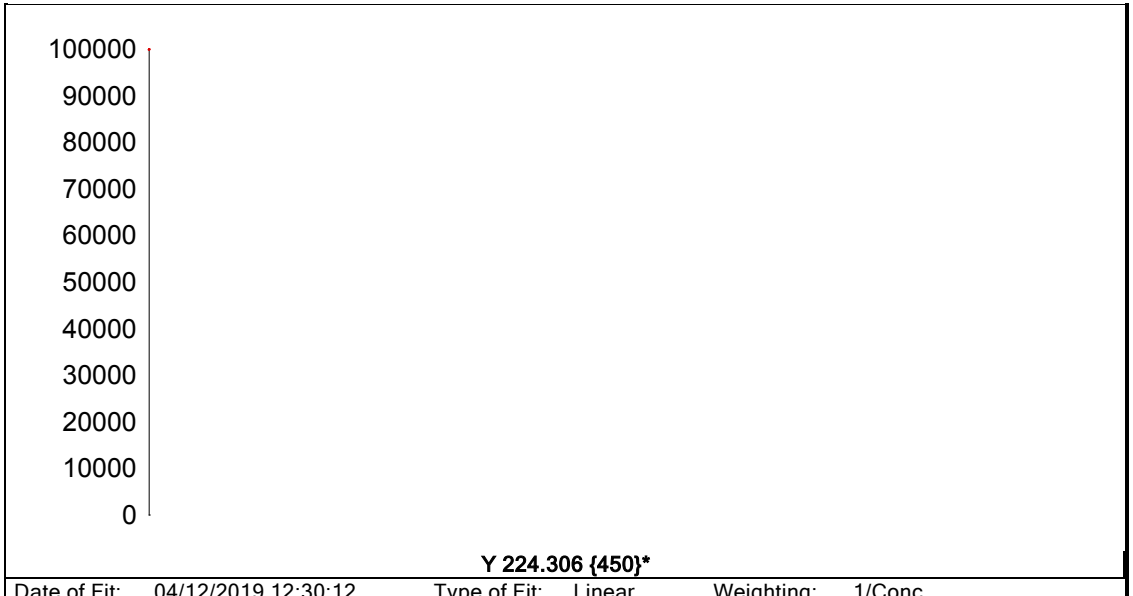



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000072 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000044 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.176452 | | |
| Predicted MQL: | 0.588174 | | |

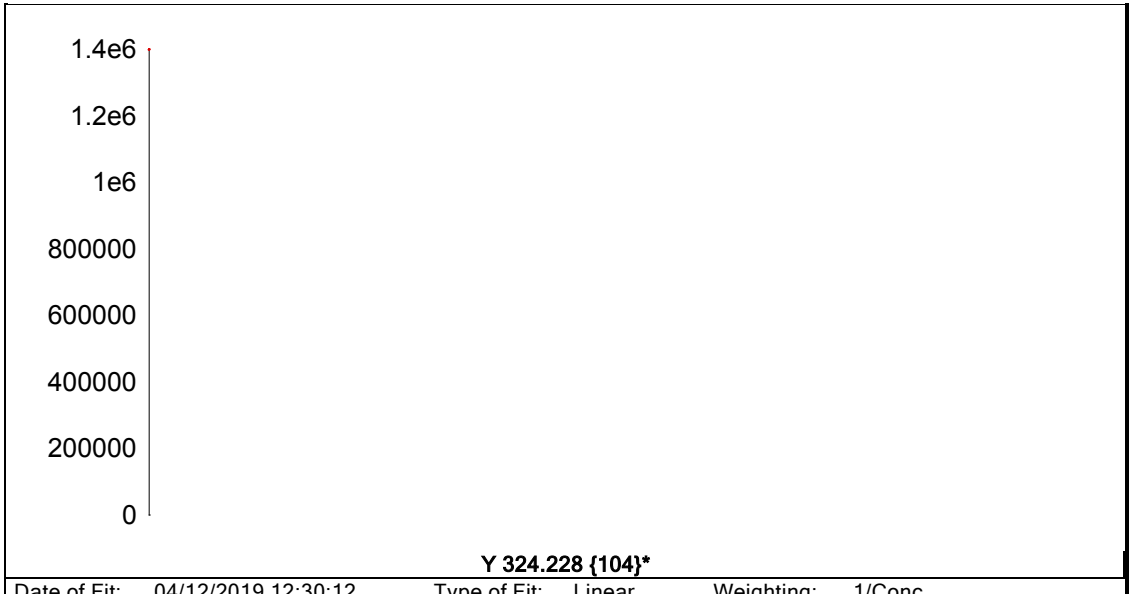
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.97 | -1.03 | -.103 | .04402 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.156 | .156 | 1.56 | .00052 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.87 | .871 | .871 | .00451 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

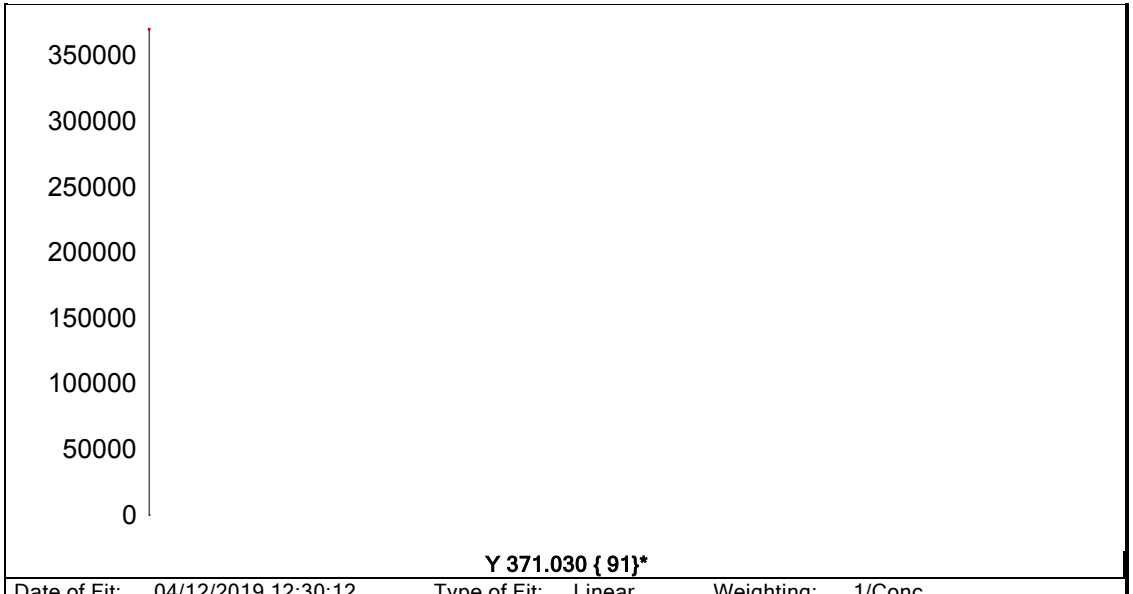
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 90406. | 120. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

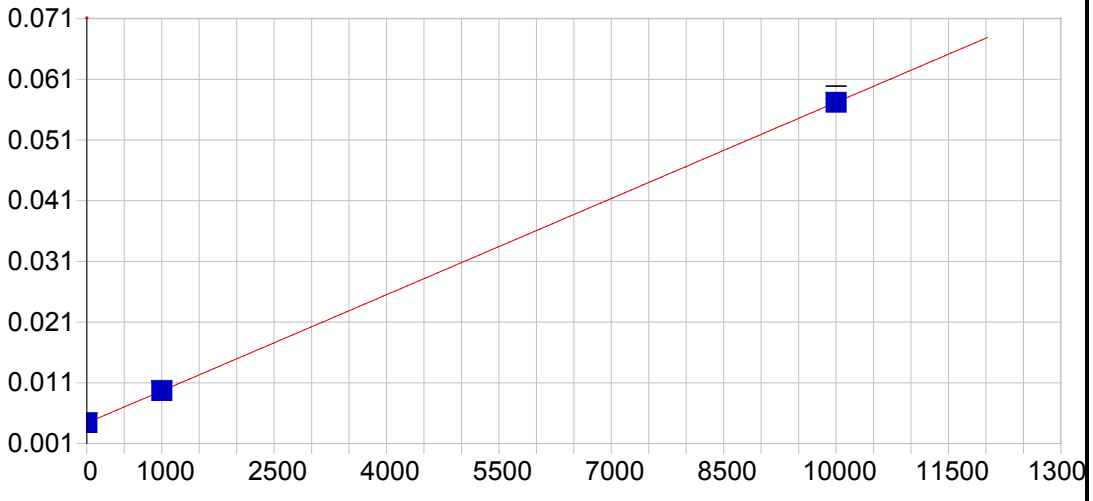
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1279400. | 28800. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 342950. | 3000. | 1 |

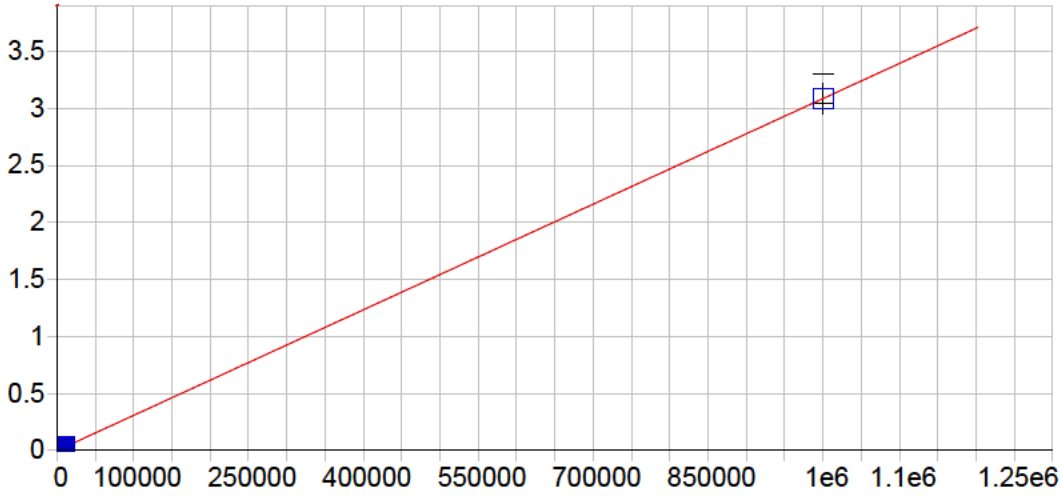



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004390 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 8.191976 | | |
| Predicted MQL: | 27.306587 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00217 | -.002 | .000 | .00439 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.4 | 2.41 | .241 | .00969 | .000 | 1 |
| CalStd10=10 | 10000. | 9997.6 | -2.41 | -.024 | .05721 | .001 | 1 |

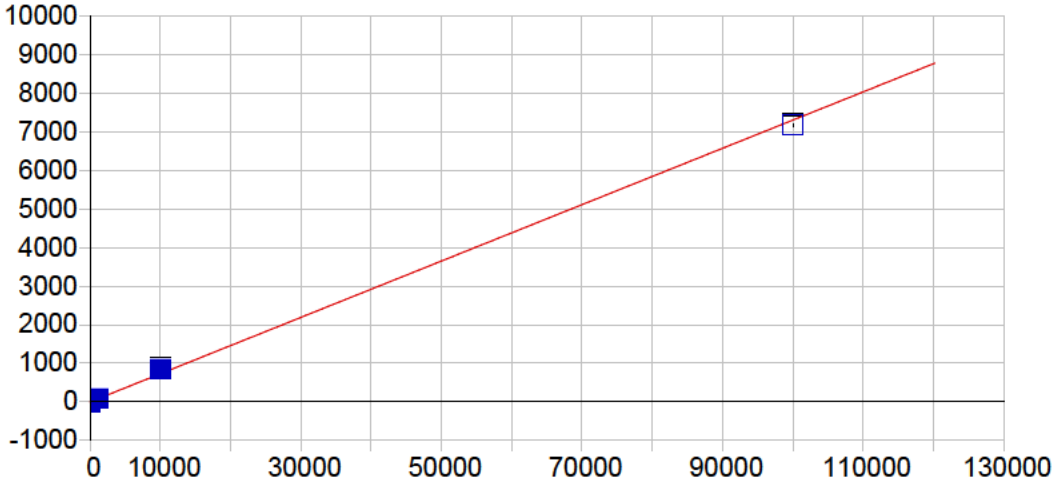



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 9.323428 | | |
| Predicted MQL: | 31.078092 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02539 | .025 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.31 | -23.7 | -2.37 | .00306 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.6 | -17.4 | -.174 | .03084 | .001 | 1 |
| CalibStd15= | 1000000. | 1000000. | 41.1 | .004 | 3.0844 | .129 | 1 |

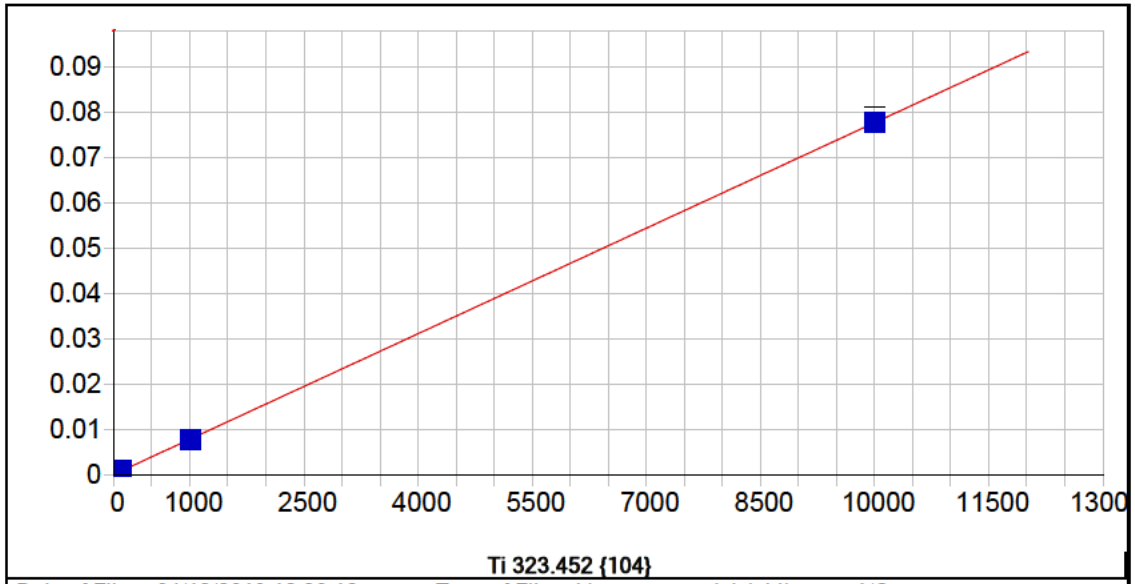



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.092998 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.072976 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998832 | Status: | OK. |
| Std Error of Est: | 1.671194 | | |
| Predicted MDL: | 19.062042 | | |
| Predicted MQL: | 63.540140 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.22814 | -.228 | .000 | .07635 | .463 | 1 |
| CalStd9=100 | 1000.0 | 1094.8 | 94.8 | 9.48 | 85.745 | 1.71 | 1 |
| CalStd10=10 | 10000. | 11501. | 1500. | 15.0 | 875.94 | 7.94 | 1 |
| CalibStd15= | 100000. | 98322. | -1680. | -1.68 | 7175.2 | 32.9 | 1 |

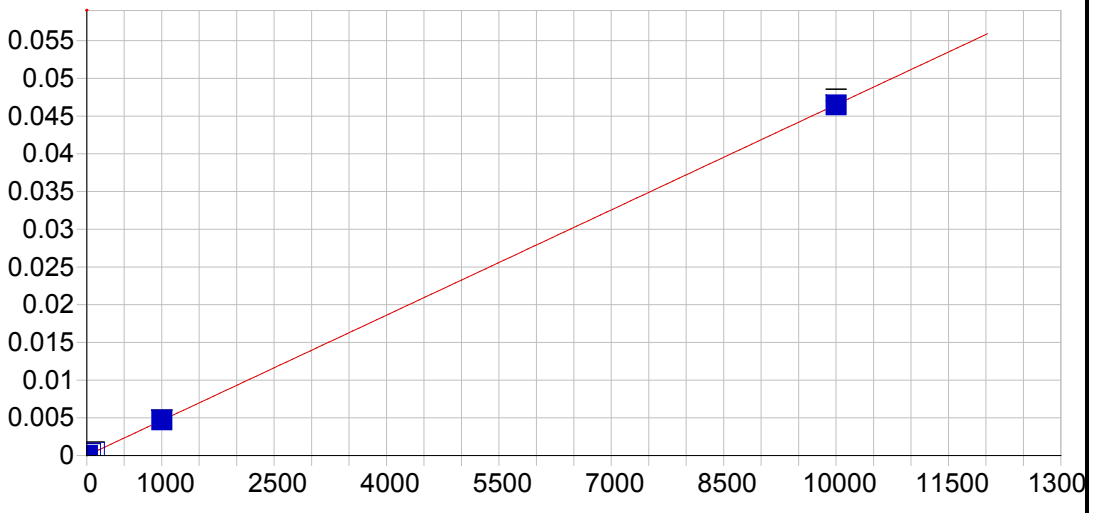



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000253 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.317547 | | |
| Predicted MQL: | 4.391824 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | .00025 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.697 | 2.70 | 27.0 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.74 | 1.74 | 1.74 | .00104 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.76 | -10.2 | -1.02 | .00792 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 4.82 | .048 | .07783 | .001 | 1 |
| CalStd7=50 | 50.000 | 50.460 | .460 | .921 | .00064 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5203 | .520 | 10.4 | .00030 | .000 | 1 |

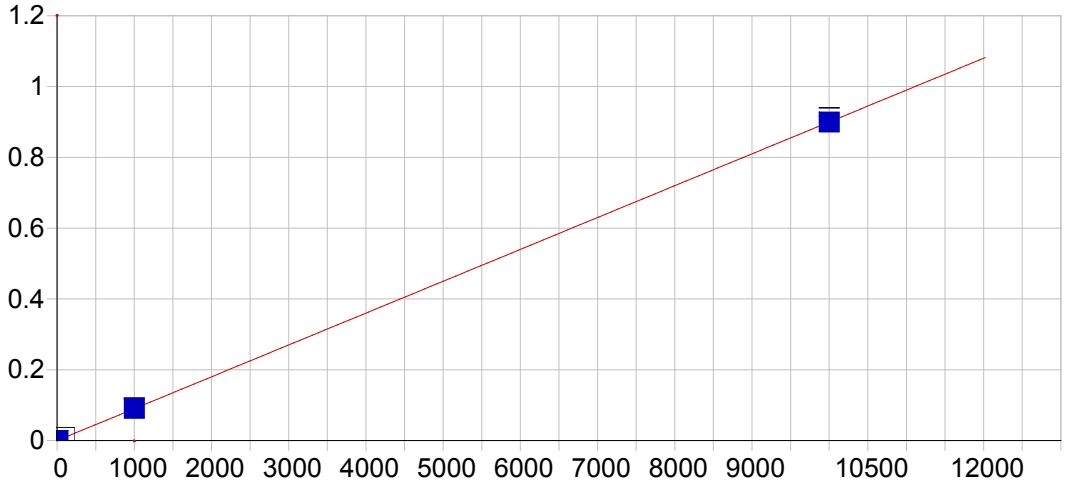



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.513558 | | |
| Predicted MQL: | 5.045195 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00009 | .000 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.669 | .669 | 6.69 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.12 | 1.12 | 1.12 | .00047 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | .00471 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.2 | -11.8 | -.118 | .04648 | .001 | 1 |
| CalStd7=50 | 50.000 | 49.425 | -.575 | -1.15 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5304 | -.470 | -9.39 | .00002 | .000 | 1 |

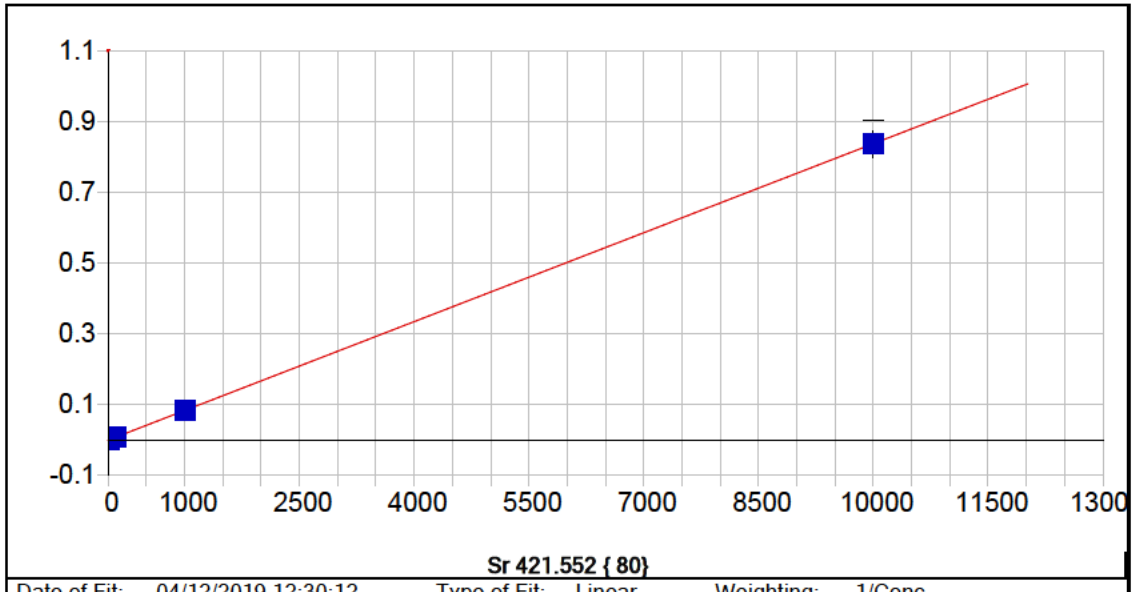



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.170987 | | |
| Predicted MQL: | 0.569955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00003 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .92247 | -.078 | -7.75 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9516 | -.048 | -.969 | .00051 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.411 | .411 | 4.11 | .00100 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.99 | .993 | .993 | .00915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.7 | 3.66 | .366 | .09041 | .001 | 1 |
| CalStd10=10 | 10000. | 9995.1 | -4.94 | -.049 | .89974 | .012 | 1 |

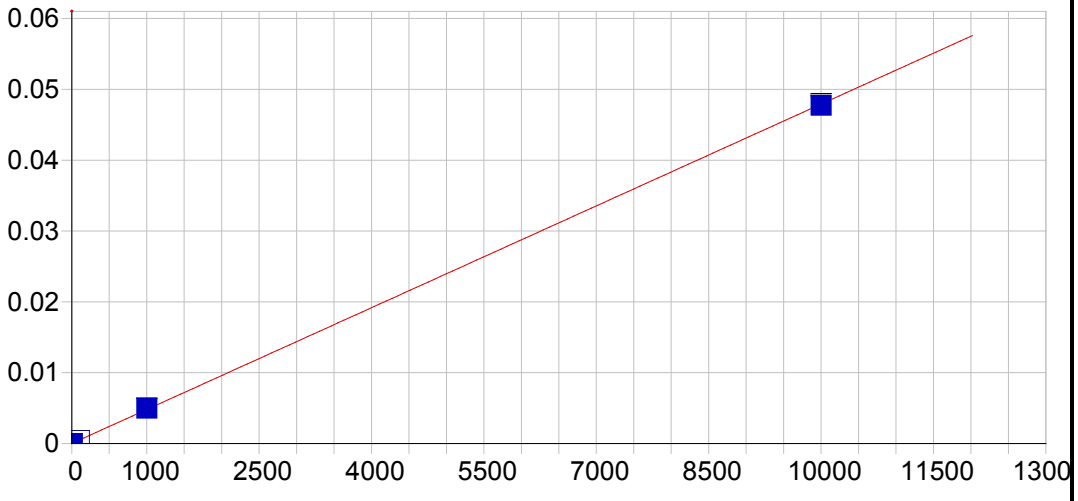



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000084 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.184340 | | |
| Predicted MQL: | 0.614467 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00001 | .000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .81806 | -.182 | -18.2 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1857 | .186 | 3.71 | .00044 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.122 | 1.12 | 11.2 | .00094 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.11 | 2.11 | 2.11 | .00856 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.57 | -.428 | -.043 | .08369 | .001 | 1 |
| CalStd10=10 | 10000. | 9997.2 | -2.81 | -.028 | .83696 | .037 | 1 |

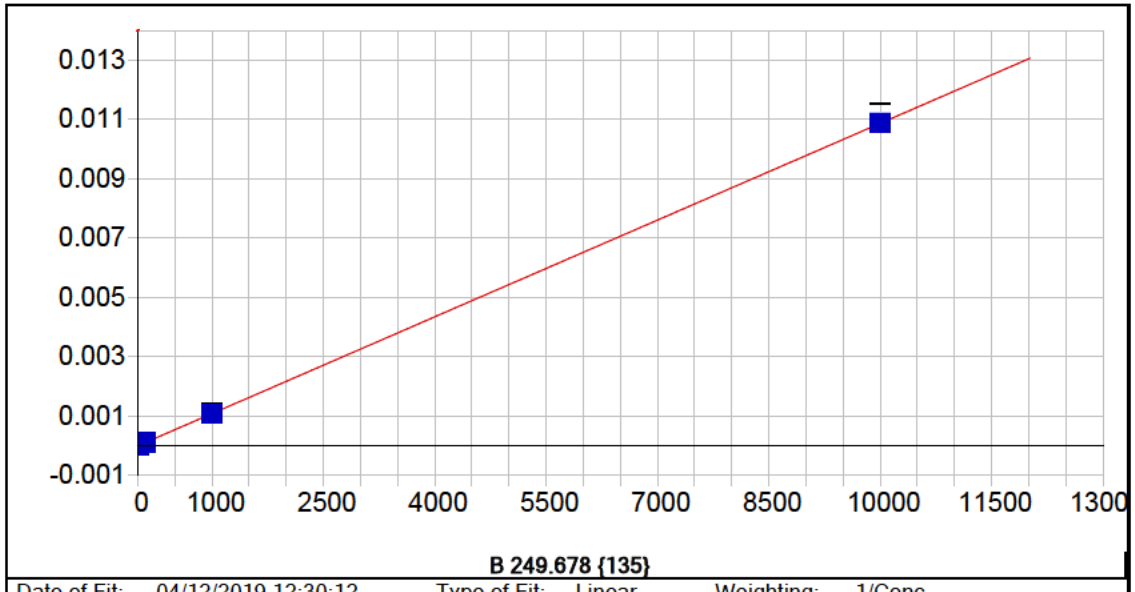



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999932 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.392712 | | |
| Predicted MQL: | 4.642373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00137 | -.001 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9962.8 | -37.2 | -.372 | .04774 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.7 | 35.7 | 3.57 | .00498 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.48 | .482 | .482 | .00050 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.006 | 1.01 | 10.1 | .00007 | .000 | 1 |

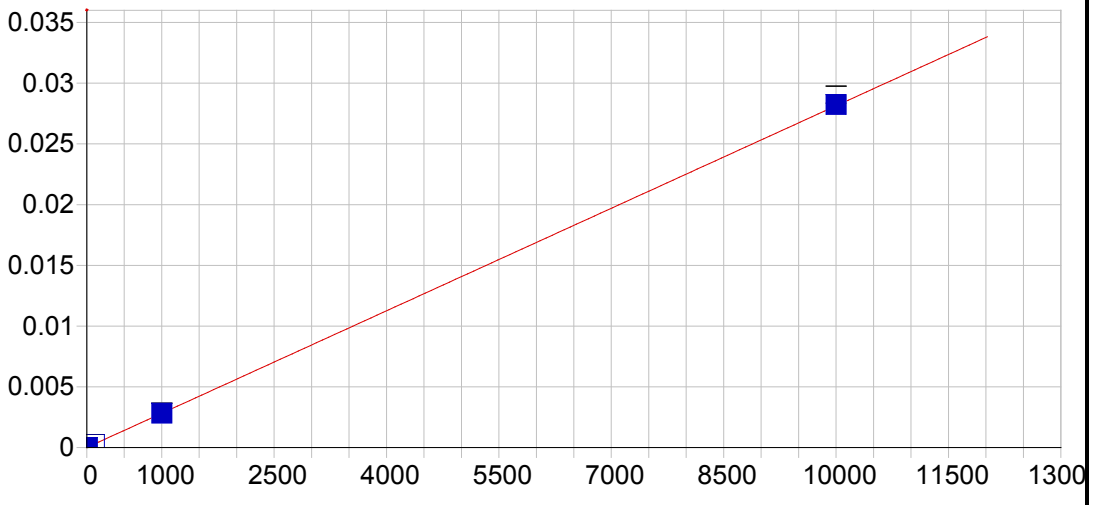



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.807993 | | |
| Predicted MQL: | 6.026642 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00158 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.865 | -.135 | -.135 | .00011 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.651 | 1.65 | 16.5 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.32 | -5.68 | -.568 | .00109 | .000 | 1 |
| CalStd10=10 | 10000. | 10004. | 4.17 | .042 | .01092 | .000 | 1 |

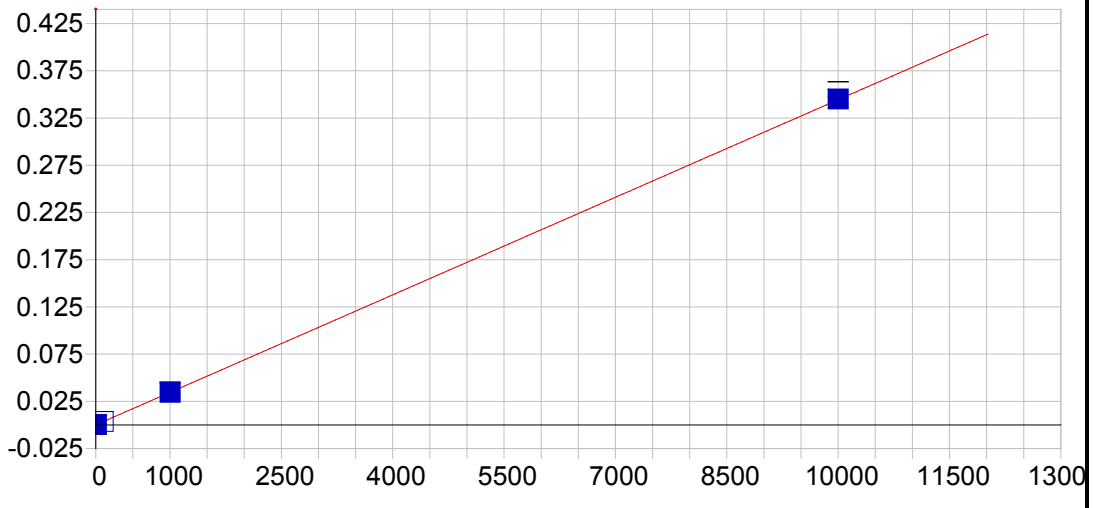



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.680433 | | |
| Predicted MQL: | 2.268110 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01088 | -.011 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.427 | -1.57 | -1.57 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.097 | .097 | .966 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.31 | .131 | .00282 | .000 | 1 |
| CalStd10=10 | 10000. | 10031. | 30.9 | .309 | .02824 | .001 | 1 |

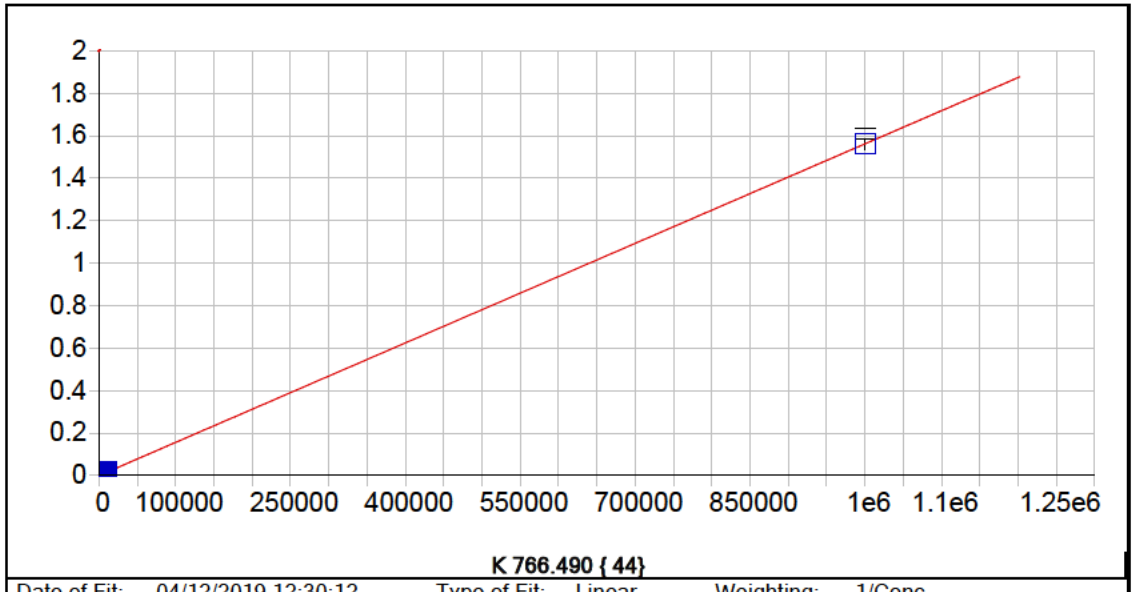



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000034 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 1.018434 | | |
| Predicted MQL: | 3.394779 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24804 | -.248 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.273 | .273 | 2.73 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.67 | .671 | .671 | .00347 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.33 | -3.67 | -.367 | .03431 | .000 | 1 |
| CalStd10=10 | 10000. | 10018. | 18.4 | .184 | .34500 | .008 | 1 |

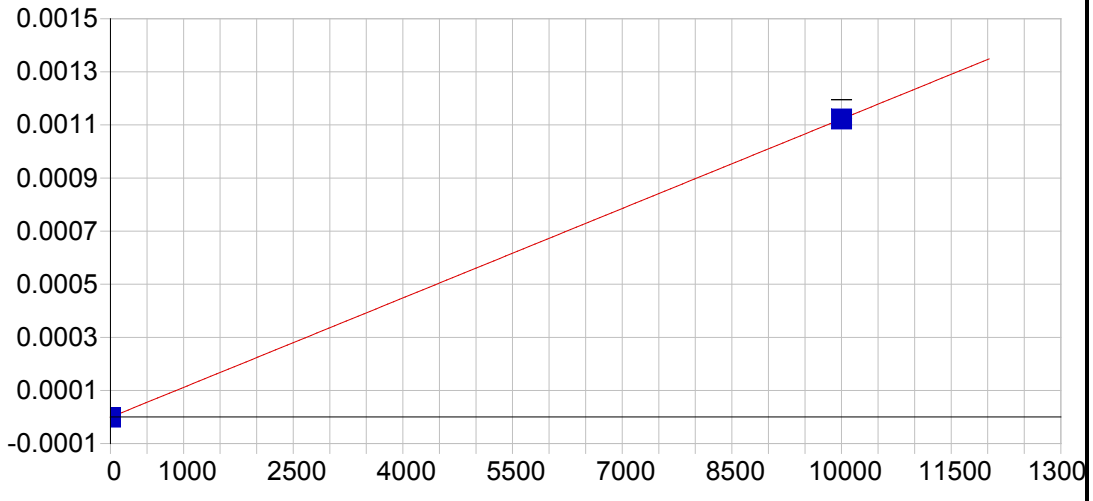



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000066 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 27.773860 | | |
| Predicted MQL: | 92.579535 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01771 | .018 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 978.29 | -21.7 | -2.17 | .00159 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.2 | .402 | .01573 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -18.5 | -.002 | 1.5615 | .025 | 1 |

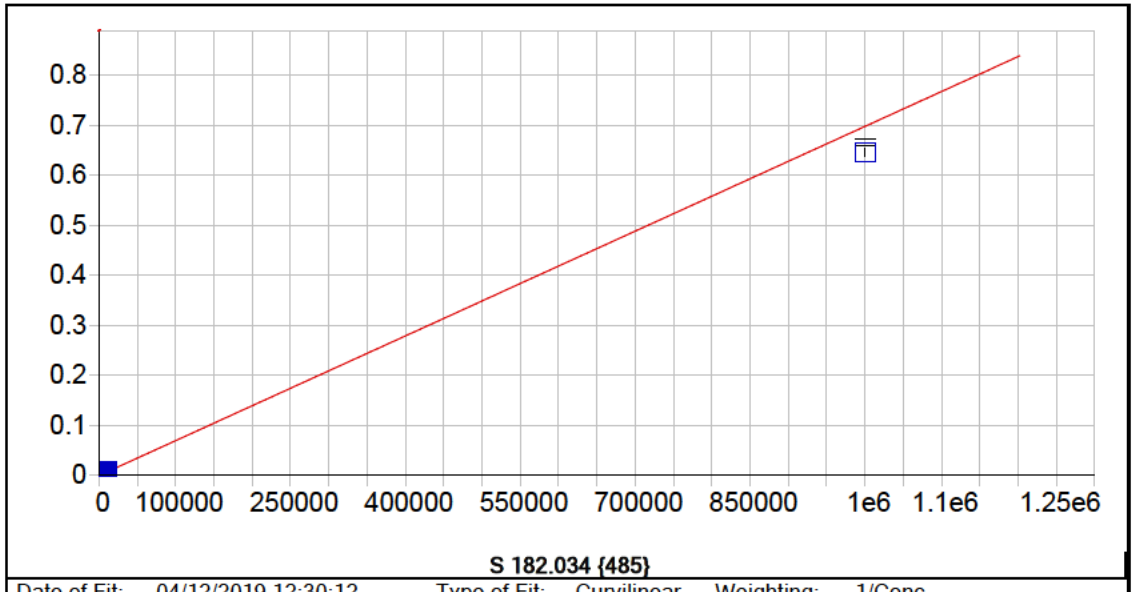



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.557307 | | |
| Predicted MQL: | 15.191024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00112 | .000 | 1 |

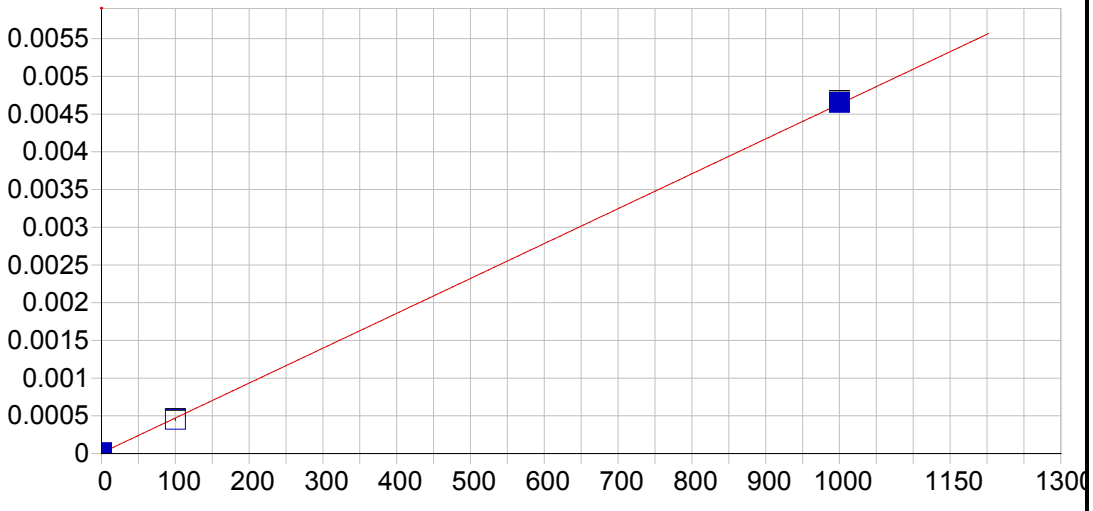



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.132317 | | |
| Predicted MQL: | 20.441056 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00127 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.51 | -1.49 | -.149 | .00071 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.0 | -6.04 | -.060 | .00700 | .000 | 1 |
| CalibStd15= | 1000000. | 925340. | -74700. | -7.47 | .64607 | .007 | 1 |

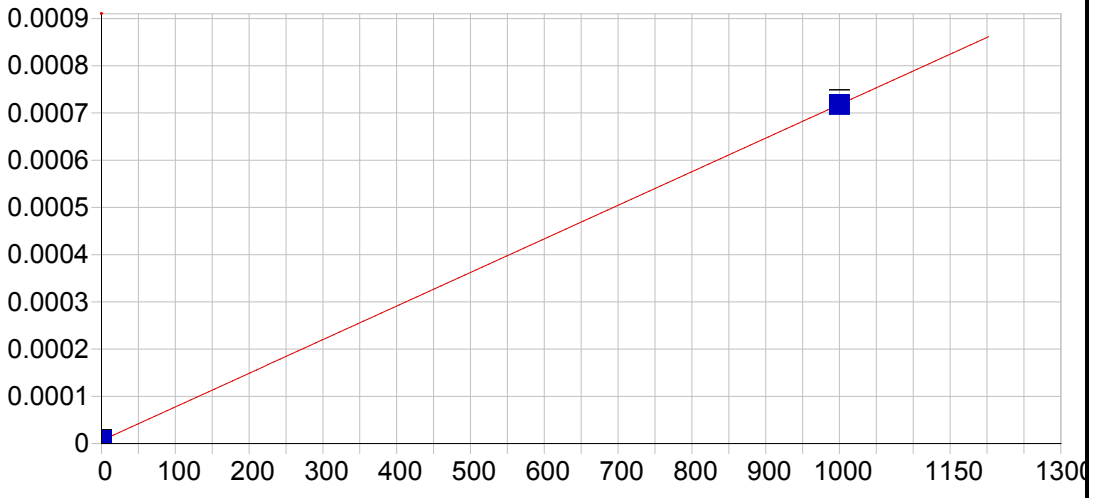



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999910 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.117100 | | |
| Predicted MQL: | 3.723667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00381 | .004 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.765 | -4.24 | -4.24 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.24 | .424 | .00465 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/12/2019 12:30:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.843516 | | |
| Predicted MQL: | 72.811721 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00072 | .000 | 1 |

Sample Name: Blank Acquired: 04/03/2019 14:05:25 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.000** | **-.000** | **-.000** | **.009** | **-.000** | **.000** | **.000** | **.022** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .003 | .000 |
| %RSD | 24.8 | 6.66 | 10.8 | 538. | 45.7 | 2350. | .636 | 6.42 | 25.7 | 7.14 | 11.4 | 27.9 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **199.** | **7.28** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 3. | 1.90 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 24.5 | 155. | 59.7 | 86.6 | 77.4 | 1.39 | 26.1 | 1.89 | 73.0 | 24.9 | 51.8 | 4.55 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 84.5 | 173. | 43.7 | 1730. | 20.7 | 68.6 | 40.4 | 78.4 | 875. | 37.3 | 278. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 571. | 429. | 109. | 20.8 | 7.53 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90406.** | **1279400.** | **342950.** |
| Stddev | 120. | 28809. | 2998. |
| %RSD | .13307 | 2.2518 | .87414 |

Sample Name: CalStd2=0.5 Acquired: 04/03/2019 14:11:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 55.7 | 76.6 | 17.0 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **90922.** | **1301600.** |
| Stddev | 436. | 1985. |
| %RSD | .47910 | .15254 |

Sample Name: CalStd3=1 Acquired: 04/03/2019 14:17:55 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.4 | 31.8 | 5.58 | 18.1 | 1.18 | 20.2 | 45.3 | 28.6 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91336.** | **1305800.** | **337010.** |
| Stddev | 382. | 3154. | 3855. |
| %RSD | .41843 | .24150 | 1.1440 |

Sample Name: CalStd4=5 Acquired: 04/03/2019 14:24:11 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.3** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 4.1 | .000 | .000 | .000 | .000 |
| %RSD | 3.10 | 1.34 | 1.95 | 2.35 | 5.59 | 10.4 | 6.47 | 39.5 | 1.37 | 9.35 | 2.31 | 9.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 16.0 | 28.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91987.** | **1303700.** | **333570.** |
| Stddev | 432. | 1881. | 9363. |
| %RSD | .46942 | .14428 | 2.8070 |

Sample Name: CalStd5=10 Acquired: 04/03/2019 14:30:26 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** | **204.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3. |
| %RSD | 2.33 | 4.01 | 43.7 | 2350. | 3.80 | .489 | .588 | 1.41 | 2.86 | 3.57 | 6.49 | 1.28 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **16.0** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 17.1 | 1.51 | 3.02 | 7.48 | 1.36 | 18.4 | 15.0 | 14.9 | 13.9 | 13.4 | 23.8 | 2.83 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.001** |
| Stddev | .000 | .000 |
| %RSD | 1.44 | 1.24 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91123.** | **1299600.** | **332850.** |
| Stddev | 264. | 10600. | 2007. |
| %RSD | .28932 | .81569 | .60289 |

Sample Name: CalStd6=20 Acquired: 04/03/2019 14:36:43 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **212.** | **18.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 3. | 2.8 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.23 | 1.24 | 15.2 | 1.47 | 1.85 | 5.06 | 5.09 | 2.74 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90653.** | **1313200.** | **339920.** |
| Stddev | 69. | 24223. | 5797. |
| %RSD | .07648 | 1.8446 | 1.7053 |

Sample Name: CalStd7=50 Acquired: 04/03/2019 14:42:54 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.002** | **.003** | **.001** | **.001** | **.000** | **235.** | **29.7** | **.000** | **.001** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1. | 2.7 | .000 | .000 |
| %RSD | 3.96 | 8.74 | 4.48 | .384 | .244 | .749 | .190 | 2.61 | .414 | 9.06 | .777 | 1.56 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.76 | .992 | 3.52 | 7.93 | .901 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90317.** | **1297000.** | **335950.** |
| Stddev | 200. | 7789. | 4440. |
| %RSD | .22163 | .60054 | 1.3215 |

Sample Name: CalStd8=100 Acquired: 04/03/2019 14:49:03 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.001** | **.013** | **.005** | **.000** | **.020** | **.003** | **.006** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.26 | 1.51 | 5.03 | 1.19 | 1.36 | 3.00 | 2.24 | 2.59 | 2.43 | .787 | .588 | 1.30 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **284.** | **54.2** | **.003** | **.001** | **.001** | **.001** | **.002** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 5. | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.83 | .968 | 1.45 | 1.60 | 5.44 | 2.28 | 2.26 | 1.42 | .802 | 1.17 | .757 | 2.09 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.003** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.24 | 2.34 | 1.42 | 7.13 | 1.65 | 4.80 | 2.48 | 1.14 | .870 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90096.** | **1281700.** | **333110.** |
| Stddev | 318. | 34678. | 9032. |
| %RSD | .35306 | 2.7055 | 2.7113 |

Sample Name: CalStd9=1000 Acquired: 04/03/2019 14:55:12 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.001** | **.001** | **.001** | **.014** | **.049** | **.054** | **.003** | **.000** | **.166** | **.034** | **.062** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .244 | 1.88 | .693 | 1.69 | .225 | 1.03 | .572 | 1.32 | 1.49 | 1.20 | .116 | .126 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.030** | **.002** | **.017** | **.002** | **1080.** | **460.** | **.000** | **.000** | **.001** | **.000** | **.027** | **.009** |
| Stddev | .000 | .000 | .000 | .000 | 12. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .281 | .654 | .256 | .580 | 1.07 | 1.25 | .811 | 1.38 | 1.26 | 7.07 | .594 | .537 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.012** | **.007** | **.017** | **.017** | **.002** | **.004** | **.003** | **.003** | **.001** | **.000** | **.004** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.07 | .135 | .075 | .350 | .296 | .696 | .329 | .362 | .370 | 1.17 | 1.22 | .533 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.026** | **.044** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .731 | .555 | .244 | .137 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89178.** | **1290700.** | **340890.** |
| Stddev | 85. | 1862. | 1611. |
| %RSD | .09528 | .14429 | .47248 |

Sample Name: CalStd10=10000 Acquired: 04/03/2019 15:00:51 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.405** | **.003** | **.286** | **.021** | **.165** | **.021** | **8960.** | **4460.** | **.004** | **.003** |
| Stddev | .000 | .000 | .011 | .000 | .002 | .000 | .001 | .000 | 93. | 59. | .000 | .000 |
| %RSD | 2.04 | .615 | 2.62 | 1.25 | .602 | 2.29 | .722 | 2.23 | 1.03 | 1.33 | 2.22 | 1.19 |

| Elem | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.012** | **.000** | **.252** | **.087** | **.034** | **.072** | **.159** | **.165** | **.016** | **.028** | **.028** | **.003** |
| Stddev | .000 | .000 | .007 | .002 | .001 | .000 | .001 | .001 | .000 | .000 | .000 | .000 |
| %RSD | 1.30 | 2.26 | 2.95 | 2.24 | 1.58 | .659 | .669 | .638 | .645 | .681 | .810 | .813 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.033** | **.010** | **.070** | **.247** |
| Stddev | .000 | .000 | .002 | .002 |
| %RSD | .535 | 1.35 | 2.18 | .649 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87946.** | **1248500.** | **338940.** |
| Stddev | 455. | 36835. | 3085. |
| %RSD | .51701 | 2.9504 | .91020 |

Sample Name: CalStd12=100K  Acquired: 04/03/2019 15:07:24  Type: Cal
Method: DOD Calibration Updated 060614(v3294)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.47** | **84400.** | **43000.** | **.322** | **.158** | **2.21** |
| Stddev | .00 | 667. | 510. | .007 | .000 | .01 |
| %RSD | .246 | .791 | 1.18 | 2.32 | .298 | .337 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87399.** | **1271700.** | **338840.** |
| Stddev | 369. | 4886. | 4117. |
| %RSD | .42252 | .38418 | 1.2150 |

Sample Name: CalStd13=100000 Acquired: 04/03/2019 15:13:42 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.110** | **.032** | **.040** | **.030** | **.115** | **.004** |
| Stddev | .002 | .000 | .001 | .000 | .001 | .000 |
| %RSD | 1.39 | 1.48 | 1.38 | 1.58 | 1.30 | 1.57 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85755.** | **1246700.** | **334390.** |
| Stddev | 316. | 3104. | 5912. |
| %RSD | .36868 | .24898 | 1.7680 |

Sample Name: CalStd14=500000 Acquired: 04/03/2019 15:20:06 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.579** | **.159** | **.142** | **.535** | **.019** |
| Stddev | .009 | .002 | .001 | .006 | .000 |
| %RSD | 1.49 | .997 | .916 | 1.04 | 1.11 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **79215.** | **323820.** |
| Stddev | 268. | 2683. |
| %RSD | .33828 | .82857 |

Sample Name: CalibStd15=1000k Acquired: 04/03/2019 15:26:47 Type: Cal
Method: DOD Calibration Updated 060614(v3294) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.313** | **.268** | **.037** |
| Stddev | .01 | .001 | .001 | .000 |
| %RSD | 1.24 | .448 | .290 | .450 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **71185.** | **304600.** |
| Stddev | 647. | 2218. |
| %RSD | .90824 | .72828 |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.6** | **11400.** | **1990.** | **1990.** | **1900.** | **48.6** | **46.7** | **9890.** | **48.0** | **56.9** | **508.** | **196.** |
| Stddev | 1.5 | 79. | 13. | 13. | 12. | 1.0 | 1.7 | 44. | .3 | .5 | 4. | 3. |
| %RSD | 3.19 | .690 | .646 | .664 | .631 | 2.08 | 3.62 | .441 | .562 | .855 | .747 | 1.49 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **243.** | **252.** | **5140.** | **10000.** | **513.** | **506.** | **508.** | **501.** | **503.** | **491.** | **478.** | **501.** |
| Stddev | 6. | 13. | 24. | 99. | 9. | 3. | 3. | 3. | 4. | 7. | 2. | 5. |
| %RSD | 2.39 | 4.97 | .474 | .983 | 1.79 | .644 | .651 | .505 | .705 | 1.51 | .505 | .924 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **502.** | **1990.** | **2030.** | **469.** | **493.** | **510.** | **483.** |
| Stddev | 5. | 19. | 14. | 9. | 10. | 2. | 3. |
| %RSD | .954 | .957 | .666 | 1.90 | 2.09 | .466 | .699 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/03/2019 15:46:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88846.** | **1266900.** | **348410.** |
| Stddev | 316. | 32909. | 1933. |
| %RSD | .35620 | 2.5976 | .55489 |

Sample Name: ICVLL Acquired: 04/03/2019 15:52:57 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **30.1** | **1160.** | **1180.** | **65.1** | **28.4** | **11.4** | **1470.** | **14.7** | **15.1** | **29.5** | **30.0** | **26.0** |
| Stddev | .9 | 6. | 19. | 4.8 | .2 | .2 | 35. | .3 | .2 | .2 | 1.3 | 4.5 |
| %RSD | 3.10 | .499 | 1.59 | 7.44 | .632 | 1.53 | 2.39 | 1.76 | 1.45 | .698 | 4.18 | 17.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **43.1** | **884.** | **1420.** | **32.2** | **29.7** | **29.3** | **32.4** | **62.6** | **65.9** | **61.9** | **29.2** | **29.0** |
| Stddev | 5.0 | 16. | 22. | .5 | .2 | .3 | 1.9 | 1.0 | 2.5 | 2.3 | .8 | .1 |
| %RSD | 11.7 | 1.77 | 1.56 | 1.56 | .655 | .944 | 5.70 | 1.63 | 3.83 | 3.69 | 2.70 | .380 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 30.0 | | | | | | | | | | | |
| Range | 20.0% | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **88382.** | **1277700.** | **345540.** |
| Stddev | 413. | 5455. | 2447. |
| %RSD | .46689 | .42698 | .70812 |

Sample Name: icb Acquired: 04/03/2019 16:05:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.053** | **-1.45** | **2.96** | **-.150** | **.025** | **-27.7** | **.130** | **.033** | **.457** | **.931** | **8.55** | **1.49** |
| Stddev | .378 | .53 | 3.68 | .279 | .037 | .7 | .174 | .055 | .223 | .186 | 1.89 | 1.10 |
| %RSD | 716. | 36.5 | 124. | 186. | 144. | 2.46 | 134. | 167. | 48.9 | 20.0 | 22.1 | 73.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.732** | **-.076** | **-.001** | **.334** | **1.42** | **-.014** | **3.11** | **1.07** | **-.550** | **-.468** |
| Stddev | .058 | .119 | .297 | .563 | 2.84 | 2.48 | 2.26 | 1.50 | .340 | .099 |
| %RSD | 7.91 | 158. | 26900. | 168. | 200. | 17500. | 72.4 | 140. | 61.7 | 21.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89871.** | **1294600.** | **342360.** |
| Stddev | 216. | 5657. | 8297. |
| %RSD | .24065 | .43698 | 2.4236 |

Sample Name: MRL/LLOQ  Acquired: 04/03/2019 16:11:32  Type: QC
Method: DOD Calibration Updated 060614(v3294)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **11.4** | **386.** | **20.2** | **8.91** | **3.70** | **462.** | **4.91** | **4.83** | **9.86** | **10.2** | **9.30** | **282.** |
| Stddev | .5 | 2. | 2.5 | .62 | .05 | 15. | .15 | .08 | .48 | .5 | 9.28 | 3. |
| %RSD | 4.55 | .561 | 12.4 | 7.00 | 1.38 | 3.24 | 3.05 | 1.70 | 4.83 | 4.69 | 99.8 | .993 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **462.** | **9.94** | **9.85** | **9.86** | **10.7** | **21.7** | **20.7** | **21.1** | **9.29** | **9.96** |
| Stddev | 5. | .12 | .29 | .36 | 1.2 | .6 | 3.3 | 1.6 | .38 | .20 |
| %RSD | .973 | 1.22 | 3.00 | 3.62 | 11.4 | 2.56 | 15.9 | 7.39 | 4.12 | 1.99 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89155.** | **1289400.** | **342840.** |
| Stddev | 389. | 2710. | 4343. |
| %RSD | .43646 | .21015 | 1.2669 |

Sample Name: ICSA Acquired: 04/03/2019 16:17:43 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.504** | **547000.** | **-.250** | **-.747** | **-.035** | **530000.** | **1.23** | **-.075** | **.295** | **-.966** | **.002** |
| Stddev | .913 | 25100. | 9.22 | .784 | .170 | 8010. | 1.16 | .222 | .484 | 1.88 | 5.37 |
| %RSD | 181. | 4.58 | 3690. | 105. | 492. | 1.51 | 94.3 | 298. | 164. | 194. | 299000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **540000.** | **519000.** | **-4.02** | **-.349** | **-.210** | **1.31** | **-2.11** | **3.97** | **-4.38** | **10200.** | **-.325** |
| Stddev | 8910. | 7340. | .31 | .897 | 1.51 | 5.62 | 1.03 | 7.59 | 3.62 | 147. | 1.09 |
| %RSD | 1.65 | 1.41 | 7.81 | 257. | 719. | 428. | 49.0 | 191. | 82.7 | 1.45 | 336. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **79719.** | **1164100.** | **326960.** |
| Stddev | 256. | 8532. | 6010. |
| %RSD | .32061 | .73292 | 1.8383 |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **446.** | **535000.** | F **658.** | **571.** | **490.** | **471.** | **477.** | **522000.** | **516.** | **480.** | **482.** |
| Stddev | 3. | 15900. | 11. | 11. | 1. | 5. | 1. | 3840. | 1. | 1. | 4. |
| %RSD | .697 | 2.97 | 1.66 | 1.86 | .247 | 1.13 | .225 | .735 | .253 | .237 | .817 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 500. | | | | | | | | |
| Range | | | 20.0% | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **496.** | **516.** | **538000.** | **510000.** | **511.** | **496.** | **501.** | **464.** | **469.** | **449.** | **425.** |
| Stddev | 2. | 11. | 2870. | 4040. | 3. | 1. | 4. | 1. | 2. | 36. | 4. |
| %RSD | .380 | 2.06 | .534 | .792 | .606 | .223 | .836 | .219 | .364 | 8.08 | 1.01 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **513.** | **494.** | **477.** | **495.** | **504.** | **493.** | **498.** |
| Stddev | 3. | 3. | 5. | 5. | 2. | 4. | 2. | 2. |
| %RSD | .558 | .515 | .954 | .985 | .462 | .835 | .312 | .426 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/03/2019 16:24:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **80242.** | **1169100.** | **327370.** |
| Stddev | 148. | 8653. | 2108. |
| %RSD | .18400 | .74012 | .64380 |

Sample Name: ccv1 Acquired: 04/04/2019 04:39:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **463.** | **5060.** | **4510.** | **4920.** | **455.** | **4630.** | **522.** | **4730.** | **5490.** | **4790.** | **4660.** | **4640.** |
| Stddev | 2. | 92. | 21. | 83. | 7. | 33. | . | 18. | 3. | 57. | 87. | 66. |
| %RSD | .364 | 1.82 | .459 | 1.69 | 1.43 | .714 | .073 | .373 | .060 | 1.19 | 1.86 | 1.43 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4590.** | **4630.** | **4650.** | **5180.** | **4820.** | **4530.** | **4670.** | **4900.** |
| Stddev | 91. | 11. | 4. | 8. | 18. | 28. | 17. | 94. | 3. |
| %RSD | 1.78 | .246 | .094 | .177 | .352 | .585 | .370 | 2.01 | .062 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **81769.** | **1234400.** | **365360.** |
| Stddev | 69. | 2104. | 2147. |
| %RSD | .08446 | .17041 | .58772 |

Sample Name: ccv2 Acquired: 04/04/2019 04:44:48 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3933 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.6** | **513.** | **472.** | **469.** | **48.7** | **47.1** | **476.** | **49.5** | **460.** | **499.** | **476.** | **523.** |
| Stddev | .6 | 3. | 7. | 1. | .4 | 1.1 | 5. | .3 | 2. | 3. | 6. | 9. |
| %RSD | 1.12 | .508 | 1.45 | .217 | .743 | 2.42 | 1.08 | .592 | .343 | .633 | 1.34 | 1.76 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | **477.** | **494.** | **456.** | **456.** | **470.** | **478.** | **473.** | **468.** | **518.** | **511.** | **500.** |
| Stddev | 2. | 3. | 3. | 3. | 2. | 2. | 1. | 5. | 2. | 1. | 4. | 4. |
| %RSD | .410 | .716 | .558 | .556 | .330 | .360 | .157 | 1.13 | .469 | .191 | .793 | .730 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **477.** | **461.** | **476.** | **493.** | **451.** |
| Stddev | 2. | 9. | 2. | 2. | 1. |
| %RSD | .446 | 1.96 | .427 | .342 | .239 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 04:44:48 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **83742.** | **1264300.** | **370720.** |
| Stddev | 342. | 4637. | 1605. |
| %RSD | .40888 | .36673 | .43281 |

Sample Name: ccb Acquired: 04/04/2019 04:50:33 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.578** | **-3.03** | **2.97** | **.790** | **.392** | **-26.2** | **.136** | **.049** | **.640** | **1.82** | **5.19** | **-3.08** |
| Stddev | 1.09 | 1.01 | 2.65 | .186 | .035 | .7 | .148 | .052 | .366 | .39 | 1.06 | .70 |
| %RSD | 188. | 33.2 | 89.1 | 23.5 | 8.80 | 2.67 | 109. | 108. | 57.2 | 21.1 | 20.4 | 22.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.48** | **.459** | **1.36** | **.508** | **1.58** | **1.24** | **-2.29** | **1.18** | **.218** | **.017** |
| Stddev | .04 | .162 | .32 | .882 | 1.89 | .45 | 3.26 | .79 | .173 | .017 |
| %RSD | 2.96 | 35.3 | 23.6 | 174. | 120. | 36.2 | 143. | 67.0 | 79.0 | 102. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **83763.** | **1266800.** | **370640.** |
| Stddev | 62. | 8709. | 3283. |
| %RSD | .07384 | .68746 | .88563 |

Sample Name: lcss71263 Acquired: 04/04/2019 05:50:03 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **104.** | **730.** | **2020.** | **1900.** | **166.** | **144.** | **.297** | **18300.** | **.111** | **7.41** | **1.92** | **121.** |
| Stddev | 1. | 5. | 8. | 13. | 1. | 2. | .044 | 73. | .125 | .18 | .20 | 1. |
| %RSD | 1.35 | .665 | .412 | .684 | .521 | 1.48 | 14.8 | .402 | 113. | 2.41 | 10.4 | .871 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **73.3** | **104.** | **9060.** | **6060.** | **2100.** | **2240.** | **2.55** | **28.8** | **17.9** | **2.32** | **7.24** | **3.93** |
| Stddev | 2.0 | 8. | 80. | 108. | 9. | 9. | .45 | .5 | 1.2 | 2.27 | 4.92 | 1.66 |
| %RSD | 2.72 | 8.03 | .878 | 1.78 | .436 | .405 | 17.5 | 1.57 | 6.60 | 97.8 | 67.9 | 42.1 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.745** | **104.** |
| Stddev | .224 | 1. |
| %RSD | 30.0 | .541 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82636.** | **1246600.** | **360100.** |
| Stddev | 248. | 3743. | 808. |
| %RSD | .30017 | .30026 | .22448 |

Sample Name: mbs71263 Acquired: 04/04/2019 05:56:39 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.4** | **2910.** | **11.6** | **478.** | **428.** | **.205** | **30700.** | **-.331** | **.546** | **3.05** | **78.2** | **71.9** |
| Stddev | 1.0 | 28. | 4.1 | 2. | 6. | .037 | 106. | .241 | .138 | .65 | 1.7 | 2.7 |
| %RSD | 1.41 | .958 | 35.6 | .384 | 1.47 | 18.0 | .346 | 73.0 | 25.2 | 21.2 | 2.18 | 3.71 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **114.** | **23100.** | **6640.** | **444.** | **2.10** | **22.0** | **43.2** | **4.20** | **8.08** | **1.95** | **5.19** | **164.** |
| Stddev | 4. | 109. | 117. | 1. | .22 | .2 | 3.5 | 2.68 | 2.45 | 2.49 | .21 | . |
| %RSD | 3.62 | .473 | 1.77 | .256 | 10.6 | .759 | 8.15 | 63.9 | 30.3 | 128. | 4.03 | .183 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **81504.** | **1234700.** | **365110.** |
| Stddev | 334. | 3358. | 3767. |
| %RSD | .40942 | .27195 | 1.0318 |

Sample Name: ccv1 Acquired: 04/04/2019 06:03:07 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **5070.** | **4500.** | **4930.** | **459.** | **4600.** | **524.** | **4750.** | **5510.** | **4810.** | **4730.** | **4600.** |
| Stddev | 3. | 66. | 30. | 78. | 8. | 32. | 1. | 38. | 17. | 46. | 34. | 99. |
| %RSD | .602 | 1.29 | .654 | 1.59 | 1.71 | .704 | .226 | .799 | .315 | .954 | .725 | 2.16 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4580.** | **4640.** | **4650.** | **5200.** | **4860.** | **4520.** | **4660.** | **4900.** |
| Stddev | 69. | 4. | 7. | 5. | 27. | 43. | 8. | 85. | 21. |
| %RSD | 1.34 | .087 | .160 | .114 | .512 | .885 | .184 | 1.83 | .425 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **81499.** | **1229200.** | **368350.** |
| Stddev | 363. | 9479. | 4130. |
| %RSD | .44492 | .77109 | 1.1211 |

Sample Name: ccv2 Acquired: 04/04/2019 06:08:36 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Be2348 | Ca3933 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.8** | **521.** | **482.** | **473.** | **48.9** | **49.1** | **483.** | **49.9** | **460.** | **505.** | **474.** | **531.** |
| Stddev | .3 | 4. | 4. | 1. | .2 | 1.2 | 12. | .2 | 2. | 5. | 11. | 7. |
| %RSD | .574 | .690 | .860 | .271 | .497 | 2.37 | 2.40 | .452 | .347 | .934 | 2.25 | 1.28 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **454.** | **482.** | **498.** | **459.** | **458.** | **472.** | **481.** | **475.** | **475.** | **532.** | **520.** | **514.** |
| Stddev | 3. | 3. | 2. | 1. | 1. | 2. | 2. | 4. | 2. | 2. | 4. | 5. |
| %RSD | .612 | .623 | .470 | .221 | .168 | .392 | .488 | .772 | .428 | .416 | .796 | .924 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Avg | **481.** | **471.** | **479.** | **492.** | **452.** |
| Stddev | 3. | 9. | 4. | 1. | 1. |
| %RSD | .721 | 1.90 | .833 | .287 | .156 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | |
| Range | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 06:08:36 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **82184.** | **1256900.** | **369220.** |
| Stddev | 137. | 7735. | 7698. |
| %RSD | .16609 | .61539 | 2.0849 |

Sample Name: ccb Acquired: 04/04/2019 06:14:22 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.346** | **-3.45** | **4.07** | **.222** | **.456** | **-25.2** | **-.280** | **.266** | **.910** | **1.30** | **6.53** | **-2.32** |
| Stddev | .806 | .48 | 3.03 | .271 | .009 | 1.6 | .154 | .103 | .147 | .44 | 3.95 | .98 |
| %RSD | 233. | 13.8 | 74.5 | 122. | 1.99 | 6.17 | 54.8 | 38.7 | 16.1 | 33.7 | 60.4 | 42.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.27** | **.684** | **1.52** | **.832** | **4.39** | **2.65** | **5.61** | **3.80** | **.252** | **-.029** |
| Stddev | .04 | .124 | .33 | .652 | 1.60 | 1.69 | 2.99 | 2.30 | .593 | .070 |
| %RSD | 2.89 | 18.1 | 21.6 | 78.5 | 36.5 | 63.6 | 53.2 | 60.5 | 235. | 242. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **82191.** | **1260300.** | **371370.** |
| Stddev | 362. | 7855. | 5730. |
| %RSD | .44036 | .62331 | 1.5430 |

Sample Name: 254597 Acquired: 04/04/2019 06:20:39 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.180** | **245000.** | **221.** | **2630.** | **17.3** | **7240.** | **1.28** | **4.60** | **796.** | **481.** | **473.** |
| Stddev | .688 | 2850. | 3. | 24. | .1 | 82. | .55 | .24 | 2. | 4. | 7. |
| %RSD | 382. | 1.16 | 1.29 | .914 | .716 | 1.13 | 42.9 | 5.13 | .221 | .877 | 1.38 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **550.** | **484000.** | **15900.** | **75000.** | **11.2** | **279.** | **1780.** | **-7.26** | **12.6** | **76.2** | **821.** |
| Stddev | 7. | 4990. | 119. | 987. | .9 | 1. | 23. | 2.29 | 7.8 | 2.9 | 8. |
| %RSD | 1.33 | 1.03 | .746 | 1.32 | 8.48 | .264 | 1.29 | 31.6 | 61.4 | 3.86 | .963 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **858.** | **1090.** | **976.** |
| Stddev | 5. | 3. | 1. |
| %RSD | .572 | .279 | .149 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79716.** | **1207200.** | **363080.** |
| Stddev | 429. | 8898. | 1418. |
| %RSD | .53840 | .73702 | .39061 |

Sample Name: 254598 Acquired: 04/04/2019 06:27:10 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.136** | **274000.** | **115.** | **1420.** | **12.3** | **8450.** | **-2.33** | **1.77** | **318.** | **516.** | **233.** |
| Stddev | .715 | 1930. | 5. | 8. | .1 | 88. | .37 | .19 | 1. | 5. | 6. |
| %RSD | 525. | .703 | 4.16 | .542 | .540 | 1.04 | 15.9 | 10.6 | .389 | .939 | 2.36 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **291.** | **576000.** | **21000.** | **22300.** | **6.50** | **294.** | **1280.** | **537.** | **-13.4** | **-1.44** | **61.8** |
| Stddev | 8. | 5070. | 184. | 271. | .36 | 2. | 11. | 4. | 5.7 | .54 | 3.2 |
| %RSD | 2.76 | .879 | .876 | 1.22 | 5.54 | .509 | .816 | .743 | 42.2 | 37.8 | 5.22 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **855.** | **894.** | **849.** | **762.** |
| Stddev | 12. | 5. | 1. | 1. |
| %RSD | 1.43 | .556 | .117 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79731.** | **1217200.** | **364140.** |
| Stddev | 155. | 4910. | 4328. |
| %RSD | .19502 | .40333 | 1.1885 |

Sample Name: 254599 Acquired: 04/04/2019 06:33:45 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.571** | **204000.** | **273.** | **1250.** | **10.1** | **58500.** | **1.77** | **6.27** | **123.** | **436.** | **387.** |
| Stddev | .265 | 2940. | 4. | 17. | .1 | 569. | .40 | .13 | . | 3. | 8. |
| %RSD | 46.5 | 1.44 | 1.58 | 1.33 | 1.40 | .972 | 22.6 | 2.07 | .160 | .776 | 2.02 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **455.** | **313000.** | **29100.** | **8330.** | **10.7** | **233.** | **1120.** | **751.** | **-5.63** | **5.84** | **30.7** |
| Stddev | 4. | 826. | 414. | 110. | .4 | 2. | 10. | 2. | 3.57 | 6.60 | 2.3 |
| %RSD | .829 | .264 | 1.42 | 1.32 | 3.41 | .892 | .881 | .316 | 63.3 | 113. | 7.37 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **671.** | **704.** | **1100.** |
| Stddev | 13. | 5. | 1. |
| %RSD | 1.94 | .643 | .134 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79659.** | **1206100.** | **368700.** |
| Stddev | 425. | 7878. | 965. |
| %RSD | .53343 | .65317 | .26160 |

Sample Name: 254600 Acquired: 04/04/2019 06:40:10 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.050** | **238000.** | **457.** | **1520.** | **12.6** | **76100.** | **.283** | **5.35** | **169.** | **443.** | **331.** |
| Stddev | .632 | 2260. | 6. | 14. | .1 | 935. | .292 | .21 | 1. | 4. | 8. |
| %RSD | 1250. | .951 | 1.32 | .897 | .778 | 1.23 | 103. | 3.89 | .494 | .790 | 2.36 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **398.** | **374000.** | **33600.** | **14800.** | **11.0** | **291.** | **1040.** | **621.** | **-6.57** | **7.95** | **39.8** |
| Stddev | 2. | 2160. | 285. | 176. | .6 | 1. | 16. | 3. | 3.86 | 4.78 | 2.9 |
| %RSD | .402 | .577 | .848 | 1.19 | 5.82 | .418 | 1.54 | .502 | 58.7 | 60.2 | 7.33 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **714.** | **750.** | **887.** | **805.** |
| Stddev | 8. | 3. | 3. | 2. |
| %RSD | 1.10 | .336 | .359 | .216 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **79663.** | **1205000.** | **363130.** |
| Stddev | 493. | 5051. | 1655. |
| %RSD | .61913 | .41921 | .45574 |

Sample Name: 1dup254600 Acquired: 04/04/2019 06:46:44 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.393** | **152000.** | **202.** | **1380.** | **11.4** | **60300.** | **-.847** | **4.52** | **137.** | **295.** | **309.** |
| Stddev | .269 | 1170. | 3. | 14. | .1 | 555. | .319 | .08 | 2. | 2. | 9. |
| %RSD | 68.4 | .772 | 1.66 | .995 | 1.07 | .921 | 37.6 | 1.79 | 1.71 | .826 | 2.92 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **355.** | **240000.** | **26400.** | **13000.** | **5.37** | **229.** | **756.** | **547.** | **-1.58** | **4.55** | **23.7** |
| Stddev | 8. | 2770. | 336. | 71. | .44 | 4. | 24. | 9. | 2.97 | 6.82 | 1.9 |
| %RSD | 2.14 | 1.15 | 1.27 | .548 | 8.13 | 1.88 | 3.16 | 1.72 | 188. | 150. | 7.97 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **480.** | **485.** | **659.** | **594.** |
| Stddev | 5. | 3. | 13. | 10. |
| %RSD | .981 | .546 | 1.90 | 1.72 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86940.** | **1270600.** | **377540.** |
| Stddev | 1134. | 5237. | 4578. |
| %RSD | 1.3041 | .41215 | 1.2126 |

Sample Name: 2dup254600 Acquired: 04/04/2019 06:53:11 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.154** | **99800.** | **79.2** | **1310.** | **11.6** | **68600.** | **1.21** | **4.05** | **130.** | **182.** | **290.** |
| Stddev | .560 | 921. | 2.9 | 14. | .1 | 462. | .25 | .09 | 1. | 2. | 6. |
| %RSD | 363. | .923 | 3.66 | 1.06 | .477 | .674 | 20.7 | 2.17 | .870 | .878 | 1.95 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **319.** | **123000.** | **24300.** | **13300.** | **2.80** | **199.** | **643.** | **571.** | **-2.73** | **5.41** | **15.2** |
| Stddev | 6. | 1440. | 149. | 90. | .31 | 2. | 9. | 3. | 2.91 | 6.55 | 1.8 |
| %RSD | 1.87 | 1.17 | .612 | .679 | 10.9 | .897 | 1.41 | .587 | 107. | 121. | 12.1 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **294.** | **293.** | **527.** | **477.** |
| Stddev | 6. | 1. | 4. | 3. |
| %RSD | 2.10 | .259 | .683 | .605 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **86029.** | **1268900.** | **367130.** |
| Stddev | 240. | 3901. | 1442. |
| %RSD | .27889 | .30745 | .39286 |

Sample Name: 254601 Acquired: 04/04/2019 06:59:43 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.575** | **368000.** | **315.** | **4770.** | **8.97** | **203000.** | **7.13** | **11.1** | **147.** | **638.** | **1430.** |
| Stddev | .407 | 2830. | 8. | 30. | .09 | 1960. | .13 | .2 | 1. | 6. | 13. |
| %RSD | 70.7 | .769 | 2.69 | .636 | .971 | .963 | 1.85 | 1.57 | .833 | .962 | .939 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **310000.** | **28200.** | **207000.** | **153.** | **295.** | **1700.** | **5.27** | **22.0** | **117.** | **1110.** | **2380.** |
| Stddev | 2840. | 178. | 2780. | 1. | 2. | 8. | 4.91 | 2.3 | 2. | 15. | 6. |
| %RSD | .915 | .632 | 1.34 | .329 | .561 | .470 | 93.3 | 10.2 | 1.98 | 1.39 | .233 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84821.** | **1208900.** | **352080.** |
| Stddev | 309. | 9869. | 3276. |
| %RSD | .36413 | .81638 | .93039 |

Sample Name: I254601 Acquired: 04/04/2019 07:06:13 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.782** | **82600.** | **75.6** | **1120.** | **2.21** | **49500.** | **1.82** | **2.61** | **36.7** | **149.** | **353.** | **369.** |
| Stddev | 1.09 | 611. | 3.4 | 7. | .05 | 488. | .21 | .21 | .3 | 1. | 2. | 6. |
| %RSD | 139. | .739 | 4.44 | .592 | 2.22 | .986 | 11.6 | 7.94 | .686 | .804 | .455 | 1.70 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71500.** | **7200.** | **51400.** | **35.9** | **76.6** | **405.** | **412.** | **2.86** | **2.49** | **29.9** | **264.** | **261.** |
| Stddev | 555. | 71. | 453. | .4 | .6 | 3. | 2. | 2.27 | 1.00 | .9 | 6. | . |
| %RSD | .776 | .983 | .881 | 1.08 | .755 | .731 | .394 | 79.2 | 39.9 | 3.03 | 2.30 | .183 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **604.** | **552.** |
| Stddev | 3. | 1. |
| %RSD | .426 | .122 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91382.** | **1303800.** | **360990.** |
| Stddev | 289. | 1719. | 3360. |
| %RSD | .31648 | .13186 | .93066 |

Sample Name: 1dup254601 Acquired: 04/04/2019 07:12:48 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.29** | **328000.** | **245.** | **4810.** | **7.94** | **189000.** | **-1.43** | **7.42** | **104.** | **564.** | **1330.** |
| Stddev | .63 | 2020. | 100. | 43. | .09 | 1510. | 16.9 | 3.88 | 69. | 4. | 12. |
| %RSD | 19.1 | .616 | 40.9 | .895 | 1.16 | .797 | 1180. | 52.4 | 66.2 | .673 | .891 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **302000.** | **26800.** | **185000.** | **109.** | **203.** | **1000.** | **6.98** | **7.13** | **74.1** | **1010.** | **1650.** |
| Stddev | 2150. | 185. | 1950. | 71. | 134. | 1160. | 5.72 | 27.6 | 42.4 | 7. | 1100. |
| %RSD | .713 | .691 | 1.05 | 65.2 | 66.2 | 116. | 82.0 | 387. | 57.2 | .708 | 66.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117310.** | **1246000.** | **343690.** |
| Stddev | 55403. | 8209. | 2928. |
| %RSD | 47.227 | .65887 | .85181 |

Sample Name: 2dup254601 Acquired: 04/04/2019 07:19:11 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.42** | **369000.** | **292.** | **4890.** | **8.49** | **200000.** | **1.05** | **8.42** | **123.** | **616.** | **1380.** |
| Stddev | 1.06 | 752. | 55. | 12. | .09 | 3650. | 12.4 | 2.40 | 48. | 5. | 11. |
| %RSD | 24.1 | .204 | 18.9 | .250 | 1.08 | 1.83 | 1180. | 28.5 | 39.5 | .750 | .776 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **333000.** | **29400.** | **189000.** | **127.** | **237.** | **1030.** | **5.43** | **20.3** | **80.3** | **1100.** | **1920.** |
| Stddev | 4790. | 355. | 3190. | 50. | 95. | 920. | 4.28 | 15.9 | 22.0 | 21. | 766. |
| %RSD | 1.44 | 1.21 | 1.69 | 39.3 | 40.2 | 89.4 | 78.7 | 78.6 | 27.4 | 1.88 | 40.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1253500.** | **337270.** |
| Stddev | ----- | 7737. | 2933. |
| %RSD | ----- | .61720 | .86965 |

Sample Name: ccv1 Acquired: 04/04/2019 07:25:40 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **438.** | **4590.** | **4830.** | **4780.** | **462.** | **5040.** | **452.** | **4590.** | **4660.** | **4880.** | **5450.** | **5120.** |
| Stddev | 3. | 152. | 22. | 27. | 3. | 41. | 1. | 23. | 9. | 39. | 342. | 52. |
| %RSD | .671 | 3.31 | .446 | .559 | .548 | .815 | .172 | .503 | .196 | .791 | 6.28 | 1.01 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4720.** | **4610.** | **4770.** | **4640.** | F **4370.** | **4520.** | **4750.** | **4590.** | **4990.** |
| Stddev | 10. | 8. | 5. | 13. | 9. | 34. | 6. | 38. | 7. |
| %RSD | .218 | .164 | .111 | .286 | .196 | .744 | .125 | .824 | .145 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | | | |
| Range | | | | | -10.4% | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **95083.** | **1315200.** | **332750.** |
| Stddev | 86. | 6008. | 1561. |
| %RSD | .09051 | .45680 | .46922 |

Sample Name: ccv2 Acquired: 04/04/2019 07:31:22 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.6** | F **444.** | **454.** | **475.** | **454.** | **489.** | **49.4** | **50.6** | F **438.** | **48.9** | **47.9** | **481.** |
| Stddev | .3 | 2. | 3. | 6. | 1. | 11. | .2 | 2.3 | 7. | .2 | .2 | 1. |
| %RSD | .739 | .394 | .761 | 1.29 | .213 | 2.18 | .340 | 4.64 | 1.68 | .313 | .488 | .136 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 500. | | | | | | | 500. | | | |
| Range | | -10.4% | | | | | | | -10.4% | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **445.** | **490.** | **466.** | **474.** | **451.** | **470.** | **457.** | **459.** | **483.** | **474.** | **474.** | **452.** |
| Stddev | 1. | 9. | 8. | 2. | 2. | 3. | 1. | 1. | 1. | 1. | 4. | 3. |
| %RSD | .245 | 1.85 | 1.66 | .354 | .467 | .537 | .151 | .284 | .137 | .149 | .871 | .616 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | | | | |
| Range | -10.4% | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | F **434.** | F **439.** | **455.** | **503.** | **460.** | **451.** | **498.** | **476.** |
| Stddev | 4. | 3. | 4. | 1. | 13. | 2. | 2. | 1. |
| %RSD | .849 | .598 | .775 | .203 | 2.91 | .369 | .313 | .189 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | 500. | | | | | | |
| Range | -10.4% | -10.4% | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 07:31:22 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **97277.** | **1347400.** | **331030.** |
| Stddev | 391. | 2852. | 3368. |
| %RSD | .40236 | .21168 | 1.0174 |

Sample Name: ccb Acquired: 04/04/2019 07:37:08 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.707** | **-3.96** | **3.53** | **.371** | **-.073** | **-26.8** | **.082** | **.059** | **.810** | **1.34** | **4.82** | **3.83** |
| Stddev | .470 | .50 | 2.72 | .365 | .021 | 3.0 | .155 | .098 | .184 | .52 | 9.12 | 1.71 |
| %RSD | 66.6 | 12.7 | 77.1 | 98.2 | 28.7 | 11.1 | 191. | 165. | 22.7 | 38.9 | 189. | 44.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.02** | **.475** | **1.24** | **.979** | **1.51** | **2.14** | **3.09** | **1.08** | **-.013** | **-.255** |
| Stddev | .03 | .091 | .28 | .215 | 1.11 | 1.01 | 3.85 | 1.73 | .390 | .129 |
| %RSD | 1.54 | 19.1 | 22.8 | 21.9 | 73.7 | 47.1 | 125. | 160. | 2920. | 50.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96748.** | **1342000.** | **326890.** |
| Stddev | 166. | 7035. | 2621. |
| %RSD | .17208 | .52423 | .80188 |

Sample Name: mss254601 Acquired: 04/04/2019 07:43:25 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.75** | **322000.** | **17800.** | **4800.** | **7.54** | **194000.** | **6.82** | **92.2** | **138.** | **540.** | **1290.** |
| Stddev | .52 | 1410. | 249. | 22. | .06 | 1260. | .54 | .8 | 2. | 7. | 10. |
| %RSD | 7.66 | .438 | 1.40 | .451 | .821 | .648 | 7.90 | .901 | 1.19 | 1.29 | .760 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **306000.** | **28800.** | **194000.** | **142.** | **264.** | **1440.** | **5.45** | **23.9** | **89.6** | **992.** | **975.** |
| Stddev | 1970. | 205. | 1550. | 1. | 4. | 26. | 2.58 | 4.0 | 3.6 | 4. | 4. |
| %RSD | .644 | .712 | .796 | .938 | 1.59 | 1.80 | 47.4 | 16.7 | 4.02 | .361 | .359 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **2140.** |
| Stddev | 30. |
| %RSD | 1.38 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **90916.** | **1244500.** | **318820.** |
| Stddev | 720. | 1764. | 3154. |
| %RSD | .79201 | .14171 | .98927 |

Sample Name: msds254601 Acquired: 04/04/2019 07:49:42 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7.57** | **378000.** | **18000.** | **5190.** | **8.19** | **203000.** | **7.46** | **92.0** | **145.** | **616.** | **1350.** |
| Stddev | 1.08 | 2950. | 40. | 51. | .02 | 974. | .53 | .3 | 1. | 3. | 13. |
| %RSD | 14.2 | .780 | .221 | .975 | .232 | .479 | 7.07 | .318 | .401 | .525 | .924 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **338000.** | **30400.** | **205000.** | **153.** | **284.** | **1410.** | **3.71** | **28.7** | **94.7** | **1130.** | **2260.** |
| Stddev | 1570. | 154. | 1570. | 1. | 1. | 14. | 5.44 | 3.3 | 3.4 | 16. | 2. |
| %RSD | .464 | .507 | .767 | .381 | .394 | .960 | 147. | 11.4 | 3.60 | 1.37 | .087 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89766.** | **1238100.** | **315510.** |
| Stddev | 187. | 4931. | 3699. |
| %RSD | .20803 | .39826 | 1.1725 |

Sample Name: pdss254601 Acquired: 04/04/2019 07:55:57 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.23** | **328000.** | **13700.** | **5040.** | **7.60** | **193000.** | **-2.30** | **69.9** | **102.** | **562.** | **1290.** |
| Stddev | 1.20 | 1300. | 9120. | 36. | .04 | 1310. | 17.1 | 45.5 | 68. | 6. | 21. |
| %RSD | 19.3 | .397 | 66.4 | .723 | .461 | .680 | 745. | 65.1 | 66.4 | 1.04 | 1.59 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **316000.** | **27900.** | **200000.** | **106.** | **197.** | **919.** | **6.00** | **3.52** | **71.2** | **1030.** | **1600.** |
| Stddev | 2440. | 276. | 1490. | 70. | 131. | ---- | 6.94 | 29.8 | 40.1 | 13. | 1060. |
| %RSD | .774 | .987 | .745 | 65.5 | 66.7 | 122. | 116. | 847. | 56.3 | 1.22 | 66.7 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1240000.** | **318280.** |
| Stddev | ----- | 5525. | 2496. |
| %RSD | ----- | .44554 | .78418 |

Sample Name: 254602 Acquired: 04/04/2019 08:02:21 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.07** | **337000.** | **257.** | **3700.** | **7.10** | **164000.** | **3.27** | **5.74** | **111.** | **554.** | **1100.** |
| Stddev | .49 | 2940. | 9. | 27. | .06 | 2720. | .28 | .19 | . | 2. | 13. |
| %RSD | 12.1 | .871 | 3.33 | .729 | .803 | 1.66 | 8.69 | 3.23 | .297 | .404 | 1.20 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **281000.** | **23600.** | **166000.** | **113.** | **299.** | **970.** | **3.36** | **22.0** | **78.9** | **1050.** | **1350.** |
| Stddev | 3670. | 199. | 1850. | 1. | 1. | 13. | 2.38 | 7.4 | 4.4 | 15. | 3. |
| %RSD | 1.31 | .842 | 1.11 | 1.02 | .366 | 1.34 | 70.7 | 33.6 | 5.60 | 1.40 | .229 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89761.** | **1239700.** | **319600.** |
| Stddev | 141. | 4985. | 1568. |
| %RSD | .15741 | .40216 | .49065 |

Sample Name: I254602 Acquired: 04/04/2019 08:08:32 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.716** | **86000.** | **57.1** | **647.** | **950.** | **1.43** | **43300.** | **-.656** | **1.29** | **21.4** | **117.** | **311.** |
| Stddev | .797 | 4680. | 2.5 | 11. | 56. | .07 | 2480. | .119 | .28 | .3 | 7. | 14. |
| %RSD | 111. | 5.44 | 4.32 | 1.71 | 5.92 | 4.64 | 5.72 | 18.1 | 21.5 | 1.47 | 6.17 | 4.65 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294.** | **66700.** | **6420.** | **45400.** | **20.8** | **58.6** | **224.** | **1.42** | **.304** | **17.1** | **278.** | **219.** |
| Stddev | 16. | 3910. | 353. | 2360. | .1 | 1.4 | 5. | 4.62 | 3.59 | 1.7 | 15. | 13. |
| %RSD | 5.51 | 5.86 | 5.50 | 5.19 | .541 | 2.45 | 2.17 | 326. | 1180. | 9.98 | 5.49 | 5.76 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **252.** |
| Stddev | 4. |
| %RSD | 1.39 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **94757.** | **1315000.** | **331450.** |
| Stddev | 195. | 8212. | 1451. |
| %RSD | .20595 | .62446 | .43788 |

Sample Name: 1dup254602 Acquired: 04/04/2019 08:15:07 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.49** | **358000.** | **280.** | **3710.** | **7.55** | **162000.** | **3.45** | **6.03** | **109.** | **562.** | **1080.** |
| Stddev | .18 | 4200. | 7. | 36. | .09 | 2050. | .28 | .18 | 1. | 3. | 11. |
| %RSD | 5.20 | 1.17 | 2.39 | .956 | 1.22 | 1.27 | 8.26 | 2.97 | .871 | .465 | 1.03 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **285000.** | **22900.** | **167000.** | **117.** | **285.** | **943.** | **4.61** | **21.4** | **81.8** | **1080.** | **1370.** |
| Stddev | 3090. | 395. | 2100. | 2. | 2. | 11. | 1.06 | 6.3 | 3.3 | 11. | 3. |
| %RSD | 1.08 | 1.73 | 1.25 | 1.74 | .631 | 1.17 | 23.0 | 29.3 | 3.99 | 1.02 | .237 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88592.** | **1225600.** | **321950.** |
| Stddev | 404. | 5462. | 1774. |
| %RSD | .45572 | .44567 | .55086 |

Sample Name: 2dup254602 Acquired: 04/04/2019 08:21:19 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.98** | **396000.** | **283.** | **3870.** | **8.35** | **167000.** | **3.76** | **6.28** | **113.** | **598.** | **1120.** |
| Stddev | 1.18 | 5490. | 11. | 54. | .06 | 2770. | .52 | .30 | 1. | 2. | 9. |
| %RSD | 29.7 | 1.39 | 4.01 | 1.40 | .697 | 1.66 | 13.8 | 4.83 | .537 | .328 | .815 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **297000.** | **24600.** | **173000.** | **117.** | **302.** | **1050.** | **2.16** | **19.2** | **88.5** | **1100.** | **1440.** |
| Stddev | 4380. | 271. | 1630. | 1. | 2. | 14. | 2.80 | 8.5 | 1.5 | 19. | 6. |
| %RSD | 1.48 | 1.10 | .944 | .688 | .573 | 1.28 | 130. | 44.4 | 1.73 | 1.76 | .389 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87850.** | **1223100.** | **324810.** |
| Stddev | 264. | 4755. | 3338. |
| %RSD | .30083 | .38873 | 1.0277 |

Sample Name: mss254602 Acquired: 04/04/2019 08:27:38 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.16** | **345000.** | **18400.** | **3670.** | **7.46** | **169000.** | **3.13** | **82.9** | **106.** | **517.** | **1070.** |
| Stddev | .66 | 2780. | 46. | 20. | .04 | 1950. | .68 | .3 | 1. | 2. | 21. |
| %RSD | 20.9 | .806 | .251 | .551 | .560 | 1.15 | 21.7 | .391 | .727 | .403 | 1.92 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **255000.** | **21800.** | **185000.** | **114.** | **278.** | **964.** | **1.09** | **25.2** | **89.6** | **969.** | **960.** |
| Stddev | 2200. | 171. | 3340. | 1. | 1. | 9. | 3.27 | 5.0 | 4.1 | 7. | 3. |
| %RSD | .861 | .785 | 1.81 | .604 | .391 | .964 | 301. | 19.7 | 4.63 | .722 | .323 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1350.** |
| Stddev | 1. |
| %RSD | .111 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87407.** | **1225300.** | **325760.** |
| Stddev | 192. | 4592. | 2079. |
| %RSD | .21946 | .37480 | .63829 |

Sample Name: msds254602 Acquired: 04/04/2019 08:33:59 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.81** | **381000.** | **18300.** | **3600.** | **7.97** | **161000.** | **3.38** | **81.9** | **112.** | **592.** | **1100.** |
| Stddev | .83 | 2740. | 30. | 24. | .08 | 1770. | .55 | .4 | . | 4. | 8. |
| %RSD | 29.7 | .718 | .164 | .672 | 1.05 | 1.10 | 16.4 | .452 | .296 | .657 | .697 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **308000.** | **22100.** | **187000.** | **120.** | **292.** | **998.** | **2.38** | **21.2** | **96.8** | **1080.** | **1410.** |
| Stddev | 2470. | 191. | 2450. | 1. | 1. | 14. | 1.66 | 2.8 | 1.7 | 6. | 7. |
| %RSD | .801 | .865 | 1.31 | .738 | .448 | 1.39 | 69.6 | 13.0 | 1.74 | .522 | .495 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87112.** | **1224100.** | **328850.** |
| Stddev | 337. | 4805. | 1931. |
| %RSD | .38705 | .39251 | .58720 |

Sample Name: pdss254602 Acquired: 04/04/2019 08:40:38 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.52** | **362000.** | **18900.** | **3580.** | **7.74** | **160000.** | **2.16** | **81.5** | **106.** | **573.** | **1080.** |
| Stddev | .78 | 6120. | 1520. | 66. | .05 | 2850. | 2.43 | 6.0 | 8. | 1. | 14. |
| %RSD | 31.1 | 1.69 | 8.05 | 1.83 | .617 | 1.78 | 112. | 7.36 | 7.91 | .216 | 1.27 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **277000.** | **22300.** | **186000.** | **112.** | **274.** | **936.** | **3.06** | **17.9** | **93.2** | **1070.** | **1330.** |
| Stddev | 3830. | 386. | 3380. | 8. | 24. | 173. | 3.39 | 5.8 | 7.6 | 21. | 99. |
| %RSD | 1.38 | 1.73 | 1.82 | 6.75 | 8.60 | 18.5 | 111. | 32.2 | 8.15 | 2.00 | 7.49 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1220800.** | **334910.** |
| Stddev | ----- | 1730. | 2293. |
| %RSD | ----- | .14170 | .68469 |

Sample Name: ccv1 Acquired: 04/04/2019 08:47:01 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **463.** | **5140.** | **4820.** | **4710.** | **480.** | **4990.** | **492.** | **4780.** | **5060.** | **4840.** | **5510.** | **5080.** |
| Stddev | 1. | 242. | 9. | 12. | 2. | 35. | 2. | 17. | 15. | 68. | 443. | 70. |
| %RSD | .243 | 4.70 | .190 | .243 | .347 | .703 | .311 | .355 | .298 | 1.41 | 8.04 | 1.38 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5110.** | **4690.** | **4820.** | **4770.** | **4780.** | **4720.** | **4760.** | **4830.** | **5070.** |
| Stddev | 46. | 11. | 4. | 12. | 20. | 9. | 14. | 11. | 7. |
| %RSD | .890 | .237 | .077 | .241 | .418 | .185 | .295 | .223 | .144 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89116.** | **1265700.** | **336920.** |
| Stddev | 336. | 3877. | 3862. |
| %RSD | .37670 | .30629 | 1.1462 |

Sample Name: ccv2 Acquired: 04/04/2019 08:52:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.8** | **484.** | **474.** | **484.** | **471.** | **480.** | **50.8** | **51.6** | **468.** | **50.5** | **52.2** | **482.** |
| Stddev | .7 | 1. | 4. | 13. | 1. | 5. | .2 | 1.7 | 4. | .1 | .1 | 1. |
| %RSD | 1.44 | .235 | .777 | 2.70 | .181 | 1.04 | .332 | 3.38 | .845 | .174 | .267 | .258 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **489.** | **500.** | **502.** | **486.** | **474.** | **495.** | **466.** | **469.** | **490.** | **489.** | **489.** | **467.** |
| Stddev | 2. | 5. | 5. | 5. | 1. | 2. | 1. | 2. | 2. | . | 2. | 2. |
| %RSD | .478 | .998 | 1.06 | 1.02 | .253 | .317 | .233 | .325 | .344 | .047 | .379 | .503 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **480.** | **493.** | **507.** | **481.** | **478.** | **512.** | **476.** |
| Stddev | 1. | 4. | 5. | 2. | 10. | 4. | 2. | 1. |
| %RSD | .250 | .764 | 1.07 | .413 | 2.15 | .777 | .394 | .162 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 08:52:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91329.** | **1294800.** | **339790.** |
| Stddev | 223. | 2754. | 2086. |
| %RSD | .24391 | .21267 | .61404 |

Sample Name: ccb Acquired: 04/04/2019 08:58:21 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.326** | **-3.03** | **3.97** | **.644** | **.074** | **-26.2** | **.022** | **.131** | **.875** | **1.05** | **7.10** | **2.64** |
| Stddev | .865 | .32 | 2.81 | .263 | .018 | 2.5 | .369 | .179 | .304 | .57 | 1.78 | 1.35 |
| %RSD | 265. | 10.4 | 70.8 | 40.9 | 24.4 | 9.49 | 1650. | 137. | 34.8 | 54.4 | 25.1 | 51.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.79** | **.858** | **.974** | **.237** | **3.77** | **2.31** | **-.124** | **1.58** | **.024** | **-.156** |
| Stddev | .04 | .132 | .282 | .503 | 3.58 | 2.39 | 3.38 | 2.02 | .170 | .168 |
| %RSD | 2.15 | 15.4 | 29.0 | 212. | 94.9 | 104. | 2720. | 128. | 704. | 108. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91913.** | **1299200.** | **340580.** |
| Stddev | 297. | 8301. | 1983. |
| %RSD | .32322 | .63894 | .58225 |

Sample Name: 254603 Acquired: 04/04/2019 09:04:39 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **10.7** | **833000.** | **487.** | **8670.** | **19.6** | **641000.** | **9.87** | **10.9** | **274.** | **1030.** | **982.** |
| Stddev | .7 | 15500. | 13. | 214. | .1 | 7920. | 1.38 | .2 | 3. | 12. | 7. |
| %RSD | 6.92 | 1.86 | 2.70 | 2.46 | .504 | 1.24 | 14.0 | 1.41 | 1.22 | 1.12 | .692 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1640.** | **674000.** | **54300.** | **232000.** | **98.1** | **533.** | **507.** | **2250.** | **.034** | **29.9** | **139.** |
| Stddev | 6. | 7660. | 531. | 2910. | 1.1 | 7. | 7. | 89. | 3.69 | 8.6 | 3. |
| %RSD | .339 | 1.14 | .978 | 1.26 | 1.13 | 1.24 | 1.29 | 3.95 | 11000. | 28.8 | 1.95 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1700.** | **3040.** |
| Stddev | 25. | 34. |
| %RSD | 1.46 | 1.12 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83337.** | **1155600.** | **316420.** |
| Stddev | 716. | 1736. | 2085. |
| %RSD | .85918 | .15019 | .65894 |

Sample Name: 254604 Acquired: 04/04/2019 09:11:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.04** | **690000.** | **380.** | **4380.** | **19.6** | **251000.** | **-3.97** | **5.92** | **227.** | **887.** | **863.** |
| Stddev | .56 | 11300. | 37. | 37. | .1 | 1030. | 20.0 | .54 | 68. | 4. | 7. |
| %RSD | 11.0 | 1.64 | 9.81 | .838 | .332 | .411 | 503. | 9.09 | 30.0 | .478 | .797 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **888.** | **774000.** | **48200.** | **103000.** | **60.9** | **448.** | **434.** | **724.** | **950.** | **-8.61** | **26.9** |
| Stddev | 14. | 4150. | 99. | 586. | 16.6 | 134. | 119. | 912. | 291. | 14.1 | 12.7 |
| %RSD | 1.56 | .536 | .206 | .571 | 27.2 | 29.8 | 27.4 | 126. | 30.7 | 163. | 47.2 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **96.0** | **1490.** | **1790.** |
| Stddev | 9.6 | 12. | 526. |
| %RSD | 9.98 | .801 | 29.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1195300.** | **325880.** |
| Stddev | ----- | 4256. | 4592. |
| %RSD | ----- | .35608 | 1.4091 |

Sample Name: 254605 Acquired: 04/04/2019 09:18:20 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **61.5** | **343000.** | **869.** | **543.** | **28200.** | **18.3** | **151000.** | **-3.33** | **13.2** | **337.** |
| Stddev | .9 | 3930. | 418. | 343. | 456. | .1 | 1660. | 32.2 | 6.3 | 207. |
| %RSD | 1.53 | 1.15 | 48.2 | 63.2 | 1.62 | .816 | 1.10 | 967. | 47.6 | 61.5 |

| Elem | Cr2677 | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **777.** | **7410.** | **574000.** | **49900.** | **1110000.** | **208.** | **402.** | **297.** | **22000.** | **39.8** |
| Stddev | 8. | 50. | 5640. | 404. | 11700. | 132. | 269. | 243. | 15300. | 8.2 |
| %RSD | 1.02 | .672 | .982 | .809 | 1.05 | 63.6 | 67.0 | 81.7 | 69.8 | 20.7 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **110.** | **451.** | **2130.** | **3100.** |
| Stddev | 265. | 319. | 20. | 2050. |
| %RSD | 241. | 70.8 | .951 | 66.1 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1175300.** | **315120.** |
| Stddev | ----- | 2633. | 2925. |
| %RSD | ----- | .22406 | .92837 |

Sample Name: 254606 Acquired: 04/04/2019 09:25:05 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **26.3** | **267000.** | **689.** | **588.** | **19800.** | **16.8** | **121000.** | **8.58** | **10.8** | **362.** | **603.** |
| Stddev | .3 | 2590. | 4. | 11. | 337. | .1 | 1990. | 1.08 | .2 | 2. | 7. |
| %RSD | 1.23 | .971 | .511 | 1.80 | 1.70 | .348 | 1.64 | 12.5 | 1.61 | .588 | 1.12 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6870.** | **549000.** | **41800.** | **791000.** | **158.** | **463.** | **376.** | **10500.** | **-3.69** | **120.** | **402.** |
| Stddev | 47. | 6420. | 323. | 8370. | . | 2. | 1. | 29. | 3.15 | 7. | 5. |
| %RSD | .682 | 1.17 | .773 | 1.06 | .297 | .393 | .384 | .276 | 85.4 | 6.08 | 1.37 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1590.** | **4270.** |
| Stddev | 20. | 13. |
| %RSD | 1.23 | .313 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **84594.** | **1198300.** | **319830.** |
| Stddev | 253. | 4676. | 3620. |
| %RSD | .29848 | .39023 | 1.1318 |

Sample Name: 254959 Acquired: 04/04/2019 09:31:56 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.46** | **344000.** | **227.** | **2250.** | **16.5** | **27500.** | **.706** | **3.34** | **248.** | **561.** | **479.** |
| Stddev | .46 | 1940. | 9. | 20. | .1 | 244. | .649 | .35 | 1. | 2. | 4. |
| %RSD | 13.4 | .564 | 3.82 | .905 | .493 | .889 | 92.0 | 10.5 | .515 | .433 | .913 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **498.** | **555000.** | **33700.** | **26900.** | **22.0** | **354.** | **1330.** | **-10.8** | **15.3** | **52.8** | **906.** |
| Stddev | 6. | 5130. | 66. | 138. | .6 | 1. | 14. | 3.5 | 6.3 | 1.1 | 10. |
| %RSD | 1.11 | .925 | .195 | .516 | 2.68 | .368 | 1.03 | 32.7 | 40.9 | 2.08 | 1.13 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **909.** | **1270.** |
| Stddev | 3. | 6. |
| %RSD | .345 | .491 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **89019.** | **1245100.** | **330510.** |
| Stddev | 334. | 4338. | 3250. |
| %RSD | .37511 | .34840 | .98334 |

Sample Name: 254961 Acquired: 04/04/2019 09:38:27 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.79** | **392000.** | **229.** | **2050.** | **13.2** | **16800.** | **-1.15** | **1.62** | **198.** | **652.** | **329.** |
| Stddev | 1.25 | 3330. | 11. | 26. | .1 | 110. | .34 | .29 | 1. | 5. | 7. |
| %RSD | 69.7 | .849 | 4.97 | 1.25 | .587 | .659 | 29.7 | 17.8 | .356 | .690 | 1.98 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **354.** | **679000.** | **39500.** | **18200.** | **21.2** | **440.** | **426.** | **844.** | **554.** | **-16.1** | **9.03** |
| Stddev | 12. | 2690. | 115. | 65. | .6 | 2. | 2. | 20. | 6. | 2.7 | 2.55 |
| %RSD | 3.40 | .397 | .292 | .358 | 2.72 | .457 | .385 | 2.31 | 1.02 | 16.5 | 28.2 |

| Elem | Tl1908 | V_2908 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **59.4** | **1000.** | **1040.** | **963.** |
| Stddev | 3.1 | 11. | 4. | 2. |
| %RSD | 5.19 | 1.10 | .414 | .167 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88640.** | **1247600.** | **330330.** |
| Stddev | 258. | 4888. | 3816. |
| %RSD | .29105 | .39176 | 1.1552 |

Sample Name: 254962 Acquired: 04/04/2019 09:45:03 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.67** | **191000.** | **337.** | **1370.** | **6.09** | **61200.** | **6.99** | **11.1** | **99.9** | **657.** | **1180.** |
| Stddev | .66 | 2250. | 11. | 14. | .05 | 996. | .47 | .2 | .7 | 1. | 9. |
| %RSD | 17.9 | 1.18 | 3.33 | .991 | .804 | 1.63 | 6.75 | 1.74 | .722 | .195 | .740 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **426000.** | **30200.** | **13300.** | **21.9** | **347.** | **2110.** | **4.43** | **12.1** | **42.8** | **805.** | **822.** |
| Stddev | 4570. | 488. | 181. | .3 | 1. | 1. | 3.53 | 1.6 | 2.6 | 14. | 2. |
| %RSD | 1.07 | 1.61 | 1.36 | 1.56 | .378 | .066 | 79.7 | 13.1 | 6.17 | 1.74 | .200 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **2780.** |
| Stddev | 16. |
| %RSD | .560 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88233.** | **1251000.** | **332940.** |
| Stddev | 156. | 2791. | 1613. |
| %RSD | .17710 | .22311 | .48446 |

Sample Name: 254963 Acquired: 04/04/2019 09:51:38 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.36** | **193000.** | **337.** | **4450.** | **6.35** | **59800.** | **5.89** | **9.99** | **95.0** | **509.** | **808.** |
| Stddev | .60 | 2030. | 5. | 46. | .08 | 646. | .27 | .19 | .6 | 1. | 9. |
| %RSD | 25.3 | 1.05 | 1.51 | 1.04 | 1.28 | 1.08 | 4.63 | 1.91 | .626 | .275 | 1.07 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **832.** | **394000.** | **34000.** | **8960.** | **15.4** | **480.** | **468.** | **2200.** | **-4.99** | **5.94** | **37.3** |
| Stddev | 16. | 4160. | 290. | 104. | .8 | . | 2. | 16. | .94 | 4.85 | 1.5 |
| %RSD | 1.95 | 1.05 | .854 | 1.16 | 5.12 | .086 | .519 | .713 | 18.9 | 81.6 | 4.01 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **608.** | **618.** | **3090.** |
| Stddev | 9. | 1. | 12. |
| %RSD | 1.50 | .091 | .375 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87186.** | **1238700.** | **329390.** |
| Stddev | 314. | 3950. | 3370. |
| %RSD | .36071 | .31893 | 1.0231 |

Sample Name: 254966 Acquired: 04/04/2019 09:58:00 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.19** | **259000.** | **858.** | **819.** | **2700.** | **13.1** | **31900.** | **2.20** | **8.27** | **237.** | **414.** |
| Stddev | .51 | 725. | 12. | 17. | 16. | .1 | 244. | .03 | .16 | 1. | 4. |
| %RSD | 15.9 | .279 | 1.36 | 2.11 | .577 | .570 | .763 | 1.23 | 1.93 | .452 | .960 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **508.** | **529.** | **422000.** | **35200.** | **19100.** | **15.6** | **433.** | **420.** | **1200.** | **949.** | **-7.96** |
| Stddev | 4. | 12. | 2780. | 225. | 97. | .6 | 2. | 1. | 14. | 1. | 5.41 |
| %RSD | .818 | 2.33 | .659 | .640 | .509 | 3.81 | .375 | .301 | 1.20 | .113 | 67.9 |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **18.6** | **42.5** | **811.** | **824.** | **1360.** |
| Stddev | 5.5 | 1.3 | 7. | 5. | 2. |
| %RSD | 29.8 | 3.16 | .885 | .618 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **87683.** | **1255200.** | **337640.** |
| Stddev | 252. | 5124. | 3475. |
| %RSD | .28747 | .40820 | 1.0293 |

Sample Name: 254968 Acquired: 04/04/2019 10:04:34 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.26** | **437000.** | **1160.** | **1100.** | **3490.** | **19.8** | **337000.** | **3.25** | **9.55** | **227.** | **628.** |
| Stddev | .80 | 2820. | 8. | 15. | 27. | .1 | 3170. | .82 | .16 | 1. | 3. |
| %RSD | 18.7 | .645 | .713 | 1.39 | .770 | .469 | .942 | 25.2 | 1.66 | .362 | .415 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **696.** | **726.** | **539000.** | **108000.** | **24500.** | **18.4** | **339.** | **1120.** | **911.** | **-12.8** | **21.2** |
| Stddev | 10. | 10. | 4120. | 988. | 182. | 1.5 | 2. | 20. | 3. | 1.6 | 2.7 |
| %RSD | 1.40 | 1.33 | .765 | .911 | .742 | 7.90 | .695 | 1.75 | .315 | 12.7 | 12.5 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **51.4** | **1460.** | **3410.** |
| Stddev | 5.5 | 20. | 8. |
| %RSD | 10.7 | 1.38 | .235 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **83783.** | **1189200.** | **326380.** |
| Stddev | 157. | 2468. | 3365. |
| %RSD | .18762 | .20756 | 1.0309 |

Sample Name: ccv1 Acquired: 04/04/2019 10:10:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **5100.** | **4810.** | **4710.** | **480.** | **5020.** | **495.** | **4830.** | **5110.** | **4900.** | **5510.** | **5100.** |
| Stddev | 3. | 120. | 22. | 15. | 3. | 17. | 2. | 22. | 20. | 14. | 331. | 27. |
| %RSD | .538 | 2.36 | .461 | .327 | .652 | .334 | .372 | .450 | .398 | .290 | 6.00 | .525 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5120.** | **4710.** | **4830.** | **4770.** | **4810.** | **4710.** | **4760.** | **4820.** | **5090.** |
| Stddev | 10. | 11. | 1. | 22. | 21. | 40. | 11. | 23. | 7. |
| %RSD | .202 | .227 | .012 | .457 | .435 | .855 | .230 | .478 | .147 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **89772.** | **1276400.** | **341380.** |
| Stddev | 406. | 5001. | 1002. |
| %RSD | .45219 | .39180 | .29353 |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **482.** | **471.** | **477.** | **469.** | **473.** | **50.5** | **50.6** | **468.** | **50.2** | **52.1** | **481.** |
| Stddev | 1.1 | 3. | 4. | 6. | 2. | 5. | .2 | .6 | 7. | .3 | .2 | 1. |
| %RSD | 2.22 | .520 | .848 | 1.17 | .509 | 1.14 | .380 | 1.19 | 1.45 | .696 | .370 | .119 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **498.** | **504.** | **480.** | **470.** | **490.** | **466.** | **467.** | **489.** | **489.** | **487.** | **464.** |
| Stddev | 1. | 5. | 13. | 5. | 2. | 1. | 1. | 2. | . | 1. | 7. | 2. |
| %RSD | .283 | 1.08 | 2.48 | 1.14 | .357 | .168 | .247 | .454 | .080 | .277 | 1.39 | .350 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **476.** | **483.** | **502.** | **481.** | **473.** | **510.** | **476.** |
| Stddev | 3. | 4. | 2. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .674 | .810 | .400 | .669 | 1.09 | .476 | .331 | .142 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 10:16:29 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 92064. | 1309300. | 342930. |
| Stddev | 461. | 1761. | 2615. |
| %RSD | .50117 | .13449 | .76242 |

Sample Name: ccb Acquired: 04/04/2019 10:22:17 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.248** | **-4.89** | **3.19** | **-.017** | **-.003** | **-27.9** | **-.103** | **.187** | **.409** | **.743** | **10.4** | **7.05** |
| Stddev | .682 | .63 | 2.44 | .334 | .037 | 2.0 | .145 | .127 | .182 | .658 | 2.0 | 7.33 |
| %RSD | 274. | 12.8 | 76.3 | 1930. | 1270. | 7.19 | 142. | 67.7 | 44.5 | 88.5 | 19.2 | 104. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **2.86** | **-3.04** | **.019** | **.965** | **.147** | **1.96** | **.817** | **1.11** | **2.01** | **-.455** | **-.487** |
| Stddev | 2.58 | .05 | .096 | .059 | .354 | 2.80 | 1.36 | 2.92 | .83 | .133 | .098 |
| %RSD | 90.1 | 1.71 | 494. | 6.12 | 241. | 142. | 167. | 262. | 41.4 | 29.3 | 20.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91996.** | **1307100.** | **343800.** |
| Stddev | 263. | 10823. | 3238. |
| %RSD | .28579 | .82800 | .94175 |

Sample Name: 254969 Acquired: 04/04/2019 10:28:36 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.71** | **443000.** | **651.** | **581.** | **2600.** | **14.5** | **121000.** | **-.278** | **4.07** | **134.** | **635.** |
| Stddev | .30 | 6170. | 13. | 17. | 25. | .1 | 2130. | .798 | .24 | 1. | 2. |
| %RSD | 11.1 | 1.39 | 1.92 | 2.91 | .977 | .605 | 1.76 | 287. | 5.93 | .593 | .372 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1050.** | **533000.** | **49900.** | **9380.** | **17.4** | **308.** | **573.** | **562.** | **-14.2** | **26.2** | **46.7** |
| Stddev | 12. | 8050. | 700. | 167. | .4 | 2. | 20. | 4. | 2.8 | 5.2 | 2.6 |
| %RSD | 1.16 | 1.51 | 1.40 | 1.78 | 2.49 | .616 | 3.56 | .743 | 19.8 | 20.0 | 5.62 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1030.** | **3380.** |
| Stddev | 14. | 2. |
| %RSD | 1.37 | .066 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **88216.** | **1228900.** | **329410.** |
| Stddev | 360. | 5188. | 506. |
| %RSD | .40838 | .42218 | .15358 |

Sample Name: 255833 Acquired: 04/04/2019 10:34:46 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **31.6** | **300000.** | **1120.** | **1110.** | **10400.** | **16.5** | **436000.** | **16.0** | **21.0** | **243.** | **688.** |
| Stddev | .3 | 1650. | 14. | 3. | 153. | .1 | 2110. | .6 | .3 | 1. | 5. |
| %RSD | .982 | .550 | 1.23 | .225 | 1.47 | .874 | .485 | 3.85 | 1.48 | .516 | .763 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8600.** | **437000.** | **156000.** | **796000.** | **176.** | **486.** | **397.** | **5470.** | **17.8** | **123.** | **381.** |
| Stddev | 51. | 1200. | 342. | 7210. | 1. | . | 1. | 40. | 4.1 | 10. | 6. |
| %RSD | .595 | .274 | .219 | .906 | .434 | .061 | .268 | .727 | 22.9 | 8.00 | 1.53 |

| Elem | V_2908 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **1720.** | **14800.** |
| Stddev | 13. | 7. |
| %RSD | .730 | .044 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **82712.** | **1169100.** | **319910.** |
| Stddev | 333. | 4037. | 2082. |
| %RSD | .40241 | .34527 | .65079 |

Sample Name: 255853 Acquired: 04/04/2019 10:41:29 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.17** | **200000.** | **537.** | **513.** | **3780.** | **10.3** | **269000.** | **6.32** | **9.55** | **156.** | **503.** |
| Stddev | 1.08 | 1670. | 6. | 14. | 37. | .1 | 2360. | .12 | .13 | 1. | 7. |
| %RSD | 26.0 | .837 | 1.02 | 2.80 | .966 | .722 | .876 | 1.89 | 1.36 | .376 | 1.31 |

| Elem | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1930.** | **370000.** | **116000.** | **245000.** | **64.7** | **315.** | **2280.** | **1.85** | **30.4** | **121.** | **950.** |
| Stddev | 22. | 2760. | 935. | 3020. | .3 | 1. | 21. | 2.32 | 6.5 | 5. | 6. |
| %RSD | 1.11 | .745 | .808 | 1.23 | .389 | .356 | .914 | 125. | 21.2 | 4.18 | .669 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **947.** | **3700.** |
| Stddev | 5. | 3. |
| %RSD | .475 | .081 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **85398.** | **1211200.** | **322220.** |
| Stddev | 271. | 3109. | 4205. |
| %RSD | .31780 | .25666 | 1.3051 |

Sample Name: 255854 Acquired: 04/04/2019 10:47:51 Type: Unk
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **13.3** | **132000.** | **252.** | **35500.** | **10.6** | **25800.** | **11.7** | **11.7** | **238.** | **390.** | **4760.** |
| Stddev | .5 | 624. | 16. | 684. | .1 | 50. | 4.5 | 1.1 | 27. | 2. | 36. |
| %RSD | 3.69 | .472 | 6.21 | 1.93 | .858 | .195 | 38.0 | 9.24 | 11.4 | .561 | .760 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **298000.** | **10400.** | **576000.** | **175.** | **250.** | **29900.** | **202.** | **85.8** | **287.** | **906.** | **855.** |
| Stddev | 1040. | 80. | 4670. | 23. | 39. | 3930. | 25. | 36.9 | 39. | 9. | 4. |
| %RSD | .351 | .771 | .811 | 13.1 | 15.4 | 13.1 | 12.6 | 43.0 | 13.7 | 1.02 | .437 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **3470.** |
| Stddev | 466. |
| %RSD | 13.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **1249100.** | **329150.** |
| Stddev | ----- | 3425. | 3473. |
| %RSD | ----- | .27421 | 1.0552 |

Sample Name: ccv1 Acquired: 04/04/2019 11:33:50 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **5040.** | **4890.** | **4820.** | **488.** | **5100.** | **491.** | **4790.** | **5060.** | **4900.** | **5450.** | **5170.** |
| Stddev | . | 106. | 15. | 66. | 7. | 75. | 1. | 23. | 5. | 28. | 275. | 133. |
| %RSD | .056 | 2.10 | .314 | 1.37 | 1.50 | 1.47 | .152 | .488 | .092 | .569 | 5.05 | 2.57 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5130.** | **4750.** | **4860.** | **4810.** | **4790.** | **4760.** | **4810.** | **4880.** | **5100.** |
| Stddev | 65. | 10. | 10. | 20. | 8. | 9. | 3. | 42. | 7. |
| %RSD | 1.26 | .214 | .196 | .406 | .164 | .192 | .056 | .859 | .134 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **90115.** | **1280100.** | **334390.** |
| Stddev | 121. | 2059. | 3748. |
| %RSD | .13480 | .16083 | 1.1208 |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.0** | **480.** | **473.** | **478.** | **468.** | **482.** | **50.8** | **53.1** | **467.** | **50.0** | **52.0** | **482.** |
| Stddev | .5 | 3. | 3. | 6. | 2. | 11. | .1 | 1.1 | 7. | .5 | .3 | 1. |
| %RSD | 1.06 | .664 | .616 | 1.22 | .415 | 2.18 | .150 | 2.05 | 1.42 | 1.03 | .632 | .153 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481.** | **500.** | **496.** | **487.** | **472.** | **492.** | **467.** | **468.** | **489.** | **487.** | **487.** | **466.** |
| Stddev | 2. | 4. | 14. | 3. | 1. | 1. | 1. | 1. | 1. | 1. | 3. | 1. |
| %RSD | .452 | .754 | 2.82 | .604 | .238 | .201 | .188 | .306 | .299 | .261 | .656 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **476.** | **475.** | **479.** | **502.** | **476.** | **473.** | **507.** | **477.** |
| Stddev | 3. | 4. | 4. | 2. | 6. | 2. | 1. | . |
| %RSD | .588 | .740 | .925 | .444 | 1.33 | .435 | .226 | .063 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/04/2019 11:39:34 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91823.** | **1304900.** | **338310.** |
| Stddev | 357. | 1653. | 4392. |
| %RSD | .38883 | .12669 | 1.2981 |

Sample Name: ccb Acquired: 04/04/2019 11:45:23 Type: QC
Method: DOD Calibration Updated 060614(v3294) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.054** | **-4.09** | **3.65** | **.052** | **.032** | **-28.1** | **.052** | **.114** | **.361** | **.112** | **6.03** | **2.36** |
| Stddev | .584 | .58 | 4.18 | .248 | .038 | 1.8 | .108 | .202 | .165 | .303 | 3.43 | 2.66 |
| %RSD | 1090. | 14.1 | 114. | 475. | 117. | 6.34 | 208. | 177. | 45.8 | 270. | 57.0 | 113. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.92** | **.214** | **1.01** | **.617** | **2.01** | **2.30** | **.100** | **.277** | **-.515** | **-.387** |
| Stddev | .03 | .124 | .23 | .291 | 1.83 | .26 | 5.47 | 1.78 | .562 | .188 |
| %RSD | 1.03 | 58.3 | 23.0 | 47.1 | 91.1 | 11.2 | 5480. | 642. | 109. | 48.4 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **91848.** | **1306000.** | **339770.** |
| Stddev | 153. | 5702. | 2161. |
| %RSD | .16675 | .43662 | .63611 |

Sample Name: Blank Acquired: 04/05/2019 07:16:20 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.074** | **-.000** | **-.692** | **20.6** | **-.000** | **13.5** | **536.** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .387 | .000 | .293 | 3.1 | .000 | .9 | 259. | .000 | .000 |
| %RSD | 15.4 | 22.2 | 67.4 | 526. | 389. | 42.3 | 15.2 | 1.77 | 6.64 | 48.3 | 416. | 13.6 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **149.** | **9.89** | **.000** | **.000** | **15.1** | **-.000** | **529.** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | 2. | 3.07 | .000 | .000 | 4.2 | .000 | 19. | .000 |
| %RSD | 301. | 79.4 | 68.5 | 536. | 1.08 | 31.0 | 5.15 | 32.0 | 27.7 | 5700. | 3.62 | 72.4 |

| Elem | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.72** | **.067** | **-.210** | **-.000** | **.000** | **1.11** | **-.000** | **.713** | **.000** | **-.000** | **-.000** | **4.49** |
| Stddev | .96 | .586 | .211 | .000 | .000 | .78 | .000 | .128 | .000 | .000 | .000 | 1.86 |
| %RSD | 56.0 | 877. | 101. | 55.8 | 83.0 | 70.2 | 76.1 | 17.9 | 72.6 | 482. | 179. | 41.5 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **6.27** |
| Stddev | .000 | .62 |
| %RSD | 34.4 | 9.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103200.** | **937860.** | **308380.** |
| Stddev | 284. | 1522. | 2853. |
| %RSD | .27556 | .16233 | .92503 |

Sample Name: CalStd2=0.5 Acquired: 04/05/2019 07:22:42 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.72 | 7.54 | 14.5 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **104240.** | **953120.** |
| Stddev | 35. | 9528. |
| %RSD | .03386 | .99971 |

Sample Name: CalStd3=1 Acquired: 04/05/2019 07:28:55 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **1.19** | **43.9** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .47 | .4 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 20.9 | 39.0 | .833 | 2.37 | 11.6 | 17.2 | 33.9 | 28.6 | 107. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104960.** | **968740.** | **315020.** |
| Stddev | 121. | 7828. | 3478. |
| %RSD | .11502 | .80801 | 1.1040 |

Sample Name: CalStd4=5 Acquired: 04/05/2019 07:35:30 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.30** | **120.** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **11.7** | **.000** | **3.63** | **.000** |
| Stddev | .20 | 5. | .000 | .000 | .000 | .000 | .000 | .000 | 2.5 | .000 | .22 | .000 |
| %RSD | 4.72 | 4.43 | 1.81 | 3.13 | 1.08 | 3.48 | 3.33 | 3.97 | 21.4 | .680 | 6.06 | 7.40 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **4.34** | **1.34** |
| Stddev | .52 | .59 |
| %RSD | 12.0 | 43.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105180.** | **975070.** | **320520.** |
| Stddev | 171. | 5139. | 3305. |
| %RSD | .16242 | .52705 | 1.0313 |

Sample Name: CalStd5=10 Acquired: 04/05/2019 07:41:46 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.29** | **.000** | **10.3** | **231.** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .40 | .000 | .4 | 2. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 8.37 | 3.30 | 31.2 | 49.2 | 3.45 | .784 | 1.19 | 1.00 | 1.57 | 1.75 | 3.62 | 7.69 |

| Elem | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158.** | **13.2** | **.000** | **8.77** | **.000** | **.000** | **5.71** | **.000** | **2.24** | **.000** | **.000** | **106.** |
| Stddev | 3. | 3.3 | .000 | .28 | .000 | .000 | .51 | .000 | .50 | .000 | .000 | 5. |
| %RSD | 2.16 | 25.3 | 1.13 | 3.17 | 1.04 | 10.2 | 8.99 | 18.5 | 22.2 | 14.1 | 9.44 | 5.14 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **51.5** |
| Stddev | .000 | .4 |
| %RSD | 2.70 | .835 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105510.** | **984030.** | **322290.** |
| Stddev | 212. | 3604. | 3058. |
| %RSD | .20096 | .36623 | .94898 |

Sample Name: CalStd6=20 Acquired: 04/05/2019 07:48:03 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **19.2** | **417.** | **171.** | **19.3** | **.000** | **16.0** | **4.79** | **205.** |
| Stddev | .3 | 4. | 2. | 2.6 | .000 | .3 | .72 | 5. |
| %RSD | 1.53 | 1.06 | .995 | 13.3 | .644 | 1.57 | 15.0 | 2.56 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105800.** | **984500.** |
| Stddev | 273. | 4802. |
| %RSD | .25795 | .48776 |

Sample Name: CalStd7=50 Acquired: 04/05/2019 07:54:13 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Ba4554 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2045 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.04** | **.000** | **1020.** | **.002** | **.003** | **.001** | **.001** | **.000** | **200.** | **35.5** | **.001** | **41.6** |
| Stddev | .15 | .000 | 12. | .000 | .000 | .000 | .000 | .000 | 4. | 1.8 | .000 | .8 |
| %RSD | 2.17 | 10.1 | 1.17 | .348 | .247 | .393 | .614 | .279 | 2.16 | 5.14 | .156 | 1.83 |

| Elem | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.000** | **502.** |
| Stddev | .000 | .000 | .000 | 5. |
| %RSD | .971 | 4.45 | 13.0 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106000.** | **988570.** | **322530.** |
| Stddev | 277. | 2989. | 2206. |
| %RSD | .26097 | .30234 | .68401 |

Sample Name: CalStd8=100 Acquired: 04/05/2019 08:00:22 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **13.1** | **.000** | **96.7** | **1970.** | **.010** | **15400.** | **.003** | **.006** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .6 | 21. | .000 | 155. | .000 | .000 | .000 |
| %RSD | .948 | 1.44 | 4.04 | 3.64 | .583 | 1.09 | .606 | 1.01 | .231 | .387 | .188 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **247.** | **60.0** | **5640.** | **.002** | **82.2** | **207.** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 4. | 2.4 | 26. | .000 | .9 | 1. | .000 | .000 |
| %RSD | .952 | .263 | 1.31 | 1.59 | 4.05 | .465 | .888 | 1.05 | .349 | .268 | 2.52 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **41.3** | **20.6** | **.000** | **.000** | **.000** | **985.** | **.002** | **450.** |
| Stddev | 1.0 | .2 | .000 | .000 | .000 | 6. | .000 | 1. |
| %RSD | 2.46 | .812 | 3.52 | 22.9 | 2.01 | .630 | .987 | .177 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106590.** | **991390.** | **322150.** |
| Stddev | 86. | 4912. | 2445. |
| %RSD | .08039 | .49550 | .75900 |

Sample Name: CalStd9=1000 Acquired: 04/05/2019 08:06:31 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.002** | **135.** | **.001** | **975.** | **19800.** | **.102** | **139.** | **129000.** | **.035** |
| Stddev | .000 | .000 | 1. | .000 | 3. | 168. | .000 | 3. | 1220. | .000 |
| %RSD | .266 | .955 | .495 | 1.48 | .352 | .848 | .209 | 1.89 | .950 | .122 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.064** | **.020** | **.003** | **.019** | **.004** | **1140.** | **537.** | **.001** | **.000** | **472.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 12. | 9. | .000 | .000 | 4. |
| %RSD | .275 | .406 | .383 | .053 | .080 | 1.03 | 1.64 | .481 | 1.24 | .915 |

| Elem | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **50800.** | **.017** | **1520.** | **842.** | **2080.** | **.019** | **.002** | **399.** | **.003** |
| Stddev | .000 | 263. | .000 | 14. | 1. | 9. | .000 | .000 | 1. | .000 |
| %RSD | 5.43 | .518 | .212 | .938 | .085 | .424 | .186 | .580 | .219 | .682 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **206.** | **.001** | **.000** | **.003** | **10000.** | **.021** | **4460.** |
| Stddev | 1. | .000 | .000 | .000 | 35. | .000 | 12. |
| %RSD | .454 | .273 | 1.72 | .076 | .352 | .569 | .273 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **1000500.** | **324740.** |
| Stddev | 335. | 4893. | 1702. |
| %RSD | .31296 | .48909 | .52398 |

Sample Name: CalStd10=10000 Acquired: 04/05/2019 08:12:10 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4554 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.015** | **.009** | **190000.** | **1260.** | **.198** | **.028** | **.184** | **.037** | **9910.** | **5160.** |
| Stddev | .000 | .000 | 1730. | 6. | .000 | .000 | .000 | .000 | 131. | 80. |
| %RSD | .880 | .297 | .910 | .442 | .164 | .501 | .137 | .395 | 1.32 | 1.55 |

| Elem | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.004** | **4590.** | **.000** | **454000.** | **.159** | **14900.** | **8060.** | **19500.** | **.181** |
| Stddev | .000 | .000 | 41. | .000 | 4540. | .001 | 123. | 8. | 43. | .000 |
| %RSD | .665 | .665 | .883 | 1.08 | 1.00 | .545 | .822 | .098 | .221 | .034 |

| Elem | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.018** | **.025** | **1980.** | **.003** | **.028** | **96200.** | **.203** |
| Stddev | .000 | .000 | 3. | .000 | .000 | 220. | .001 |
| %RSD | .158 | .285 | .135 | .524 | .117 | .228 | .298 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104810.** | **976730.** | **325360.** |
| Stddev | 168. | 3799. | 1969. |
| %RSD | .15989 | .38894 | .60521 |

Sample Name: CalStd12=100K  Acquired: 04/05/2019 08:18:42  Type: Cal

Method: DOD Calibration Updated 060614(v3295)  Mode: IR  Corr. Factor: 1.000000

User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1

Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.60** | **94200.** | **50100.** | **140000.** | **.174** | **1.79** |
| Stddev | .00 | 1180. | 501. | 1150. | .000 | .00 |
| %RSD | .051 | 1.26 | 1.00 | .825 | .163 | .167 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105470.** | **986270.** |
| Stddev | 86. | 3826. |
| %RSD | .08111 | .38792 |

Sample Name: CalStd13=100000 Acquired: 04/05/2019 08:25:00 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.146** | **12100.** | **.048** | **.034** | **42900.** | **.004** |
| Stddev | .002 | 72. | .000 | .000 | 397. | .000 |
| %RSD | 1.36 | .597 | .383 | 1.00 | .926 | .924 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103450.** | **986050.** | **323600.** |
| Stddev | 134. | 4009. | 1860. |
| %RSD | .12942 | .40654 | .57480 |

Sample Name: CalStd14=500000 Acquired: 04/05/2019 08:31:24 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.751** | **57100.** | **.159** | **190000.** | **.022** |
| Stddev | .018 | 269. | .002 | 522. | .000 |
| %RSD | 2.36 | .471 | .981 | .275 | 1.06 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **95857.** | **308780.** |
| Stddev | 187. | 2213. |
| %RSD | .19559 | .71663 |

Sample Name: CalibStd15=1000k Acquired: 04/05/2019 08:38:16 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.53** | **105000.** | **.299** | **.043** |
| Stddev | .02 | 304. | .002 | .000 |
| %RSD | 1.41 | .288 | .713 | .685 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **86218.** | **287800.** |
| Stddev | 176. | 1560. |
| %RSD | .20456 | .54215 |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.2** | **11800.** | **1950.** | **1920.** | **2020.** | **46.5** | **9870.** | **47.2** | **504.** | **192.** | **251.** | **256.** |
| Stddev | .9 | 133. | 10. | 10. | 6. | .2 | 71. | .1 | 1. | 2. | 2. | 4. |
| %RSD | 2.09 | 1.13 | .534 | .506 | .288 | .504 | .720 | .199 | .199 | 1.12 | .940 | 1.68 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4860.** | **10300.** | **500.** | **511.** | **508.** | **494.** | **470.** | **478.** | **496.** | **500.** | **1930.** | **2000.** |
| Stddev | 19. | 132. | 4. | 2. | 1. | 1. | 5. | 2. | 2. | 2. | 13. | 7. |
| %RSD | .390 | 1.28 | .717 | .332 | .287 | .208 | 1.10 | .491 | .466 | .346 | .695 | .361 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **495.** | **527.** | **482.** |
| Stddev | 1. | 3. | 1. |
| %RSD | .133 | .543 | .107 |
| Check ? | None | None | None |
| Value | | | |
| Range | | | |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107870.** | **1017900.** | **330150.** |
| Stddev | 155. | 5761. | 2766. |
| %RSD | .14372 | .56599 | .83786 |

Sample Name: ICVLL Acquired: 04/05/2019 09:04:20 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.4** | **1170.** | **1180.** | **62.4** | **29.1** | **10.9** | **1400.** | **14.4** | **14.7** | **29.0** | **29.1** | **28.0** |
| Stddev | 1.0 | 5. | 11. | 3.0 | .4 | .0 | 6. | .3 | .1 | .4 | .9 | 4.4 |
| %RSD | 3.30 | .450 | .913 | 4.76 | 1.21 | .388 | .465 | 1.74 | .834 | 1.45 | 3.13 | 15.7 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **27.9** | **880.** | **1440.** | **32.3** | **29.0** | **29.5** | **31.9** | **62.8** | **65.7** | **59.6** | **29.2** | **28.8** |
| Stddev | 3.1 | 3. | 5. | .3 | .3 | .4 | 1.3 | 3.2 | 4.7 | 1.6 | .5 | .2 |
| %RSD | 11.0 | .322 | .347 | .943 | 1.09 | 1.41 | 4.20 | 5.09 | 7.16 | 2.72 | 1.72 | .524 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107650.** | **1025000.** | **332350.** |
| Stddev | 64. | 4162. | 4275. |
| %RSD | .05979 | .40602 | 1.2863 |

Sample Name: icb Acquired: 04/05/2019 09:10:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.683** | **-1.64** | **-.338** | **.229** | **-.074** | **-9.72** | **.077** | **-.062** | **-.284** | **-.761** | **-3.27** | **-12.2** |
| Stddev | .756 | 1.07 | 2.47 | .448 | .038 | .73 | .092 | .174 | .152 | .371 | 6.43 | 2.3 |
| %RSD | 111. | 65.0 | 730. | 196. | 51.7 | 7.54 | 119. | 281. | 53.6 | 48.8 | 197. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.32** | **.151** | **-.858** | **.305** | **.273** | **-3.89** | **2.65** | **1.53** | **-.291** | **-.741** |
| Stddev | .04 | .090 | .552 | .430 | 6.90 | 1.68 | 5.63 | 2.28 | .164 | .047 |
| %RSD | .515 | 59.5 | 64.4 | 141. | 2530. | 43.2 | 213. | 149. | 56.5 | 6.40 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108740.** | **1038400.** | **330070.** |
| Stddev | 216. | 7591. | 1142. |
| %RSD | .19875 | .73105 | .34597 |

Sample Name: ICSA Acquired: 04/05/2019 09:29:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.535** | **529000.** | **-.502** | **.000** | **-.473** | **514000.** | **.010** | **-.699** | **-.372** | **-2.79** | **-1.73** |
| Stddev | .822 | 8170. | 9.70 | .506 | .058 | 3140. | 1.26 | .271 | .155 | .85 | 6.83 |
| %RSD | 154. | 1.54 | 1930. | 239000. | 12.3 | .611 | 12500. | 38.8 | 41.7 | 30.3 | 395. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481000.** | **494000.** | **-2.73** | **-1.91** | **-.450** | **1.02** | **.001** | **.002** | **-.087** | **8970.** | **6.35** |
| Stddev | 5460. | 5380. | .27 | .59 | .782 | 2.41 | 6.42 | 10.9 | .964 | 17. | .83 |
| %RSD | 1.14 | 1.09 | 9.71 | 30.9 | 174. | 237. | 697000. | 465000. | 1100. | .188 | 13.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96186.** | **927730.** | **313820.** |
| Stddev | 132. | 2680. | 2397. |
| %RSD | .13760 | .28885 | .76366 |

Sample Name: ICSAB Acquired: 04/05/2019 09:35:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **444.** | **544000.** | **568.** | **476.** | **450.** | **480.** | **502000.** | **493.** | **461.** | **485.** | **444.** |
| Stddev | 3. | 7240. | 14. | 2. | 2. | 3. | 2570. | 1. | 1. | 3. | 6. |
| %RSD | .643 | 1.33 | 2.37 | .449 | .528 | .601 | .512 | .160 | .153 | .701 | 1.38 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **526.** | **506000.** | **508000.** | **512.** | **477.** | **493.** | **445.** | **451.** | **879.** | **412.** | **459.** |
| Stddev | 8. | 3160. | 2730. | 2. | . | 1. | 3. | 2. | 18. | 4. | 11. |
| %RSD | 1.56 | .625 | .537 | .465 | .034 | .294 | .657 | .426 | 2.08 | .850 | 2.45 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **488.** | **468.** | **476.** | **507.** | **564.** | **510.** | **499.** |
| Stddev | 12. | 5. | 3. | 3. | 5. | 1. | 1. |
| %RSD | 2.35 | 1.09 | .672 | .620 | .889 | .123 | .141 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: MRL/LLOQ Acquired: 04/05/2019 09:22:55 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.0** | **397.** | **17.5** | **9.52** | **3.49** | **445.** | **4.73** | **4.81** | **9.30** | **9.42** | **8.80** | **286.** |
| Stddev | .7 | 1. | 3.1 | .16 | .05 | 4. | .16 | .19 | .36 | .59 | 3.61 | 1. |
| %RSD | 6.87 | .277 | 17.9 | 1.68 | 1.46 | .988 | 3.28 | 3.84 | 3.83 | 6.28 | 41.1 | .369 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **9.15** | **9.36** | **9.97** | **12.6** | **18.8** | **21.9** | **20.8** | **8.88** | **9.86** |
| Stddev | 2. | .05 | .31 | .39 | 1.7 | 2.3 | 3.4 | 1.9 | .17 | .06 |
| %RSD | .442 | .509 | 3.30 | 3.91 | 13.3 | 12.2 | 15.7 | 9.04 | 1.90 | .574 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108050.** | **1039400.** | **331930.** |
| Stddev | 301. | 5126. | 2002. |
| %RSD | .27862 | .49316 | .60315 |

Sample Name: ccv1 Acquired: 04/05/2019 13:33:11 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | F **4400.** | **4700.** | F **4320.** | **454.** | **4520.** | F **439.** | **4590.** | **4610.** | **4650.** | **4630.** | **4810.** |
| Stddev | 1. | 19. | 9. | 8. | 1. | 15. | 1. | 18. | 2. | 21. | 198. | 38. |
| %RSD | .236 | .429 | .192 | .191 | .316 | .324 | .235 | .396 | .041 | .448 | 4.27 | .792 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | 5000. | | | 500. | | | | | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4890.** | F **4360.** | F **4450.** | F **4400.** | F **4240.** | F **4390.** | **4490.** | **4530.** | **5190.** |
| Stddev | 1. | 10. | 9. | 11. | 16. | 38. | . | 7. | 15. |
| %RSD | .018 | .225 | .209 | .251 | .378 | .874 | .008 | .157 | .282 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106050.** | **951470.** | **322420.** |
| Stddev | 205. | 2766. | 204. |
| %RSD | .19359 | .29075 | .06324 |

Sample Name: ccv2 Acquired: 04/05/2019 13:38:42 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.9** | F **418.** | **462.** | F **428.** | F **445.** | **47.8** | F **414.** | **45.4** | **46.9** | F **430.** | F **437.** | **481.** |
| Stddev | .5 | 2. | 4. | 1. | 3. | .2 | 3. | .2 | .4 | 1. | 2. | 10. |
| %RSD | .979 | .358 | .830 | .127 | .757 | .330 | .700 | .453 | .954 | .161 | .358 | 2.09 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | F **439.** | F **436.** | **467.** | F **443.** | **462.** | F **445.** | **453.** | F **429.** | F **425.** | **456.** | F **436.** |
| Stddev | 5. | 2. | 1. | 1. | 1. | 1. | 1. | 3. | 3. | 3. | 3. | 5. |
| %RSD | 1.04 | .505 | .133 | .319 | .119 | .155 | .286 | .579 | .726 | .673 | .593 | 1.19 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **477.** | **461.** | **523.** | F **441.** |
| Stddev | 3. | 1. | 1. | 1. |
| %RSD | .692 | .231 | .168 | .226 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 13:38:42 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108110.** | **985100.** | **327740.** |
| Stddev | 232. | 2472. | 2254. |
| %RSD | .21478 | .25089 | .68759 |

Sample Name: ccb Acquired: 04/05/2019 13:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.122** | **-5.33** | **1.02** | **.307** | **.206** | **-12.1** | **-.086** | **.005** | **.066** | **.070** | **12.7** | **-7.27** |
| Stddev | .213 | 1.40 | 1.99 | .236 | .029 | .3 | .115 | .136 | .150 | .387 | 3.0 | 4.65 |
| %RSD | 175. | 26.3 | 196. | 77.0 | 13.9 | 2.65 | 133. | 2540. | 229. | 551. | 24.0 | 63.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.50** | **-9.02** | **.418** | **-.153** | **.296** | **2.14** | **-2.93** | **5.44** | **1.09** | **.210** | **-.654** |
| Stddev | 2.08 | .04 | .040 | .299 | .539 | 1.86 | 1.89 | 4.51 | .31 | .212 | .097 |
| %RSD | 27.7 | .388 | 9.46 | 195. | 182. | 86.7 | 64.4 | 82.8 | 28.6 | 101. | 14.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107880.** | **981870.** | **330400.** |
| Stddev | 119. | 2941. | 1399. |
| %RSD | .10990 | .29950 | .42351 |

Sample Name: 254600 Acquired: 04/05/2019 14:22:23 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.03** | **54700.** | **52.3** | **706.** | **801.** | **1.92** | **33200.** | **.073** | **1.43** | **22.1** | **94.9** | **251.** |
| Stddev | .34 | 1870. | 2.9 | 1. | 24. | .08 | 857. | .176 | .09 | .4 | 1.1 | 7. |
| %RSD | 32.5 | 3.42 | 5.64 | .140 | 2.94 | 4.27 | 2.58 | 240. | 5.97 | 1.92 | 1.11 | 2.67 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **228.** | **49500.** | **5220.** | **36100.** | **23.5** | **46.8** | **266.** | **-2.53** | **.402** | **17.6** | **176.** | **421.** |
| Stddev | 11. | 1560. | 138. | 800. | 1.0 | .4 | 3. | 1.37 | 1.89 | 2.1 | 1. | 2. |
| %RSD | 4.80 | 3.16 | 2.64 | 2.21 | 4.06 | .956 | .948 | 54.1 | 469. | 12.2 | .620 | .553 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **358.** |
| Stddev | 1. |
| %RSD | .266 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108640.** | **977340.** | **334030.** |
| Stddev | 107. | 1272. | 1324. |
| %RSD | .09843 | .13014 | .39631 |

Sample Name: 1dup254600 Acquired: 04/05/2019 14:29:01 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.509** | **48800.** | **43.6** | **696.** | **755.** | **1.72** | **28200.** | **.678** | **1.21** | **20.4** | **86.1** | **217.** |
| Stddev | .402 | 432. | 4.0 | 4. | 3. | .07 | 150. | .173 | .10 | .3 | .7 | 3. |
| %RSD | 78.9 | .886 | 9.09 | .542 | .416 | 4.17 | .532 | 25.6 | 8.35 | 1.57 | .783 | 1.27 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **202.** | **43200.** | **4480.** | **30900.** | **22.4** | **42.9** | **262.** | **-2.79** | **-2.01** | **14.9** | **161.** | **332.** |
| Stddev | 7. | 201. | 97. | 82. | .7 | .6 | 4. | .57 | 5.10 | 1.0 | 1. | 1. |
| %RSD | 3.66 | .466 | 2.16 | .264 | 3.15 | 1.36 | 1.51 | 20.6 | 254. | 6.90 | .400 | .166 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108140.** | **982050.** | **331950.** |
| Stddev | 55. | 1317. | 3130. |
| %RSD | .05090 | .13414 | .94288 |

Sample Name: 2dup254600 Acquired: 04/05/2019 14:35:40 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.839** | **49800.** | **43.1** | **540.** | **677.** | **1.56** | **26900.** | **-.639** | **1.01** | **16.5** | **76.7** | **205.** |
| Stddev | .748 | 1800. | 3.0 | 2. | 28. | .05 | 885. | .266 | .09 | .2 | 2.1 | 7. |
| %RSD | 89.3 | 3.62 | 6.91 | .344 | 4.06 | 2.94 | 3.29 | 41.6 | 9.06 | 1.05 | 2.78 | 3.31 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **189.** | **42100.** | **4470.** | **29600.** | **18.7** | **35.9** | **200.** | **-1.55** | **-6.39** | **13.4** | **144.** | **271.** |
| Stddev | 15. | 1650. | 139. | 982. | .7 | .2 | 3. | 3.25 | 4.81 | 1.7 | 4. | 1. |
| %RSD | 8.05 | 3.91 | 3.10 | 3.32 | 3.64 | .555 | 1.52 | 210. | 75.2 | 12.5 | 3.00 | .546 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108030.** | **975270.** | **331830.** |
| Stddev | 443. | 3504. | 2525. |
| %RSD | .41030 | .35927 | .76099 |

Sample Name: 254601 Acquired: 04/05/2019 14:42:18 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.950** | **28700.** | **1720.** | **1700.** | **379.** | **423.** | **1.12** | **16800.** | **.306** | **9.91** | **11.7** | **47.3** |
| Stddev | .485 | 747. | 6. | 22. | 2. | 10. | .02 | 312. | .174 | .12 | .4 | .5 |
| %RSD | 51.1 | 2.61 | .357 | 1.30 | .421 | 2.28 | 1.97 | 1.85 | 57.1 | 1.19 | 3.42 | 1.12 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **133.** | **116.** | **24500.** | **2750.** | **20100.** | **12.2** | **25.0** | **146.** | **-1.05** | **3.26** | **10.1** | **90.6** |
| Stddev | 7. | 5. | 482. | 94. | 423. | .1 | .5 | 1. | 1.48 | 5.70 | 2.4 | .7 |
| %RSD | 5.24 | 4.21 | 1.97 | 3.41 | 2.10 | .548 | 1.89 | .611 | 141. | 175. | 23.6 | .799 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **191.** |
| Stddev | 1. |
| %RSD | .288 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108100.** | **971120.** | **332070.** |
| Stddev | 469. | 3227. | 1702. |
| %RSD | .43412 | .33233 | .51259 |

Sample Name: I254601 Acquired: 04/05/2019 14:48:57 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.721** | **26900.** | **1460.** | **1450.** | **350.** | **374.** | **1.00** | **14200.** | **.615** | **8.37** | **10.6** | **45.1** |
| Stddev | .368 | 389. | 3. | 15. | 1. | 2. | .03 | 90. | .220 | .24 | .2 | 1.1 |
| %RSD | 51.0 | 1.45 | .191 | 1.02 | .281 | .641 | 2.59 | .634 | 35.8 | 2.91 | 1.75 | 2.33 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **117.** | **98.3** | **21900.** | **2370.** | **17000.** | **11.7** | **22.4** | **126.** | **-3.41** | **-3.26** | **8.91** | **85.0** |
| Stddev | 2. | 4.3 | 98. | 144. | 52. | .8 | .5 | 2. | 1.48 | 4.21 | 1.69 | .5 |
| %RSD | 1.74 | 4.42 | .449 | 6.10 | .308 | 7.18 | 2.44 | 1.57 | 43.5 | 129. | 19.0 | .587 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **175.** |
| Stddev | . |
| %RSD | .188 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108200.** | **989290.** | **332630.** |
| Stddev | 98. | 4175. | 3767. |
| %RSD | .09095 | .42200 | 1.1325 |

Sample Name: ccv1 Acquired: 04/05/2019 14:55:24 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4250.** | **4720.** | F **4320.** | F **446.** | F **4370.** | F **436.** | **4510.** | **4570.** | **4610.** | F **4400.** | **4720.** |
| Stddev | 3. | 61. | 26. | 18. | 3. | 39. | 1. | 30. | 6. | 8. | 69. | 109. |
| %RSD | .702 | 1.42 | .561 | .406 | .693 | .891 | .280 | .673 | .134 | .176 | 1.56 | 2.31 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4730.** | F **4280.** | F **4360.** | F **4400.** | F **4290.** | F **4440.** | **4500.** | F **4440.** | **5170.** |
| Stddev | 48. | 7. | 13. | 13. | 42. | 19. | 10. | 18. | 11. |
| %RSD | 1.01 | .163 | .293 | .303 | .988 | .420 | .229 | .416 | .203 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **104450.** | **947500.** | **326290.** |
| Stddev | 265. | 4724. | 3224. |
| %RSD | .25334 | .49859 | .98798 |

Sample Name: ccv2 Acquired: 04/05/2019 15:00:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.3** | F **423.** | **457.** | F **424.** | F **446.** | **47.2** | F **414.** | **45.2** | **46.9** | F **435.** | F **434.** | **482.** |
| Stddev | .5 | 2. | 4. | 2. | 4. | .3 | 3. | .2 | .3 | 1. | 3. | 6. |
| %RSD | 1.11 | .419 | .979 | .438 | .914 | .690 | .676 | .530 | .570 | .308 | .576 | 1.16 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **452.** | F **434.** | F **430.** | **463.** | F **439.** | **456.** | F **444.** | **456.** | F **424.** | F **433.** | **451.** | F **436.** |
| Stddev | 9. | 4. | 1. | 2. | 1. | 2. | . | 4. | 1. | 6. | 2. | 6. |
| %RSD | 2.06 | .905 | .291 | .326 | .176 | .367 | .069 | .939 | .259 | 1.38 | .514 | 1.44 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **477.** | **454.** | **512.** | F **436.** |
| Stddev | 1. | 2. | 2. | 1. |
| %RSD | .125 | .338 | .335 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 15:00:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107100.** | **982050.** | **330030.** |
| Stddev | 215. | 2942. | 2824. |
| %RSD | .20083 | .29962 | .85573 |

Sample Name: ccb Acquired: 04/05/2019 15:06:36 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.130** | **-4.61** | **3.11** | **.733** | **.184** | **-11.7** | **.140** | **.016** | **-.171** | **.333** | **-2.49** | **-8.16** |
| Stddev | .536 | .78 | 2.42 | .513 | .033 | .7 | .233 | .081 | .288 | .393 | 4.35 | 1.72 |
| %RSD | 411. | 16.8 | 77.9 | 70.0 | 17.9 | 5.78 | 166. | 508. | 168. | 118. | 175. | 21.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.98** | **.487** | **-.460** | **.194** | **2.27** | **-2.01** | **1.79** | **1.73** | **.283** | **-.647** |
| Stddev | .02 | .073 | .570 | .333 | 1.38 | 1.98 | 3.06 | 2.07 | .553 | .124 |
| %RSD | .188 | 15.1 | 124. | 172. | 60.7 | 98.8 | 171. | 120. | 195. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106910.** | **975640.** | **328850.** |
| Stddev | 168. | 7301. | 1794. |
| %RSD | .15704 | .74835 | .54561 |

Sample Name: 1dup254601 Acquired: 04/05/2019 15:12:52 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.712** | **33300.** | **26.0** | **286.** | **379.** | **1.03** | **16600.** | **-.739** | **.424** | **9.42** | **48.0** | **134.** |
| Stddev | .334 | 1800. | 6.5 | 2. | 20. | .06 | 978. | .380 | .071 | .19 | 1.9 | 3. |
| %RSD | 46.8 | 5.40 | 25.2 | .807 | 5.25 | 5.93 | 5.91 | 51.5 | 16.8 | 2.06 | 3.85 | 2.53 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **118.** | **26000.** | **2600.** | **19100.** | **10.2** | **27.6** | **104.** | **-1.21** | **-1.49** | **11.0** | **97.1** | **114.** |
| Stddev | 9. | 1500. | 195. | 1130. | .7 | .3 | 2. | 1.94 | 6.92 | 1.2 | 3.6 | 1. |
| %RSD | 7.27 | 5.77 | 7.49 | 5.88 | 6.69 | 1.14 | 2.04 | 160. | 463. | 11.1 | 3.73 | .443 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108070.** | **977250.** | **331020.** |
| Stddev | 179. | 6437. | 2059. |
| %RSD | .16569 | .65867 | .62199 |

Sample Name: 2dup254601 Acquired: 04/05/2019 15:19:22 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.501** | **40600.** | **33.2** | **397.** | **433.** | **1.31** | **18600.** | **-.014** | **.543** | **12.3** | **64.8** | **149.** |
| Stddev | .654 | 494. | 5.7 | 2. | 5. | .03 | 155. | .239 | .130 | .1 | 1.2 | 6. |
| %RSD | 130. | 1.22 | 17.1 | .377 | 1.06 | 1.99 | .834 | 1750. | 24.0 | 1.20 | 1.78 | 4.27 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **128.** | **30600.** | **2910.** | **21300.** | **13.5** | **35.1** | **141.** | **-2.91** | **3.59** | **13.4** | **129.** | **160.** |
| Stddev | 4. | 309. | 52. | 234. | 1.2 | .7 | 3. | 2.06 | 4.58 | 2.2 | 1. | . |
| %RSD | 3.39 | 1.01 | 1.79 | 1.10 | 8.80 | 1.93 | 1.80 | 70.8 | 127. | 16.6 | .467 | .085 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107630.** | **984550.** | **334100.** |
| Stddev | 168. | 3381. | 2444. |
| %RSD | .15569 | .34341 | .73158 |

Sample Name: mss254601 Acquired: 04/05/2019 15:26:01 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.05** | **32600.** | **1760.** | **1760.** | **383.** | **493.** | **1.13** | **19500.** | **-.342** | **10.1** | **12.0** | **48.0** |
| Stddev | 1.30 | 1530. | 17. | 18. | 2. | 24. | .08 | 963. | .257 | .2 | .2 | 1.2 |
| %RSD | 123. | 4.71 | .988 | 1.05 | .624 | 4.91 | 6.80 | 4.93 | 75.1 | 2.42 | 1.91 | 2.39 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **156.** | **137.** | **28100.** | **3160.** | **23500.** | **13.1** | **25.2** | **146.** | **-2.72** | **.173** | **10.1** | **94.6** |
| Stddev | 8. | 9. | 1420. | 134. | 1220. | .7 | .2 | 3. | 4.24 | 4.53 | 2.1 | 2.8 |
| %RSD | 5.02 | 6.73 | 5.05 | 4.23 | 5.20 | 5.04 | .743 | 1.87 | 156. | 2620. | 20.8 | 2.97 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **192.** |
| Stddev | 1. |
| %RSD | .373 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107600.** | **970880.** | **332120.** |
| Stddev | 382. | 2680. | 3748. |
| %RSD | .35478 | .27608 | 1.1285 |

Sample Name: msds254601 Acquired: 04/05/2019 15:32:42 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.03** | **31600.** | **1430.** | **1430.** | **335.** | **451.** | **.997** | **17300.** | **-.516** | **8.10** | **10.1** | **44.8** |
| Stddev | 1.06 | 1700. | 12. | 21. | 2. | 24. | .082 | 970. | .265 | .21 | .2 | 1.5 |
| %RSD | 103. | 5.40 | .866 | 1.45 | .582 | 5.25 | 8.27 | 5.60 | 51.5 | 2.58 | 2.41 | 3.26 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **137.** | **127.** | **26500.** | **2800.** | **20700.** | **10.9** | **22.0** | **123.** | **.259** | **.045** | **8.33** | **86.0** |
| Stddev | 7. | 5. | 1610. | 119. | 1090. | 1.0 | .4 | 2. | 1.71 | 3.18 | 1.14 | 3.5 |
| %RSD | 5.47 | 4.27 | 6.09 | 4.26 | 5.29 | 9.55 | 1.72 | 1.93 | 658. | 7010. | 13.7 | 4.09 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **167.** |
| Stddev | . |
| %RSD | .170 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107880.** | **985770.** | **336270.** |
| Stddev | 359. | 3014. | 1773. |
| %RSD | .33289 | .30575 | .52714 |

Sample Name: pdss254601 Acquired: 04/05/2019 15:39:16 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.918** | **27300.** | **1450.** | **1460.** | **318.** | **436.** | **.954** | **16300.** | **-.663** | **8.43** | **9.19** | **39.7** |
| Stddev | .780 | 1900. | 14. | 17. | 3. | 28. | .009 | 912. | .412 | .07 | .55 | 2.4 |
| %RSD | 85.0 | 6.96 | .970 | 1.15 | .865 | 6.30 | .929 | 5.60 | 62.1 | .885 | 6.00 | 5.94 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **131.** | **116.** | **24500.** | **2630.** | **19700.** | **9.67** | **20.1** | **121.** | **-2.40** | **1.65** | **8.71** | **78.0** |
| Stddev | 9. | 4. | 1540. | 122. | 1170. | .88 | .6 | 2. | 2.74 | 3.50 | .79 | 3.0 |
| %RSD | 6.74 | 3.42 | 6.30 | 4.63 | 5.95 | 9.05 | 3.02 | 1.35 | 114. | 213. | 9.11 | 3.84 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **154.** |
| Stddev | 1. |
| %RSD | .713 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107970.** | **984040.** | **333210.** |
| Stddev | 266. | 3836. | 1565. |
| %RSD | .24607 | .38984 | .46979 |

Sample Name: 254602 Acquired: 04/05/2019 15:45:44 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.33** | **40100.** | **31.9** | **314.** | **462.** | **1.18** | **20200.** | **-1.60** | **.377** | **9.85** | **55.5** | **161.** |
| Stddev | .46 | 2110. | 6.0 | 6. | 24. | .09 | 1080. | .51 | .152 | .36 | 4.4 | 6. |
| %RSD | 34.5 | 5.27 | 18.7 | 1.84 | 5.21 | 7.60 | 5.34 | 31.5 | 40.4 | 3.61 | 7.93 | 3.55 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **148.** | **32000.** | **3150.** | **23300.** | **10.1** | **29.7** | **115.** | **-.428** | **-1.18** | **11.5** | **113.** | **125.** |
| Stddev | 16. | 1840. | 204. | 1220. | .5 | .7 | 2. | 1.04 | 2.83 | .5 | 7. | 2. |
| %RSD | 10.8 | 5.74 | 6.47 | 5.25 | 5.07 | 2.29 | 1.80 | 244. | 240. | 4.53 | 6.23 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107840.** | **977500.** | **334620.** |
| Stddev | 332. | 6275. | 1066. |
| %RSD | .30760 | .64197 | .31853 |

Sample Name: I254602 Acquired: 04/05/2019 15:52:25 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.333** | **8420.** | **10.8** | **90.9** | **.468** | **4110.** | **.183** | **-.010** | **2.88** | **13.8** | **39.6** | **31.4** |
| Stddev | .535 | 42. | 2.7 | .2 | .039 | 21. | .051 | .126 | .19 | .9 | 2.8 | 3.1 |
| %RSD | 161. | .494 | 25.1 | .181 | 8.34 | .506 | 28.2 | 1280. | 6.51 | 6.73 | 6.94 | 10.0 |

| Elem | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6390.** | **610.** | **4840.** | **1.76** | **8.91** | **35.4** | **-1.89** | **-.304** | **3.37** | **28.1** | **37.1** |
| Stddev | 15. | 2. | 17. | .48 | .31 | 2.0 | 3.00 | .886 | 1.93 | .3 | .2 |
| %RSD | .237 | .306 | .354 | 27.6 | 3.47 | 5.67 | 159. | 291. | 57.2 | .906 | .612 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108290.** | **989910.** | **333350.** |
| Stddev | 131. | 4069. | 954. |
| %RSD | .12067 | .41106 | .28616 |

Sample Name: 1dup254602 Acquired: 04/05/2019 15:58:41 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.381** | **20400.** | **17.2** | **210.** | **226.** | **.800** | **9630.** | **.336** | **.207** | **6.50** | **33.1** | **79.2** |
| Stddev | .596 | 347. | 1.6 | 1. | 1. | .006 | 46. | .049 | .082 | .24 | .6 | 4.5 |
| %RSD | 156. | 1.70 | 9.28 | .600 | .491 | .695 | .478 | 14.7 | 39.4 | 3.70 | 1.81 | 5.67 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **70.7** | **15700.** | **1390.** | **11200.** | **6.76** | **18.9** | **77.1** | **-3.98** | **-1.25** | **6.85** | **67.8** | **86.6** |
| Stddev | 7.2 | 99. | 5. | 81. | .78 | .2 | .9 | .84 | 5.79 | 1.86 | .7 | .3 |
| %RSD | 10.2 | .631 | .330 | .719 | 11.6 | 1.01 | 1.15 | 21.2 | 461. | 27.2 | 1.10 | .304 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107520.** | **977290.** | **332350.** |
| Stddev | 476. | 5059. | 3571. |
| %RSD | .44261 | .51770 | 1.0746 |

Sample Name: 2dup254602 Acquired: 04/05/2019 16:05:08 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.949** | **38600.** | **26.2** | **246.** | **409.** | **1.06** | **17000.** | **-1.89** | **.277** | **7.32** | **45.3** | **134.** |
| Stddev | .639 | 3440. | 5.9 | 11. | 32. | .08 | 1320. | .39 | .145 | .27 | 3.7 | 10. |
| %RSD | 67.3 | 8.92 | 22.5 | 4.39 | 7.90 | 7.81 | 7.79 | 20.8 | 52.2 | 3.72 | 8.16 | 7.49 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **124.** | **28400.** | **2760.** | **1980.** | **19900.** | **7.62** | **22.0** | **93.1** | **-1.31** | **1.72** | **10.0** | **92.5** |
| Stddev | 7. | 2410. | 200. | 138. | 1590. | .77 | .8 | 3.0 | .46 | 4.87 | 1.2 | 5.8 |
| %RSD | 5.41 | 8.50 | 7.22 | 6.95 | 8.00 | 10.1 | 3.82 | 3.20 | 35.4 | 283. | 11.9 | 6.28 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **96.9** |
| Stddev | 3.4 |
| %RSD | 3.53 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108000.** | **984090.** | **333650.** |
| Stddev | 264. | 4113. | 1113. |
| %RSD | .24413 | .41799 | .33359 |

Sample Name: mss254602 Acquired: 04/05/2019 16:11:40 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.594** | **17800.** | **1150.** | **1150.** | **193.** | **208.** | **.729** | **9260.** | **.159** | **6.63** | **5.96** | **27.5** |
| Stddev | 1.24 | 213. | 4. | 7. | 2. | 3. | .023 | 33. | .073 | .15 | .21 | .9 |
| %RSD | 210. | 1.20 | .380 | .622 | .791 | 1.25 | 3.15 | .351 | 45.7 | 2.25 | 3.56 | 3.44 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **76.5** | **62.9** | **12900.** | **1240.** | **11400.** | **6.48** | **17.3** | **71.5** | **-1.22** | **.717** | **8.29** | **55.9** |
| Stddev | 2.4 | 5.3 | 50. | 2. | 70. | .91 | .4 | 2.1 | 2.98 | 3.23 | .85 | .6 |
| %RSD | 3.14 | 8.37 | .386 | .147 | .614 | 14.0 | 2.44 | 2.99 | 244. | 451. | 10.3 | 1.03 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **78.0** |
| Stddev | .3 |
| %RSD | .379 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107560.** | **985190.** | **338230.** |
| Stddev | 462. | 5357. | 1624. |
| %RSD | .42995 | .54373 | .47999 |

Sample Name: ccv1 Acquired: 04/05/2019 16:18:09 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **451.** | F **4240.** | **4760.** | F **4310.** | F **445.** | F **4340.** | F **434.** | **4510.** | **4540.** | **4610.** | F **4370.** | **4640.** |
| Stddev | 1. | 39. | 10. | 11. | 2. | 34. | 1. | 18. | 6. | 7. | 55. | 54. |
| %RSD | .258 | .918 | .218 | .254 | .511 | .791 | .236 | .406 | .134 | .151 | 1.26 | 1.16 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4680.** | F **4230.** | F **4300.** | F **4400.** | F **4280.** | F **4390.** | **4500.** | F **4400.** | **5160.** |
| Stddev | 32. | 5. | 8. | 6. | 21. | 8. | 7. | 11. | 22. |
| %RSD | .688 | .123 | .179 | .144 | .478 | .185 | .165 | .248 | .420 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103770.** | **939240.** | **326610.** |
| Stddev | 124. | 4473. | 1359. |
| %RSD | .11914 | .47622 | .41604 |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **48.1** | F **415.** | **451.** | F **420.** | F **441.** | **47.4** | F **411.** | **45.0** | **46.5** | F **427.** | F **429.** | **482.** |
| Stddev | .6 | 2. | 5. | 1. | 4. | .5 | 3. | .2 | .2 | 1. | 5. | 5. |
| %RSD | 1.25 | .387 | 1.01 | .146 | .818 | 1.11 | .668 | .533 | .423 | .295 | 1.25 | 1.08 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **439.** | F **435.** | F **427.** | **463.** | F **435.** | **453.** | F **443.** | **449.** | F **422.** | F **422.** | **450.** | F **431.** |
| Stddev | 9. | 7. | 2. | 4. | 1. | 1. | 1. | 2. | 3. | 3. | 1. | 2. |
| %RSD | 1.98 | 1.58 | .509 | .950 | .309 | .280 | .244 | .555 | .650 | .680 | .286 | .502 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | 500. | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | -10.4% | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **475.** | **454.** | **519.** | F **434.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .487 | .285 | .274 | .292 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 16:23:37 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106990.** | **971930.** | **329900.** |
| Stddev | 184. | 5915. | 2052. |
| %RSD | .17156 | .60859 | .62192 |

Sample Name: ccb Acquired: 04/05/2019 16:29:21 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.075** | **-4.59** | **1.94** | **.754** | **.251** | **-11.3** | **.065** | **.022** | **.442** | **-.079** | **-.921** | **-6.78** |
| Stddev | .507 | .84 | 3.21 | .588 | .031 | .6 | .020 | .100 | .175 | .918 | 7.17 | 2.50 |
| %RSD | 679. | 18.2 | 165. | 77.9 | 12.3 | 5.08 | 30.5 | 450. | 39.7 | 1160. | 779. | 36.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.68** | **.751** | **.192** | **.715** | **2.42** | **-1.31** | **4.54** | **2.11** | **.126** | **-.465** |
| Stddev | .04 | .076 | .233 | .510 | 1.74 | 1.14 | 5.33 | 1.66 | .476 | .059 |
| %RSD | .511 | 10.1 | 121. | 71.3 | 72.1 | 86.9 | 118. | 78.8 | 379. | 12.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106770.** | **978400.** | **330270.** |
| Stddev | 178. | 4473. | 914. |
| %RSD | .16707 | .45717 | .27662 |

Sample Name: msds254602 Acquired: 04/05/2019 16:35:38 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.810** | **33400.** | **1480.** | **1470.** | **246.** | **349.** | **1.11** | **15000.** | **-1.11** | **8.37** | **8.26** | **49.1** |
| Stddev | .946 | 665. | 100. | 84. | 19. | 7. | .05 | 325. | .25 | .52 | .64 | 1.6 |
| %RSD | 117. | 1.99 | 6.75 | 5.71 | 7.84 | 1.90 | 4.74 | 2.17 | 22.7 | 6.25 | 7.79 | 3.32 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **123.** | **108.** | **27000.** | **2300.** | **1920.** | **19500.** | **9.07** | **22.7** | **89.4** | **-.261** | **.278** | **10.4** |
| Stddev | 4. | 5. | 559. | 99. | 65. | 359. | 1.27 | 1.7 | 8.2 | 2.54 | 2.38 | 2.2 |
| %RSD | 3.57 | 4.51 | 2.07 | 4.33 | 3.36 | 1.84 | 14.0 | 7.68 | 9.12 | 974. | 858. | 21.1 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **96.4** | **101.** |
| Stddev | 3.4 | 9. |
| %RSD | 3.52 | 8.72 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107790.** | **985310.** | **334100.** |
| Stddev | 226. | 6386. | 794. |
| %RSD | .21011 | .64811 | .23777 |

Sample Name: pdss254602 Acquired: 04/05/2019 16:42:08 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.05** | **34700.** | **710.** | **100.** | **382.** | **.785** | **16200.** | **-4.00** | **3.96** | **2.65** | **31.4** | **126.** |
| Stddev | .53 | 4280. | 188. | 31. | 43. | .135 | 1950. | .35 | 1.13 | 1.12 | 6.6 | 11. |
| %RSD | 51.1 | 12.3 | 26.5 | 30.9 | 11.3 | 17.2 | 12.0 | 8.67 | 28.6 | 42.2 | 21.2 | 8.96 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **113.** | **27100.** | **2500.** | **1430.** | **20800.** | **2.58** | **8.68** | **38.7** | **-2.01** | **-.049** | **7.05** | **69.6** |
| Stddev | 16. | 3450. | 296. | 265. | 2400. | 1.08 | 3.03 | 10.6 | 3.08 | 4.81 | 1.98 | 13.0 |
| %RSD | 14.0 | 12.7 | 11.9 | 18.5 | 11.5 | 41.7 | 34.8 | 27.5 | 153. | 9760. | 28.2 | 18.7 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **35.4** |
| Stddev | 12.3 |
| %RSD | 34.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107850.** | **982410.** | **335740.** |
| Stddev | 293. | 3554. | 3538. |
| %RSD | .27177 | .36171 | 1.0538 |

Sample Name: 254603 Acquired: 04/05/2019 16:48:42 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.724** | **64800.** | **33.7** | **254.** | **745.** | **1.57** | **53900.** | **-7.14** | **.399** | **8.32** | **51.2** | **161.** |
| Stddev | .193 | 7160. | 7.2 | 46. | 75. | .26 | 5490. | .70 | .159 | 1.44 | 8.9 | 16. |
| %RSD | 26.6 | 11.1 | 21.4 | 18.0 | 10.1 | 16.6 | 10.2 | 9.81 | 39.9 | 17.4 | 17.5 | 9.91 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **148.** | **56000.** | **5100.** | **22200.** | **2.07** | **20.3** | **90.3** | **.624** | **3.08** | **10.7** | **95.7** | **97.0** |
| Stddev | 16. | 5900. | 601. | 2200. | .25 | 1.8 | 15.2 | 1.18 | 3.77 | 1.6 | 15.6 | 17.8 |
| %RSD | 10.5 | 10.5 | 11.8 | 9.92 | 12.1 | 8.74 | 16.8 | 189. | 122. | 15.2 | 16.3 | 18.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107300.** | **970510.** | **334930.** |
| Stddev | 174. | 4639. | 2976. |
| %RSD | .16173 | .47799 | .88847 |

Sample Name: 254604 Acquired: 04/05/2019 16:55:23 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.442** | **47400.** | **26.2** | **179.** | **330.** | **1.65** | **17900.** | **-4.79** | **.205** | **10.9** | **49.1** | **76.7** |
| Stddev | .365 | 3630. | 4.2 | 19. | 22. | .10 | 1100. | .30 | .036 | 1.3 | 4.7 | 5.2 |
| %RSD | 82.6 | 7.67 | 16.0 | 10.3 | 6.63 | 6.32 | 6.15 | 6.30 | 17.6 | 12.2 | 9.56 | 6.75 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **65.7** | **55100.** | **3890.** | **8050.** | **.937** | **23.8** | **56.4** | **-.711** | **3.76** | **10.4** | **89.6** | **87.7** |
| Stddev | 9.1 | 3640. | 273. | 517. | .559 | 2.6 | 5.0 | 3.08 | 4.32 | 1.3 | 6.6 | 9.9 |
| %RSD | 13.8 | 6.62 | 7.00 | 6.42 | 59.7 | 11.0 | 8.92 | 433. | 115. | 12.6 | 7.35 | 11.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107930.** | **978880.** | **332770.** |
| Stddev | 181. | 1434. | 2985. |
| %RSD | .16755 | .14653 | .89702 |

Sample Name: 254605 Acquired: 04/05/2019 17:01:53 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.15** | **19600.** | **65.6** | **1750.** | **1.46** | **9220.** | **-.527** | **.794** | **24.5** | **35.9** | **516.** |
| Stddev | .33 | 466. | 4.0 | 39. | .08 | 202. | .125 | .160 | .2 | 3.2 | 11. |
| %RSD | 15.2 | 2.38 | 6.15 | 2.20 | 5.30 | 2.19 | 23.7 | 20.1 | .942 | 8.99 | 2.12 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **482.** | **33900.** | **3410.** | **107000.** | **17.6** | **22.6** | **1580.** | **2.86** | **-9.68** | **29.5** | **120.** |
| Stddev | 19. | 692. | 91. | 1770. | .7 | .3 | 12. | .81 | 6.36 | 2.6 | 4. |
| %RSD | 3.84 | 2.05 | 2.68 | 1.65 | 4.23 | 1.36 | .764 | 28.1 | 65.7 | 8.91 | 3.73 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **225.** |
| Stddev | 2. |
| %RSD | .977 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106840.** | **970300.** | **330670.** |
| Stddev | 271. | 5654. | 1213. |
| %RSD | .25336 | .58274 | .36668 |

Sample Name: 254606 Acquired: 04/05/2019 17:08:30 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.02** | **17100.** | **41.3** | **999.** | **1400.** | **1.46** | **8210.** | **-1.35** | **.418** | **19.8** | **31.4** | **530.** |
| Stddev | .20 | 441. | 2.9 | 27. | 34. | .08 | 245. | .07 | .186 | 1.0 | 2.6 | 13. |
| %RSD | 10.1 | 2.58 | 7.08 | 2.75 | 2.41 | 5.22 | 2.99 | 4.93 | 44.4 | 5.07 | 8.30 | 2.52 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **497.** | **36000.** | **3160.** | **73700.** | **9.89** | **20.8** | **548.** | **528.** | **-2.38** | **-3.85** | **21.8** | **97.5** |
| Stddev | 12. | 924. | 116. | 2190. | .70 | .5 | 23. | 16. | 2.91 | 6.82 | 1.4 | 5.0 |
| %RSD | 2.46 | 2.57 | 3.67 | 2.97 | 7.11 | 2.43 | 4.15 | 3.01 | 122. | 177. | 6.21 | 5.09 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **233.** |
| Stddev | 7. |
| %RSD | 3.02 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **978790.** | **333240.** |
| Stddev | 476. | 2196. | 2019. |
| %RSD | .44481 | .22431 | .60584 |

Sample Name: 255833 Acquired: 04/05/2019 17:15:10 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-3.68** | **24200.** | **63.9** | **412.** | **900.** | **1.40** | **37100.** | **-3.10** | **.865** | **10.2** | **34.5** | **824.** |
| Stddev | .35 | 1400. | 7.5 | 46. | 51. | .11 | 2390. | .08 | .113 | 1.3 | 5.8 | 50. |
| %RSD | 9.53 | 5.78 | 11.8 | 11.0 | 5.63 | 7.91 | 6.46 | 2.70 | 13.1 | 13.0 | 17.0 | 6.10 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **779.** | **36400.** | **14400.** | **93200.** | **8.33** | **16.1** | **220.** | **-1.01** | **-12.5** | **15.4** | **108.** | **819.** |
| Stddev | 42. | 2360. | 822. | 5680. | 1.57 | 2.4 | 26. | 3.68 | 2.4 | 4.2 | 13. | 86. |
| %RSD | 5.33 | 6.49 | 5.70 | 6.09 | 18.9 | 15.0 | 11.9 | 365. | 19.5 | 27.5 | 12.1 | 10.4 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **688.** |
| Stddev | 70. |
| %RSD | 10.2 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106800.** | **965740.** | **330780.** |
| Stddev | 416. | 2065. | 2989. |
| %RSD | .38938 | .21381 | .90351 |

Sample Name: 255853 Acquired: 04/05/2019 17:21:47 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.08** | **13100.** | **25.6** | **150.** | **271.** | **.888** | **18600.** | **-1.92** | **.314** | **6.05** | **26.0** | **161.** |
| Stddev | .57 | 795. | 2.2 | 12. | 15. | .037 | 1030. | .16 | .074 | .80 | 3.1 | 8. |
| %RSD | 52.6 | 6.07 | 8.65 | 8.18 | 5.57 | 4.14 | 5.53 | 8.10 | 23.4 | 13.3 | 11.9 | 5.13 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **141.** | **24000.** | **8680.** | **19800.** | **2.13** | **14.0** | **89.4** | **-2.14** | **-1.22** | **8.83** | **55.4** | **162.** |
| Stddev | 10. | 1410. | 547. | 1190. | .56 | 1.8 | 6.8 | 1.89 | 2.94 | 1.03 | 4.8 | 15. |
| %RSD | 6.87 | 5.86 | 6.31 | 6.03 | 26.5 | 12.6 | 7.62 | 88.6 | 240. | 11.6 | 8.61 | 9.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107160.** | **979370.** | **334040.** |
| Stddev | 244. | 13779. | 1564. |
| %RSD | .22739 | 1.4070 | .46810 |

Sample Name: 255854 Acquired: 04/05/2019 17:28:29 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 20
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.12** | **9110.** | **17.4** | **2620.** | **1.07** | **2010.** | **1920.** | **-.309** | **.449** | **13.0** | **23.3** | **377.** |
| Stddev | .54 | 49. | 2.1 | 28. | .05 | 9. | 28. | .372 | .149 | 1.1 | 1.1 | 9. |
| %RSD | 48.1 | .542 | 12.0 | 1.09 | 4.26 | .423 | 1.44 | 120. | 33.1 | 8.70 | 4.89 | 2.33 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **355.** | **19800.** | **1010.** | **50700.** | **9.98** | **13.6** | **1660.** | **9.52** | **-6.19** | **14.5** | **60.5** | **184.** |
| Stddev | 4. | 171. | 32. | 371. | 1.29 | 1.6 | 123. | 1.48 | 6.17 | 2.7 | 1.8 | 16. |
| %RSD | 1.14 | .866 | 3.20 | .733 | 12.9 | 11.9 | 7.46 | 15.5 | 99.7 | 18.8 | 2.94 | 8.63 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107130.** | **984090.** | **333560.** |
| Stddev | 199. | 10009. | 2933. |
| %RSD | .18616 | 1.0171 | .87937 |

Sample Name: ccv1 Acquired: 04/05/2019 17:41:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4220.** | **4720.** | F **4310.** | F **442.** | F **4320.** | F **434.** | F **4480.** | **4530.** | **4610.** | F **4340.** | **4570.** |
| Stddev | 2. | 20. | 32. | 38. | 2. | 24. | 1. | 17. | 11. | 24. | 22. | 98. |
| %RSD | .410 | .478 | .678 | .881 | .390 | .562 | .196 | .375 | .250 | .509 | .500 | 2.14 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | 5000. | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | F **4210.** | F **4280.** | F **4410.** | F **4290.** | F **4410.** | **4480.** | F **4390.** | **5120.** |
| Stddev | 22. | 8. | 10. | 23. | 15. | 35. | 7. | 7. | 19. |
| %RSD | .482 | .195 | .228 | .517 | .346 | .791 | .166 | .150 | .377 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **103460.** | **944250.** | **326940.** |
| Stddev | 307. | 4172. | 3016. |
| %RSD | .29717 | .44187 | .92240 |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.7** | F **415.** | **452.** | F **416.** | F **443.** | **47.0** | F **412.** | F **44.8** | **46.6** | F **428.** | F **425.** | **480.** |
| Stddev | .5 | 2. | 6. | 1. | 4. | .2 | 4. | .1 | .1 | 1. | 3. | 7. |
| %RSD | 1.08 | .528 | 1.34 | .335 | 1.01 | .423 | 1.00 | .249 | .176 | .202 | .616 | 1.38 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | 50.0 | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **430.** | F **423.** | **459.** | F **433.** | **451.** | F **442.** | **454.** | F **420.** | F **419.** | **449.** | F **430.** |
| Stddev | 5. | 4. | 1. | 2. | 2. | 1. | 1. | 3. | 6. | 4. | 3. | 5. |
| %RSD | 1.17 | .915 | .346 | .410 | .455 | .306 | .283 | .623 | 1.48 | .862 | .638 | 1.06 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **479.** | **451.** | **517.** | F **432.** |
| Stddev | 2. | 1. | 1. | 1. |
| %RSD | .474 | .245 | .123 | .336 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 17:46:35 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106480.** | **975080.** | **330590.** |
| Stddev | 231. | 2674. | 1330. |
| %RSD | .21722 | .27427 | .40242 |

Sample Name: ccb Acquired: 04/05/2019 17:52:19 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.231** | **-4.42** | **.050** | **.634** | **.230** | **-11.1** | **.118** | **-.015** | **.588** | **.278** | **10.9** | **-1.60** |
| Stddev | .385 | .79 | 4.45 | .114 | .033 | .6 | .113 | .128 | .231 | .393 | 3.6 | 2.25 |
| %RSD | 167. | 17.8 | 8970. | 17.9 | 14.2 | 5.43 | 96.0 | 860. | 39.3 | 141. | 32.9 | 140. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-4.76** | **-8.58** | **.900** | **.377** | **.625** | **1.78** | **-.347** | **6.21** | **2.81** | **.297** | **-.404** |
| Stddev | 2.00 | .01 | .100 | .648 | .080 | 1.52 | 2.20 | 2.20 | 1.17 | .640 | .092 |
| %RSD | 42.0 | .076 | 11.1 | 172. | 12.8 | 85.7 | 634. | 35.4 | 41.8 | 216. | 22.8 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

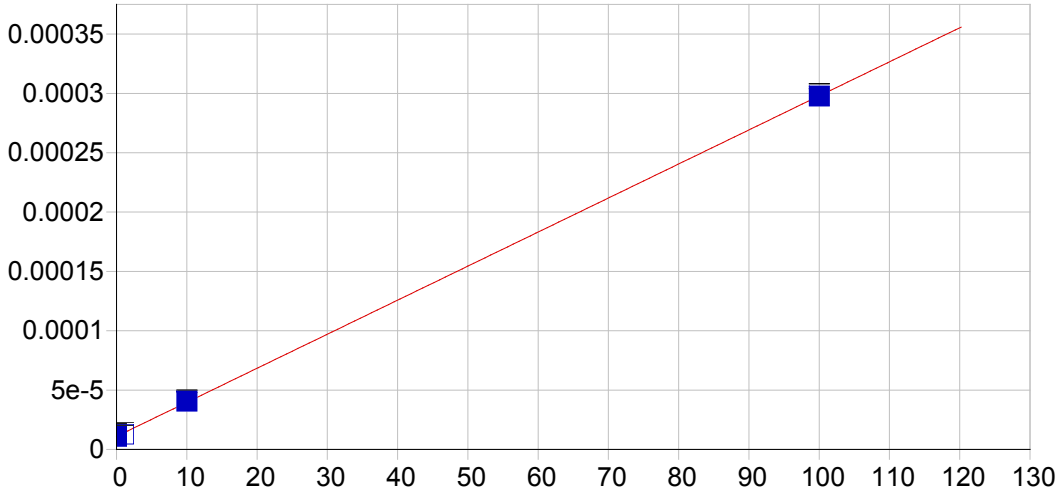
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106430.** | **969110.** | **331350.** |
| Stddev | 189. | 3923. | 2094. |
| %RSD | .17758 | .40476 | .63183 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 07:35:12 | 04/25/2019 14:53:40 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.999954 | 0.000001 | 0.822832 | 2.742774 |
| Ag 338.289 {100} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.980894 | 0.000002 | 15.767845 | 52.559482 |
| Al 167.079 {501} | 04/30/2019 07:35:12 | 04/25/2019 14:59:19 | Linear | None | 0.000048 | 0.000003 | 0.000000 | 1.000000 | 0.999973 | 0.000015 | 0.694996 | 2.316654 |
| Al 308.215 {109} | 04/30/2019 07:35:12 | 04/25/2019 15:18:47 | Linear | 1/Var | 0.000064 | 0.000000 | 0.000000 | 1.000000 | 0.999486 | 0.000053 | 33.040346 | 110.13448 |
| Al 396.152 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Curvili | 1/Conc | -0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999986 | 0.000013 | 14.129430 | 47.098102 |
| As 193.759 {474} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Var | 0.375405 | 0.071062 | 0.000000 | 1.000000 | 0.999963 | 0.192102 | 8.588519 | 28.628395 |
| As 197.262 {471} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000000 | 6.803803 | 22.679343 |
| Ba 233.527 {445} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | 0.000005 | 0.000010 | 0.000000 | 1.000000 | 0.999261 | 0.000000 | 0.428082 | 1.426940 |
| Ba 455.403 { 74} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.000084 | 0.000048 | 0.000000 | 1.000000 | 0.999717 | 0.000004 | 0.389849 | 1.299496 |
| Ba 493.409 { 68} | 04/30/2019 07:35:12 | 04/25/2019 15:05:58 | Linear | 1/Conc | 0.010565 | 0.000056 | 0.000000 | 1.000000 | 0.999858 | 0.000044 | 0.862235 | 2.874118 |
| Be 313.042 {108} | 04/30/2019 07:35:12 | 04/25/2019 14:59:20 | Linear | 1/Conc | -0.000194 | 0.000053 | 0.000000 | 1.000000 | 0.999552 | 0.000001 | 0.054875 | 0.182918 |
| Be 234.861 {144} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999772 | 0.000001 | 1.381937 | 4.606456 |
| Ca 315.887 {107} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.999863 | 0.000027 | 13.419758 | 44.732526 |
| Ca 317.933 {106} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Conc | 0.002896 | 0.000001 | 0.000000 | 1.000000 | 0.999979 | 0.000007 | 7.121370 | 23.737901 |
| Ca 393.366 { 86} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Var | 0.008316 | 0.000189 | 0.000000 | 1.000000 | 0.993161 | 0.004503 | 0.069970 | 0.233235 |
| Ca 396.847 { 85} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.002113 | 0.000118 | 0.000000 | 1.000000 | 0.998973 | 0.000252 | 0.106441 | 0.354802 |
| Cd 226.502 {449} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | -0.000005 | 0.000024 | 0.000000 | 1.000000 | 0.999379 | 0.000001 | 0.255705 | 0.852348 |
| Cd 228.802 {447} | 04/30/2019 07:35:12 | 04/25/2019 14:59:21 | Linear | 1/Conc | 0.000027 | 0.000045 | 0.000000 | 1.000000 | 0.999287 | 0.000002 | 0.169120 | 0.563732 |
| Co 228.616 {447} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000018 | 0.000019 | 0.000000 | 1.000000 | 0.999731 | 0.000002 | 0.442257 | 1.474190 |
| Co 238.892 {141} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999866 | 0.000002 | 0.864546 | 2.881820 |
| Cr 205.560 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000035 | 0.000014 | 0.000000 | 1.000000 | 0.999421 | 0.000042 | 0.335552 | 1.118506 |
| Cr 267.716 {126} | 04/30/2019 07:35:12 | 04/25/2019 15:05:59 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999861 | 0.000000 | 0.912557 | 3.041856 |
| Cu 224.700 {450} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000001 | 0.000007 | 0.000000 | 1.000000 | 0.999500 | 0.000012 | 0.405039 | 1.350129 |
| Cu 324.754 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 33.017871 | 0.489284 | 0.000000 | 1.000000 | 0.999678 | 0.477535 | 5.094250 | 16.980834 |
| Cu 327.396 {103} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 7.173693 | 0.369486 | 0.000000 | 1.000000 | 0.999651 | 0.260832 | 8.764951 | 29.216503 |
| Fe 234.349 {144} | 04/30/2019 07:35:12 | 04/25/2019 15:18:48 | Curvili | 1/Var | 0.000023 | 0.000000 | 0.000000 | 1.000000 | 0.999897 | 0.000009 | 1.861044 | 6.203479 |
| Fe 239.562 {140} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000008 | 0.000000 | 0.000000 | 1.000000 | 0.999563 | 0.000037 | 15.403775 | 51.345917 |
| Fe 259.940 {129} | 04/30/2019 07:35:12 | 04/25/2019 15:25:25 | Curvili | 1/Var | 0.000022 | 0.000001 | 0.000000 | 1.000000 | 0.999955 | 0.000059 | 4.566900 | 15.223000 |
| Mg 202.582 {466} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Linear | 1/Var | 0.000047 | 0.000002 | 0.000000 | 1.000000 | 0.999043 | 0.000420 | 2.477678 | 8.258926 |
| Mg 279.079 {121} | 04/30/2019 07:35:12 | 04/25/2019 15:32:29 | Full Fit | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.060000 | 0.999990 | 0.000000 | 147.69344 | 492.31149 |
| Mg 280.270 {120} | 04/30/2019 07:35:12 | 04/25/2019 15:06:00 | Linear | 1/Var | 0.000654 | 0.000026 | 0.000000 | 1.000000 | 0.998379 | 0.000995 | 0.047667 | 0.158891 |
| Mn 257.610 {131} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000012 | 0.000000 | 1.000000 | 0.997882 | 0.000027 | 0.096882 | 0.322939 |
| Mn 259.373 {130} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999885 | 0.000023 | 1.375255 | 4.584185 |
| Mo 202.030 {466} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Conc | 0.000011 | 0.000008 | 0.000000 | 1.000000 | 0.999547 | 0.000001 | 0.524568 | 1.748560 |
| Mo 203.844 {465} | 04/30/2019 07:35:12 | 04/25/2019 14:59:24 | Linear | 1/Var | 0.000024 | 0.000006 | 0.000000 | 1.000000 | 0.999595 | 0.000024 | 0.838770 | 2.795900 |
| Mo 204.598 {464} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Var | 0.000016 | 0.000005 | 0.000000 | 1.000000 | 0.999729 | 0.000027 | 1.023425 | 3.411418 |
| Ni 221.647 {452} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000014 | 0.000010 | 0.000000 | 1.000000 | 0.999767 | 0.000010 | 0.757594 | 2.525313 |
| Ni 231.604 {445} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000019 | 0.000011 | 0.000000 | 1.000000 | 0.999677 | 0.000001 | 0.722935 | 2.409785 |
| Pb 216.999 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999384 | 0.000030 | 5.694743 | 18.982477 |
| Pb 220.353 {453} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000024 | 0.000003 | 0.000000 | 1.000000 | 0.999296 | 0.000000 | 2.803616 | 9.345385 |
| Pb 220.353 {153} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999643 | 0.000001 | 6.828097 | 22.760324 |
| Sb 206.833 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | -0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999857 | 0.000000 | 2.461614 | 8.205380 |
| Sb 217.581 {455} | 04/30/2019 07:35:12 | 04/25/2019 15:06:01 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999808 | 0.000000 | 2.712923 | 9.043077 |
| Se 196.090 {472} | 04/30/2019 07:35:12 | 04/25/2019 14:59:25 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999420 | 0.000000 | 4.728254 | 15.760848 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Curvili | 1/Conc | 0.000004 | 0.000000 | 0.000000 | 1.000000 | 0.999959 | 0.000000 | 30.145855 | 100.48618 |
| Tl 190.856 {476} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999490 | 0.000001 | 2.684770 | 8.949234 |
| Tl 190.856 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999617 | 0.000000 | 5.300411 | 17.668036 |
| V 290.882 {116} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999967 | 0.000000 | 7.314456 | 24.381519 |
| V 292.402 {115} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.000003 | 0.000007 | 0.000000 | 1.000000 | 0.999871 | 0.000001 | 0.605824 | 2.019414 |
| Zn 206.200 {463} | 04/30/2019 07:35:12 | 04/25/2019 15:12:22 | Linear | 1/Var | 0.000054 | 0.000016 | 0.000000 | 1.000000 | 0.999282 | 0.000096 | 0.398552 | 1.328506 |
| Zn 213.856 {457} | 04/30/2019 07:35:12 | 04/25/2019 14:59:26 | Linear | 1/Conc | 0.000028 | 0.000027 | 0.000000 | 1.000000 | 0.999114 | 0.000005 | 0.216001 | 0.720004 |
| Y 224.306 {450}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 07:35:12 | 04/25/2019 14:10:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:06:02 | Linear | 1/Conc | 0.004511 | 0.000005 | 0.000000 | 1.000000 | 0.999901 | 0.000012 | 10.149500 | 33.831667 |
| Na 589.592 { 57} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 0.000063 | 0.000004 | 0.000000 | 1.000000 | 0.999928 | 0.000070 | 7.898158 | 26.327192 |
| Si 251.611 {134} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | 1.892880 | 0.047065 | 0.000000 | 1.000000 | 0.998966 | 1.013831 | 26.768890 | 89.229632 |
| Ti 323.452 {104} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000227 | 0.000007 | 0.000000 | 1.000000 | 0.999909 | 0.000001 | 1.541505 | 5.138349 |
| Ti 334.941 {101} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000001 | 0.000004 | 0.000000 | 1.000000 | 0.999918 | 0.000000 | 2.063215 | 6.877382 |
| Sr 407.771 { 83} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000065 | 0.000094 | 0.000000 | 1.000000 | 0.999881 | 0.000006 | 0.175276 | 0.584252 |
| Sr 421.552 { 80} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000009 | 0.000134 | 0.000000 | 1.000000 | 0.999886 | 0.000008 | 0.123225 | 0.410752 |
| Sn 189.989 {477} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999812 | 0.000001 | 1.724449 | 5.748164 |
| B 249.678 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999966 | 0.000000 | 1.368619 | 4.562062 |
| B 249.773 {135} | 04/30/2019 07:35:12 | 04/25/2019 15:06:03 | Linear | 1/Var | 0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999668 | 0.000010 | 0.779432 | 2.598107 |
| Li 670.784 { 50} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Var | -0.000045 | 0.000025 | 0.000000 | 1.000000 | 0.999733 | 0.000101 | 1.571556 | 5.238519 |
| K 766.490 { 44} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Linear | 1/Conc | -0.000035 | 0.000001 | 0.000000 | 1.000000 | 0.999837 | 0.000023 | 56.288107 | 187.62702 |
| P 213.618 {457} | 04/30/2019 07:35:12 | 04/25/2019 15:06:04 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 230.31583 | 767.71945 |
| S 182.034 {485} | 04/30/2019 07:35:12 | 04/25/2019 15:32:30 | Curvili | 1/Conc | 0.000013 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.218644 | 20.728815 |
| Hg 184.950 {482} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000010 | 0.000000 | 0.000000 | 1.000000 | 0.362902 | 0.000019 | 9.166603 | 30.555344 |
| Ce 404.076 { 83} | 04/30/2019 07:35:12 | 04/25/2019 14:59:29 | Linear | 1/Conc | 0.000034 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 23.369364 | 77.897881 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

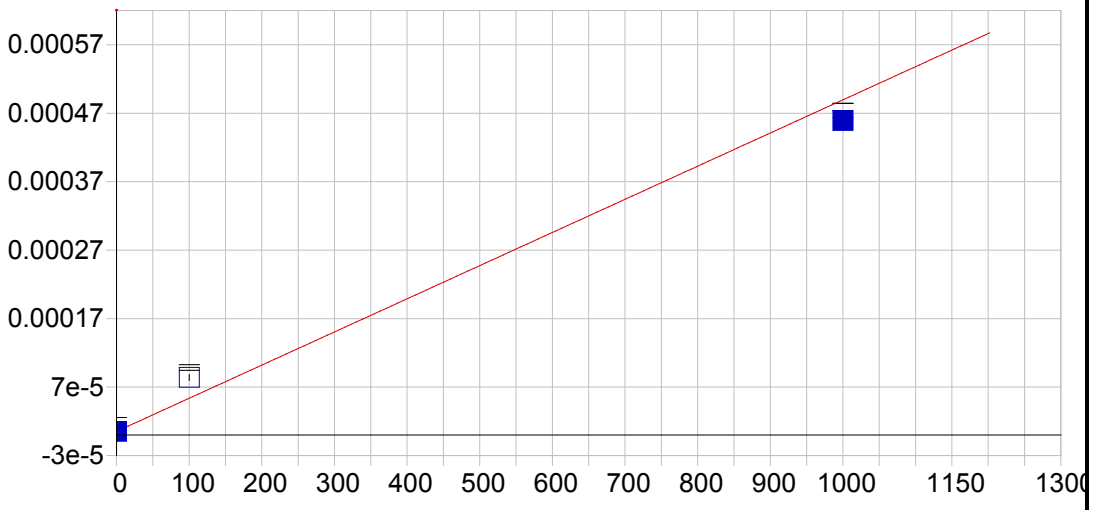



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999954 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.822832 | | |
| Predicted MQL: | 2.742774 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02532 | -.025 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.284 | .284 | 2.84 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.893 | -.107 | -.107 | .00030 | .000 | 1 |
| CalStd3=1 | 1.0000 | .61988 | -.380 | -38.0 | .00001 | .000 | 1 |

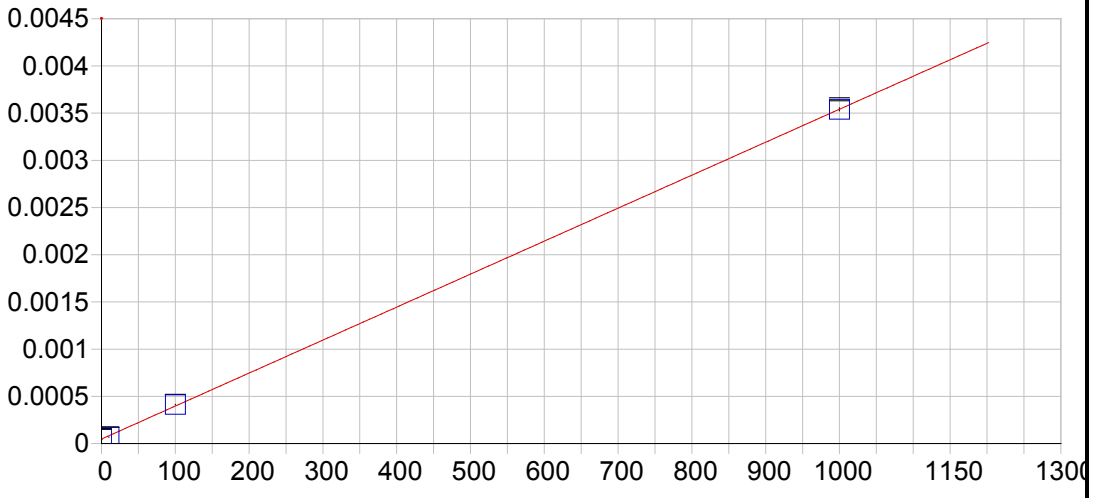



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.980894 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 15.767845 | | |
| Predicted MQL: | 52.559482 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05642 | -.056 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 162.69 | 62.7 | 62.7 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 937.32 | -62.7 | -6.27 | .00046 | .000 | 1 |

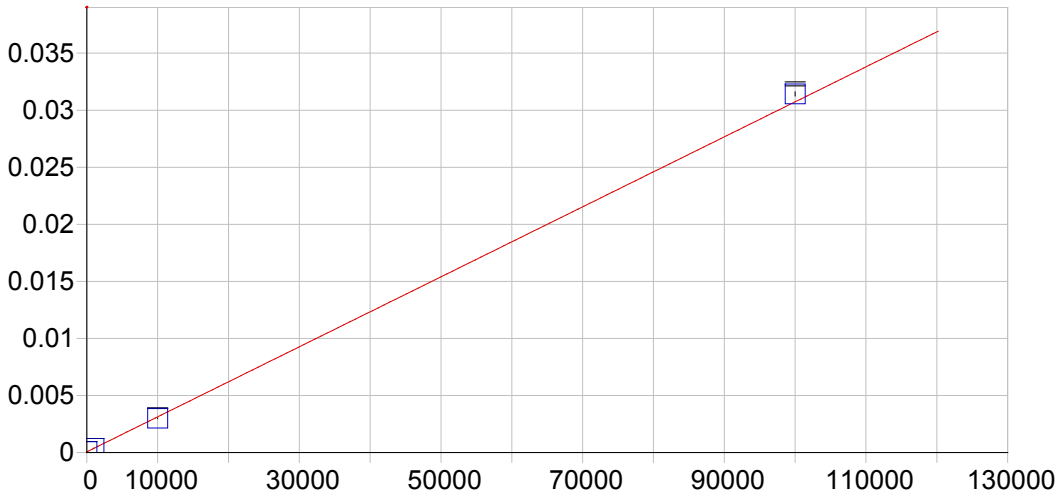



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000048 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.694996 | | |
| Predicted MQL: | 2.316654 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11178 | .112 | .000 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.59 | -.405 | -.041 | .00354 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.8255 | -4.17 | -41.7 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.47 | 4.47 | 4.47 | .00041 | .000 | 1 |

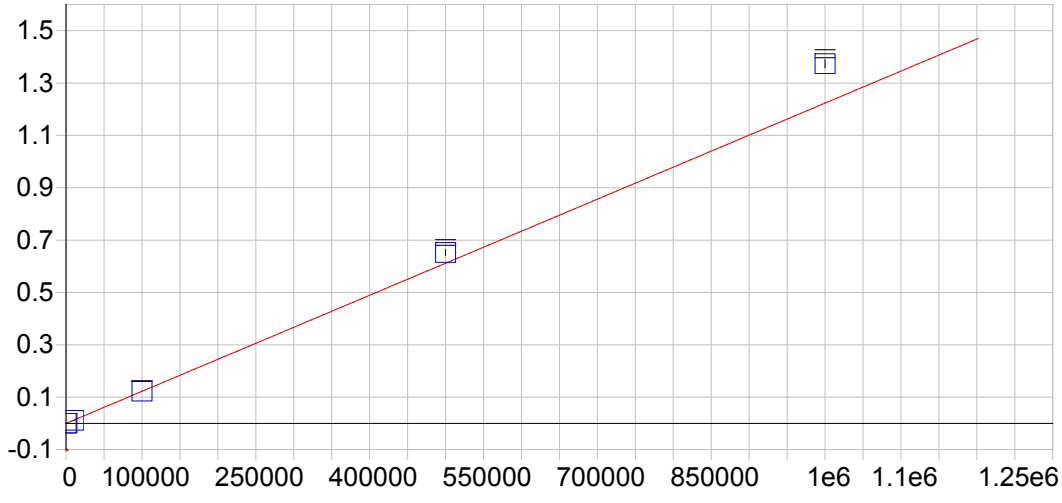



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999486 | Status: | OK. |
| Std Error of Est: | 0.000053 | | |
| Predicted MDL: | 33.040346 | | |
| Predicted MQL: | 110.134487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 18.536 | 18.5 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9574.4 | -426. | -4.26 | .00300 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1032.2 | 32.2 | 3.22 | .00038 | .000 | 1 |
| CalStd13=10 | 100000. | 102250. | 2250. | 2.25 | .03142 | .000 | 1 |

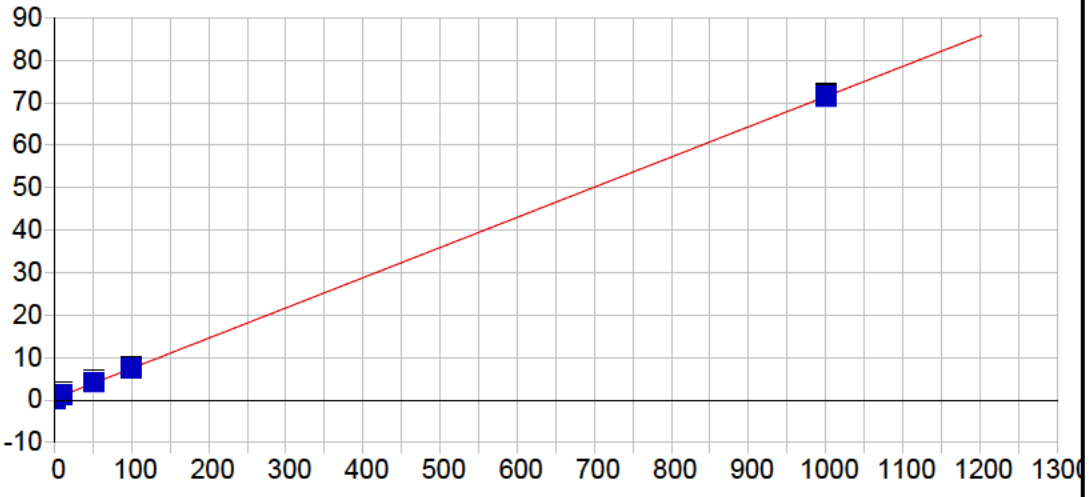



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 14.129430 | | |
| Predicted MQL: | 47.098102 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .08096 | .081 | .000 | -.00001 | .000 | 1 |
| CalStd14=50 | 500000. | 533420. | 33400. | 6.68 | .65252 | .011 | 1 |
| CalStd13=10 | 100000. | 100580. | 576. | .576 | .12302 | .001 | 1 |
| CalStd10=10 | 10000. | 9407.4 | -593. | -5.93 | .01149 | .000 | 1 |
| CalStd9=100 | 1000.0 | 982.59 | -17.4 | -1.74 | .00119 | .000 | 1 |
| CalibStd15= | 1000000. | 1122800. | 123000. | 12.3 | 1.3735 | .015 | 1 |

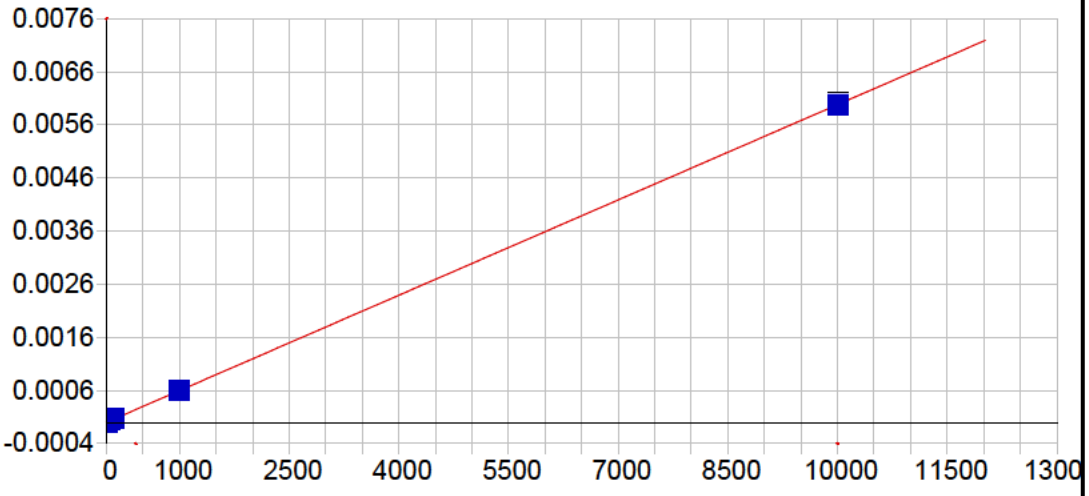



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.375405 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.071062 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.192102 | | |
| Predicted MDL: | 8.588519 | | |
| Predicted MQL: | 28.628395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0421 | -2.04 | .000 | .23029 | .314 | 1 |
| CalStd9=100 | 1000.0 | 999.88 | -.124 | -.012 | 71.157 | .663 | 1 |
| CalStd7=50 | 50.000 | 53.852 | 3.85 | 7.70 | 4.1942 | .472 | 1 |
| CalStd5=10 | 10.000 | 13.221 | 3.22 | 32.2 | 1.3127 | .552 | 1 |
| CalStd8=100 | 100.00 | 99.480 | -.520 | -.520 | 7.4175 | .275 | 1 |

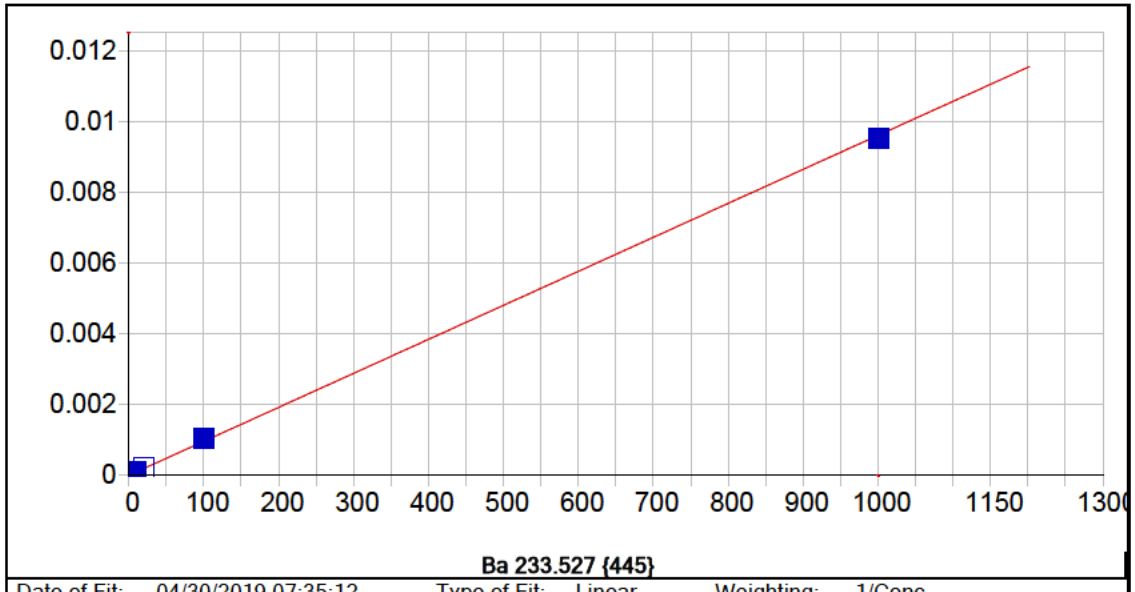



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.803803 | | |
| Predicted MQL: | 22.679343 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00245 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.79 | .279 | .00060 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.054 | 3.05 | 6.11 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.995 | .995 | 9.95 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.35 | 8.35 | 8.35 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.8 | -15.2 | -.152 | .00601 | .000 | 1 |

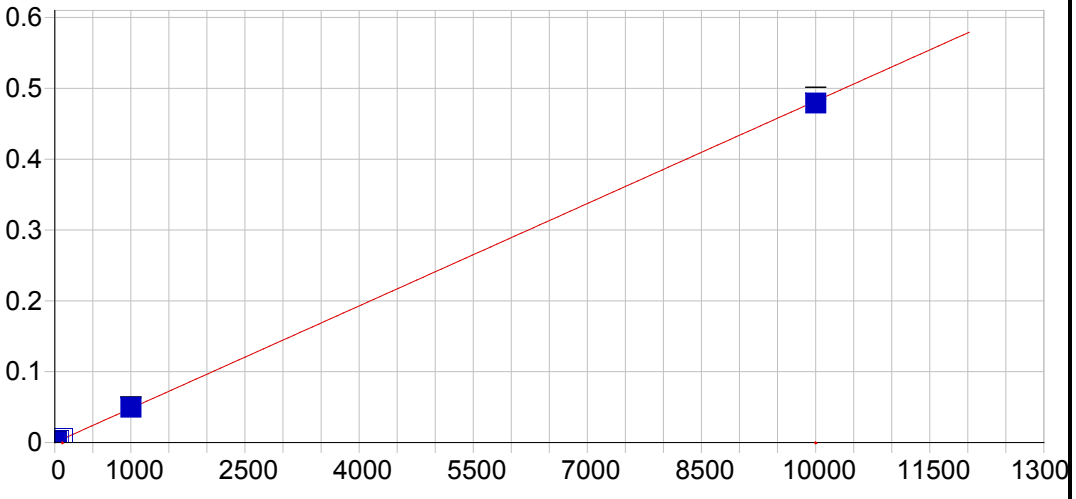



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999261 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.428082 | | |
| Predicted MQL: | 1.426940 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.539 | 1.54 | 7.69 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.89 | 8.89 | 8.89 | .00105 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7114 | -.289 | -5.77 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.33 | -10.7 | -1.07 | .00951 | .000 | 1 |
| CalStd3=1 | 1.0000 | .29840 | -.702 | -70.2 | .00001 | .000 | 1 |

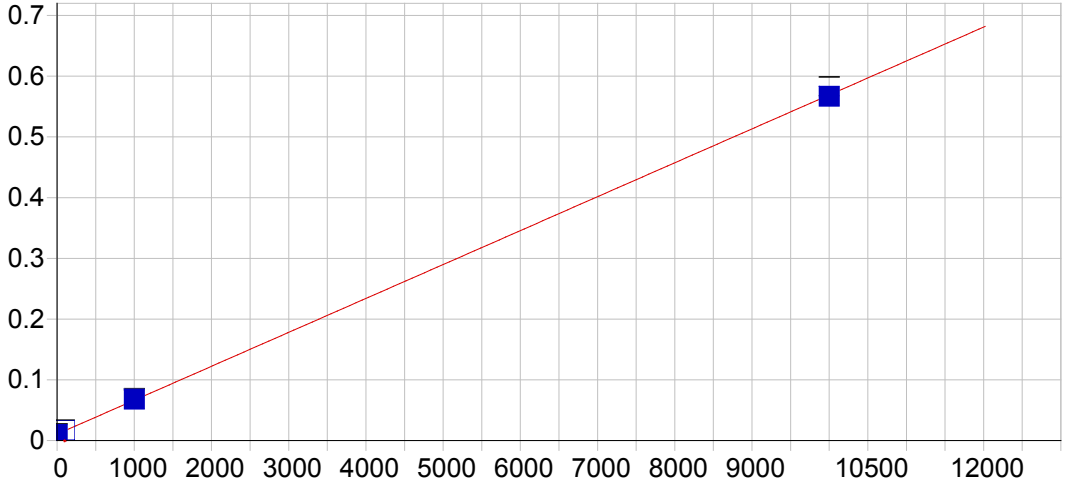



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000084 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999717 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.389849 | | |
| Predicted MQL: | 1.299496 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00085 | -.001 | .000 | .00008 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.867 | 7.87 | 15.7 | .00287 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.353 | 2.35 | 23.5 | .00068 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.728 | 3.73 | 18.6 | .00123 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.49 | 15.5 | 15.5 | .00565 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0913 | 1.09 | 21.8 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.8 | 28.8 | 2.88 | .04966 | .001 | 1 |
| CalStd3=1 | 1.0000 | .87587 | -.124 | -12.4 | .00013 | .000 | 1 |
| CalStd10=10 | 10000. | 9940.7 | -59.3 | -.593 | .47910 | .008 | 1 |

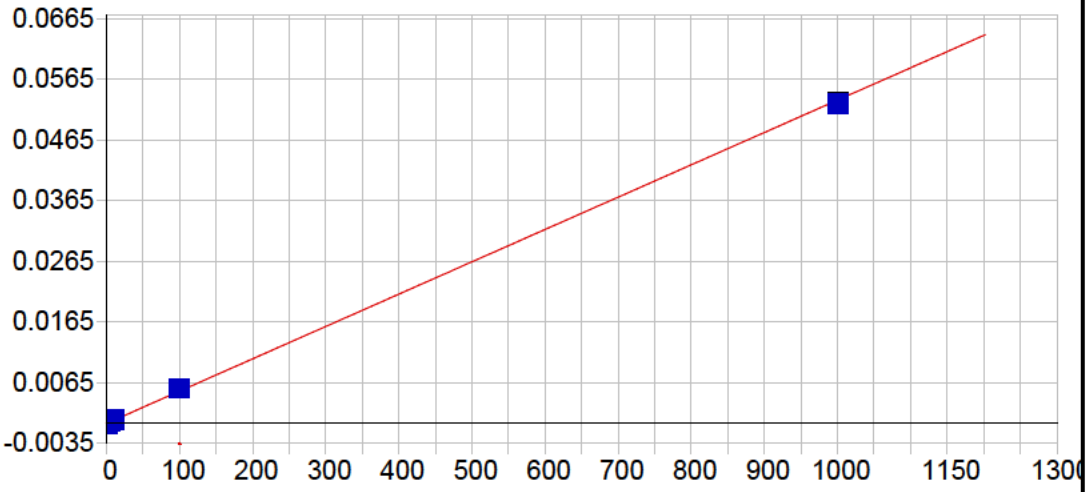



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010565 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999858 | Status: | OK. |
| Std Error of Est: | 0.000044 | | |
| Predicted MDL: | 0.862235 | | |
| Predicted MQL: | 2.874118 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01710 | -.017 | .000 | .01056 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.6 | 28.6 | 2.86 | .06802 | .001 | 1 |
| CalStd8=100 | 100.00 | 114.68 | 14.7 | 14.7 | .01697 | .000 | 1 |
| CalStd10=10 | 10000. | 9956.7 | -43.3 | -.433 | .56676 | .015 | 1 |

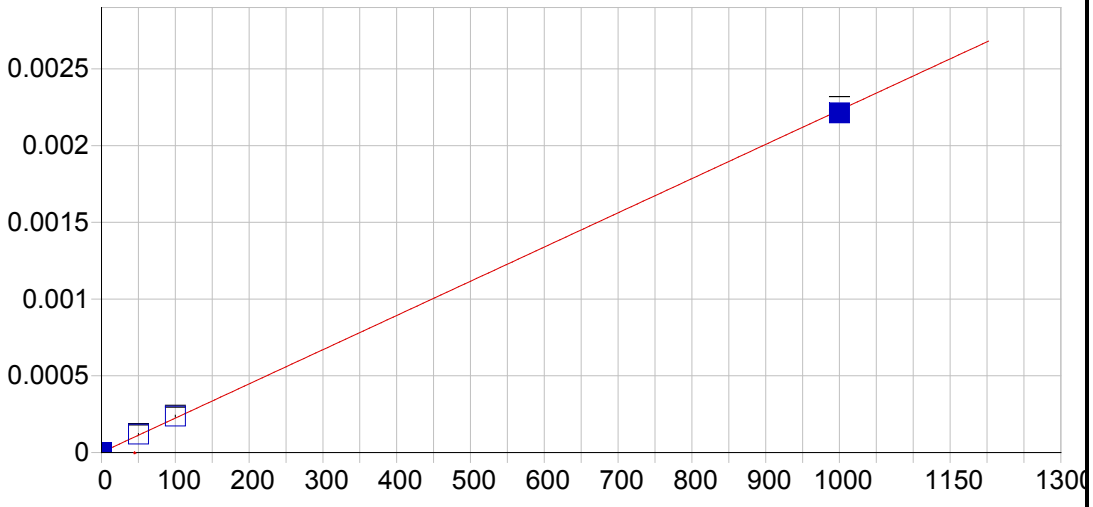



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000194 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000053 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999552 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.054875 | | |
| Predicted MQL: | 0.182918 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.427 | 1.43 | 14.3 | .00041 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.89 | 7.89 | 7.89 | .00555 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51828 | .018 | 3.66 | -.00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5599 | .560 | 11.2 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.00 | -10.0 | -1.00 | .05254 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1087 | .109 | 10.9 | -.00013 | .000 | 1 |

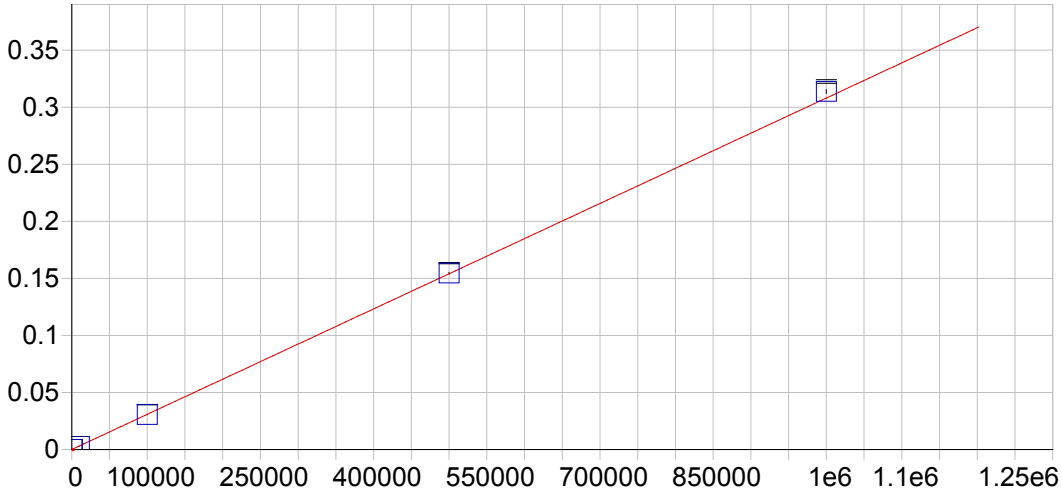



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999772 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.381937 | | |
| Predicted MQL: | 4.606456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00510 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.74 | -8.26 | -.826 | .00221 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.49 | 5.49 | 5.49 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.772 | 2.77 | 5.54 | .00012 | .000 | 1 |

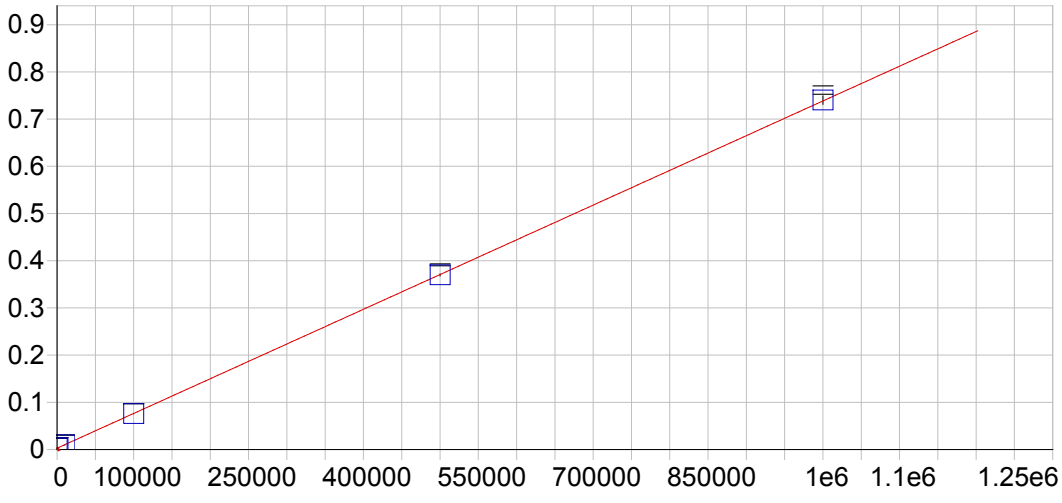



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999863 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 13.419758 | | |
| Predicted MQL: | 44.732526 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 6.6682 | 6.67 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9190.6 | -809. | -8.09 | .00287 | .000 | 1 |
| CalStd13=10 | 100000. | 99102. | -898. | -.898 | .03056 | .000 | 1 |
| CalStd14=50 | 500000. | 501690. | 1690. | .338 | .15456 | .001 | 1 |
| CalStd9=100 | 1000.0 | 977.60 | -22.4 | -2.24 | .00034 | .000 | 1 |
| CalibStd15= | 1000000. | 1018700. | 18700. | 1.87 | .31380 | .002 | 1 |

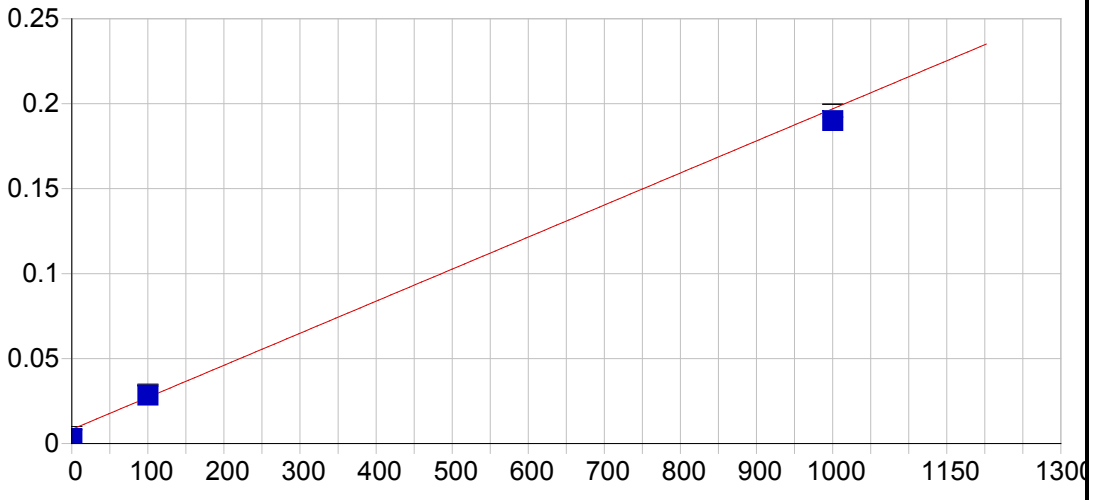



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002896 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999979 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 7.121370 | | |
| Predicted MQL: | 23.737901 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02795 | .028 | .000 | .00290 | .000 | 1 |
| CalStd10=10 | 10000. | 9280.9 | -719. | -7.19 | .00972 | .000 | 1 |
| CalStd13=10 | 100000. | 99250. | -750. | -.750 | .07590 | .000 | 1 |
| CalStd14=50 | 500000. | 499010. | -994. | -.199 | .36994 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | .00367 | .000 | 1 |
| CalibStd15= | 1000000. | 1002400. | 2410. | .241 | .74021 | .009 | 1 |

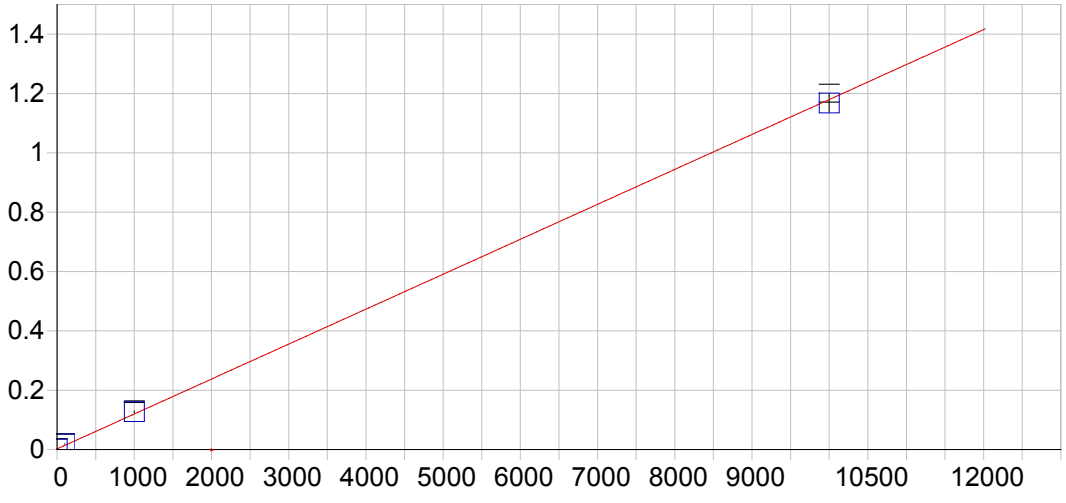



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008316 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000189 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.993161 | Status: | OK. |
| Std Error of Est: | 0.004503 | | |
| Predicted MDL: | 0.069970 | | |
| Predicted MQL: | 0.233235 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -27.096 | -27.1 | .000 | .00320 | .001 | 1 |
| CalStd9=100 | 1000.0 | 963.08 | -36.9 | -3.69 | .19001 | .004 | 1 |
| CalStd8=100 | 100.00 | 106.78 | 6.78 | 6.78 | .02846 | .001 | 1 |

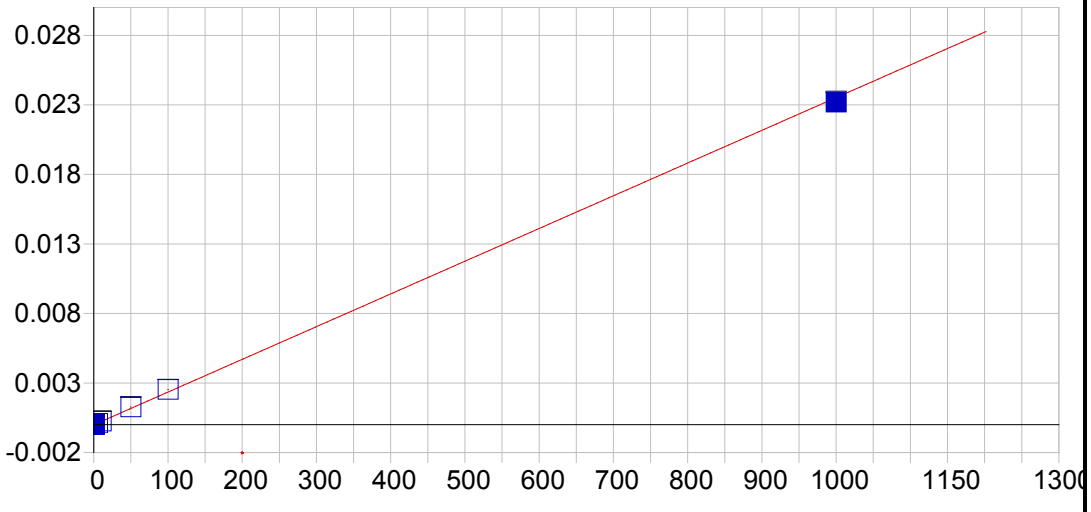



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000118 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998973 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.106441 | | |
| Predicted MQL: | 0.354802 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04744 | -.047 | .000 | .00211 | .001 | 1 |
| CalStd10=10 | 10000. | 9895.5 | -104. | -1.04 | 1.1675 | .030 | 1 |
| CalStd8=100 | 100.00 | 142.26 | 42.3 | 42.3 | .01887 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1062.2 | 62.2 | 6.22 | .12721 | .003 | 1 |

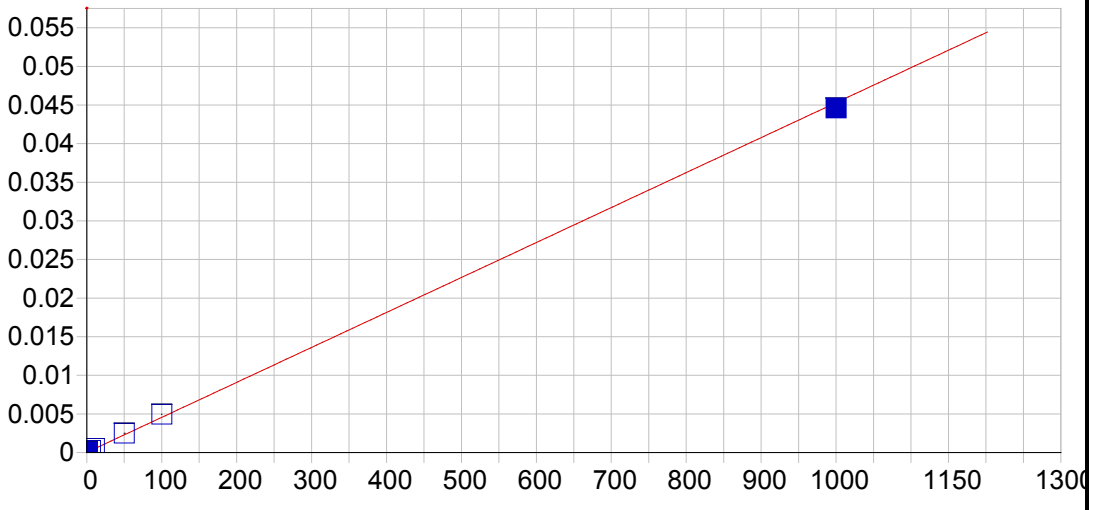



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999379 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.255705 | | |
| Predicted MQL: | 0.852348 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.346 | 4.35 | 8.69 | .00127 | .000 | 1 |
| CalStd3=1 | 1.0000 | .77315 | -.227 | -22.7 | .00001 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47928 | -.021 | -4.14 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3884 | .388 | 7.77 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.91 | 7.91 | 7.91 | .00253 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.325 | 1.32 | 13.2 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.28 | -13.7 | -1.37 | .02320 | .000 | 1 |

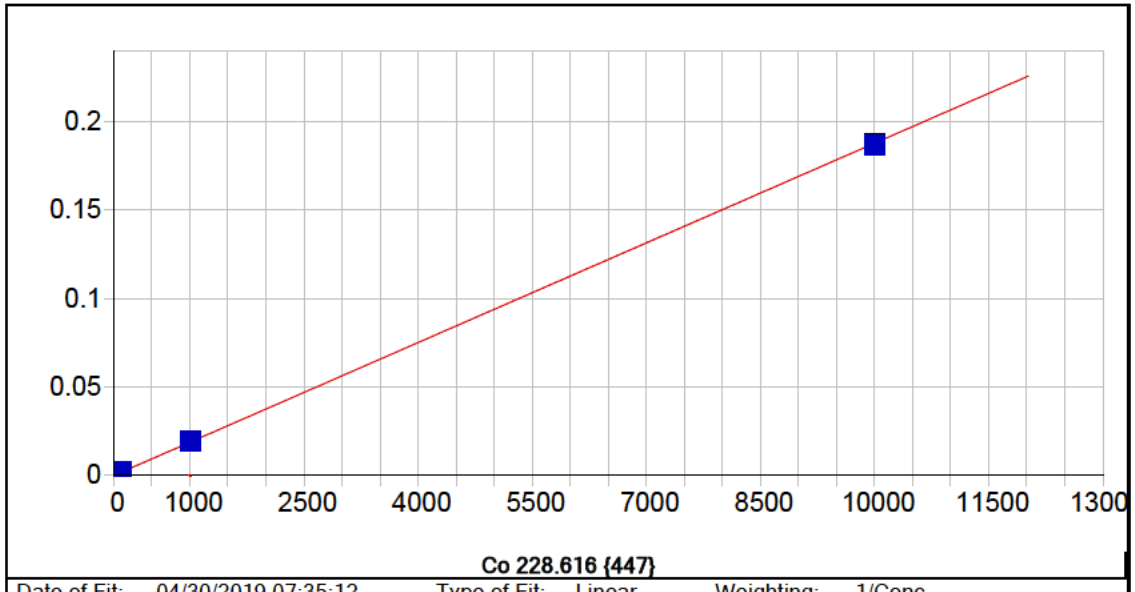



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000045 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999287 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.169120 | | |
| Predicted MQL: | 0.563732 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00029 | -.000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.464 | 4.46 | 8.93 | .00249 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1513 | .151 | 15.1 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .51061 | .011 | 2.12 | .00005 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4890 | .489 | 9.78 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.75 | 8.75 | 8.75 | .00495 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.401 | 1.40 | 14.0 | .00054 | .000 | 1 |
| CalStd9=100 | 1000.0 | 984.73 | -15.3 | -1.53 | .04461 | .000 | 1 |

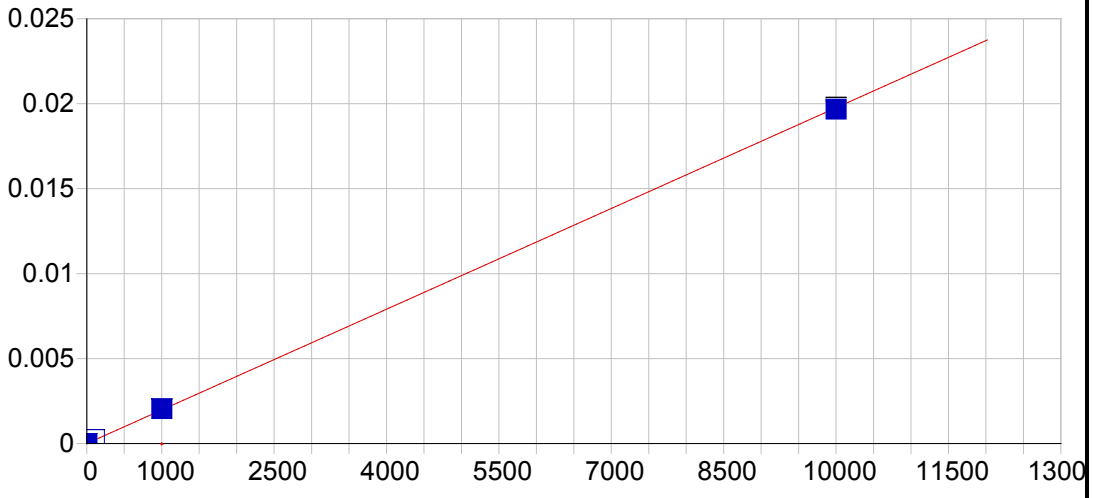



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999731 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.442257 | | |
| Predicted MQL: | 1.474190 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00037 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.716 | 7.72 | 15.4 | .00110 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.787 | 1.79 | 17.9 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1251 | .125 | 2.50 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.67 | 13.7 | 13.7 | .00215 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.2 | 46.2 | 4.62 | .01968 | .000 | 1 |
| CalStd3=1 | 1.0000 | .83709 | -.163 | -16.3 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9930.7 | -69.3 | -.693 | .18683 | .000 | 1 |

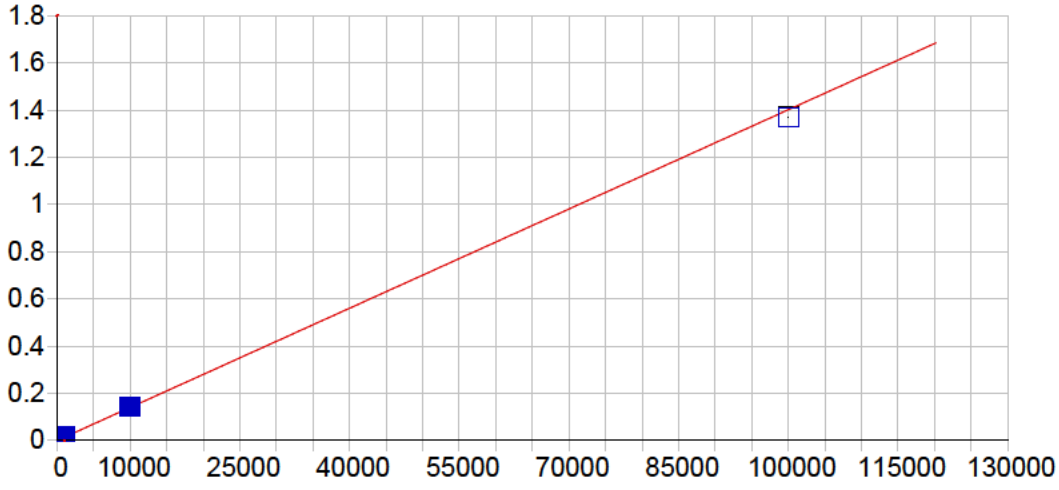



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.864546 | | |
| Predicted MQL: | 2.881820 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01598 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.8 | 31.8 | 3.18 | .00204 | .000 | 1 |
| CalStd10=10 | 10000. | 9954.9 | -45.1 | -.451 | .01968 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.25 | 13.2 | 13.2 | .00023 | .000 | 1 |

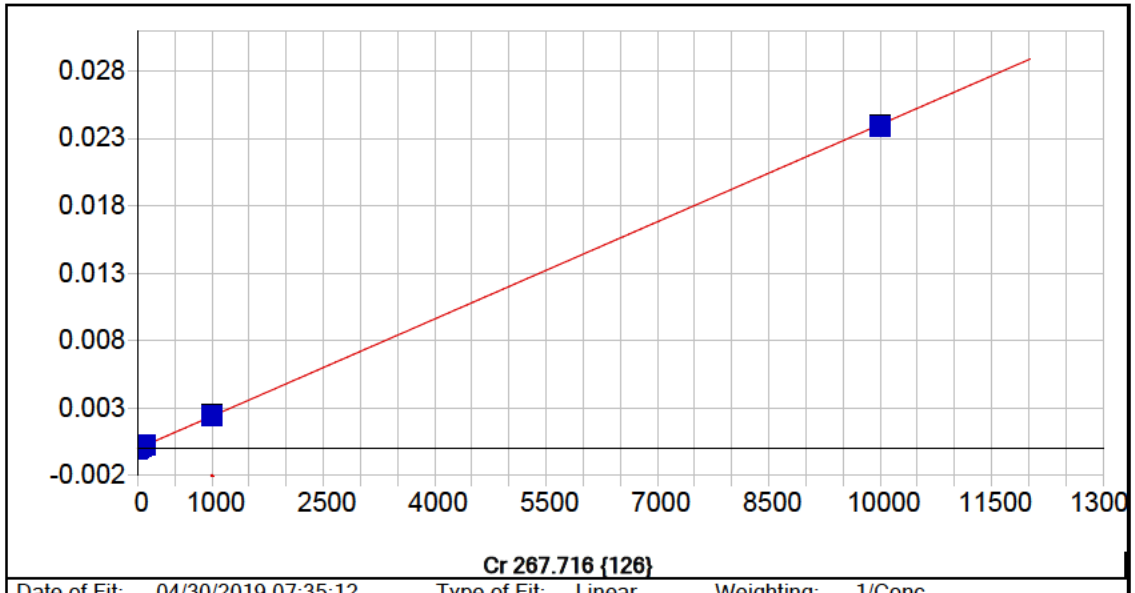



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999421 | Status: | OK. |
| Std Error of Est: | 0.000042 | | |
| Predicted MDL: | 0.335552 | | |
| Predicted MQL: | 1.118506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0602 | -2.06 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6903 | -.310 | -3.10 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.126 | 5.13 | 10.3 | .00081 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .01472 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.14 | 12.1 | 12.1 | .00161 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.4882 | -1.51 | -30.2 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.4295 | -2.43 | -243. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10145. | 145. | 1.45 | .14224 | .000 | 1 |
| CalStd12=10 | 100000. | 97703. | -2300. | -2.30 | 1.3695 | .001 | 1 |

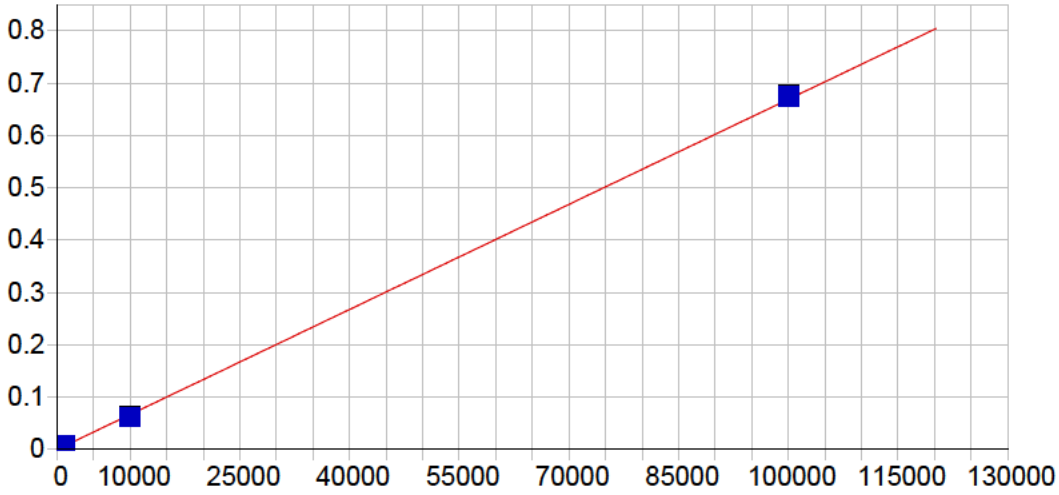



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999861 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.912557 | | |
| Predicted MQL: | 3.041856 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00250 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.625 | 1.62 | 16.2 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.661 | 5.66 | 11.3 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.8 | 27.8 | 2.78 | .00247 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.79 | 10.8 | 10.8 | .00026 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4635 | .464 | 9.27 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9953.6 | -46.4 | -.464 | .02392 | .000 | 1 |

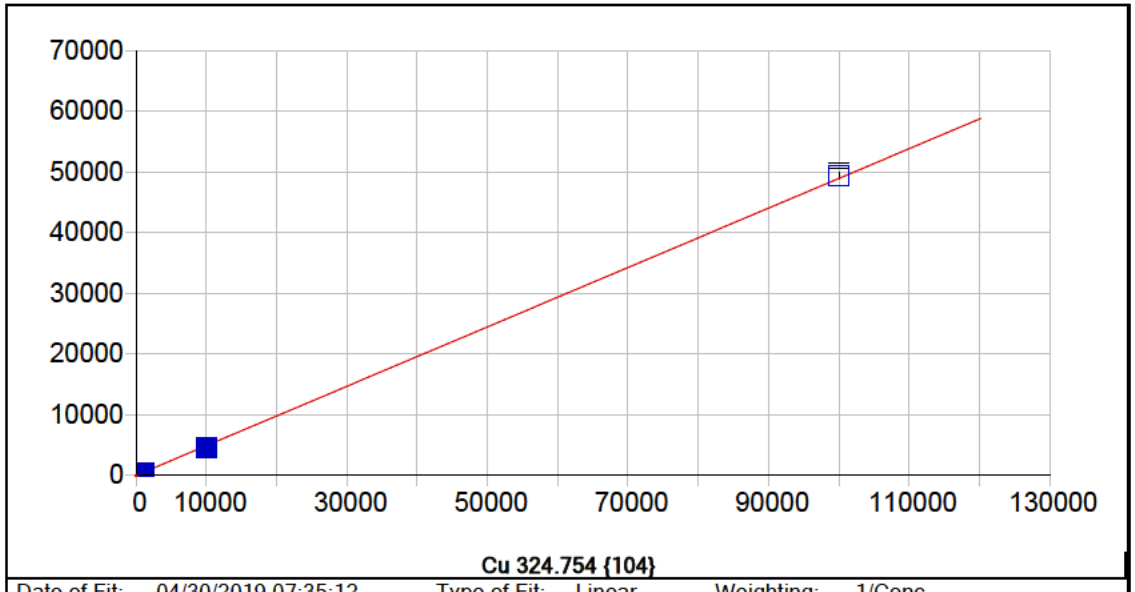



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999500 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.405039 | | |
| Predicted MQL: | 1.350129 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03939 | .039 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 918.89 | -81.1 | -8.11 | .00615 | .000 | 1 |
| CalStd7=50 | 50.000 | 19.069 | -30.9 | -61.9 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 61.174 | -38.8 | -38.8 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.5977 | -16.4 | -82.0 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 870. | .870 | .67468 | .002 | 1 |
| CalStd10=10 | 10000. | 9297.1 | -703. | -7.03 | .06219 | .000 | 1 |

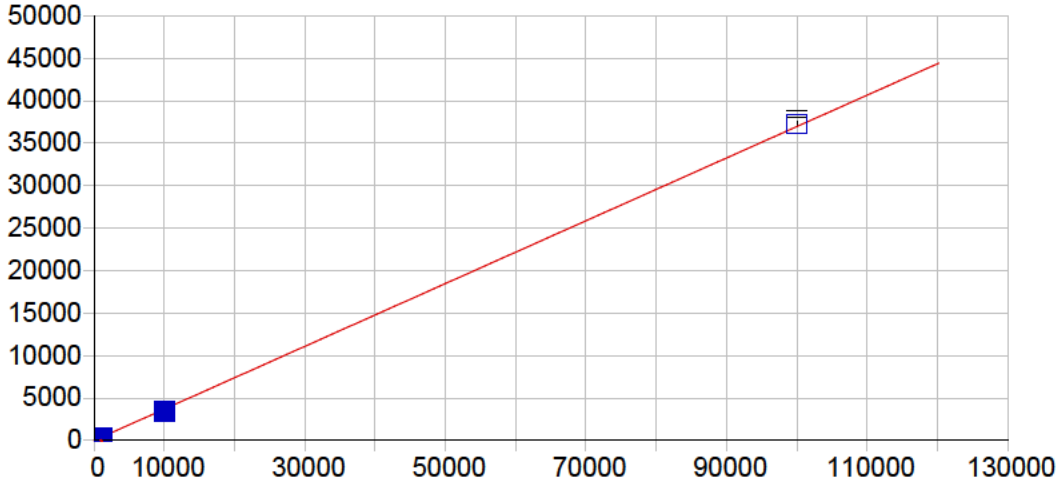



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 33.017871 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.489284 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999678 | Status: | OK. |
| Std Error of Est: | 0.477535 | | |
| Predicted MDL: | 5.094250 | | |
| Predicted MQL: | 16.980834 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00010 | .000 | .000 | 33.018 | 1.43 | 1 |
| CalStd9=100 | 1000.0 | 954.48 | -45.5 | -4.55 | 499.99 | 4.60 | 1 |
| CalStd8=100 | 100.00 | 104.55 | 4.55 | 4.55 | 84.172 | 3.15 | 1 |
| CalStd10=10 | 10000. | 9210.6 | -789. | -7.89 | 4539.2 | 11.3 | 1 |
| CalStd12=10 | 100000. | 100830. | 828. | .828 | 49367. | 482. | 1 |
| CalStd5=10 | 10.000 | 10.385 | .385 | 3.85 | 38.099 | 3.67 | 1 |
| CalStd6=20 | 20.000 | 19.595 | -.405 | -2.02 | 42.605 | 2.32 | 1 |
| CalStd7=50 | 50.000 | 52.112 | 2.11 | 4.22 | 58.516 | 2.71 | 1 |

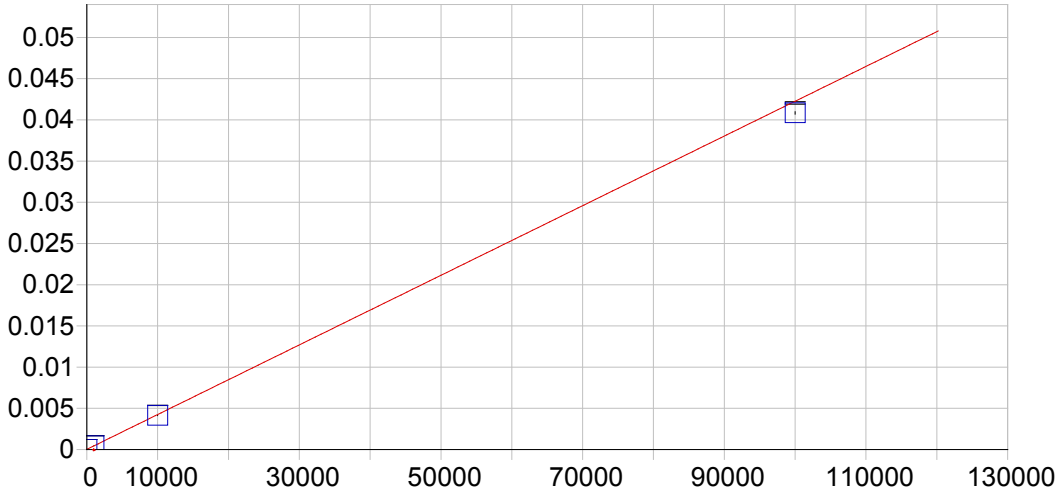



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.173693 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.369486 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.260832 | | |
| Predicted MDL: | 8.764951 | | |
| Predicted MQL: | 29.216503 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00834 | -.008 | .000 | 7.1706 | 3.37 | 1 |
| CalStd6=20 | 20.000 | 25.978 | 5.98 | 29.9 | 16.768 | 2.04 | 1 |
| CalStd7=50 | 50.000 | 57.126 | 7.13 | 14.3 | 28.270 | 2.66 | 1 |
| CalStd8=100 | 100.00 | 105.13 | 5.13 | 5.13 | 45.997 | 2.22 | 1 |
| CalStd9=100 | 1000.0 | 944.70 | -55.3 | -5.53 | 356.01 | 6.32 | 1 |
| CalStd10=10 | 10000. | 9232.8 | -767. | -7.67 | 3418.5 | 12.0 | 1 |
| CalStd12=10 | 100000. | 100790. | 795. | .795 | 37249. | 345. | 1 |
| CalStd4=5 | 5.0000 | 8.2407 | 3.24 | 64.8 | 10.217 | 3.74 | 1 |
| CalStd5=10 | 10.000 | 16.519 | 6.52 | 65.2 | 13.275 | 1.78 | 1 |

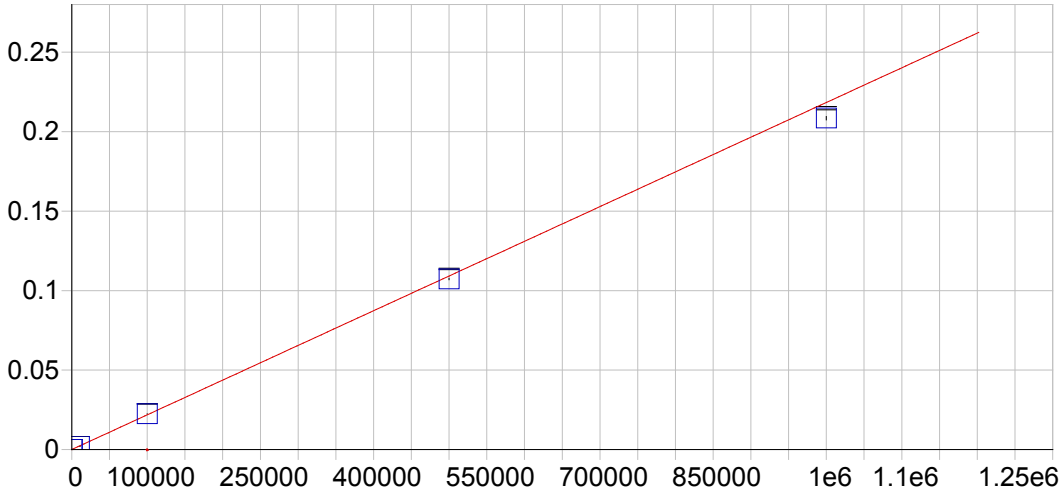



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999897 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 1.861044 | | |
| Predicted MQL: | 6.203479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.4961 | -2.50 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9752.5 | -247. | -2.47 | .00414 | .000 | 1 |
| CalStd13=10 | 100000. | 96647. | -3350. | -3.35 | .04085 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.9 | 18.9 | 1.89 | .00045 | .000 | 1 |

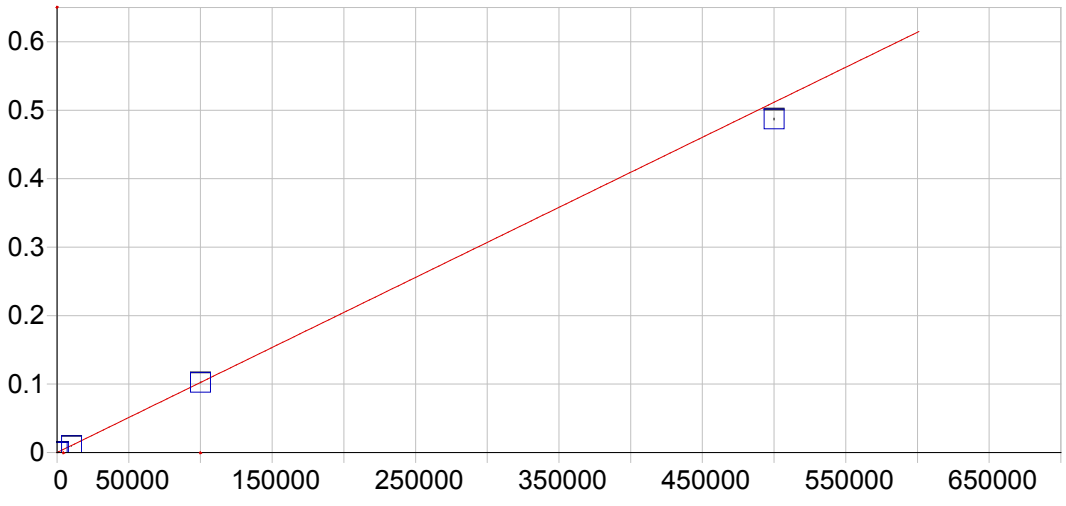



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999563 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 15.403775 | | |
| Predicted MQL: | 51.345917 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.5196 | 1.52 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9675.2 | -325. | -3.25 | .00212 | .000 | 1 |
| CalStd13=10 | 100000. | 102700. | 2700. | 2.70 | .02243 | .000 | 1 |
| CalStd14=50 | 500000. | 491290. | -8710. | -1.74 | .10728 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.68 | -5.32 | -.532 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 954920. | -45100. | -4.51 | .20851 | .001 | 1 |

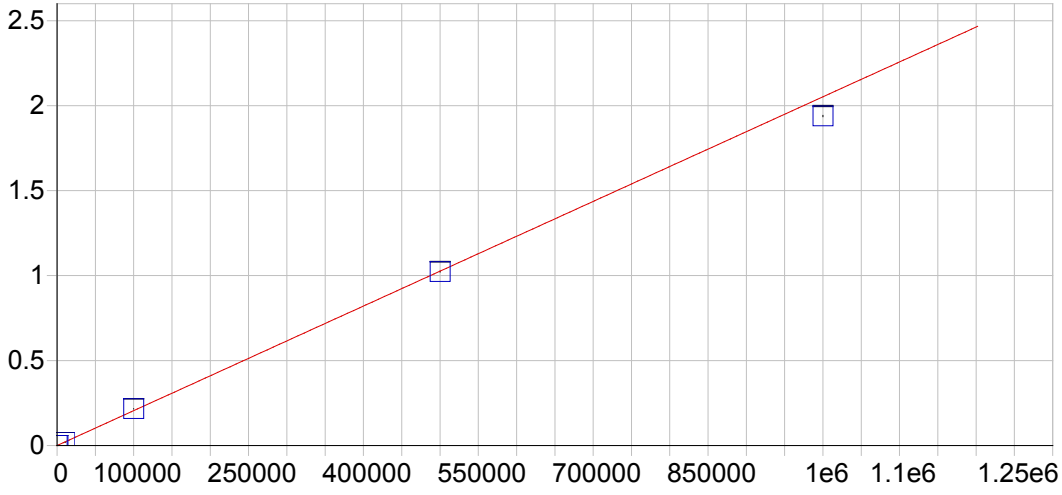



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000059 | | |
| Predicted MDL: | 4.566900 | | |
| Predicted MQL: | 15.223000 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.5760 | 7.58 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9527.6 | -472. | -4.72 | .00977 | .000 | 1 |
| CalStd13=10 | 100000. | 99992. | -8.04 | -.008 | .10232 | .000 | 1 |
| CalStd14=50 | 500000. | 476030. | -24000. | -4.79 | .48705 | .001 | 1 |
| CalStd9=100 | 1000.0 | 993.99 | -6.01 | -.601 | .00104 | .000 | 1 |

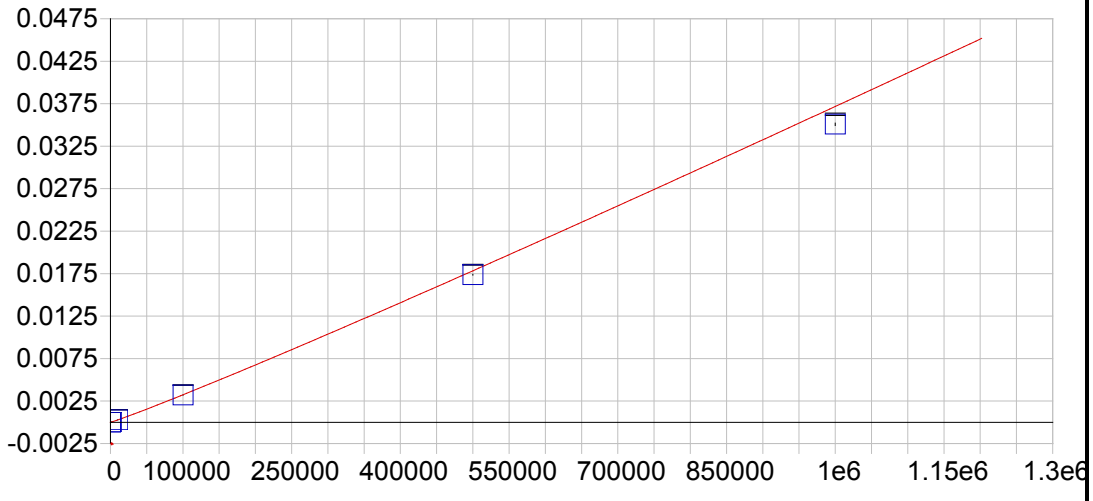



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999043 | Status: | OK. |
| Std Error of Est: | 0.000420 | | |
| Predicted MDL: | 2.477678 | | |
| Predicted MQL: | 8.258926 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0145 | -6.01 | .000 | .00003 | .000 | 1 |
| CalStd13=10 | 100000. | 105360. | 5360. | 5.36 | .21626 | .000 | 1 |
| CalStd10=10 | 10000. | 9732.7 | -267. | -2.67 | .02002 | .000 | 1 |
| CalStd14=50 | 500000. | 498460. | -1540. | -.308 | 1.0229 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1068.9 | 68.9 | 6.89 | .00224 | .000 | 1 |
| CalibStd15= | 1000000. | 944880. | -55100. | -5.51 | 1.9390 | .004 | 1 |

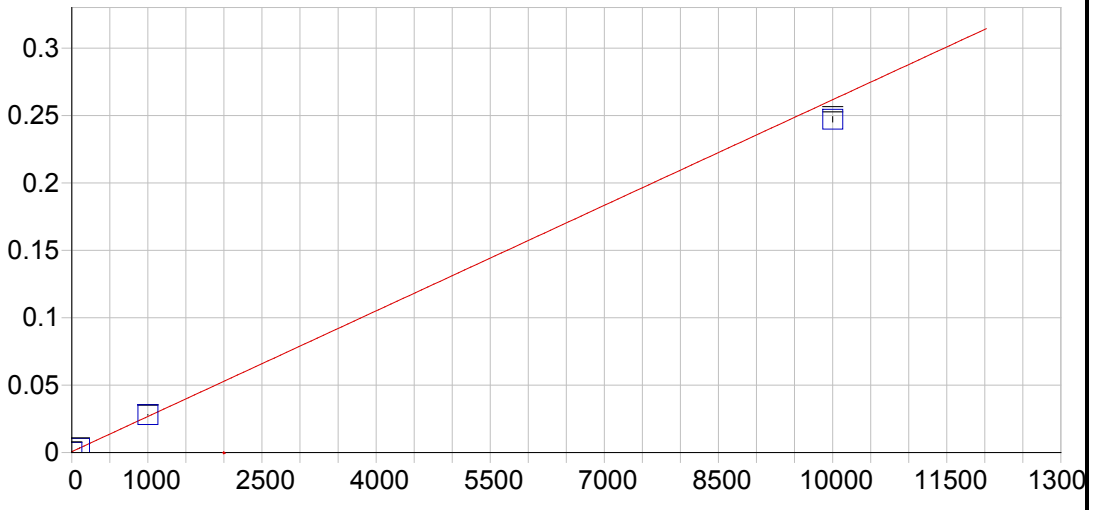



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.060000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 147.693448 | | |
| Predicted MQL: | 492.311494 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 98928. | -1070. | -1.07 | .00320 | .000 | 1 |
| CalStd10=10 | 10000. | 10132. | 132. | 1.32 | .00028 | .000 | 1 |
| CalStd14=50 | 500000. | 487770. | -12200. | -2.45 | .01737 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1213.7 | 214. | 21.4 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 946580. | -53400. | -5.34 | .03508 | .000 | 1 |

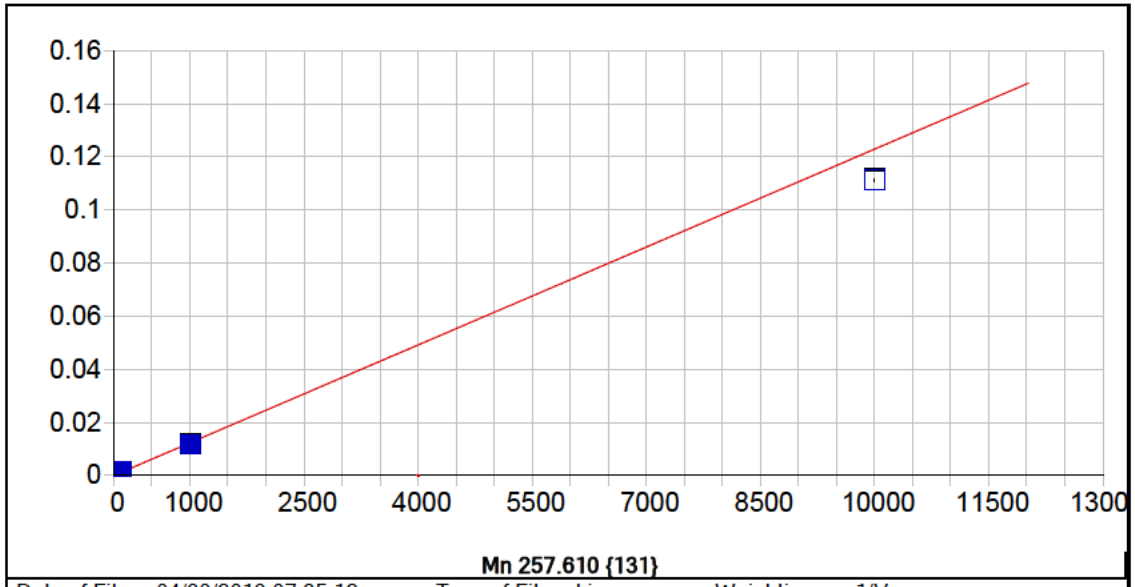



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000654 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998379 | Status: | OK. |
| Std Error of Est: | 0.000995 | | |
| Predicted MDL: | 0.047667 | | |
| Predicted MQL: | 0.158891 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -12.179 | -12.2 | .000 | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.0 | 46.0 | 4.60 | .02796 | .000 | 1 |
| CalStd10=10 | 10000. | 9444.6 | -555. | -5.55 | .24717 | .002 | 1 |
| CalStd8=100 | 100.00 | 101.19 | 1.19 | 1.19 | .00330 | .000 | 1 |

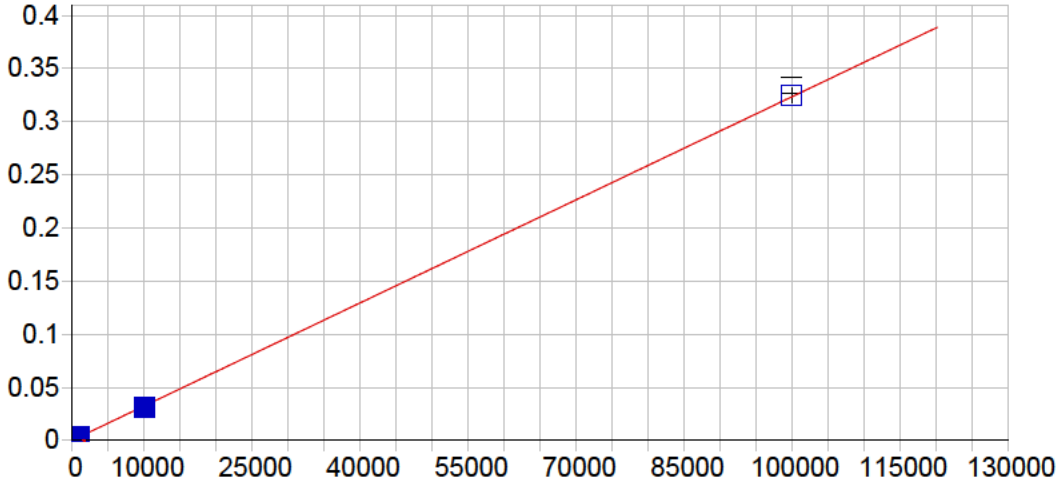



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997882 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.096882 | | |
| Predicted MQL: | 0.322939 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.92411 | -.924 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.263 | .263 | 2.63 | .00014 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.961 | 1.96 | 3.92 | .00065 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.442 | .442 | 2.21 | .00027 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.50 | 4.50 | 4.50 | .00130 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3851 | -.615 | -12.3 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 949.24 | -50.8 | -5.08 | .01168 | .000 | 1 |
| CalStd10=10 | 10000. | 9052.8 | -947. | -9.47 | .11130 | .001 | 1 |

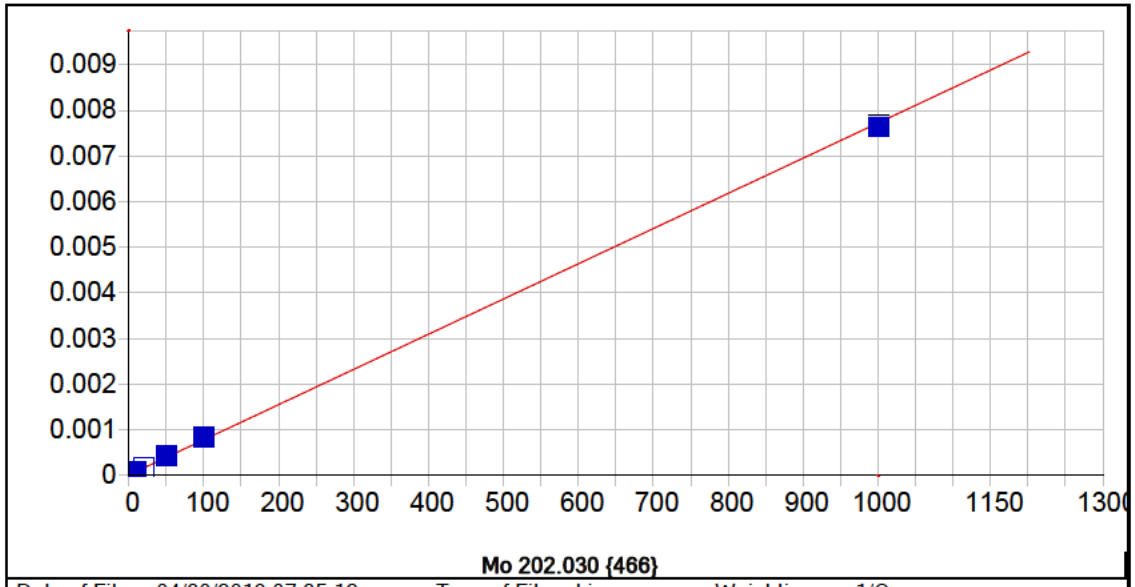



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999885 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 1.375255 | | |
| Predicted MQL: | 4.584185 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06489 | .065 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9525.8 | -474. | -4.74 | .03086 | .000 | 1 |
| CalStd9=100 | 1000.0 | 977.56 | -22.4 | -2.24 | .00317 | .000 | 1 |
| CalStd12=10 | 100000. | 100500. | 497. | .497 | .32506 | .007 | 1 |

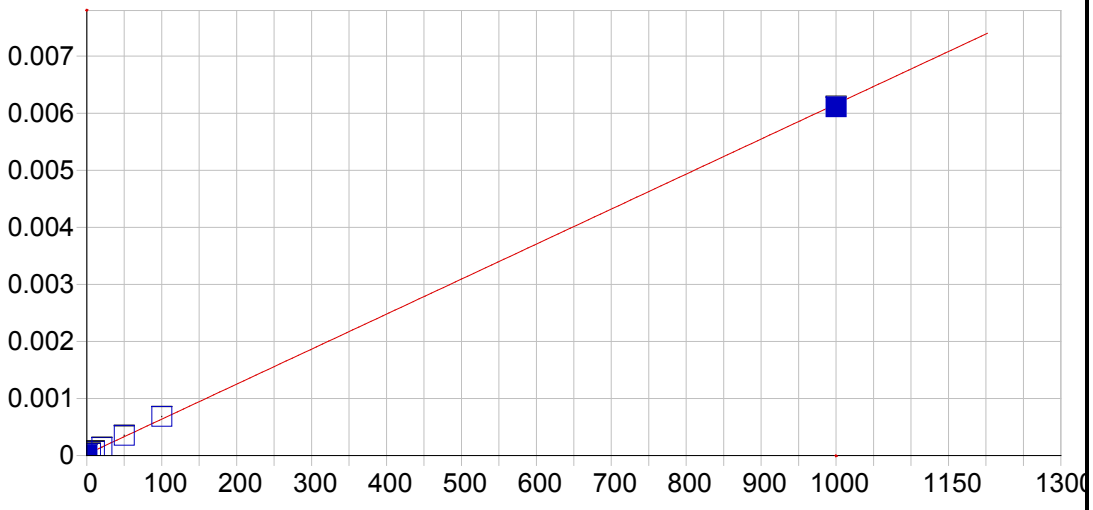



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999547 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.524568 | | |
| Predicted MQL: | 1.748560 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00040 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.505 | 3.51 | 7.01 | .00042 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.174 | 1.17 | 5.87 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.280 | .280 | 2.80 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.28 | 7.28 | 7.28 | .00084 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3136 | -.686 | -13.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.45 | -11.5 | -1.15 | .00766 | .000 | 1 |

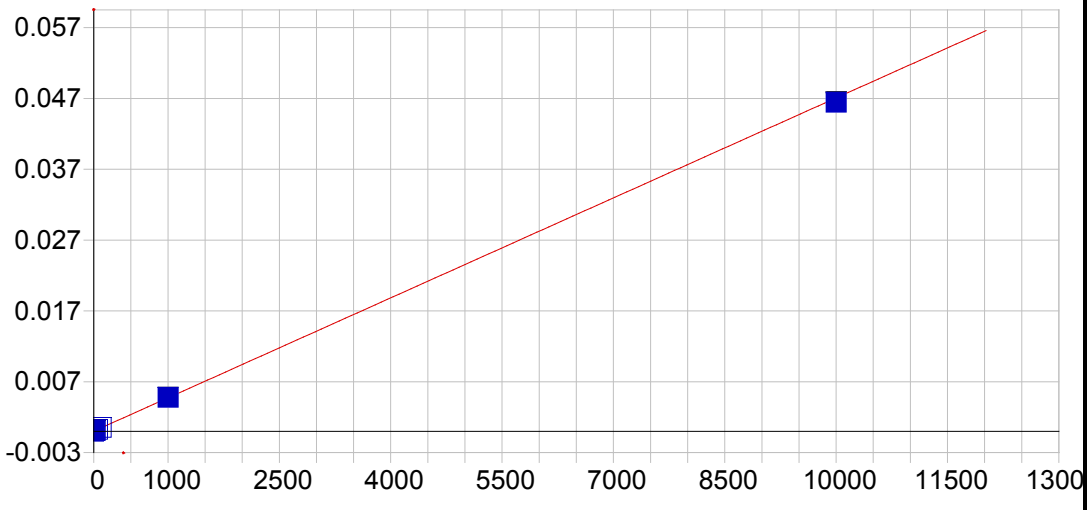



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999595 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.838770 | | |
| Predicted MQL: | 2.795900 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.4204 | -1.42 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.296 | 3.30 | 6.59 | .00035 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.552 | -.448 | -2.24 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8284 | -1.17 | -11.7 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.66 | 7.66 | 7.66 | .00068 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.3642 | -2.64 | -52.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.72 | -8.28 | -.828 | .00611 | .000 | 1 |

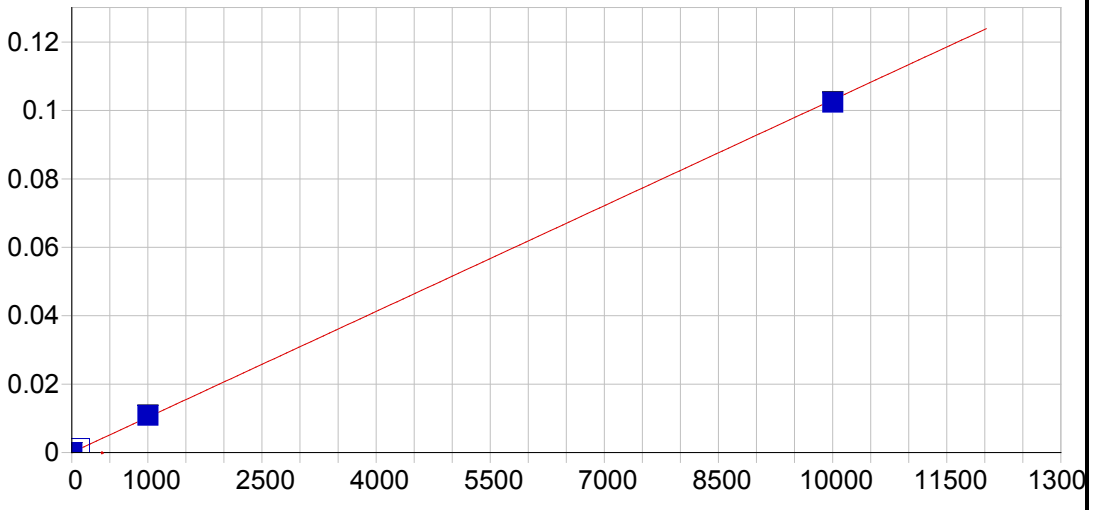



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999729 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 1.023425 | | |
| Predicted MQL: | 3.411418 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.3778 | -3.38 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.136 | 2.14 | 4.27 | .00026 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.942 | -1.06 | -5.29 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.2045 | -1.80 | -18.0 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00052 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.2638 | -2.74 | -54.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.7 | 12.7 | 1.27 | .00478 | .000 | 1 |
| CalStd10=10 | 10000. | 9869.0 | -131. | -1.31 | .04646 | .000 | 1 |

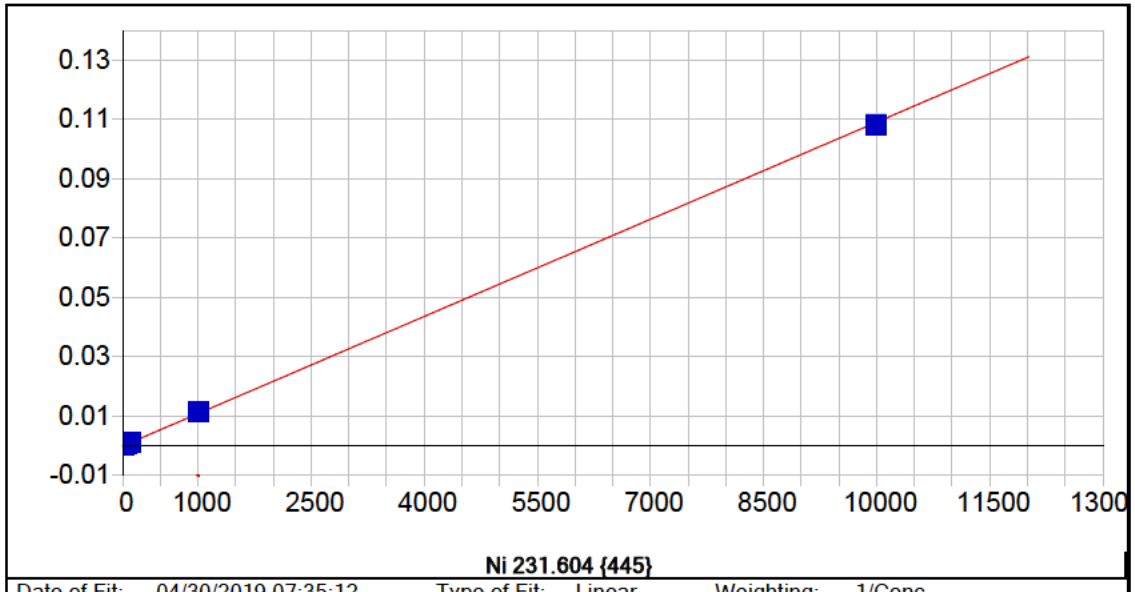



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999767 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.757594 | | |
| Predicted MQL: | 2.525313 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01826 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9932.7 | -67.3 | -.673 | .10240 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.57 | 13.6 | 13.6 | .00118 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1053.7 | 53.7 | 5.37 | .01088 | .000 | 1 |

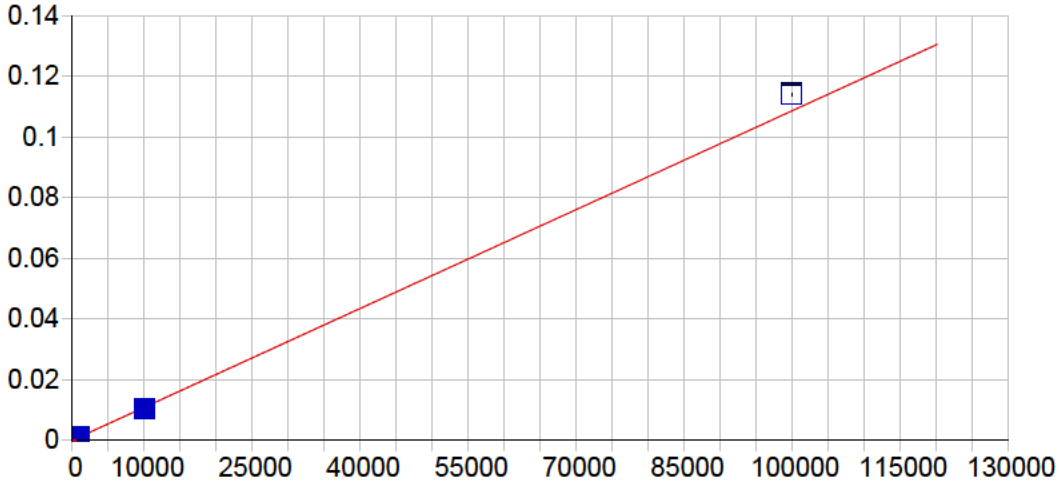



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999677 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.722935 | | |
| Predicted MQL: | 2.409785 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00112 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.719 | 7.72 | 15.4 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.803 | 1.80 | 18.0 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.32 | 14.3 | 14.3 | .00123 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8237 | .824 | 16.5 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.5 | 52.5 | 5.25 | .01147 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4324 | .432 | 43.2 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9922.5 | -77.5 | -.775 | .10848 | .000 | 1 |

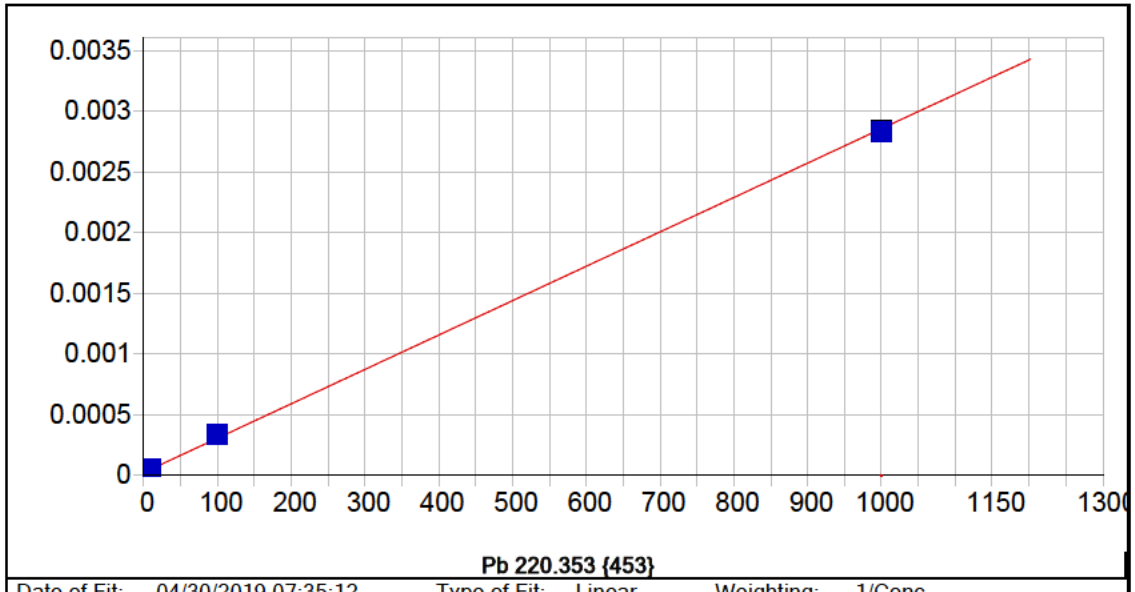



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999384 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 5.694743 | | |
| Predicted MQL: | 18.982477 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.0158 | -7.02 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.85 | .585 | .00111 | .000 | 1 |
| CalStd10=10 | 10000. | 9530.5 | -470. | -4.70 | .01036 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.812 | -.188 | -.188 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.8172 | -5.18 | -51.8 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 105070. | 5070. | 5.07 | .11412 | .001 | 1 |

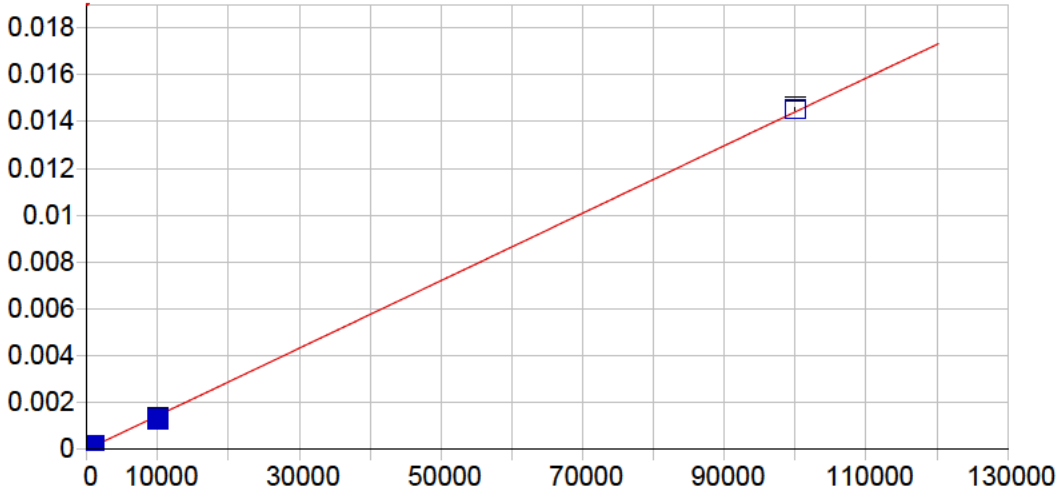



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999296 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.803616 | | |
| Predicted MQL: | 9.345385 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00071 | .001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.222 | .222 | 2.22 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.64 | 10.6 | 10.6 | .00034 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.6965 | -1.30 | -26.1 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.44 | -9.56 | -.956 | .00283 | .000 | 1 |

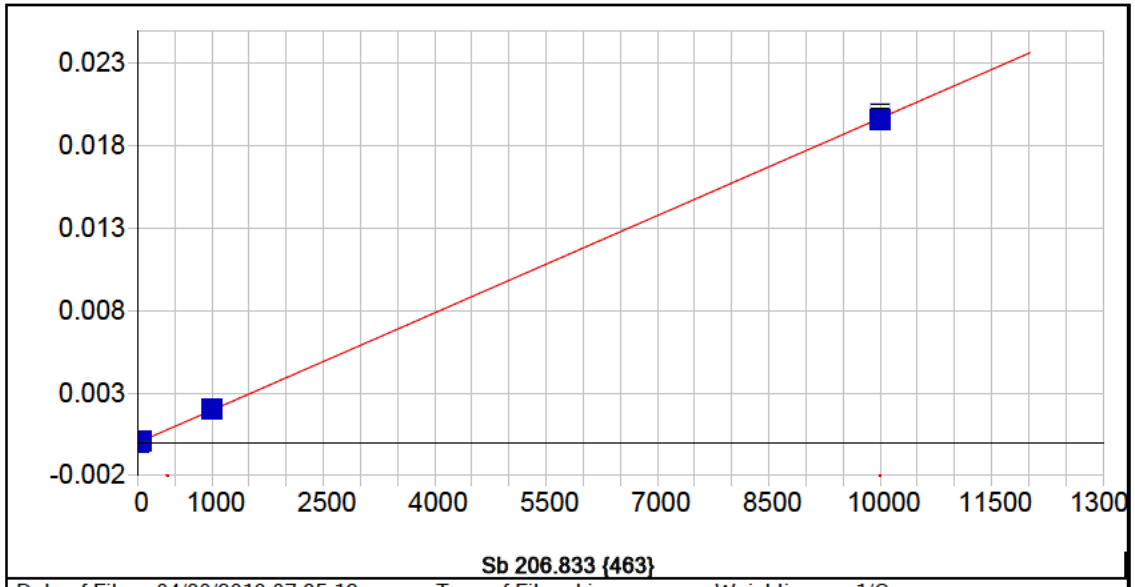



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999643 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 6.828097 | | |
| Predicted MQL: | 22.760324 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00570 | .006 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 968.50 | -31.5 | -3.15 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9159.4 | -841. | -8.41 | .00132 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.99 | 4.99 | 4.99 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100870. | 867. | .867 | .01454 | .000 | 1 |

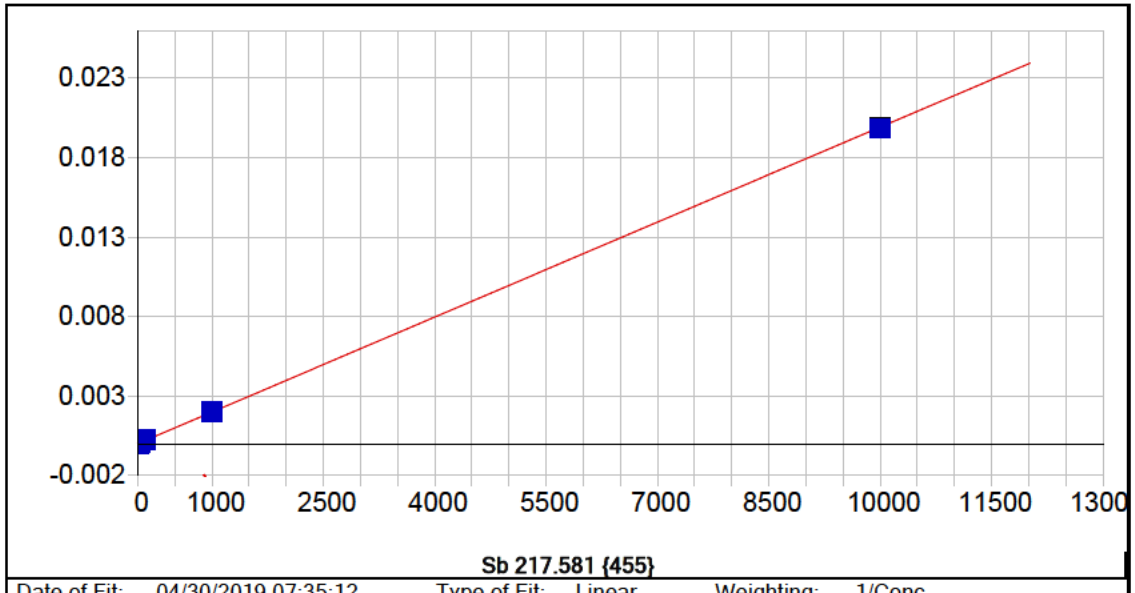



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999857 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.461614 | | |
| Predicted MQL: | 8.205380 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00540 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.0 | 23.0 | 2.30 | .00205 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.542 | 3.54 | 35.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.292 | 8.29 | 16.6 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9965.2 | -34.8 | -.348 | .01997 | .000 | 1 |

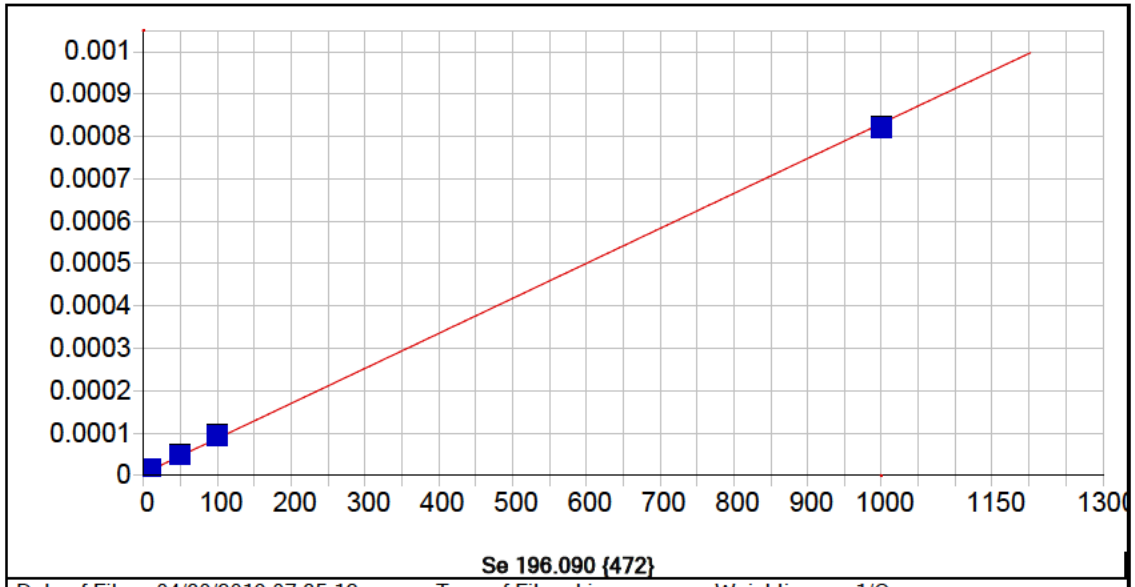



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999808 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.712923 | | |
| Predicted MQL: | 9.043077 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00477 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.3 | 21.3 | 2.13 | .00204 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.710 | 3.71 | 18.5 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.651 | 2.65 | 26.5 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.64 | 12.6 | 12.6 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.7953 | 1.80 | 35.9 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9957.9 | -42.1 | -.421 | .01984 | .000 | 1 |

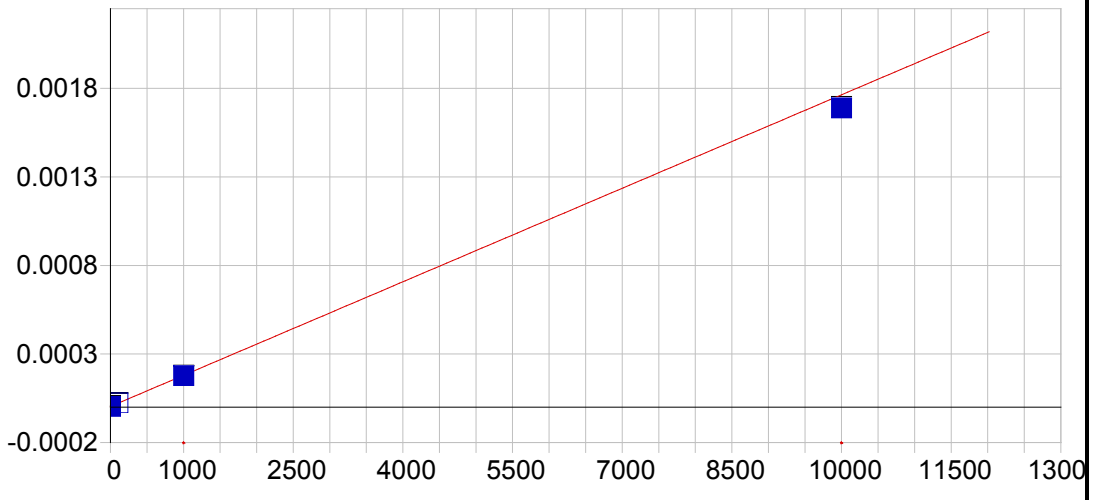



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999420 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.728254 | | |
| Predicted MQL: | 15.760848 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00343 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.462 | 2.46 | 4.92 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.89 | -12.1 | -1.21 | .00082 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.327 | 2.33 | 23.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.32 | 7.32 | 7.32 | .00009 | .000 | 1 |

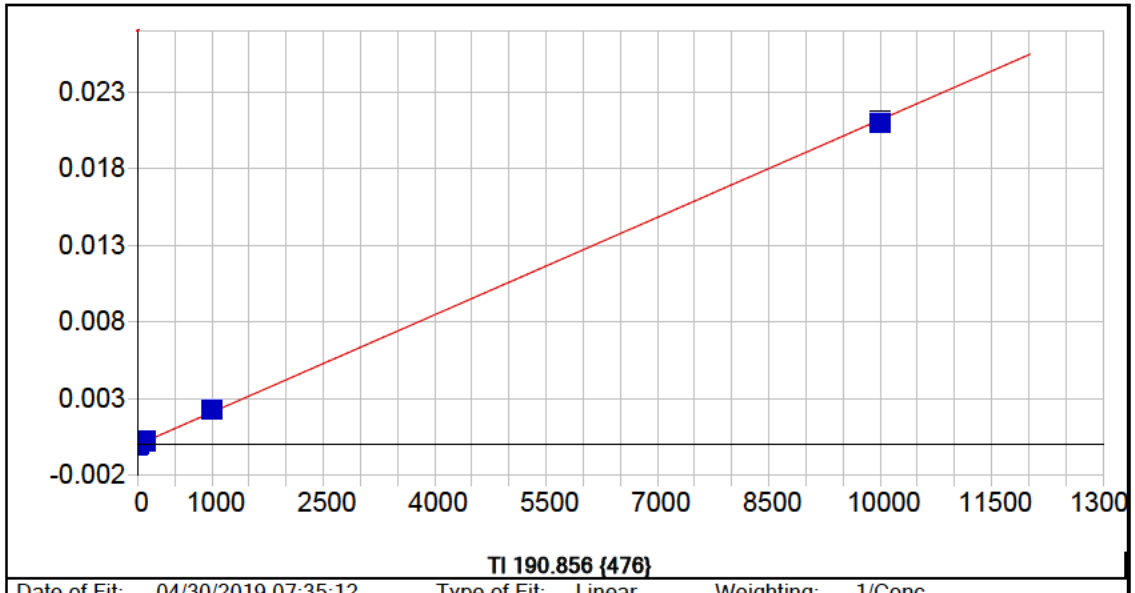



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 30.145855 | | |
| Predicted MQL: | 100.486183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00775 | -.008 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.17 | -13.8 | -1.38 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 9572.5 | -428. | -4.28 | .00169 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.65 | 8.65 | 8.65 | .00002 | .000 | 1 |

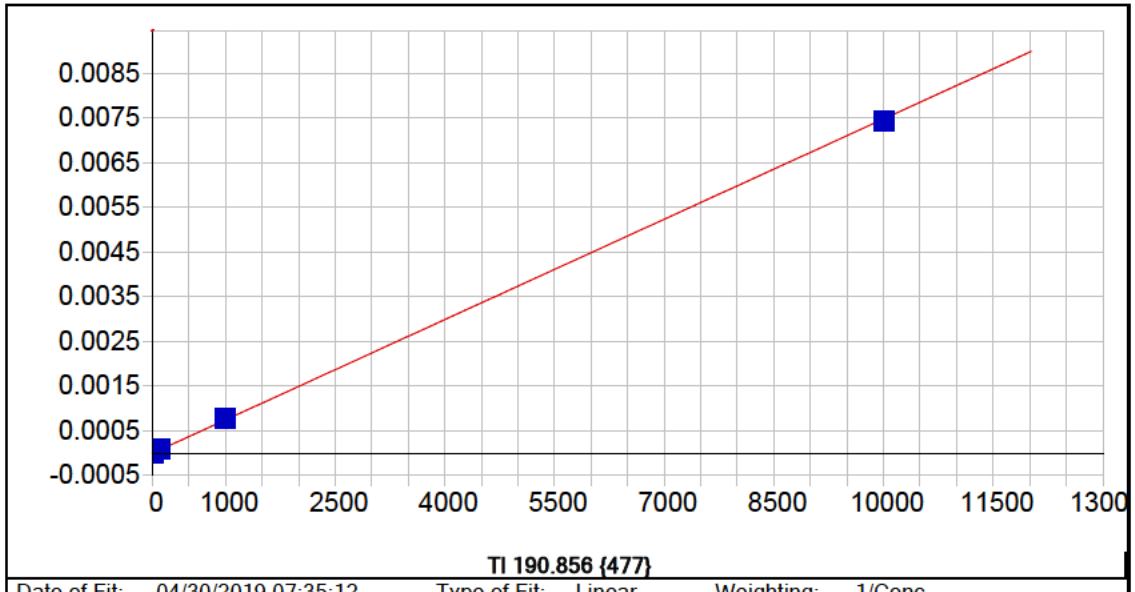



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999490 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.684770 | | |
| Predicted MQL: | 8.949234 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00515 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1077.8 | 77.8 | 7.78 | .00230 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.33 | 19.3 | 19.3 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.537 | 2.54 | 25.4 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9900.3 | -99.7 | -.997 | .02105 | .000 | 1 |

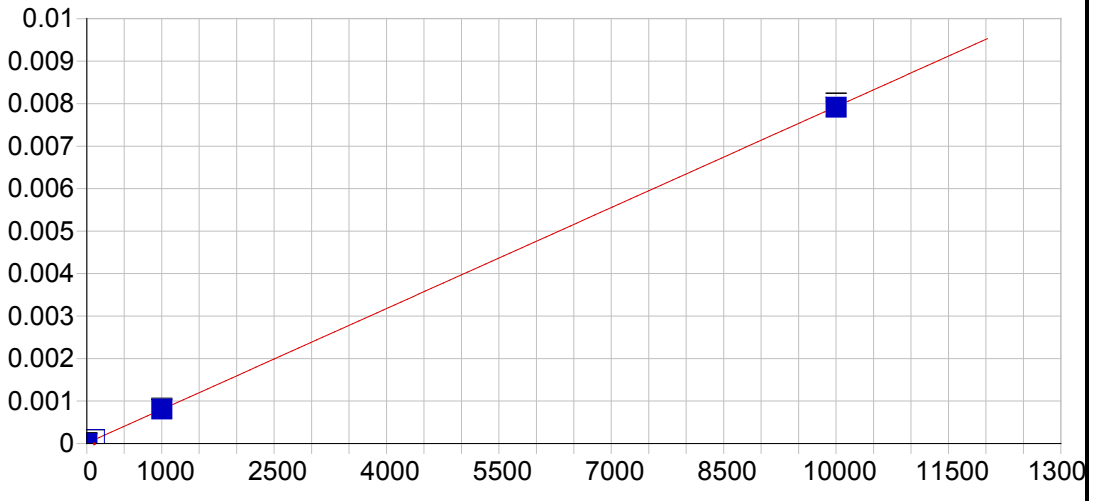



**Tl 190.856 {477}**

Date of Fit: 04/30/2019 07:35:12 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999617 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.300411 | | |
| Predicted MQL: | 17.668036 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00608 | -.006 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1047.4 | 47.4 | 4.74 | .00078 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.22 | 21.2 | 21.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.557 | 3.56 | 35.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9927.9 | -72.1 | -.721 | .00742 | .000 | 1 |

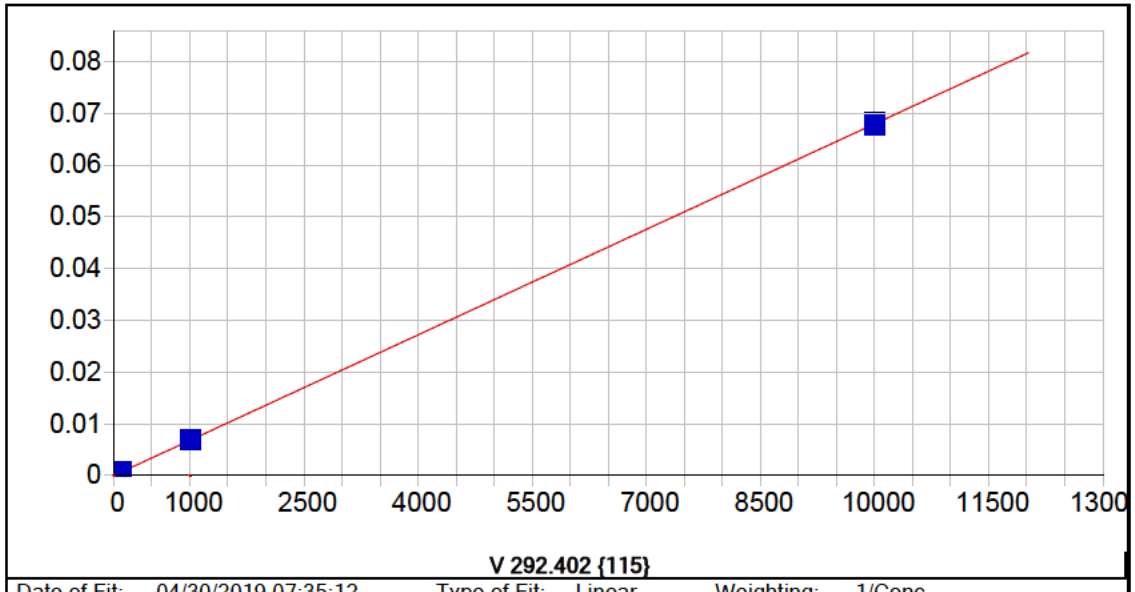



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.314456 | | |
| Predicted MQL: | 24.381519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00843 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.5 | 12.5 | 1.25 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.2 | -19.8 | -.198 | .00792 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.38 | 7.38 | 7.38 | .00009 | .000 | 1 |

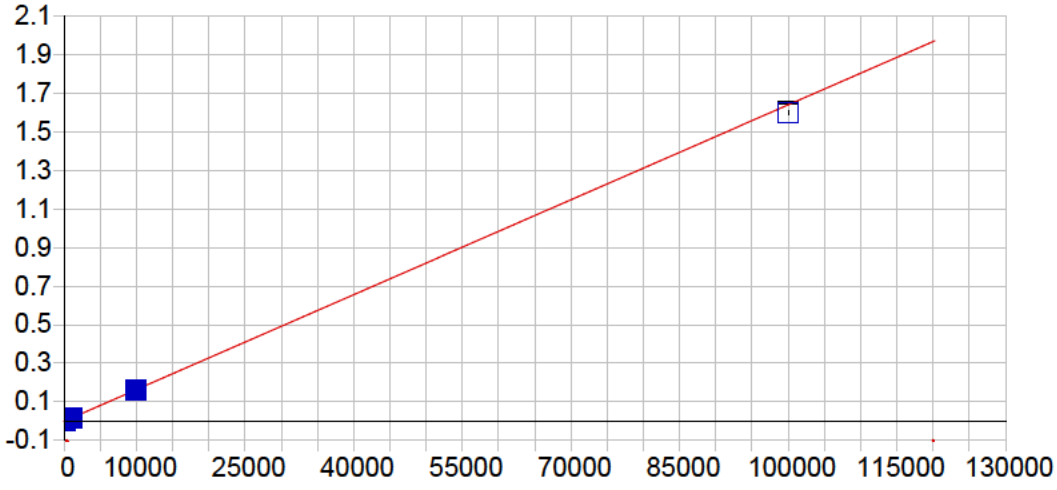



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.605824 | | |
| Predicted MQL: | 2.019414 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00569 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.727 | 5.73 | 11.5 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.2 | 15.2 | 1.52 | .00690 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.702 | 2.70 | 13.5 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.026 | 2.03 | 20.3 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.50 | 10.5 | 10.5 | .00075 | .000 | 1 |
| CalStd10=10 | 10000. | 9964.0 | -36.0 | -.360 | .06796 | .000 | 1 |

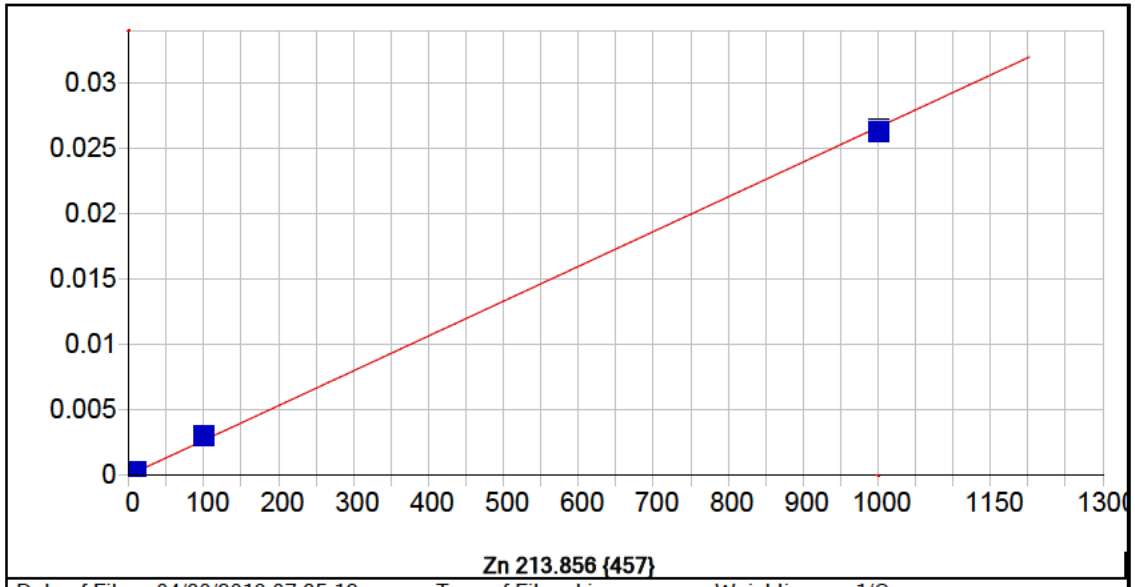



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999282 | Status: | OK. |
| Std Error of Est: | 0.000096 | | |
| Predicted MDL: | 0.398552 | | |
| Predicted MQL: | 1.328506 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9868.0 | -132. | -1.32 | .16176 | .000 | 1 |
| Blank | .00000 | -3.1327 | -3.13 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1043.8 | 43.8 | 4.38 | .01716 | .000 | 1 |
| CalStd12=10 | 100000. | 97507. | -2490. | -2.49 | 1.5980 | .008 | 1 |
| CalStd5=10 | 10.000 | 9.1726 | -.827 | -8.27 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.72 | 13.7 | 13.7 | .00192 | .000 | 1 |

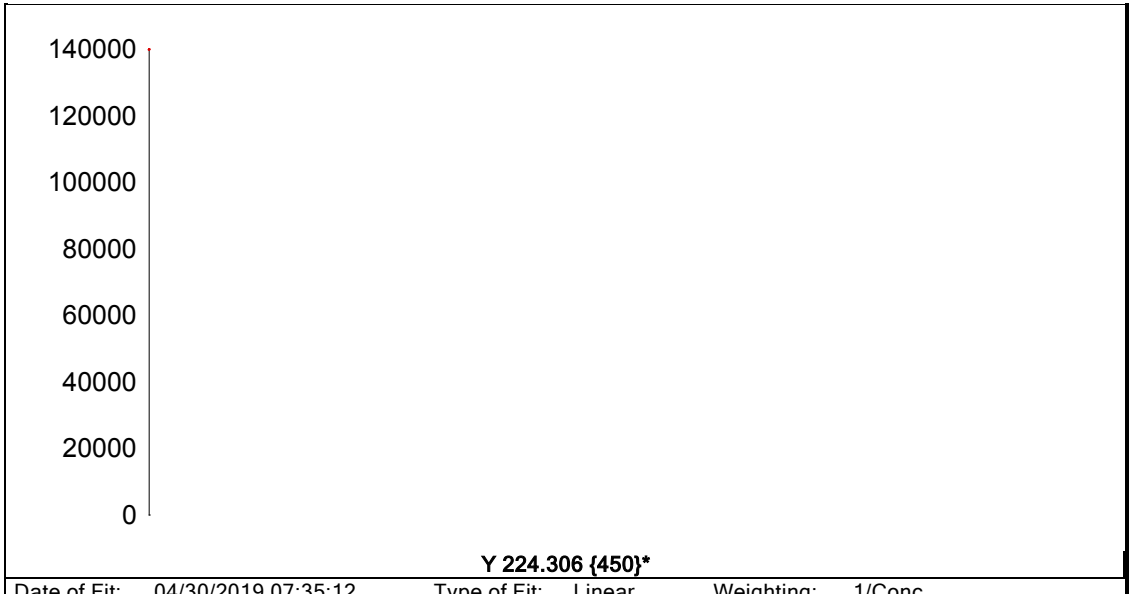



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999114 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.216001 | | |
| Predicted MQL: | 0.720004 | | |

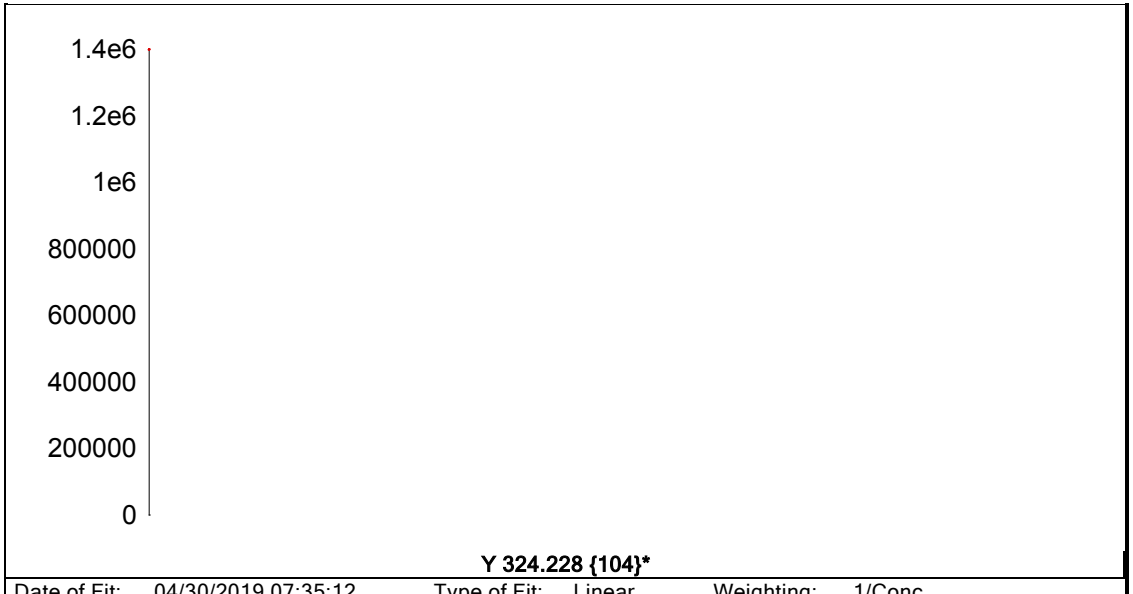
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00274 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.00 | -14.0 | -1.40 | .02642 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.646 | 1.65 | 16.5 | .00034 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.36 | 12.4 | 12.4 | .00303 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

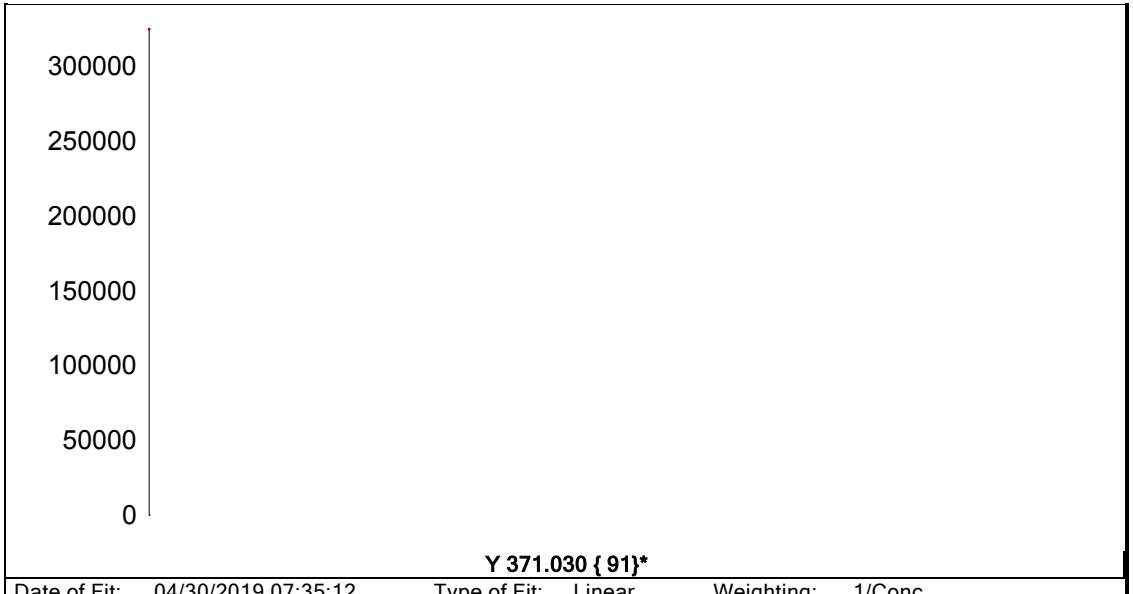
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 123870. | 355. | 1 |




**Y 324.228 {104}***

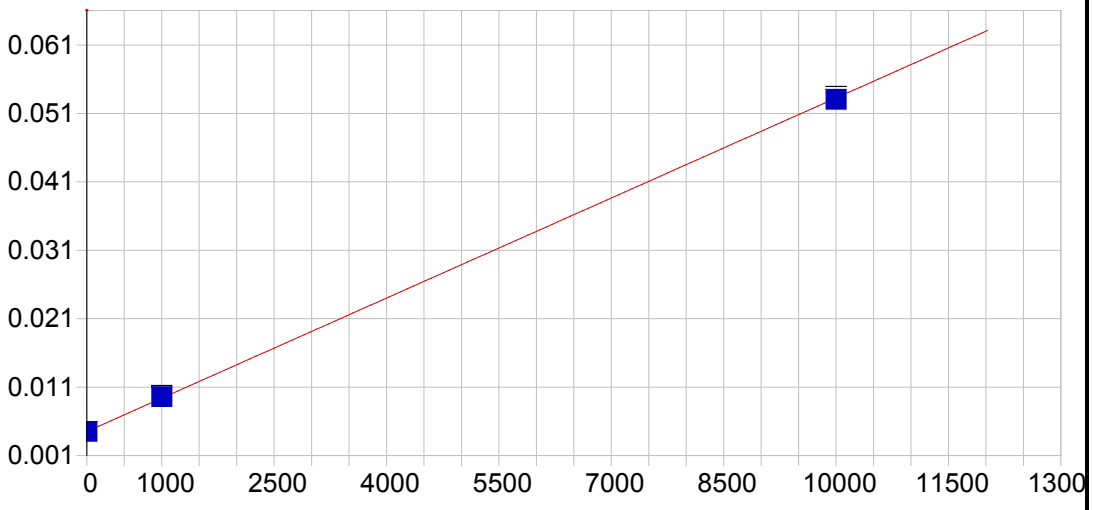
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1276800. | 7160. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 305680. | 3730. | 1 |

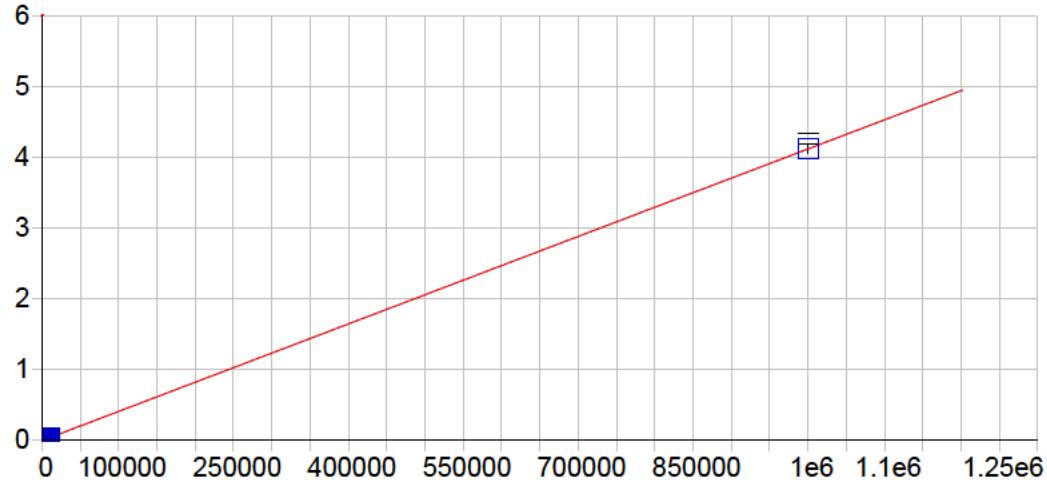



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004511 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999901 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 10.149500 | | |
| Predicted MQL: | 33.831667 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04011 | -.040 | .000 | .00451 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.4 | -44.6 | -.446 | .05306 | .000 | 1 |

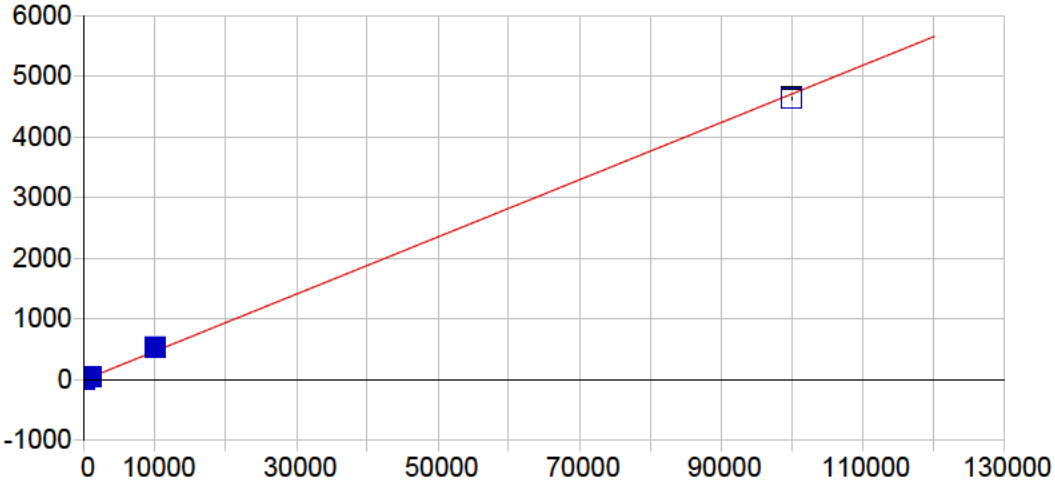



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000063 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999928 | Status: | OK. |
| Std Error of Est: | 0.000070 | | |
| Predicted MDL: | 7.898158 | | |
| Predicted MQL: | 26.327192 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .20773 | .208 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 907.37 | -92.6 | -9.26 | .00380 | .000 | 1 |
| CalStd10=10 | 10000. | 8836.4 | -1160. | -11.6 | .03645 | .000 | 1 |
| CalibStd15= | 1000000. | 1001300. | 1260. | .126 | 4.1233 | .072 | 1 |

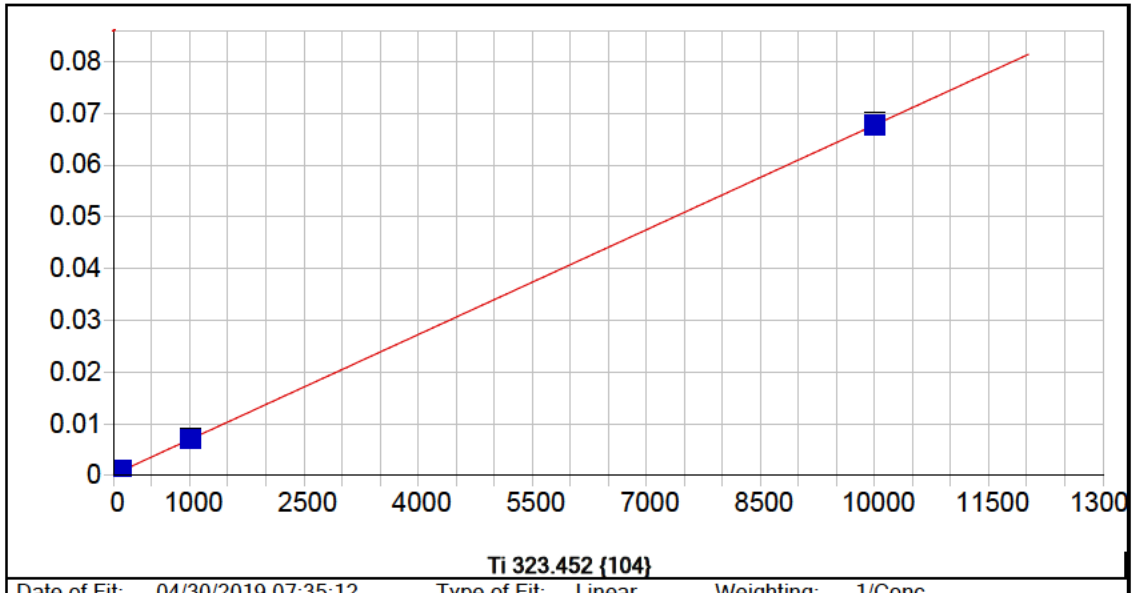



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.892880 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.047065 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998966 | Status: | OK. |
| Std Error of Est: | 1.013831 | | |
| Predicted MDL: | 26.768890 | | |
| Predicted MQL: | 89.229632 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.14015 | -.140 | .000 | 1.8863 | 1.89 | 1 |
| CalStd9=100 | 1000.0 | 1011.0 | 11.0 | 1.10 | 53.186 | 2.01 | 1 |
| CalStd10=10 | 10000. | 11445. | 1440. | 14.4 | 564.11 | 2.99 | 1 |
| CalibStd15= | 100000. | 98471. | -1530. | -1.53 | 4636.4 | 23.5 | 1 |

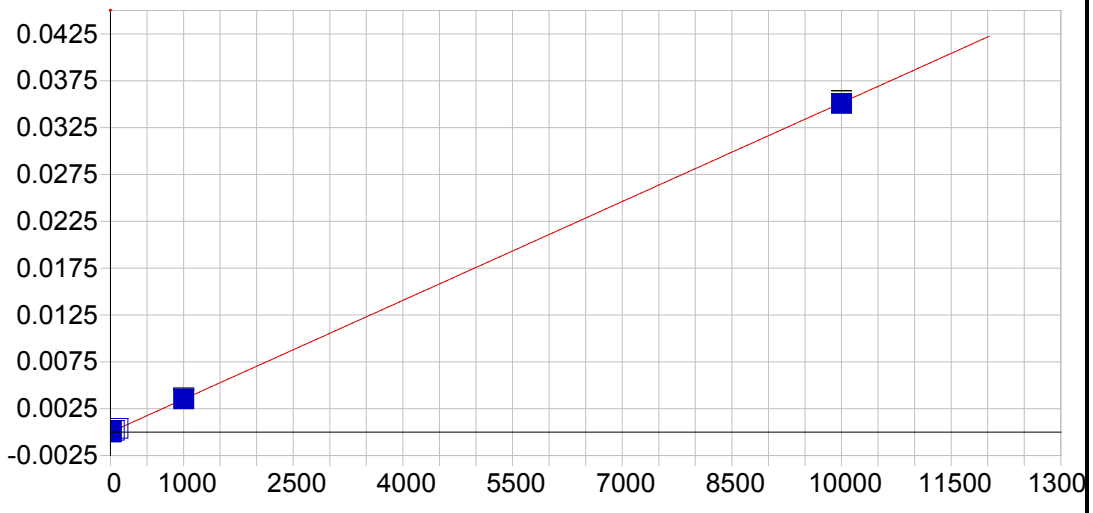



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000227 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999909 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.541505 | | |
| Predicted MQL: | 5.138349 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00014 | .000 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.045 | .045 | .452 | .00029 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.43 | 10.4 | 10.4 | .00097 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.6 | 5.59 | .559 | .00702 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.9 | -20.1 | -.201 | .06767 | .001 | 1 |
| CalStd7=50 | 50.000 | 55.300 | 5.30 | 10.6 | .00060 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.7697 | -1.23 | -24.6 | .00025 | .000 | 1 |

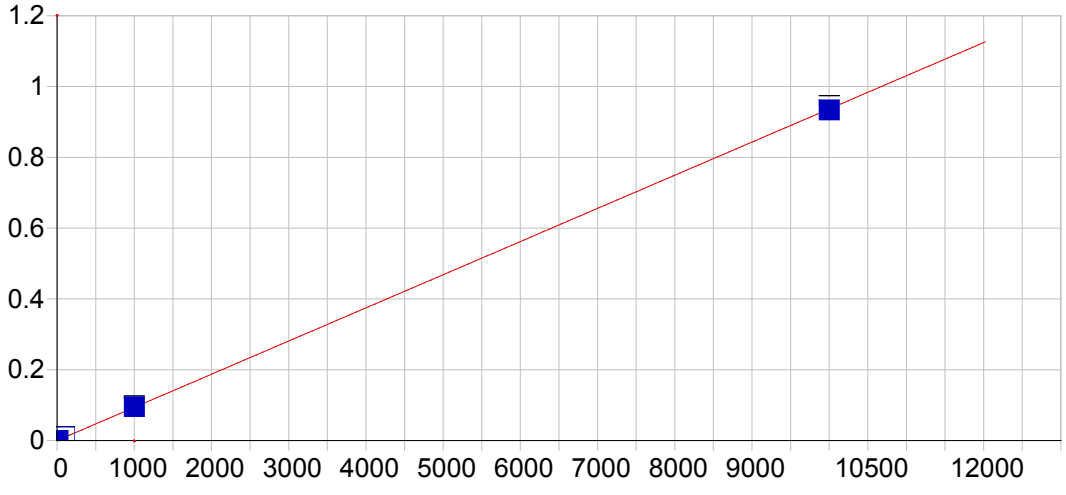



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.063215 | | |
| Predicted MQL: | 6.877382 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00260 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.391 | 1.39 | 13.9 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.61 | 9.61 | 9.61 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.7 | 7.67 | .767 | .00354 | .000 | 1 |
| CalStd10=10 | 10000. | 9975.9 | -24.1 | -.241 | .03508 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.539 | 4.54 | 9.08 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9434 | .943 | 18.9 | .00002 | .000 | 1 |

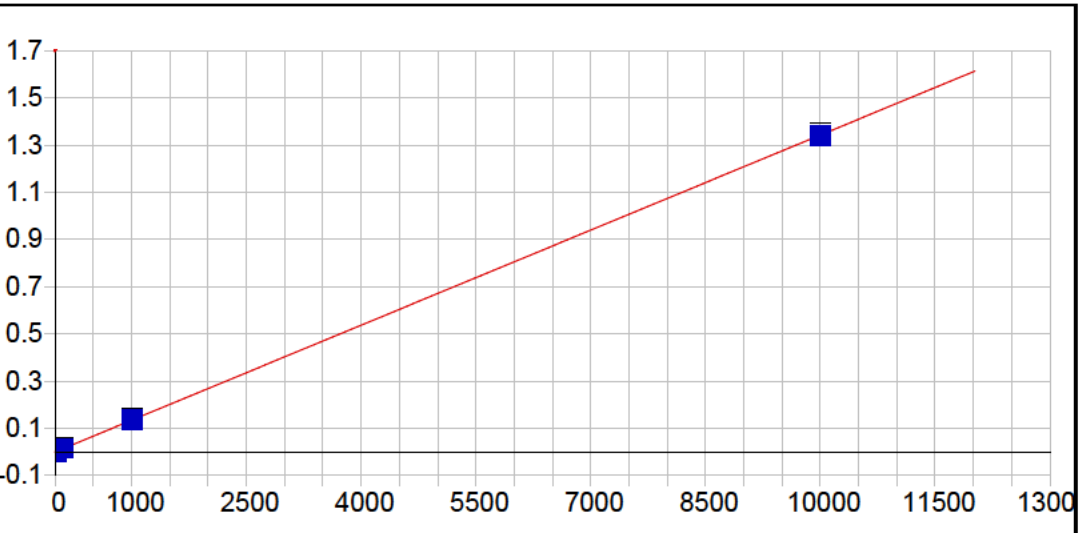



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000065 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000094 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999881 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.175276 | | |
| Predicted MQL: | 0.584252 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00059 | -.001 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0883 | .088 | 8.83 | .00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8487 | .849 | 17.0 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.913 | 1.91 | 19.1 | .00118 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.83 | 12.8 | 12.8 | .01063 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .09553 | .002 | 1 |
| CalStd10=10 | 10000. | 9965.5 | -34.5 | -.345 | .93387 | .012 | 1 |

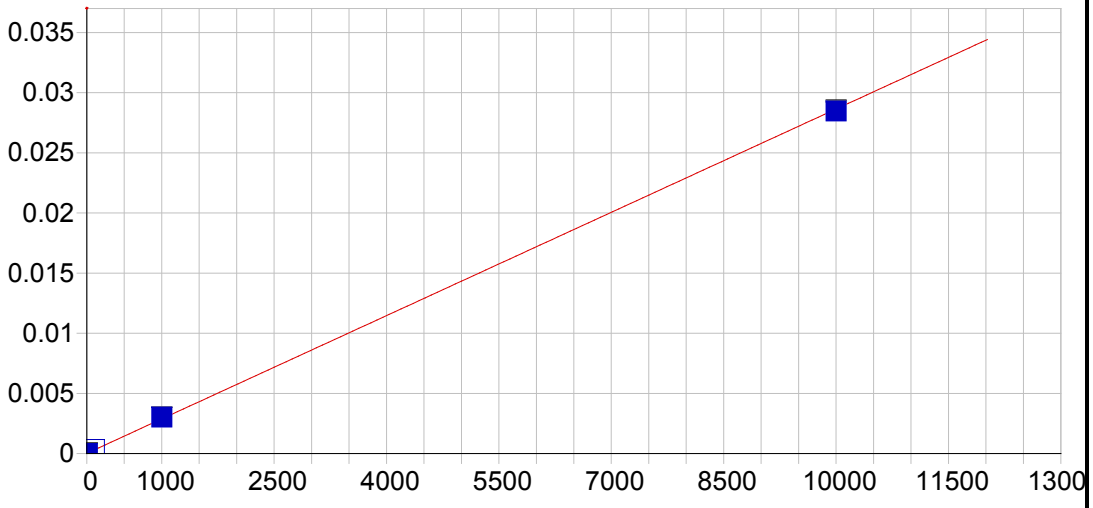



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999886 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.123225 | | |
| Predicted MQL: | 0.410752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00053 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0501 | .050 | 5.01 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7605 | .760 | 15.2 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.866 | 1.87 | 18.7 | .00160 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.25 | 12.2 | 12.2 | .01508 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1020.8 | 20.8 | 2.08 | .13707 | .003 | 1 |
| CalStd10=10 | 10000. | 9964.3 | -35.7 | -.357 | 1.3379 | .014 | 1 |

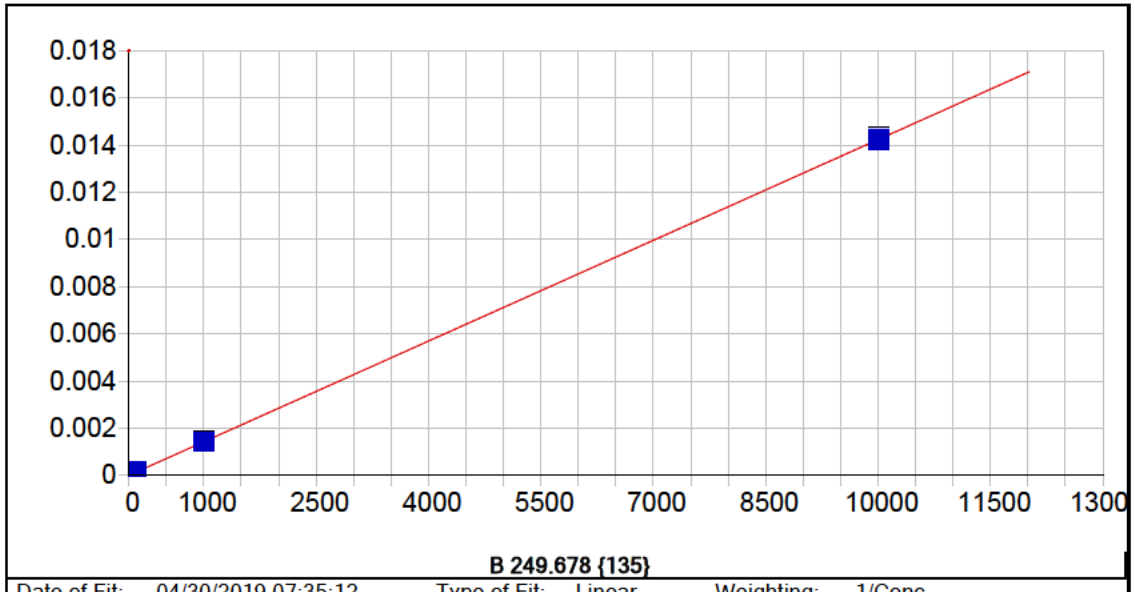



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999812 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.724449 | | |
| Predicted MQL: | 5.748164 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00202 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.1 | -60.9 | -.609 | .02847 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1048.7 | 48.7 | 4.87 | .00302 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.88 | 11.9 | 11.9 | .00034 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.409 | .409 | 4.09 | .00005 | .000 | 1 |

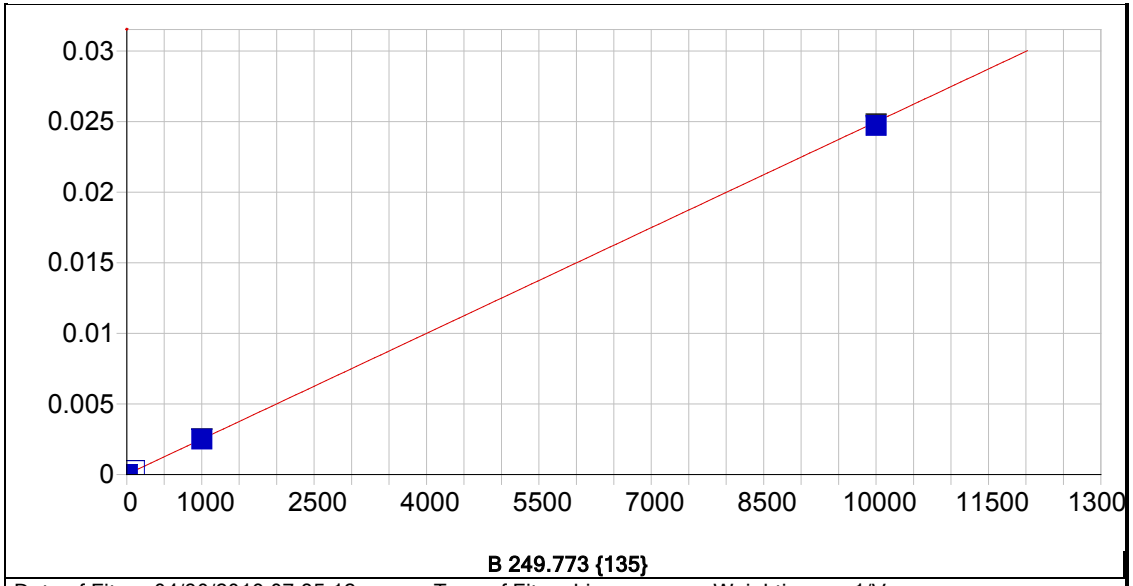



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.368619 | | |
| Predicted MQL: | 4.562062 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00180 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.85 | 4.85 | 4.85 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.7549 | -2.25 | -22.5 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.58 | -4.42 | -.442 | .00143 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.81 | .018 | .01429 | .000 | 1 |

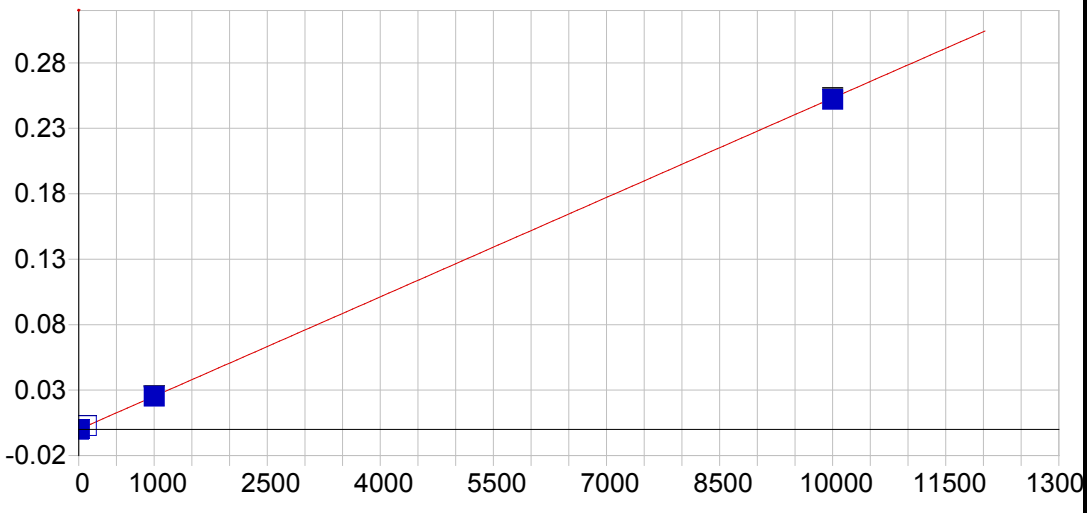



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999668 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 0.779432 | | |
| Predicted MQL: | 2.598107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.21304 | -.213 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.72 | 6.72 | 6.72 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.3288 | -1.67 | -16.7 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .830 | .083 | .00251 | .000 | 1 |
| CalStd10=10 | 10000. | 9896.9 | -103. | -1.03 | .02473 | .000 | 1 |

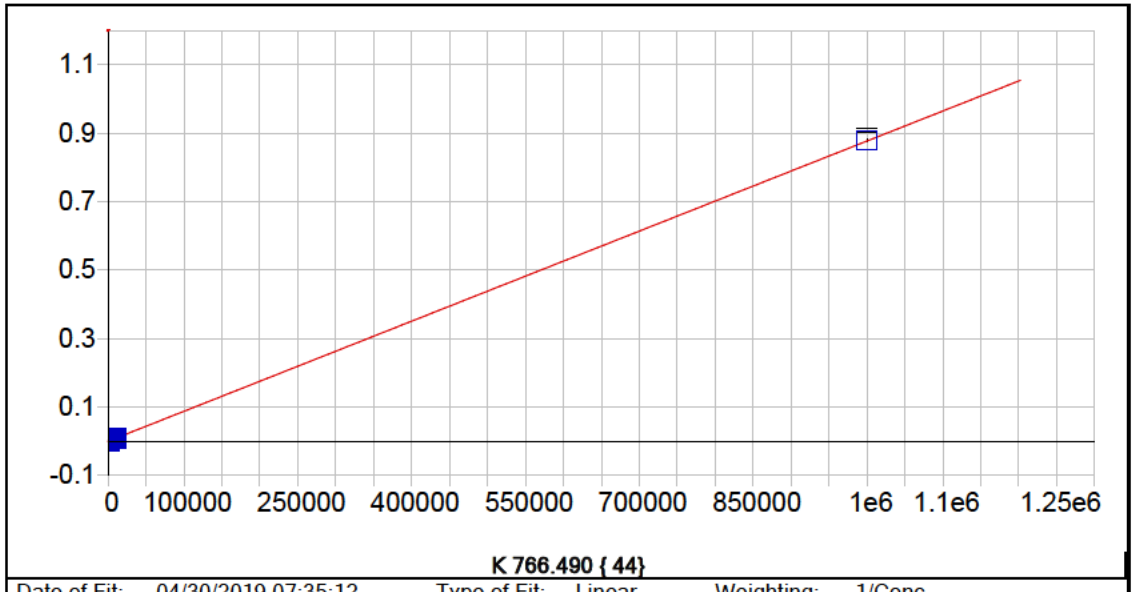



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000045 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000025 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999733 | Status: | OK. |
| Std Error of Est: | 0.000101 | | |
| Predicted MDL: | 1.571556 | | |
| Predicted MQL: | 5.238519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.3398 | -1.34 | .000 | -.00008 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.513 | .513 | 5.13 | .00022 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.42 | 11.4 | 11.4 | .00278 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.9 | 1.88 | .188 | .02532 | .000 | 1 |
| CalStd10=10 | 10000. | 9955.6 | -44.4 | -.444 | .25201 | .001 | 1 |

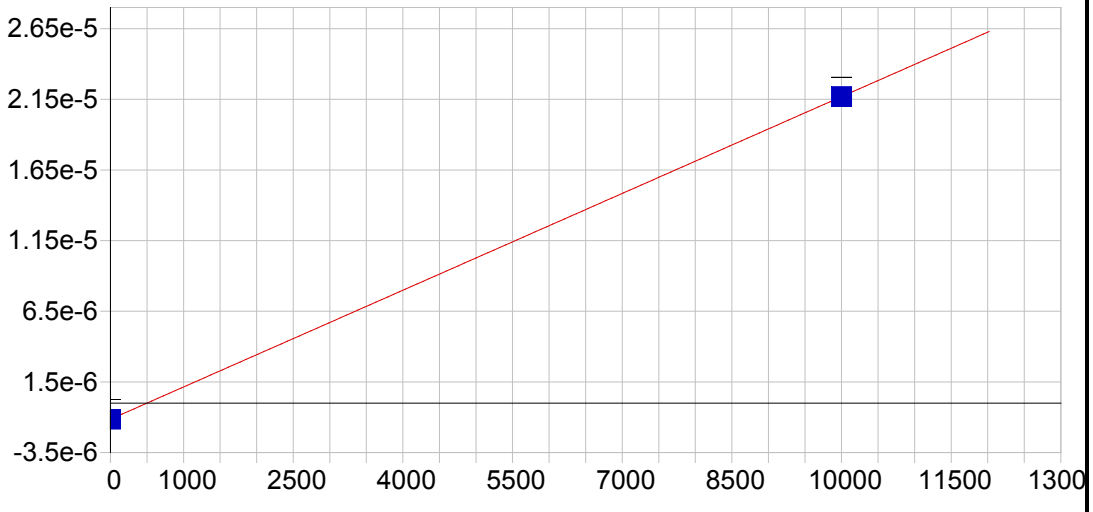



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999837 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 56.288107 | | |
| Predicted MQL: | 187.627024 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33122 | .331 | .000 | -.00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 840.32 | -160. | -16.0 | .00070 | .000 | 1 |
| CalStd10=10 | 10000. | 8265.7 | -1730. | -17.3 | .00721 | .000 | 1 |
| CalibStd15= | 1000000. | 1001900. | 1890. | .189 | .87886 | .004 | 1 |

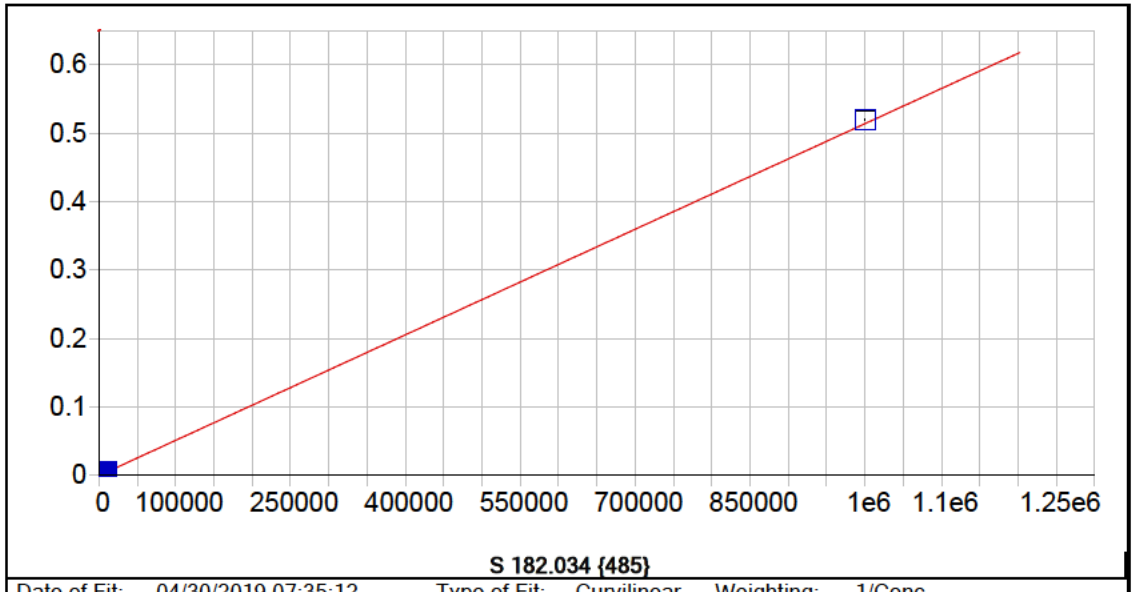



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 230.315837 | | |
| Predicted MQL: | 767.719457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00002 | .000 | 1 |

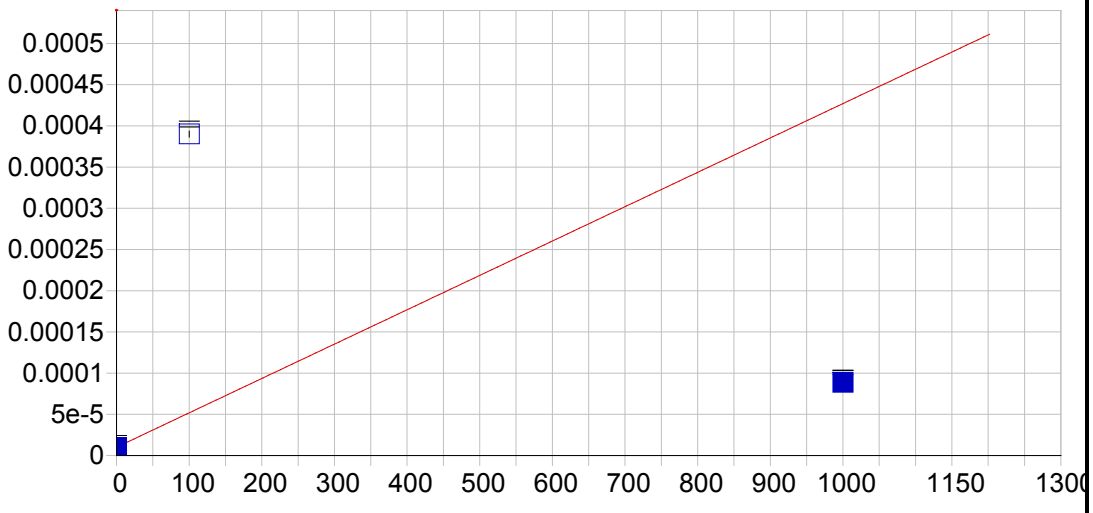



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.218644 | | |
| Predicted MQL: | 20.728815 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00108 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.81 | -1.19 | -.119 | .00053 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 2.22 | .022 | .00516 | .000 | 1 |
| CalibStd15= | 1000000. | 1010100. | 10100. | 1.01 | .51911 | .001 | 1 |

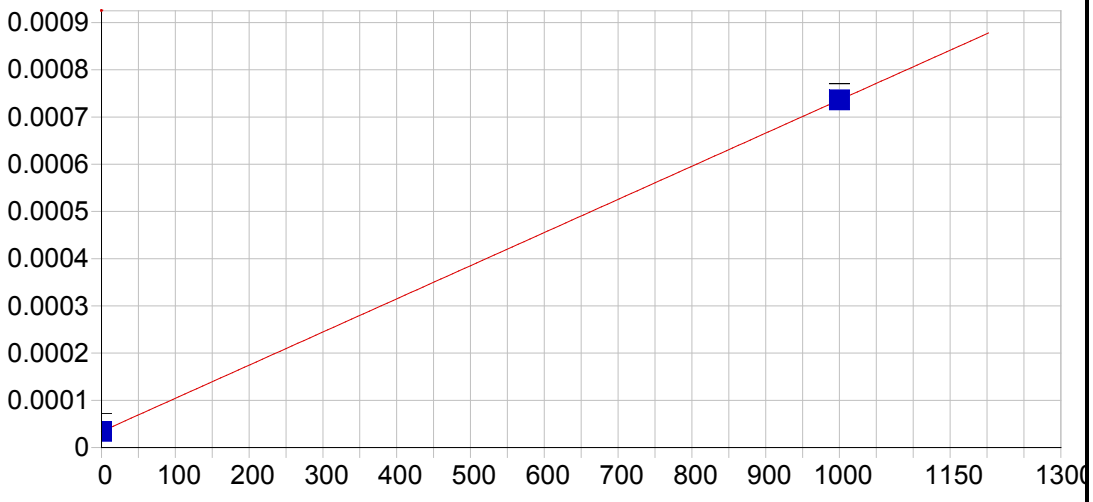



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.362902 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 9.166603 | | |
| Predicted MQL: | 30.555344 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.73038 | -.730 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 911.54 | 812. | 812. | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 188.46 | -812. | -81.2 | .00009 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 07:35:12 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000034 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.369364 | | |
| Predicted MQL: | 77.897881 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00074 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 14:03:58 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.230** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.002** | **-.000** |
| Stddev | .000 | .000 | .000 | .314 | .000 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 18.9 | 7.68 | 57.8 | 136. | 458. | 58.4 | 1.07 | .588 | 77.7 | 7.57 | 34.9 | 33.5 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **33.0** | **7.17** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.4 | 3.37 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 21.5 | 55.0 | 47.5 | 47.5 | 68.0 | 4.33 | 47.0 | 3.95 | 32.2 | 38.1 | 49.3 | 27.3 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 34.3 | 92.3 | 49.7 | 2550. | 24.5 | 41.6 | 63.8 | 41.4 | 136. | 158. | 86.4 | 102. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 109. | 56.3 | 87.0 | 298. | 18.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123870.** | **1276800.** | **305680.** |
| Stddev | 355. | 7164. | 3726. |
| %RSD | .28650 | .56110 | 1.2191 |

Sample Name: CalStd2=0.5 Acquired: 04/25/2019 14:10:16 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .668 | 62.9 | 9.43 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **123710.** | **1279800.** |
| Stddev | 209. | 2167. |
| %RSD | .16868 | .16933 |

Sample Name: CalStd3=1 Acquired: 04/25/2019 14:16:34 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 9.67 | 17.7 | 2.76 | 41.4 | 6.57 | 27.1 | 36.5 | 103. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123470.** | **1273400.** | **300220.** |
| Stddev | 53. | 3309. | 5495. |
| %RSD | .04317 | .25987 | 1.8302 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 14:22:49 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.2** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 | .000 | .000 | .000 | .000 |
| %RSD | 8.32 | 3.06 | .904 | 1.73 | 6.46 | 6.47 | 29.5 | 36.6 | 2.05 | 2.28 | 10.4 | 4.50 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 19.5 | 12.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123210.** | **1267300.** | **298290.** |
| Stddev | 373. | 1439. | 4038. |
| %RSD | .30293 | .11357 | 1.3536 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 14:29:06 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.31** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **38.1** |
| Stddev | .000 | .000 | .55 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.7 |
| %RSD | 2.48 | 3.01 | 42.1 | 79.9 | 2.14 | .865 | 3.01 | .408 | .925 | .511 | 3.45 | 9.62 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **13.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 1.8 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.4 | 1.24 | 4.97 | 4.78 | 7.94 | 39.2 | 11.2 | 19.0 | 14.1 | 5.87 | 7.98 | 1.98 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.49 | 1.23 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123880.** | **1263800.** | **303790.** |
| Stddev | 85. | 8427. | 637. |
| %RSD | .06830 | .66683 | .20965 |

Sample Name: CalStd6=20 Acquired: 04/25/2019 14:35:23 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **42.6** | **16.8** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 2.3 | 2.0 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.06 | 5.44 | 12.2 | .624 | 2.07 | 3.94 | 8.91 | 3.19 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123600.** | **1273700.** | **301630.** |
| Stddev | 282. | 5201. | 1616. |
| %RSD | .22814 | .40833 | .53569 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 14:41:33 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.19** | **.000** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **58.5** | **28.3** | **.001** | **.000** |
| Stddev | .47 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.7 | 2.7 | .000 | .000 |
| %RSD | 11.3 | 19.7 | 3.79 | .473 | .238 | .876 | .380 | 1.89 | 4.63 | 9.42 | .554 | .504 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 3.52 | .778 | 4.90 | 6.09 | .905 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123380.** | **1273500.** | **300440.** |
| Stddev | 162. | 7440. | 2083. |
| %RSD | .13145 | .58421 | .69323 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 14:47:43 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **7.42** | **.000** | **.001** | **.017** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .28 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .687 | .463 | 3.71 | 5.29 | .765 | 1.32 | .339 | 2.66 | 1.81 | .153 | .355 | .395 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **84.2** | **46.0** | **.003** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 3.1 | 2.2 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .406 | .536 | 1.38 | 3.74 | 4.83 | 3.33 | .267 | .613 | .586 | .331 | .217 | 1.95 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .757 | 1.45 | 4.80 | 14.5 | .894 | 8.43 | .752 | .514 | .525 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123670.** | **1275100.** | **300840.** |
| Stddev | 429. | 5306. | 2101. |
| %RSD | .34723 | .41608 | .69839 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 14:53:51 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **71.2** | **.001** | **.010** | **.068** | **.053** | **.002** | **.000** | **.127** | **.023** | **.045** |
| Stddev | .000 | .000 | .7 | .000 | .000 | .001 | .000 | .000 | .000 | .003 | .000 | .000 |
| %RSD | .462 | 3.29 | .931 | 1.02 | .320 | 1.86 | .491 | 1.88 | 3.18 | 2.06 | .235 | .114 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.020** | **.002** | **.015** | **.002** | **500.** | **356.** | **.000** | **.000** | **.001** | **.000** | **.028** | **.012** |
| Stddev | .000 | .000 | .000 | .000 | 5. | 6. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .360 | .687 | .219 | .940 | .919 | 1.77 | .511 | 1.63 | 1.28 | 7.93 | .626 | .471 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.011** | **.011** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.23 | .424 | .210 | .194 | .308 | .206 | .449 | .169 | .313 | .527 | .990 | .727 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.017** | **.026** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.99 | .522 | .341 | .238 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123980.** | **1278100.** | **301510.** |
| Stddev | 184. | 5989. | 3283. |
| %RSD | .14806 | .46862 | 1.0887 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 14:59:32 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.567** | **.003** | **1.17** | **.187** | **.020** | **.142** | **.024** | **4540.** | **3420.** | **.004** |
| Stddev | .000 | .000 | .015 | .000 | .03 | .000 | .000 | .000 | .000 | 11. | 12. | .000 |
| %RSD | .917 | .310 | 2.73 | 1.51 | 2.57 | .261 | .553 | .128 | .482 | .248 | .352 | .561 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.010** | **.000** | **.247** | **.111** | **.031** | **.046** | **.102** | **.108** | **.010** | **.020** | **.020** |
| Stddev | .000 | .000 | .000 | .002 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | 1.28 | .383 | .775 | .501 | 1.08 | .171 | .229 | .229 | .383 | .240 | .282 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.021** | **.008** | **.068** | **.162** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | .355 | .403 | 1.21 | .475 | .151 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122070.** | **1244700.** | **302730.** |
| Stddev | 320. | 4835. | 2234. |
| %RSD | .26239 | .38847 | .73796 |

Sample Name: CalStd12=100K  Acquired: 04/25/2019 15:06:08  Type: Cal
Method: DOD Calibration Updated 060614(v3320)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **49400.** | **37200.** | **.325** | **.114** | **1.60** |
| Stddev | .00 | 482. | 345. | .007 | .001 | .01 |
| %RSD | .098 | .977 | .927 | 2.23 | .459 | .504 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122080.** | **1262900.** | **301480.** |
| Stddev | 124. | 4342. | 3702. |
| %RSD | .10195 | .34385 | 1.2280 |

Sample Name: CalStd13=100000 Acquired: 04/25/2019 15:12:26 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.123** | **.031** | **.041** | **.022** | **.102** | **.003** |
| Stddev | .001 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .556 | .380 | .356 | .284 | .472 | .626 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **120050.** | **1235100.** | **299990.** |
| Stddev | 297. | 1194. | 2475. |
| %RSD | .24707 | .09667 | .82495 |

Sample Name: CalStd14=500000 Acquired: 04/25/2019 15:18:52 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.653** | **.155** | **.107** | **.487** | **.017** |
| Stddev | .011 | .001 | .000 | .001 | .000 |
| %RSD | 1.63 | .344 | .422 | .250 | .295 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **111000.** | **283910.** |
| Stddev | 247. | 1484. |
| %RSD | .22280 | .52282 |

Sample Name: CalibStd15=1000k Acquired: 04/25/2019 15:25:30 Type: Cal
Method: DOD Calibration Updated 060614(v3320) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.37** | **.314** | **.209** | **.035** |
| Stddev | .01 | .002 | .001 | .000 |
| %RSD | 1.09 | .483 | .505 | .395 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **99304.** | **261110.** |
| Stddev | 236. | 668. |
| %RSD | .23784 | .25588 |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **44.4** | **10800.** | **2040.** | **2040.** | **2040.** | **48.4** | **49.3** | **8870.** | **47.6** | **54.4** | **514.** | **201.** |
| Stddev | .4 | 22. | 18. | 7. | 9. | .4 | .4 | 98. | .3 | .2 | 2. | 3. |
| %RSD | .974 | .200 | .900 | .335 | .444 | .752 | .837 | 1.10 | .591 | .351 | .352 | 1.26 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **235.** | **236.** | **4730.** | **10100.** | **475.** | **489.** | **500.** | **511.** | **511.** | **481.** | **480.** | **517.** |
| Stddev | 6. | 11. | 17. | 114. | 2. | 3. | 3. | 4. | 3. | 10. | 7. | 2. |
| %RSD | 2.66 | 4.47 | .348 | 1.13 | .484 | .670 | .646 | .794 | .514 | 2.17 | 1.52 | .384 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **509.** | **1990.** | **2070.** | **510.** | **506.** | **503.** | **488.** |
| Stddev | 3. | 14. | 13. | 6. | 2. | 2. | 2. |
| %RSD | .603 | .702 | .631 | 1.26 | .450 | .480 | .425 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/25/2019 15:45:04 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124570.** | **1269300.** | **302840.** |
| Stddev | 137. | 5841. | 1865. |
| %RSD | .10971 | .46021 | .61576 |

Sample Name: ICVLL Acquired: 04/25/2019 15:51:21 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **31.5** | **1250.** | **1270.** | **60.9** | **31.7** | **12.7** | **1610.** | **15.8** | **16.2** | **32.1** | **33.7** | **29.5** |
| Stddev | .5 | 3. | 17. | 5.4 | .1 | .1 | 12. | .2 | .1 | .5 | .7 | 3.1 |
| %RSD | 1.67 | .229 | 1.37 | 8.83 | .471 | .605 | .728 | 1.37 | .436 | 1.62 | 2.08 | 10.4 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **33.6** | **1010.** | **1610.** | **33.1** | **31.8** | **33.4** | **34.4** | **71.5** | **70.5** | **64.5** | **33.7** | **33.8** |
| Stddev | 6.2 | 6. | 8. | .3 | .5 | .7 | .4 | 1.4 | 3.3 | 1.7 | .5 | .2 |
| %RSD | 18.3 | .626 | .512 | .777 | 1.46 | 2.09 | 1.27 | 1.98 | 4.71 | 2.56 | 1.48 | .605 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123990.** | **1259700.** | **301820.** |
| Stddev | 253. | 5434. | 2468. |
| %RSD | .20370 | .43134 | .81780 |

Sample Name: icb Acquired: 04/25/2019 16:03:40 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.715** | **-7.72** | **-4.05** | **-.358** | **-.042** | **-13.4** | **-.083** | **-.056** | **-.592** | **-.222** | **7.97** | **-11.1** |
| Stddev | .874 | .48 | 6.31 | .225 | .029 | .3 | .059 | .186 | .379 | 1.04 | 6.08 | 1.7 |
| %RSD | 122. | 6.17 | 156. | 62.7 | 69.0 | 1.95 | 71.5 | 331. | 64.0 | 469. | 76.3 | 15.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-21.1** | **-1.22** | **-1.40** | **-.444** | **.016** | **-.432** | **-.585** | **-2.33** | **-.039** | **-.561** |
| Stddev | .1 | .03 | .63 | .370 | 3.08 | 3.14 | 4.15 | 1.18 | .398 | .115 |
| %RSD | .504 | 2.51 | 45.4 | 83.3 | 19600. | 727. | 709. | 50.4 | 1020. | 20.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124930.** | **1269000.** | **303230.** |
| Stddev | 408. | 4214. | 1380. |
| %RSD | .32647 | .33204 | .45509 |

Sample Name: MRL/LLOQ  Acquired: 04/25/2019 16:09:55  Type: QC
Method: DOD Calibration Updated 060614(v3320)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.7** | **406.** | **19.7** | **9.12** | **4.06** | **500.** | **4.90** | **5.18** | **9.94** | **10.4** | **11.3** | F **17.3** |
| Stddev | .6 | 3. | 10.1 | .37 | .07 | 10. | .29 | .10 | .36 | .8 | 2.2 | 6.3 |
| %RSD | 5.79 | .620 | 51.3 | 4.11 | 1.67 | 2.02 | 5.84 | 1.94 | 3.67 | 8.08 | 19.1 | 36.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | 20.0 | | | | | | | | | | | 10.0 |
| Range | -30.0% | | | | | | | | | | | 30.0% |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **305.** | **503.** | **9.47** | **9.41** | **10.4** | **10.7** | **24.0** | **20.6** | **20.1** | **10.1** | **11.6** |
| Stddev | 4. | 3. | .10 | .26 | .6 | 1.3 | .7 | 2.1 | 3.2 | .4 | .2 |
| %RSD | 1.43 | .520 | 1.09 | 2.76 | 5.40 | 11.7 | 3.05 | 10.3 | 16.1 | 4.26 | 1.94 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124220.** | **1261900.** | **304400.** |
| Stddev | 277. | 7141. | 2207. |
| %RSD | .22331 | .56589 | .72497 |

Sample Name: ICSA Acquired: 04/25/2019 16:16:06 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.18** | **556000.** | **.263** | **.001** | **-.581** | **511000.** | **-.001** | **.702** | **-.214** | **-.735** | **.000** |
| Stddev | .31 | 15600. | 31.6 | 1.54 | .179 | 6610. | .823 | .252 | .486 | .723 | 8.05 |
| %RSD | 14.2 | 2.80 | 12000. | 278000. | 30.9 | 1.29 | 95700. | 35.9 | 228. | 98.4 | 4040000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **492000.** | **501000.** | **-4.13** | **-.177** | **-.556** | **-.253** | **-.729** | **.003** | **-.056** | **11600.** | **3.00** |
| Stddev | 6760. | 5120. | .18 | .743 | .868 | 3.49 | 1.90 | 4.84 | 4.32 | 92. | 2.06 |
| %RSD | 1.37 | 1.02 | 4.45 | 420. | 156. | 1380. | 260. | 169000. | 7720. | .794 | 68.6 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110890.** | **1136000.** | **286170.** |
| Stddev | 351. | 2934. | 807. |
| %RSD | .31660 | .25831 | .28184 |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **486.** | **496000.** | **794.** | **554.** | **477.** | **498.** | **486.** | **455000.** | **506.** | **470.** | **502.** |
| Stddev | 2. | 5510. | 14. | 12. | 2. | 5. | 6. | 4950. | 1. | 1. | 2. |
| %RSD | .321 | 1.11 | 1.72 | 2.15 | .316 | 1.05 | 1.31 | 1.09 | .160 | .261 | .495 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **395.** | **474.** | **440000.** | **446000.** | **463.** | **483.** | **503.** | **457.** | **464.** | **768.** | **413.** |
| Stddev | 1. | 3. | 3480. | 4830. | 2. | 2. | 2. | 3. | 2. | 24. | 4. |
| %RSD | .317 | .705 | .790 | 1.08 | .406 | .429 | .460 | .692 | .466 | 3.09 | .950 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **477.** | **509.** | **475.** | **490.** | **520.** | **520.** | **472.** | **500.** |
| Stddev | 4. | 5. | 7. | 8. | 9. | 2. | 1. | 3. |
| %RSD | .847 | .902 | 1.50 | 1.63 | 1.75 | .405 | .146 | .563 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ICSAB Acquired: 04/25/2019 16:22:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112550.** | **1144100.** | **287120.** |
| Stddev | 144. | 3899. | 1802. |
| %RSD | .12834 | .34078 | .62762 |

Sample Name: ICVII AG Acquired: 04/25/2019 16:34:46 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8.12** | **24.6** | **-.773** | **-.737** | **.014** | **23.1** | **-.147** | **-.025** | **-.302** | **.225** | **4.52** | **34.0** |
| Stddev | .25 | .7 | 2.73 | .196 | .053 | 2.8 | .118 | .131 | .304 | .567 | 5.15 | 1.6 |
| %RSD | 3.06 | 2.78 | 354. | 26.7 | 383. | 12.2 | 80.1 | 520. | 101. | 252. | 114. | 4.60 |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **10.3** | **-1.03** | **-.995** | **-.495** | **-.914** | **2.75** | **-.629** | **.199** | **-.366** | **-.220** |
| Stddev | .1 | .06 | .628 | .261 | 1.48 | 4.03 | 3.01 | 2.73 | .196 | .102 |
| %RSD | 1.40 | 5.68 | 63.1 | 52.7 | 161. | 146. | 478. | 1370. | 53.6 | 46.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125100.** | **1274900.** | **301160.** |
| Stddev | 157. | 6537. | 1966. |
| %RSD | .12570 | .51270 | .65290 |

Sample Name: 254601 Acquired: 04/25/2019 17:06:00 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.97** | **39800.** | **23.9** | **388.** | **496.** | **.967** | **17400.** | **.016** | **.947** | **12.4** | **57.9** | **125.** |
| Stddev | .40 | 2540. | 7.4 | 5. | 33. | .066 | 1290. | .201 | .112 | .5 | 1.0 | 5. |
| %RSD | 20.2 | 6.39 | 31.1 | 1.17 | 6.74 | 6.81 | 7.41 | 1260. | 11.8 | 4.44 | 1.71 | 4.19 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **140.** | **27700.** | **3390.** | **18700.** | **14.2** | **27.8** | **139.** | **.676** | **1.71** | **12.4** | **112.** | **100.** |
| Stddev | 16. | 1930. | 319. | 1310. | .8 | .3 | 4. | 2.14 | 1.66 | 1.1 | 8. | 2. |
| %RSD | 11.3 | 6.97 | 9.40 | 7.01 | 5.61 | 1.09 | 2.71 | 316. | 96.7 | 8.60 | 6.81 | 2.34 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **192.** |
| Stddev | 1. |
| %RSD | .650 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126100.** | **1281800.** | **307040.** |
| Stddev | 342. | 5285. | 2039. |
| %RSD | .27153 | .41233 | .66416 |

Sample Name: L254601 Acquired: 04/25/2019 17:12:38 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.805** | **13800.** | **12.1** | **117.** | **170.** | **.328** | **6010.** | **-.102** | **.058** | **3.72** | **20.4** | **44.8** |
| Stddev | .515 | 355. | 6.6 | 14. | 7. | .031 | 181. | .195 | .133 | .19 | .8 | 5.4 |
| %RSD | 64.0 | 2.58 | 54.6 | 12.3 | 4.33 | 9.30 | 3.01 | 190. | 229. | 4.96 | 4.01 | 12.0 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **51.5** | **9670.** | **980.** | **6490.** | **3.29** | **8.54** | **42.5** | **.438** | **.600** | **3.97** | **37.1** | **59.8** |
| Stddev | 7.3 | 314. | 31. | 222. | .35 | .80 | 5.4 | 1.56 | 6.66 | 2.07 | 1.4 | 7.8 |
| %RSD | 14.1 | 3.25 | 3.11 | 3.42 | 10.7 | 9.41 | 12.7 | 357. | 1110. | 52.1 | 3.86 | 13.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126760.** | **1284300.** | **308800.** |
| Stddev | 383. | 1508. | 2832. |
| %RSD | .30176 | .11739 | .91720 |

Sample Name: 1DUP254601 Acquired: 04/25/2019 17:19:03 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.89** | **41900.** | **43.0** | **479.** | **538.** | **.980** | **17400.** | **-.095** | **.863** | **14.0** | **65.0** | **124.** |
| Stddev | .60 | 374. | 9.5 | 8. | 8. | .028 | 229. | .353 | .248 | .4 | .6 | 6. |
| %RSD | 31.9 | .892 | 22.1 | 1.65 | 1.45 | 2.88 | 1.32 | 373. | 28.7 | 3.00 | .876 | 4.83 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **140.** | **28300.** | **3380.** | **18700.** | **12.9** | **29.9** | **175.** | **2.52** | **1.71** | **13.1** | **115.** | **116.** |
| Stddev | 9. | 340. | 101. | 226. | .4 | .9 | 3. | 1.62 | 6.24 | 1.0 | 10. | 1. |
| %RSD | 6.31 | 1.20 | 2.99 | 1.21 | 2.87 | 2.90 | 1.78 | 64.5 | 364. | 7.76 | 8.55 | .780 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **221.** |
| Stddev | 4. |
| %RSD | 2.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125580.** | **1276400.** | **308710.** |
| Stddev | 89. | 5742. | 1351. |
| %RSD | .07076 | .44981 | .43756 |

Sample Name: 2DUP254601 Acquired: 04/25/2019 17:25:41 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.05** | **41600.** | **42.0** | **441.** | **499.** | **1.01** | **17300.** | **.219** | **.969** | **14.0** | **65.3** | **126.** |
| Stddev | .71 | 282. | 2.4 | 5. | 5. | .07 | 93. | .077 | .040 | .3 | .9 | 4. |
| %RSD | 67.4 | .679 | 5.65 | 1.14 | .964 | 7.23 | .533 | 35.1 | 4.18 | 2.27 | 1.45 | 3.27 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **137.** | **28600.** | **3460.** | **18800.** | **12.9** | **30.4** | **158.** | **-.121** | **3.92** | **15.5** | **122.** | **117.** |
| Stddev | 9. | 138. | 116. | 164. | .8 | .6 | 5. | 2.40 | 3.43 | 1.4 | 2. | 1. |
| %RSD | 6.60 | .482 | 3.36 | .875 | 6.41 | 1.99 | 2.93 | 1980. | 87.5 | 9.19 | 1.58 | .446 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **214.** |
| Stddev | 4. |
| %RSD | 1.68 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125350.** | **1270400.** | **307280.** |
| Stddev | 411. | 4080. | 2040. |
| %RSD | .32795 | .32117 | .66398 |

Sample Name: MSS254601 Acquired: 04/25/2019 17:32:19 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.29** | **38400.** | **1740.** | **1710.** | **412.** | **484.** | **.913** | **17100.** | **.130** | **5.98** | **13.3** | **56.7** |
| Stddev | .20 | 1470. | 25. | 33. | 6. | 20. | .027 | 698. | .257 | .07 | .4 | 1.1 |
| %RSD | 15.2 | 3.83 | 1.45 | 1.94 | 1.53 | 4.04 | 2.95 | 4.08 | 198. | 1.11 | 3.33 | 1.85 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **118.** | **124.** | **26400.** | **3340.** | **19800.** | **11.1** | **26.8** | **152.** | **.887** | **2.10** | **15.7** | **111.** |
| Stddev | 6. | 6. | 1100. | 161. | 845. | .6 | .6 | 4. | 1.07 | 4.01 | 1.0 | 6. |
| %RSD | 4.69 | 4.50 | 4.18 | 4.82 | 4.27 | 5.05 | 2.18 | 2.31 | 121. | 190. | 6.20 | 5.80 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **103.** | **202.** |
| Stddev | 2. | 3. |
| %RSD | 1.52 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125820.** | **1275600.** | **308900.** |
| Stddev | 205. | 2352. | 2708. |
| %RSD | .16300 | .18435 | .87651 |

Sample Name: ccv1 Acquired: 04/25/2019 17:38:56 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | F **4470.** | **4880.** | **4830.** | **467.** | F **4330.** | **476.** | **4800.** | **4890.** | F **4350.** | **4700.** | **4940.** |
| Stddev | 2. | 42. | 14. | 52. | 4. | 30. | 1. | 27. | 4. | 68. | 75. | 32. |
| %RSD | .385 | .945 | .285 | 1.08 | .781 | .690 | .162 | .558 | .090 | 1.57 | 1.59 | .641 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | 5000. | | |
| Range | | -10.4% | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4560.** | **4800.** | **4800.** | **4560.** | **4840.** | **4700.** | **4800.** | **4830.** | **4830.** |
| Stddev | 44. | 12. | 7. | 20. | 10. | 22. | 13. | 37. | 11. |
| %RSD | .975 | .259 | .153 | .448 | .211 | .458 | .279 | .758 | .224 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121910.** | **1238600.** | **301220.** |
| Stddev | 202. | 4015. | 1038. |
| %RSD | .16563 | .32413 | .34475 |

Sample Name: ccv2 Acquired: 04/25/2019 17:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.7** | **466.** | **484.** | **491.** | **479.** | **506.** | **49.9** | **50.0** | **479.** | **48.8** | **50.9** | **499.** |
| Stddev | 1.4 | 1. | 10. | 9. | 1. | 6. | .3 | 2.5 | 5. | .4 | .2 | 3. |
| %RSD | 3.13 | .264 | 2.12 | 1.77 | .299 | 1.20 | .524 | 4.97 | 1.09 | .741 | .458 | .502 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **465.** | **470.** | **481.** | **470.** | **464.** | **480.** | **490.** | **503.** | **502.** | **479.** | **478.** |
| Stddev | 3. | 8. | 9. | 2. | 3. | 3. | 1. | 2. | 1. | 2. | 3. | 4. |
| %RSD | .607 | 1.69 | 1.90 | .449 | .590 | .566 | .266 | .484 | .283 | .387 | .692 | .793 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **500.** | **501.** | **495.** | **520.** | **492.** | **496.** | **500.** | **483.** |
| Stddev | 3. | 2. | 6. | 4. | 6. | 2. | 3. | 3. |
| %RSD | .535 | .410 | 1.19 | .833 | 1.27 | .471 | .581 | .569 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 17:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124530.** | **1269300.** | **302410.** |
| Stddev | 305. | 5088. | 723. |
| %RSD | .24473 | .40083 | .23913 |

Sample Name: ccb Acquired: 04/25/2019 17:50:12 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.471** | **-10.6** | **-9.99** | **-.640** | **.041** | **-14.8** | **-.083** | **-.035** | **-.102** | **-.231** | **10.1** | **-14.4** |
| Stddev | .823 | .7 | 3.35 | .329 | .034 | .7 | .137 | .096 | .352 | .409 | 11.8 | 3.2 |
| %RSD | 175. | 6.19 | 33.6 | 51.4 | 84.1 | 4.59 | 166. | 276. | 344. | 177. | 118. | 22.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-23.0** | **-.974** | **.353** | **.530** | **.942** | **1.48** | **1.33** | **1.04** | **.451** | **-.454** |
| Stddev | .1 | .077 | .511 | .571 | 1.87 | 1.65 | 5.25 | 1.20 | .405 | .170 |
| %RSD | .257 | 7.91 | 145. | 108. | 199. | 112. | 394. | 115. | 89.7 | 37.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124520.** | **1271800.** | **304200.** |
| Stddev | 141. | 1024. | 1425. |
| %RSD | .11326 | .08048 | .46828 |

Sample Name: MSDS254601 Acquired: 04/25/2019 17:56:28 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.69** | **44600.** | **1890.** | **1840.** | **475.** | **549.** | **1.08** | **18800.** | **.324** | **6.51** | **15.3** | **67.4** |
| Stddev | .60 | 946. | 12. | 18. | 4. | 11. | .06 | 328. | .169 | .08 | .8 | .5 |
| %RSD | 35.7 | 2.12 | .649 | .964 | .849 | 1.91 | 5.92 | 1.74 | 52.0 | 1.18 | 5.07 | .737 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **133.** | **139.** | **30300.** | **3650.** | **21900.** | **12.8** | **31.3** | **162.** | **1.94** | **2.83** | **16.2** | **128.** |
| Stddev | 1. | 5. | 600. | 148. | 378. | .5 | .4 | 2. | 1.91 | 2.46 | 2.9 | 6. |
| %RSD | .885 | 3.72 | 1.98 | 4.07 | 1.72 | 3.89 | 1.14 | .952 | 98.4 | 86.8 | 18.1 | 4.81 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **120.** | **226.** |
| Stddev | 2. | 2. |
| %RSD | 1.31 | .877 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125940.** | **1279400.** | **307050.** |
| Stddev | 296. | 4109. | 1023. |
| %RSD | .23518 | .32118 | .33310 |

Sample Name: PDSS254601 Acquired: 04/25/2019 18:03:07 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **87.8** | **47900.** | **4020.** | **4580.** | **95.1** | **100.** | **382000.** | **85.4** | **106.** | **937.** | **454.** |
| Stddev | .8 | 578. | 48. | 65. | .7 | 1. | 3170. | 1.5 | 2. | 16. | 3. |
| %RSD | .873 | 1.21 | 1.20 | 1.41 | .705 | 1.27 | .829 | 1.81 | 1.73 | 1.74 | .608 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **576.** | **593.** | **30700.** | **183000.** | **20000.** | **12.0** | **933.** | **935.** | **1090.** | **995.** | **3750.** |
| Stddev | 5. | 4. | 263. | 1750. | 172. | .2 | 15. | 14. | 23. | 11. | 24. |
| %RSD | .791 | .714 | .856 | .957 | .857 | 1.66 | 1.62 | 1.55 | 2.09 | 1.13 | .632 |

| Elem | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **3450.** | **1150.** | **1130.** |
| Stddev | 51. | 26. | 17. |
| %RSD | 1.48 | 2.24 | 1.49 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **115360.** | **1176900.** | **294970.** |
| Stddev | 65. | 4825. | 2500. |
| %RSD | .05597 | .40997 | .84753 |

Sample Name: 254602 Acquired: 04/25/2019 18:09:30 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.07** | **-11.8** | **-2.76** | **-.743** | **1.63** | **-.876** | **-.116** | **-.223** | **-.583** | **.249** | **84.5** | **28.7** |
| Stddev | .14 | .4 | 18.8 | .138 | .03 | 3.08 | .105 | .027 | .101 | .524 | 6.3 | 5.1 |
| %RSD | 13.6 | 3.33 | 681. | 18.6 | 1.79 | 352. | 90.2 | 12.1 | 17.3 | 210. | 7.45 | 17.9 |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-11.9** | **-18.7** | **-.596** | **-1.16** | **-.548** | **-1.23** | **-.892** | **1.30** | **-3.46** | **-.393** | **-.387** |
| Stddev | .9 | 1.1 | .072 | .28 | .107 | .33 | .892 | 2.92 | 1.75 | .192 | .059 |
| %RSD | 7.53 | 5.81 | 12.1 | 24.0 | 19.4 | 27.2 | 100. | 225. | 50.5 | 48.8 | 15.2 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **249720.** | **2348900.** | **593610.** |
| Stddev | 387. | 10507. | 1266. |
| %RSD | .15498 | .44732 | .21327 |

Sample Name: L254602 Acquired: 04/25/2019 18:15:42 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.17** | **12200.** | **11.9** | **81.7** | **116.** | **.266** | **4550.** | **-.086** | **.034** | **2.81** | **16.4** | **32.9** |
| Stddev | .34 | 364. | 9.7 | 6.3 | 3. | .034 | 152. | .097 | .127 | .09 | .7 | 3.0 |
| %RSD | 28.9 | 2.97 | 81.7 | 7.69 | 2.66 | 12.9 | 3.33 | 112. | 372. | 3.07 | 4.31 | 9.11 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **40.0** | **7600.** | **719.** | **5050.** | **.714** | **7.80** | **26.7** | **2.61** | **1.96** | **4.01** | **31.2** | **32.2** |
| Stddev | 4.7 | 228. | 30. | 176. | .335 | 1.55 | 3.2 | 2.82 | 2.51 | 2.94 | 1.5 | 2.6 |
| %RSD | 11.8 | 3.00 | 4.22 | 3.48 | 46.9 | 19.9 | 12.0 | 108. | 128. | 73.1 | 4.82 | 8.09 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126140.** | **1278700.** | **306370.** |
| Stddev | 377. | 5692. | 2343. |
| %RSD | .29863 | .44511 | .76463 |

Sample Name: 1DUP254602 Acquired: 04/25/2019 18:22:06 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.21** | **40900.** | **32.0** | **266.** | **369.** | **.762** | **14200.** | **-.496** | **.350** | **8.37** | **52.7** | **95.3** |
| Stddev | .67 | 1980. | 5.9 | 10. | 19. | .062 | 670. | .265 | .162 | .46 | 2.5 | 4.4 |
| %RSD | 55.3 | 4.83 | 18.6 | 3.72 | 5.12 | 8.19 | 4.71 | 53.4 | 46.2 | 5.50 | 4.67 | 4.66 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **99.4** | **24400.** | **2790.** | **15600.** | **5.60** | **24.2** | **88.4** | **1.16** | **1.55** | **10.0** | **119.** | **99.8** |
| Stddev | 3.9 | 1170. | 124. | 741. | .92 | 1.7 | 2.8 | 3.51 | 5.16 | 2.0 | 14. | 4.0 |
| %RSD | 3.89 | 4.82 | 4.47 | 4.74 | 16.3 | 6.96 | 3.14 | 303. | 333. | 19.8 | 11.9 | 4.04 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **103.** |
| Stddev | 4. |
| %RSD | 3.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125820.** | **1272900.** | **304490.** |
| Stddev | 86. | 3278. | 2604. |
| %RSD | .06796 | .25750 | .85512 |

Sample Name: 2DUP254602 Acquired: 04/25/2019 18:28:36 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.754** | **43800.** | **34.2** | **299.** | **393.** | **.918** | **14700.** | **-.581** | **.484** | **9.02** | **57.9** | **107.** |
| Stddev | .539 | 811. | 23.2 | 10. | 9. | .059 | 389. | .172 | .140 | .55 | 2.5 | 3. |
| %RSD | 71.5 | 1.85 | 67.8 | 3.39 | 2.31 | 6.40 | 2.64 | 29.6 | 29.0 | 6.08 | 4.30 | 2.92 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **110.** | **25800.** | **2920.** | **16700.** | **6.79** | **26.9** | **105.** | **2.65** | **2.36** | **12.0** | **120.** | **108.** |
| Stddev | 5. | 648. | 86. | 444. | .37 | 1.1 | 3. | 2.98 | 2.49 | 2.8 | 5. | 4. |
| %RSD | 4.27 | 2.52 | 2.93 | 2.65 | 5.38 | 4.05 | 2.83 | 112. | 106. | 23.3 | 4.02 | 3.96 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **115.** |
| Stddev | 4. |
| %RSD | 3.84 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125730.** | **1273500.** | **307710.** |
| Stddev | 110. | 8959. | 196. |
| %RSD | .08769 | .70353 | .06373 |

Sample Name: MSS254602 Acquired: 04/25/2019 18:35:04 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.36** | **39100.** | **1670.** | **1630.** | **307.** | **364.** | **.828** | **14800.** | **-.341** | **5.45** | **9.64** | **51.7** |
| Stddev | .75 | 966. | 32. | 20. | 5. | 10. | .051 | 409. | .104 | .12 | .23 | 1.2 |
| %RSD | 54.6 | 2.47 | 1.93 | 1.24 | 1.50 | 2.71 | 6.13 | 2.76 | 30.5 | 2.17 | 2.40 | 2.29 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **96.9** | **109.** | **22100.** | **2640.** | **17300.** | **7.53** | **26.7** | **105.** | **2.46** | **.381** | **14.3** | **100.** |
| Stddev | 2.4 | 2. | 569. | 21. | 432. | .56 | .5 | 3. | 1.51 | 2.73 | 3.4 | 12. |
| %RSD | 2.46 | 2.23 | 2.58 | .807 | 2.50 | 7.38 | 1.90 | 2.75 | 61.4 | 715. | 23.4 | 11.7 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **96.4** | **118.** |
| Stddev | 1.7 | 1. |
| %RSD | 1.73 | .969 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125540.** | **1274200.** | **307600.** |
| Stddev | 63. | 6049. | 2758. |
| %RSD | .04982 | .47472 | .89658 |

Sample Name: MSDS254602 Acquired: 04/25/2019 18:41:32 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.333** | **39600.** | **1820.** | **1780.** | **333.** | **351.** | **.910** | **13300.** | **.022** | **5.94** | **10.6** | **59.2** |
| Stddev | .549 | 262. | 14. | 11. | 1. | 3. | .027 | 158. | .066 | .17 | .1 | 1.0 |
| %RSD | 165. | .660 | .755 | .596 | .202 | .991 | 2.95 | 1.19 | 300. | 2.86 | 1.17 | 1.62 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **97.9** | **108.** | **25200.** | **2510.** | **16800.** | **8.65** | **30.0** | **112.** | **1.43** | **2.44** | **15.4** | **110.** |
| Stddev | 2.7 | 6. | 154. | 73. | 175. | .53 | .6 | 5. | .70 | 5.97 | 1.7 | 3. |
| %RSD | 2.74 | 5.47 | .613 | 2.89 | 1.04 | 6.08 | 1.85 | 4.85 | 48.8 | 244. | 10.8 | 3.05 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **108.** | **133.** |
| Stddev | 1. | 1. |
| %RSD | .632 | .498 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125270.** | **1275400.** | **307530.** |
| Stddev | 260. | 5103. | 1954. |
| %RSD | .20763 | .40015 | .63530 |

Sample Name: PDSS254602 Acquired: 04/25/2019 18:48:00 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **71.0** | **47900.** | **2740.** | **2950.** | **3950.** | **77.1** | **89.6** | **333000.** | **62.5** | **78.0** | **692.** |
| Stddev | 1.9 | 1720. | 158. | 156. | 132. | 1.9 | 3.9 | 9890. | 3.5 | 4.2 | 38. |
| %RSD | 2.63 | 3.60 | 5.77 | 5.30 | 3.33 | 2.49 | 4.31 | 2.97 | 5.54 | 5.41 | 5.50 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **364.** | **490.** | **514.** | **26400.** | **161000.** | **16400.** | **6.01** | **690.** | **694.** | **719.** | **732.** |
| Stddev | 9. | 10. | 20. | 954. | 4850. | 437. | .47 | 41. | 39. | 45. | 43. |
| %RSD | 2.47 | 1.94 | 3.93 | 3.61 | 3.01 | 2.67 | 7.74 | 5.87 | 5.62 | 6.29 | 5.86 |

| Elem | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **729.** | **721.** | **2820.** | **2590.** | **1010.** | **900.** | **767.** | **796.** |
| Stddev | 38. | 36. | 122. | 120. | 32. | 20. | 45. | 42. |
| %RSD | 5.27 | 4.98 | 4.34 | 4.62 | 3.12 | 2.24 | 5.86 | 5.29 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117110.** | **1183800.** | **295270.** |
| Stddev | 337. | 5871. | 1359. |
| %RSD | .28814 | .49590 | .46041 |

Sample Name: 254603 Acquired: 04/25/2019 18:54:14 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.47** | **84900.** | **89.6** | **676.** | **969.** | **2.04** | **59400.** | **-1.69** | **1.15** | **23.3** | **90.9** | **157.** |
| Stddev | .44 | 3210. | 4.5 | 20. | 36. | .09 | 2460. | .37 | .23 | .8 | 5.3 | 7. |
| %RSD | 29.8 | 3.78 | 5.02 | 3.01 | 3.67 | 4.41 | 4.15 | 21.9 | 20.3 | 3.25 | 5.79 | 4.43 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **176.** | **63200.** | **6450.** | **23700.** | **4.88** | **45.2** | **206.** | **3.04** | **7.57** | **19.1** | **185.** | **160.** |
| Stddev | 8. | 2360. | 354. | 829. | .61 | 1.0 | 5. | 2.59 | 6.78 | 1.7 | 7. | 8. |
| %RSD | 4.62 | 3.73 | 5.50 | 3.50 | 12.5 | 2.29 | 2.30 | 85.0 | 89.6 | 9.06 | 3.98 | 4.81 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **251.** |
| Stddev | 6. |
| %RSD | 2.46 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124780.** | **1258800.** | **306050.** |
| Stddev | 184. | 6807. | 1678. |
| %RSD | .14765 | .54074 | .54831 |

Sample Name: ccv1 Acquired: 04/25/2019 19:00:50 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **466.** | **4510.** | **4890.** | **4870.** | **468.** | F **4360.** | **477.** | **4820.** | **4920.** | F **4370.** | **4790.** | **5120.** |
| Stddev | 3. | 14. | 13. | 55. | 6. | 22. | 1. | 19. | 8. | 35. | 148. | 123. |
| %RSD | .685 | .310 | .273 | 1.14 | 1.21 | .501 | .191 | .390 | .156 | .791 | 3.09 | 2.41 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4560.** | **4790.** | **4790.** | **4560.** | **4860.** | **4720.** | **4780.** | **4840.** | **4800.** |
| Stddev | 48. | 15. | 10. | 21. | 10. | 36. | 18. | 40. | 15. |
| %RSD | 1.04 | .304 | .198 | .449 | .201 | .751 | .382 | .819 | .306 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121360.** | **1235100.** | **300520.** |
| Stddev | 203. | 3809. | 1027. |
| %RSD | .16720 | .30835 | .34185 |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **467.** | **481.** | **497.** | **479.** | **509.** | **50.0** | **52.0** | **481.** | **48.8** | **50.9** | **497.** |
| Stddev | .9 | 2. | 6. | 4. | 1. | 7. | .1 | 2.4 | 4. | .3 | .2 | 2. |
| %RSD | 1.89 | .426 | 1.25 | .731 | .112 | 1.28 | .294 | 4.62 | .918 | .561 | .386 | .356 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **462.** | **472.** | **482.** | **470.** | **466.** | **477.** | **488.** | **501.** | **502.** | **479.** | **479.** |
| Stddev | 3. | 10. | 7. | 6. | 2. | 2. | 2. | 1. | 1. | 2. | 8. | 4. |
| %RSD | .595 | 2.19 | 1.54 | 1.16 | .482 | .380 | .357 | .257 | .127 | .489 | 1.61 | .748 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **502.** | **493.** | **516.** | **504.** | **498.** | **497.** | **490.** |
| Stddev | 3. | 4. | 7. | 1. | 7. | 2. | 1. | . |
| %RSD | .556 | .742 | 1.34 | .231 | 1.36 | .498 | .156 | .089 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 19:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124170.** | **1264700.** | **302550.** |
| Stddev | 370. | 4814. | 2853. |
| %RSD | .29826 | .38061 | .94303 |

Sample Name: ccb Acquired: 04/25/2019 19:12:08 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.905** | **-10.1** | **-7.60** | **-.385** | **.017** | **-14.1** | **-.062** | **.057** | **.067** | **.135** | **6.29** | **-14.8** |
| Stddev | .960 | .2 | 7.49 | .284 | .009 | .8 | .232 | .117 | .235 | .529 | 6.80 | 1.7 |
| %RSD | 106. | 2.41 | 98.5 | 73.6 | 52.2 | 5.38 | 374. | 206. | 349. | 393. | 108. | 11.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.6** | **-.842** | **.474** | **.171** | **1.21** | **-.309** | **3.78** | **-.395** | **-.159** | **-.163** |
| Stddev | .1 | .054 | .506 | .271 | 2.29 | 2.81 | 3.45 | 2.11 | .434 | .139 |
| %RSD | .280 | 6.43 | 107. | 159. | 190. | 909. | 91.3 | 535. | 273. | 85.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124240.** | **1271400.** | **302340.** |
| Stddev | 75. | 3984. | 990. |
| %RSD | .06008 | .31339 | .32745 |

Sample Name: 254604 Acquired: 04/25/2019 19:18:25 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.556** | **69800.** | **62.3** | **419.** | **469.** | **2.26** | **22800.** | **-.885** | **.707** | **26.6** | **91.1** | **77.9** |
| Stddev | .379 | 876. | 8.6 | 1. | 5. | .05 | 270. | .157 | .104 | .4 | .5 | 7.2 |
| %RSD | 68.2 | 1.26 | 13.7 | .192 | 1.06 | 2.18 | 1.19 | 17.7 | 14.7 | 1.40 | .525 | 9.25 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **90.0** | **69600.** | **5640.** | **9980.** | **4.36** | **52.8** | **119.** | **.612** | **6.42** | **15.4** | **165.** | **155.** |
| Stddev | 4.0 | 663. | 47. | 80. | .39 | .2 | 1. | 3.50 | 3.67 | 3.4 | 2. | 1. |
| %RSD | 4.43 | .952 | .837 | .801 | 8.98 | .372 | 1.25 | 572. | 57.2 | 22.3 | 1.46 | .816 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **203.** |
| Stddev | 1. |
| %RSD | .651 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125920.** | **1266500.** | **309240.** |
| Stddev | 458. | 3666. | 3185. |
| %RSD | .36410 | .28948 | 1.0298 |

Sample Name: 254605 Acquired: 04/25/2019 19:24:52 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-4.84** | **37300.** | **90.7** | **3080.** | **1.85** | **14400.** | **.770** | **1.85** | **43.4** | **46.6** | **741.** |
| Stddev | .63 | 782. | 15.7 | 73. | .04 | 451. | .077 | .26 | 1.1 | 1.2 | 26. |
| %RSD | 13.1 | 2.10 | 17.3 | 2.39 | 2.41 | 3.13 | 9.95 | 14.0 | 2.48 | 2.46 | 3.44 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **776.** | **54000.** | **5920.** | **159000.** | **17.4** | **39.7** | **2640.** | **4.18** | **12.1** | **89.5** | **240.** |
| Stddev | 14. | 1620. | 114. | 4040. | .7 | .2 | 46. | 1.73 | 5.0 | 4.4 | 2. |
| %RSD | 1.83 | 3.00 | 1.92 | 2.54 | 3.86 | .575 | 1.72 | 41.4 | 41.7 | 4.87 | .899 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **207.** | **406.** | **390.** |
| Stddev | 3. | 7. | 5. |
| %RSD | 1.44 | 1.79 | 1.17 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123730.** | **1257700.** | **305200.** |
| Stddev | 142. | 4558. | 1233. |
| %RSD | .11506 | .36241 | .40395 |

Sample Name: 254606 Acquired: 04/25/2019 19:31:23 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-3.67** | **28700.** | **52.4** | **2150.** | **1.76** | **11000.** | **.384** | **1.11** | **35.7** | **45.0** | **651.** | **670.** |
| Stddev | .92 | 433. | 4.7 | 35. | .02 | 151. | .136 | .07 | .7 | 1.6 | 22. | 14. |
| %RSD | 25.1 | 1.51 | 8.94 | 1.62 | 1.21 | 1.38 | 35.4 | 6.62 | 1.91 | 3.47 | 3.34 | 2.16 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **49400.** | **4960.** | **95400.** | **8.34** | **39.8** | **1020.** | **948.** | **.561** | **8.14** | **59.9** | **168.** | **158.** |
| Stddev | 641. | 25. | 1820. | .54 | .5 | 14. | 6. | 2.19 | 5.28 | 1.8 | 2. | 3. |
| %RSD | 1.30 | .503 | 1.90 | 6.42 | 1.24 | 1.35 | .591 | 390. | 64.8 | 2.96 | 1.26 | 1.82 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **421.** | **411.** |
| Stddev | 5. | 5. |
| %RSD | 1.29 | 1.32 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124500.** | **1266100.** | **307680.** |
| Stddev | 182. | 4316. | 1229. |
| %RSD | .14596 | .34089 | .39956 |

Sample Name: 255833 Acquired: 04/25/2019 19:38:00 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.84** | **29500.** | **92.7** | **952.** | **1040.** | **1.72** | **38700.** | **1.27** | **2.25** | **25.0** | **55.7** | **811.** |
| Stddev | .85 | 241. | 17.5 | 15. | 10. | .05 | 369. | .38 | .05 | .4 | .8 | 12. |
| %RSD | 29.9 | .817 | 18.8 | 1.58 | .916 | 3.13 | .956 | 29.9 | 2.32 | 1.67 | 1.40 | 1.52 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **833.** | **39600.** | **16200.** | **93500.** | **12.7** | **43.1** | **533.** | **489.** | **1.06** | **12.2** | **60.4** | **178.** |
| Stddev | 17. | 386. | 122. | 966. | .5 | 1.1 | 13. | 7. | 1.12 | 5.2 | 4.8 | 7. |
| %RSD | 2.00 | .976 | .752 | 1.03 | 3.86 | 2.47 | 2.48 | 1.48 | 105. | 43.0 | 7.90 | 3.86 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **171.** | **1590.** |
| Stddev | 2. | 30. |
| %RSD | 1.04 | 1.87 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122850.** | **1256500.** | **307270.** |
| Stddev | 694. | 6752. | 1859. |
| %RSD | .56502 | .53735 | .60508 |

Sample Name: 255853 Acquired: 04/25/2019 19:44:35 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.28** | **20800.** | **47.3** | **357.** | **393.** | **1.13** | **23800.** | **.170** | **1.03** | **15.8** | **50.5** | **191.** |
| Stddev | .20 | 411. | 6.3 | 2. | 10. | .05 | 346. | .288 | .10 | .3 | .8 | 5. |
| %RSD | 15.8 | 1.97 | 13.3 | .549 | 2.51 | 4.08 | 1.45 | 169. | 9.65 | 1.87 | 1.54 | 2.68 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **202.** | **32700.** | **12000.** | **24700.** | **3.73** | **33.9** | **202.** | **1.45** | **5.72** | **19.1** | **100.** | **98.4** |
| Stddev | 7. | 656. | 180. | 442. | .63 | .8 | 3. | .91 | 1.64 | 2.2 | 7. | 1.4 |
| %RSD | 3.49 | 2.00 | 1.50 | 1.79 | 17.0 | 2.23 | 1.46 | 62.6 | 28.6 | 11.4 | 6.82 | 1.37 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **381.** |
| Stddev | 2. |
| %RSD | .628 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124470.** | **1265600.** | **307480.** |
| Stddev | 112. | 4048. | 2947. |
| %RSD | .09003 | .31988 | .95846 |

Sample Name: 255854 Acquired: 04/25/2019 19:51:12 Type: Unk
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.31** | **15500.** | **15.5** | **3940.** | **1.14** | **2800.** | **.524** | **1.20** | **22.3** | **29.2** | **485.** | **507.** |
| Stddev | .42 | 252. | 11.4 | 49. | .05 | 63. | .215 | .27 | .4 | 1.7 | 5. | 9. |
| %RSD | 18.1 | 1.63 | 73.6 | 1.25 | 4.13 | 2.27 | 41.2 | 22.8 | 1.71 | 5.73 | 1.03 | 1.69 |

| Elem | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **28600.** | **1710.** | **69000.** | **12.0** | **25.3** | **2700.** | **14.7** | **1.41** | **41.4** | **102.** | **93.1** | **322.** |
| Stddev | 451. | 43. | 940. | .8 | .6 | 41. | 1.7 | 4.89 | 2.3 | 5. | 1.8 | 4. |
| %RSD | 1.58 | 2.51 | 1.36 | 6.58 | 2.19 | 1.53 | 11.8 | 348. | 5.46 | 5.05 | 1.97 | 1.30 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **124880.** | **1271300.** | **305940.** |
| Stddev | 181. | 3355. | 2413. |
| %RSD | .14501 | .26391 | .78878 |

Sample Name: ccv1 Acquired: 04/25/2019 20:21:38 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4540.** | **4880.** | **4870.** | **469.** | F **4330.** | **478.** | **4810.** | **4900.** | F **4360.** | **4830.** | **4950.** |
| Stddev | 2. | 72. | 8. | 45. | 1. | 13. | . | 28. | 1. | 26. | 229. | 103. |
| %RSD | .354 | 1.58 | .161 | .917 | .210 | .309 | .092 | .576 | .014 | .589 | 4.74 | 2.07 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | -10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4530.** | **4790.** | **4800.** | **4580.** | **4860.** | **4690.** | **4800.** | **4840.** | **4810.** |
| Stddev | 31. | 11. | 10. | 14. | 8. | 33. | 19. | 42. | 10. |
| %RSD | .677 | .224 | .205 | .316 | .162 | .705 | .388 | .876 | .199 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **121260.** | **1237200.** | **300720.** |
| Stddev | 95. | 4335. | 2794. |
| %RSD | .07846 | .35041 | .92894 |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.3** | **467.** | **473.** | **492.** | **478.** | **505.** | **49.6** | **49.9** | **478.** | **48.8** | **50.9** | **496.** |
| Stddev | .1 | 1. | 15. | 6. | 1. | 7. | .3 | .7 | 7. | .2 | .1 | 2. |
| %RSD | .278 | .292 | 3.10 | 1.20 | .232 | 1.43 | .564 | 1.43 | 1.41 | .428 | .225 | .366 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **495.** | **457.** | **468.** | **482.** | **467.** | **466.** | **477.** | **487.** | **499.** | **501.** | **479.** | **476.** |
| Stddev | 3. | 3. | 3. | 4. | 3. | 3. | 3. | 2. | 2. | 2. | 6. | 5. |
| %RSD | .599 | .631 | .613 | .729 | .744 | .695 | .578 | .433 | .312 | .354 | 1.26 | 1.13 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **504.** | **500.** | **491.** | **516.** | **498.** | **496.** | **496.** | **488.** |
| Stddev | 3. | 3. | 6. | 3. | 5. | 2. | 2. | 1. |
| %RSD | .549 | .541 | 1.30 | .651 | .929 | .354 | .428 | .228 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/25/2019 20:27:16 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 124480. | 1266700. | 303030. |
| Stddev | 212. | 2501. | 2034. |
| %RSD | .17053 | .19745 | .67130 |

Sample Name: ccb Acquired: 04/25/2019 20:33:00 Type: QC
Method: DOD Calibration Updated 060614(v3320) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.616** | **-9.58** | **-3.94** | **-.200** | **-.005** | **-13.7** | **.063** | **.028** | **-.048** | **.082** | **5.21** | **-11.7** |
| Stddev | .319 | .74 | 6.55 | .212 | .032 | .7 | .093 | .104 | .089 | .671 | 3.41 | .7 |
| %RSD | 51.8 | 7.68 | 166. | 106. | 712. | 5.27 | 148. | 373. | 184. | 815. | 65.5 | 6.23 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-22.3** | **-.623** | **.265** | **.240** | **.628** | **1.95** | **3.11** | **-.114** | **.550** | **.028** |
| Stddev | .1 | .058 | .421 | .630 | 2.16 | .70 | 2.91 | 2.07 | .338 | .202 |
| %RSD | .254 | 9.23 | 159. | 262. | 344. | 35.8 | 93.5 | 1820. | 61.5 | 710. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

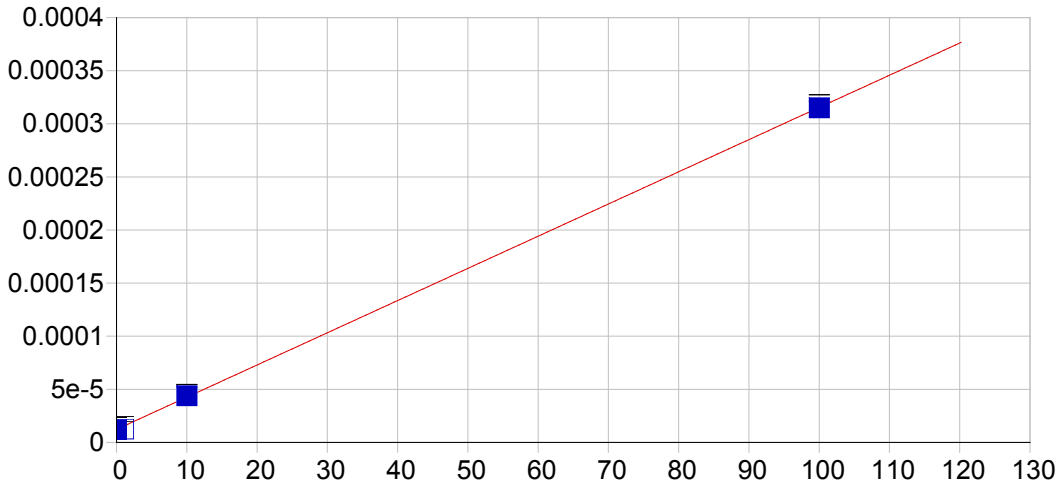
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **124710.** | **1266200.** | **303360.** |
| Stddev | 246. | 7402. | 2134. |
| %RSD | .19686 | .58455 | .70331 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:04:13 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000002 | 0.771259 | 2.570863 |
| Ag 338.289 {100} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.962425 | 0.000002 | 18.287510 | 60.958366 |
| Al 167.079 {501} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | None | 0.000058 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000014 | 0.663610 | 2.212032 |
| Al 308.215 {109} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.992739 | 0.000216 | 35.529198 | 118.43066 |
| Al 396.152 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Curvili | 1/Conc | -0.000023 | 0.000001 | 0.000000 | 1.000000 | 0.999721 | 0.000063 | 12.909176 | 43.030588 |
| As 193.759 {474} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Var | 0.539750 | 0.187381 | 0.000000 | 1.000000 | 0.999781 | 1.235779 | 3.306742 | 11.022473 |
| As 197.262 {471} | 04/30/2019 08:01:24 | 04/29/2019 15:16:22 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.998967 | 0.000000 | 7.150038 | 23.833460 |
| Ba 233.527 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.998869 | 0.000001 | 0.388630 | 1.295433 |
| Ba 455.403 { 74} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000125 | 0.000046 | 0.000000 | 1.000000 | 0.998156 | 0.000011 | 0.424860 | 1.416201 |
| Ba 493.409 { 68} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.010947 | 0.000056 | 0.000000 | 1.000000 | 0.998653 | 0.000137 | 0.907157 | 3.023855 |
| Be 313.042 {108} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | -0.000185 | 0.000058 | 0.000000 | 1.000000 | 0.999544 | 0.000002 | 0.049429 | 0.164762 |
| Be 234.861 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999290 | 0.000001 | 1.414818 | 4.716060 |
| Ca 315.887 {107} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.000054 | 0.000000 | 0.000000 | 1.000000 | 0.999799 | 0.000011 | 12.463600 | 41.545332 |
| Ca 317.933 {106} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.002916 | 0.000001 | 0.000000 | 1.000000 | 0.999746 | 0.000028 | 6.859728 | 22.865759 |
| Ca 393.366 { 86} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Var | 0.008895 | 0.000188 | 0.000000 | 1.000000 | 0.999982 | 0.000207 | 0.074229 | 0.247430 |
| Ca 396.847 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.008134 | 0.000111 | 0.000000 | 1.000000 | 0.998837 | 0.000251 | 0.118050 | 0.393499 |
| Cd 226.502 {449} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | -0.000010 | 0.000026 | 0.000000 | 1.000000 | 0.997348 | 0.000002 | 0.233555 | 0.778515 |
| Cd 228.802 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | 0.000024 | 0.000048 | 0.000000 | 1.000000 | 0.991474 | 0.000006 | 0.157317 | 0.524389 |
| Co 228.616 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000017 | 0.000018 | 0.000000 | 1.000000 | 0.996680 | 0.000006 | 0.449246 | 1.497487 |
| Co 238.892 {141} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.998281 | 0.000005 | 0.890001 | 2.966671 |
| Cr 205.560 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Var | 0.000037 | 0.000015 | 0.000000 | 1.000000 | 0.997498 | 0.000145 | 0.312030 | 1.040101 |
| Cr 267.716 {126} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.998132 | 0.000001 | 0.923046 | 3.076818 |
| Cu 224.700 {450} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | -0.000001 | 0.000006 | 0.000000 | 1.000000 | 0.999425 | 0.000011 | 0.447985 | 1.493282 |
| Cu 324.754 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | 32.917937 | 0.432226 | 0.000000 | 1.000000 | 0.999630 | 0.452439 | 5.608774 | 18.695912 |
| Cu 327.396 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 7.187822 | 0.321888 | 0.000000 | 1.000000 | 0.999459 | 0.282912 | 9.835319 | 32.784397 |
| Fe 234.349 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Curvili | 1/Var | 0.000030 | 0.000000 | 0.000000 | 1.000000 | 0.999923 | 0.000006 | 1.861928 | 6.206425 |
| Fe 239.562 {140} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000013 | 0.000000 | 0.000000 | 1.000000 | 0.994823 | 0.000040 | 17.270833 | 57.569443 |
| Fe 259.940 {129} | 04/30/2019 08:01:24 | 04/29/2019 15:35:49 | Curvili | 1/Var | 0.000065 | 0.000001 | 0.000000 | 1.000000 | 0.997286 | 0.000158 | 5.216183 | 17.387276 |
| Mg 202.582 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999696 | 0.000343 | 2.203469 | 7.344897 |
| Mg 279.079 {121} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.100000 | 0.999980 | 0.000001 | 225.46699 | 751.55664 |
| Mg 280.270 {120} | 04/30/2019 08:01:24 | 04/29/2019 15:16:24 | Linear | 1/Var | 0.001262 | 0.000024 | 0.000000 | 1.000000 | 0.992448 | 0.000619 | 0.051519 | 0.171731 |
| Mn 257.610 {131} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000029 | 0.000012 | 0.000000 | 1.000000 | 0.995548 | 0.000011 | 0.097079 | 0.323597 |
| Mn 259.373 {130} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999811 | 0.000028 | 1.512228 | 5.040759 |
| Mo 202.030 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Conc | 0.000010 | 0.000009 | 0.000000 | 1.000000 | 0.918937 | 0.000011 | 0.461169 | 1.537230 |
| Mo 203.844 {465} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Var | 0.000022 | 0.000006 | 0.000000 | 1.000000 | 0.999869 | 0.000018 | 0.801215 | 2.670716 |
| Mo 204.598 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999653 | 0.000025 | 0.916548 | 3.055158 |
| Ni 221.647 {452} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.998093 | 0.000030 | 0.768351 | 2.561171 |
| Ni 231.604 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000020 | 0.000011 | 0.000000 | 1.000000 | 0.984592 | 0.000007 | 0.735570 | 2.451899 |
| Pb 216.999 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000015 | 0.000001 | 0.000000 | 1.000000 | 0.999773 | 0.000038 | 5.620225 | 18.734085 |
| Pb 220.353 {453} | 04/30/2019 08:01:24 | 04/29/2019 15:09:57 | Linear | 1/Conc | 0.000028 | 0.000003 | 0.000000 | 1.000000 | 0.878400 | 0.000005 | 2.481162 | 8.270541 |
| Pb 220.353 {153} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999653 | 0.000000 | 6.969384 | 23.231279 |
| Sb 206.833 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.998562 | 0.000001 | 2.581313 | 8.604377 |
| Sb 217.581 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.933696 | 0.000006 | 2.801324 | 9.337748 |
| Se 196.090 {472} | 04/30/2019 08:01:24 | 04/29/2019 15:09:58 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999198 | 0.000000 | 4.389697 | 14.632322 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Curvili | 1/Conc | 0.000004 | 0.000000 | -0.000000 | 1.000000 | 0.999688 | 0.000000 | 28.202163 | 94.007210 |
| Tl 190.856 {476} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.997608 | 0.000002 | 2.696044 | 8.986812 |
| Tl 190.856 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.997785 | 0.000001 | 5.738296 | 19.127652 |
| V 290.882 {116} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.998924 | 0.000002 | 8.162286 | 27.207619 |
| V 292.402 {115} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000005 | 0.000007 | 0.000000 | 1.000000 | 0.998319 | 0.000005 | 0.630081 | 2.100271 |
| Zn 206.200 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000061 | 0.000017 | 0.000000 | 1.000000 | 0.996075 | 0.000214 | 0.372954 | 1.243179 |
| Zn 213.856 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:09:59 | Linear | 1/Conc | 0.000030 | 0.000027 | 0.000000 | 1.000000 | 0.999485 | 0.000004 | 0.208095 | 0.693650 |
| Y 224.306 {450}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.004901 | 0.000005 | 0.000000 | 1.000000 | 0.999164 | 0.000037 | 10.509748 | 35.032492 |
| Na 589.592 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 0.000353 | 0.000005 | 0.000000 | 1.000000 | 0.999651 | 0.000172 | 7.542021 | 25.140069 |
| Si 251.611 {134} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 5.496233 | 0.049700 | 0.000000 | 1.000000 | 0.999713 | 0.563773 | 25.456914 | 84.856379 |
| Ti 323.452 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000229 | 0.000006 | 0.000000 | 1.000000 | 0.998823 | 0.000003 | 1.679766 | 5.599219 |
| Ti 334.941 {101} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000004 | 0.000000 | 1.000000 | 0.999000 | 0.000001 | 2.153927 | 7.179758 |
| Sr 407.771 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000090 | 0.000090 | 0.000000 | 1.000000 | 0.998548 | 0.000019 | 0.191487 | 0.638289 |
| Sr 421.552 { 80} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000064 | 0.000134 | 0.000000 | 1.000000 | 0.998725 | 0.000027 | 0.129437 | 0.431456 |
| Sn 189.989 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.998477 | 0.000002 | 1.686047 | 5.620155 |
| B 249.678 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999110 | 0.000001 | 1.384749 | 4.615829 |
| B 249.773 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.996375 | 0.000019 | 0.746113 | 2.487044 |
| Li 670.784 { 50} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000113 | 0.000026 | 0.000000 | 1.000000 | 0.996196 | 0.000316 | 1.644438 | 5.481459 |
| K 766.490 { 44} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | -0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999481 | 0.000045 | 53.224850 | 177.41616 |
| P 213.618 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:16:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1106.1553 | 3687.1846 |
| S 182.034 {485} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Curvili | 1/Conc | 0.000025 | 0.000000 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 6.539657 | 21.798855 |
| Hg 184.950 {482} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.351706 | 0.000021 | 8.769662 | 29.232206 |
| Ce 404.076 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000036 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.280330 | 74.267767 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

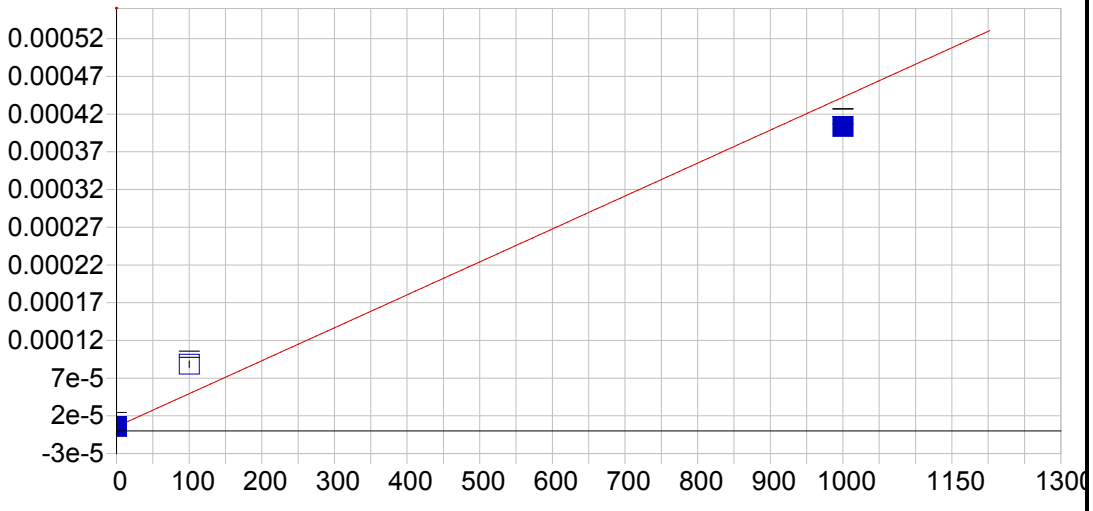



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.771259 | | |
| Predicted MQL: | 2.570863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.20712 | -.207 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.392 | .392 | 3.92 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.814 | -.186 | -.186 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .06215 | -.938 | -93.8 | .00001 | .000 | 1 |

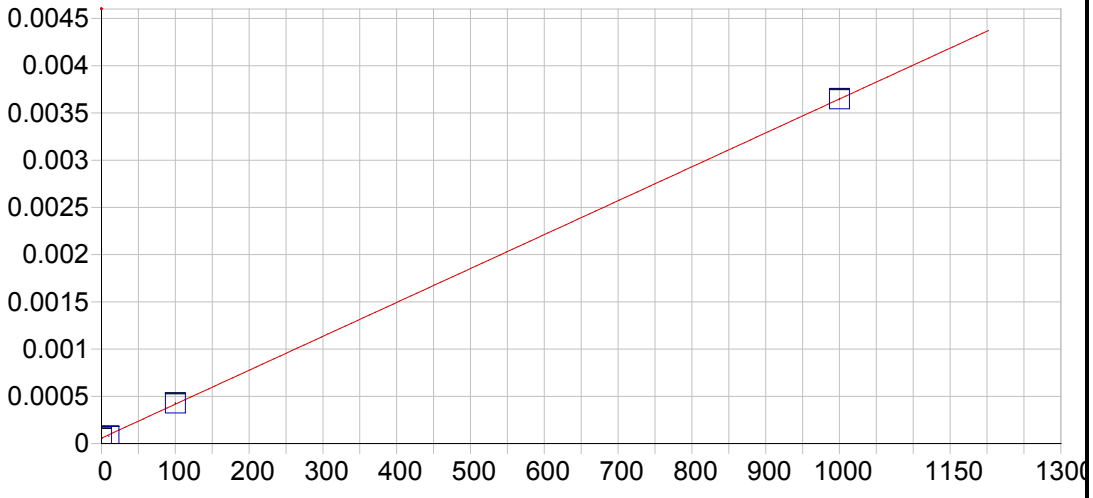



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.962425 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 18.287510 | | |
| Predicted MQL: | 60.958366 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08027 | -.080 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 189.19 | 89.2 | 89.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 910.83 | -89.2 | -8.92 | .00040 | .000 | 1 |

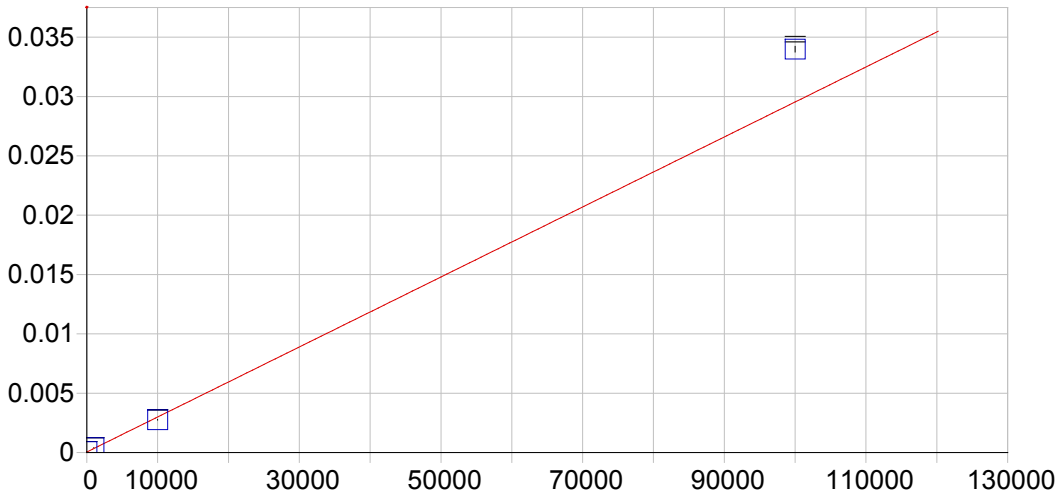



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.663610 | | |
| Predicted MQL: | 2.212032 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.0288 | 2.03 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.78 | -.219 | -.022 | .00365 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.5578 | -4.44 | -44.4 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.63 | 2.63 | 2.63 | .00043 | .000 | 1 |

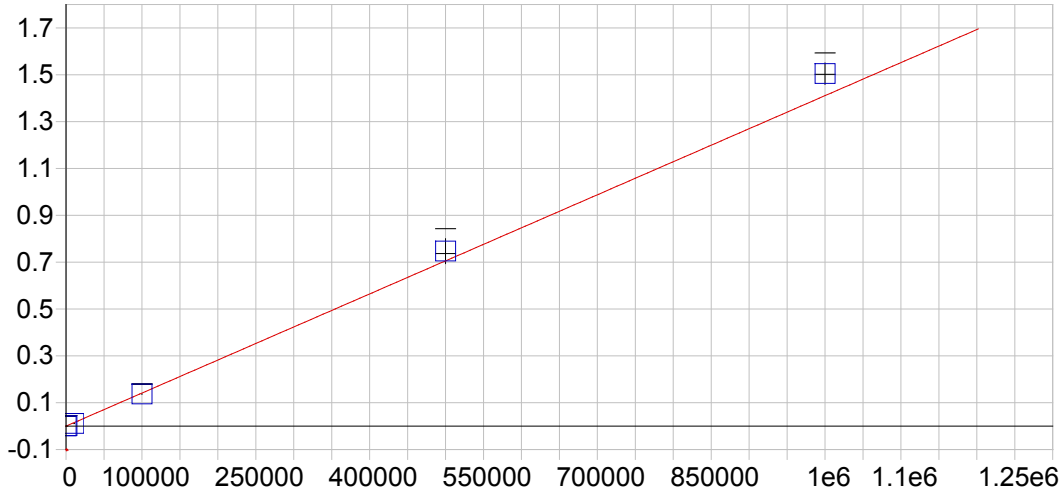



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992739 | Status: | OK. |
| Std Error of Est: | 0.000216 | | |
| Predicted MDL: | 35.529198 | | |
| Predicted MQL: | 118.430662 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 75.924 | 75.9 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9189.9 | -810. | -8.10 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1201.1 | 201. | 20.1 | .00040 | .000 | 1 |
| CalStd13=10 | 100000. | 115080. | 15100. | 15.1 | .03399 | .000 | 1 |

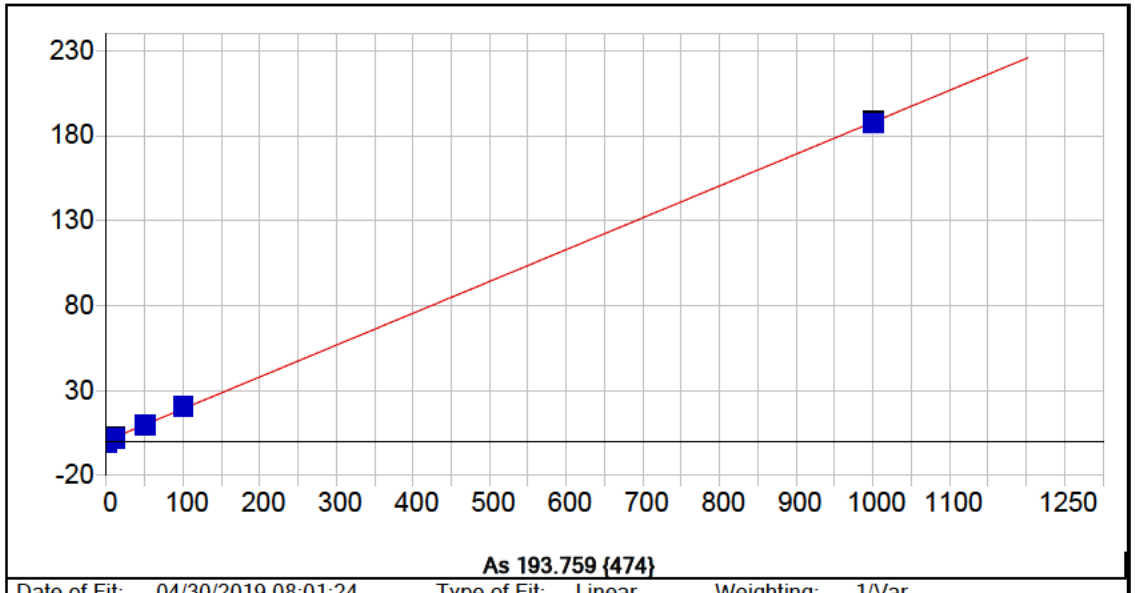



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999721 | Status: | OK. |
| Std Error of Est: | 0.000063 | | |
| Predicted MDL: | 12.909176 | | |
| Predicted MQL: | 43.030588 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33758 | .338 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 529520. | 29500. | 5.90 | .74706 | .053 | 1 |
| CalStd13=10 | 100000. | 96995. | -3010. | -3.01 | .13683 | .001 | 1 |
| CalStd10=10 | 10000. | 7635.5 | -2360. | -23.6 | .01075 | .000 | 1 |
| CalStd9=100 | 1000.0 | 919.15 | -80.8 | -8.08 | .00127 | .000 | 1 |
| CalibStd15= | 1000000. | 1066400. | 66400. | 6.64 | 1.5046 | .045 | 1 |

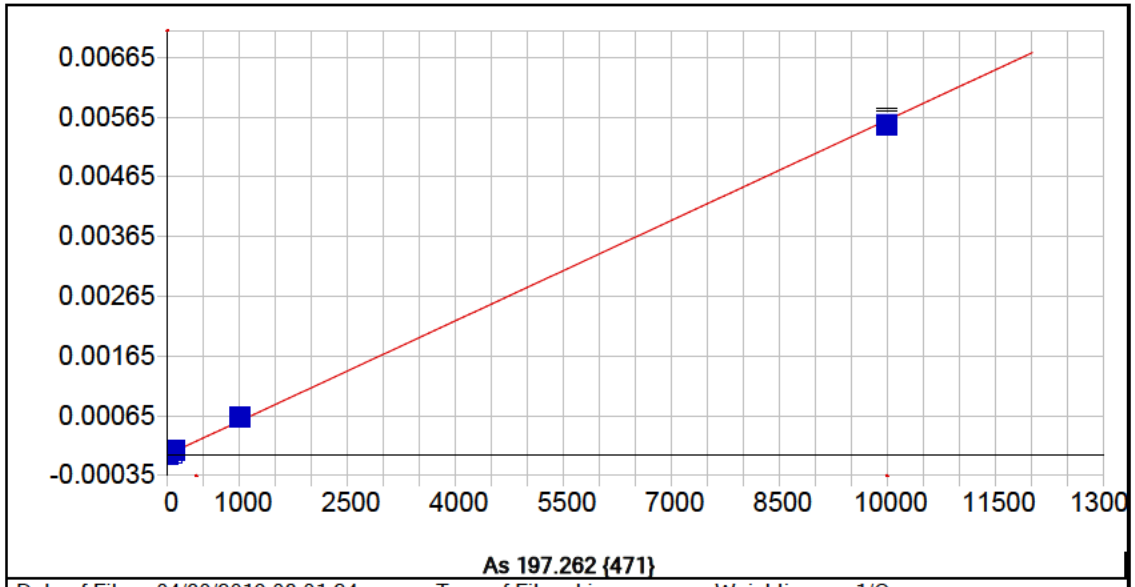



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.539750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.187381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 1.235779 | | |
| Predicted MDL: | 3.306742 | | |
| Predicted MQL: | 11.022473 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0560 | -6.06 | .000 | -.59503 | .623 | 1 |
| CalStd9=100 | 1000.0 | 997.06 | -2.94 | -.294 | 186.75 | 1.12 | 1 |
| CalStd7=50 | 50.000 | 47.791 | -2.21 | -4.42 | 9.4735 | .588 | 1 |
| CalStd5=10 | 10.000 | 7.5505 | -2.45 | -24.5 | 1.9497 | .990 | 1 |
| CalStd8=100 | 100.00 | 106.54 | 6.54 | 6.54 | 20.442 | .494 | 1 |

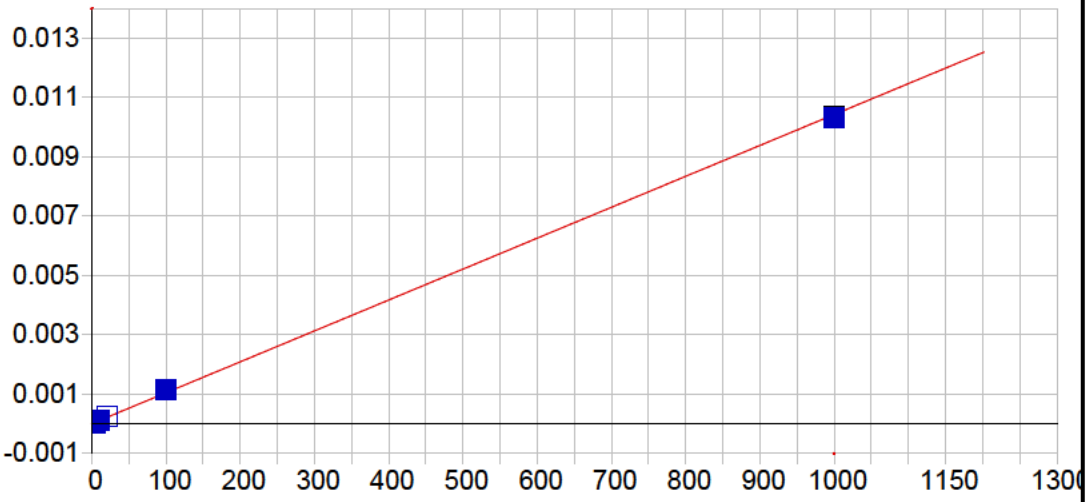



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.150038 | | |
| Predicted MQL: | 23.833460 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00548 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.8 | 132. | 13.2 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.208 | 8.21 | 16.4 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.48 | 14.5 | 14.5 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.4 | -156. | -1.56 | .00555 | .000 | 1 |

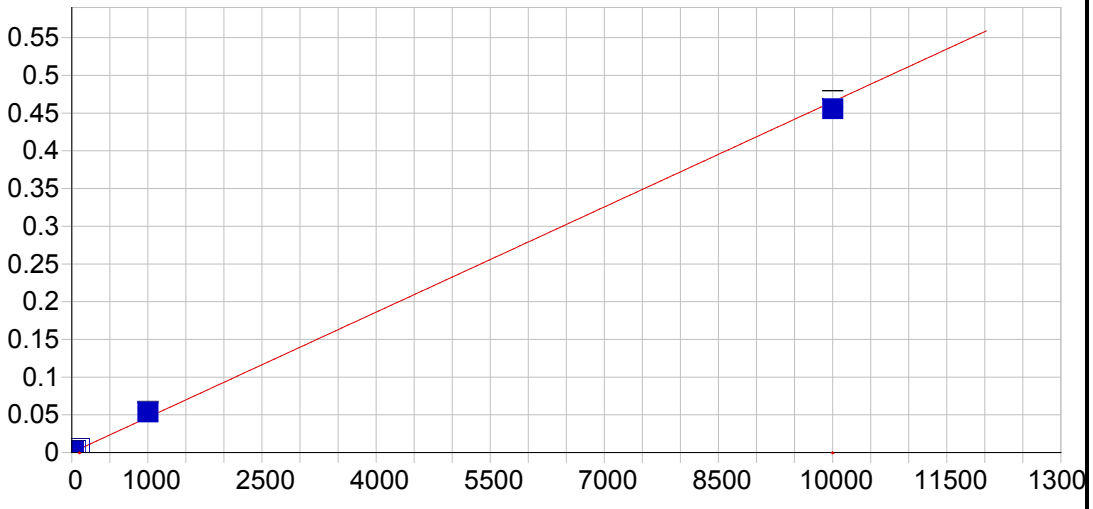



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998869 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.388630 | | |
| Predicted MQL: | 1.295433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.685 | 1.69 | 16.9 | .00013 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.379 | 2.38 | 11.9 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.99 | 8.99 | 8.99 | .00114 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.5664 | -1.43 | -28.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.19 | -10.8 | -1.08 | .01031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .18135 | -.819 | -81.9 | .00001 | .000 | 1 |

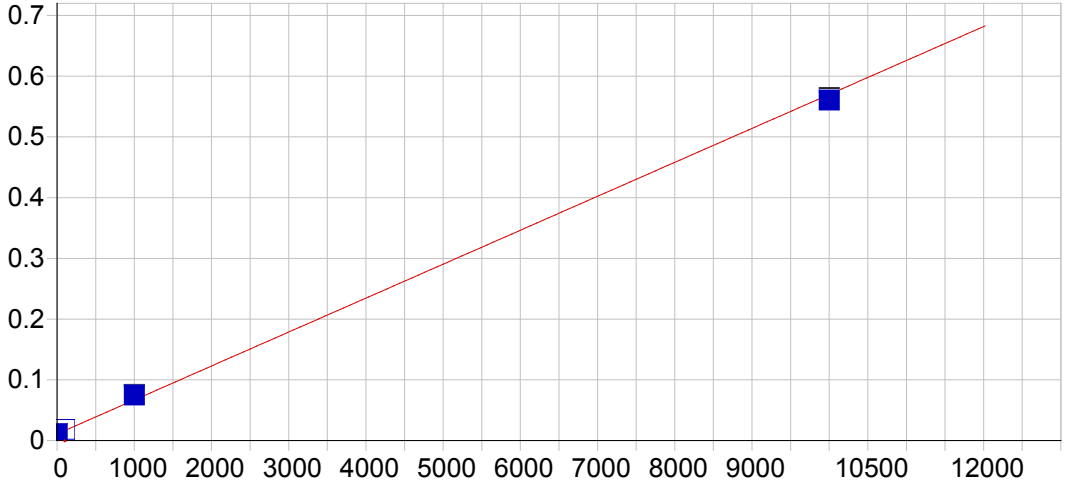



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000125 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998156 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.424860 | | |
| Predicted MQL: | 1.416201 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00102 | -.001 | .000 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.838 | 15.8 | 31.7 | .00319 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.147 | 3.15 | 31.5 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.954 | 5.95 | 29.8 | .00133 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.81 | 24.8 | 24.8 | .00593 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9621 | .962 | 19.2 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.5 | 151. | 15.1 | .05367 | .001 | 1 |
| CalStd3=1 | 1.0000 | .51857 | -.481 | -48.1 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.3 | -202. | -2.02 | .45572 | .011 | 1 |

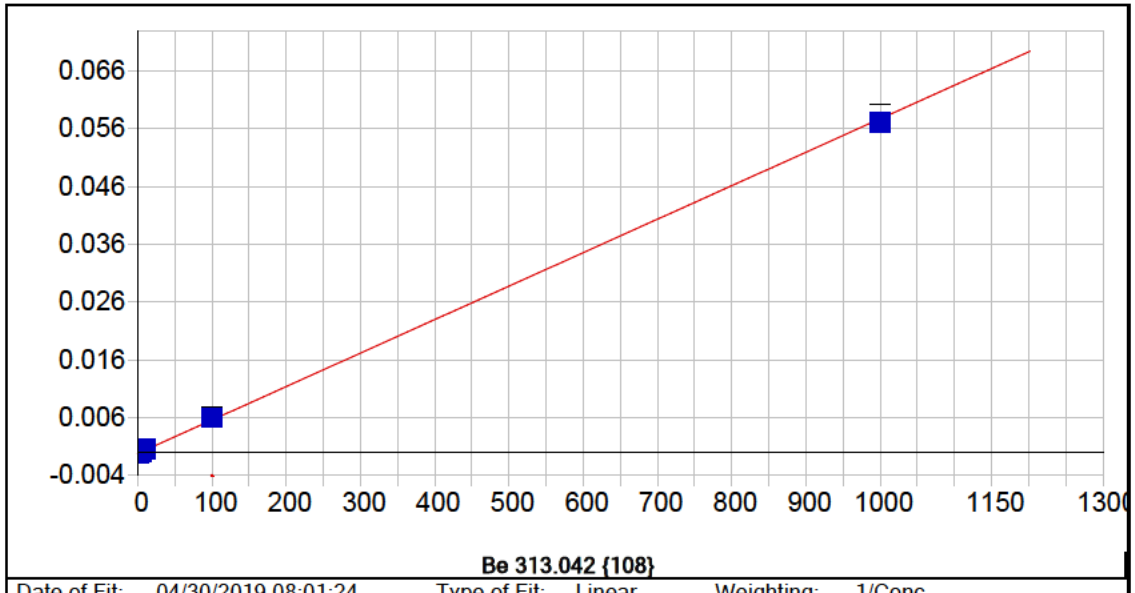



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010947 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998653 | Status: | OK. |
| Std Error of Est: | 0.000137 | | |
| Predicted MDL: | 0.907157 | | |
| Predicted MQL: | 3.023855 | | |

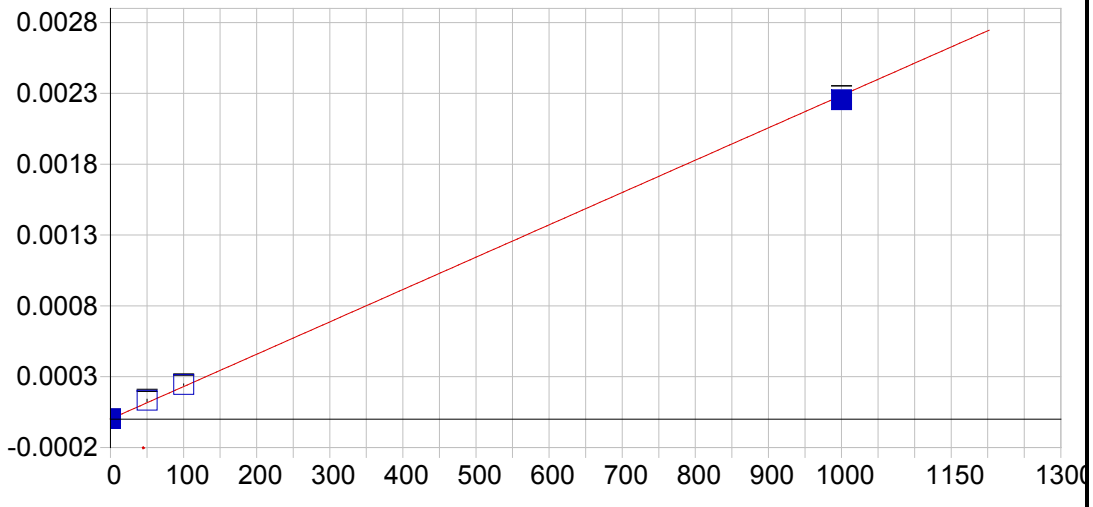
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03968 | -.040 | .000 | .01094 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1140.3 | 140. | 14.0 | .07469 | .001 | 1 |
| CalStd8=100 | 100.00 | 127.32 | 27.3 | 27.3 | .01806 | .000 | 1 |
| CalStd10=10 | 10000. | 9832.4 | -168. | -1.68 | .56060 | .003 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000185 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000058 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999544 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.049429 | | |
| Predicted MQL: | 0.164762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.811 | 1.81 | 18.1 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.89 | 6.89 | 6.89 | .00601 | .000 | 1 |
| CalStd2=0.5 | .50000 | .48965 | -.010 | -2.07 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7741 | .774 | 15.5 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.47 | -9.53 | -.953 | .05717 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0666 | .067 | 6.66 | -.00012 | .000 | 1 |

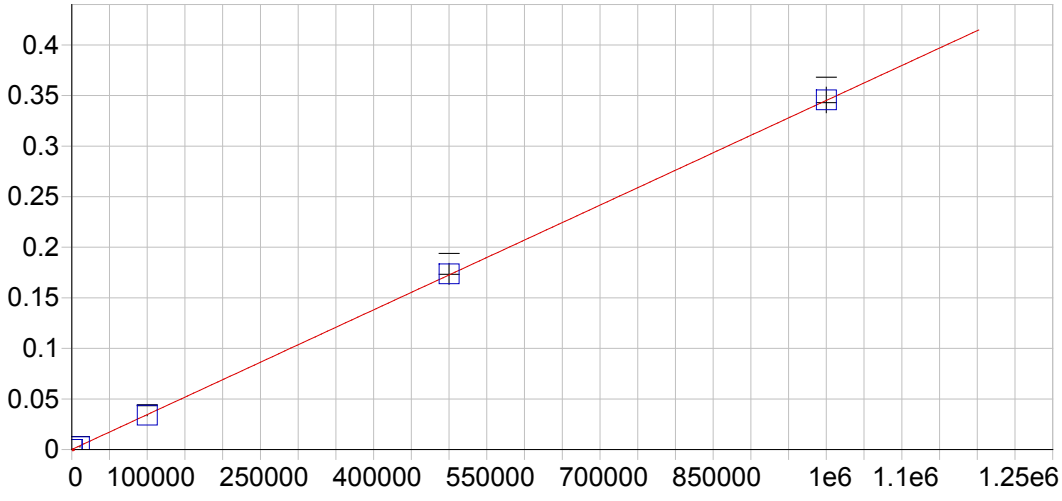



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999290 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.414818 | | |
| Predicted MQL: | 4.716060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00973 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.57 | -13.4 | -1.34 | .00225 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.08 | 6.08 | 6.08 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.360 | 7.36 | 14.7 | .00013 | .000 | 1 |

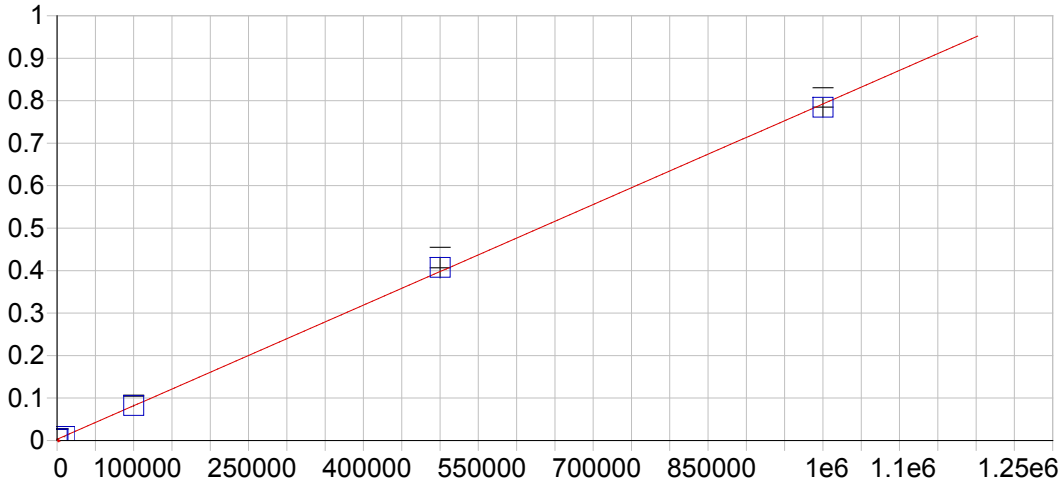



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999799 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 12.463600 | | |
| Predicted MQL: | 41.545332 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .37459 | .375 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 7609.8 | -2390. | -23.9 | .00268 | .000 | 1 |
| CalStd13=10 | 100000. | 97961. | -2040. | -2.04 | .03386 | .001 | 1 |
| CalStd14=50 | 500000. | 503050. | 3050. | .611 | .17366 | .010 | 1 |
| CalStd9=100 | 1000.0 | 877.21 | -123. | -12.3 | .00036 | .000 | 1 |
| CalibStd15= | 1000000. | 1001500. | 1500. | .150 | .34568 | .013 | 1 |

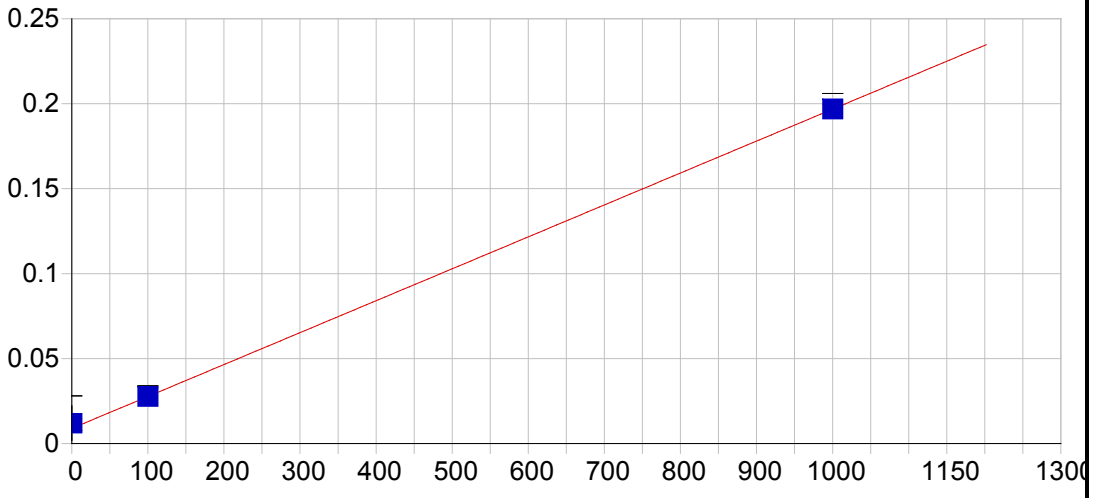



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002916 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 6.859728 | | |
| Predicted MQL: | 22.865759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13150 | .131 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 7981.1 | -2020. | -20.2 | .00922 | .000 | 1 |
| CalStd13=10 | 100000. | 100320. | 322. | .322 | .08212 | .001 | 1 |
| CalStd14=50 | 500000. | 512170. | 12200. | 2.43 | .40730 | .024 | 1 |
| CalStd9=100 | 1000.0 | 1053.4 | 53.4 | 5.34 | .00375 | .000 | 1 |
| CalibStd15= | 1000000. | 989470. | -10500. | -1.05 | .78415 | .023 | 1 |

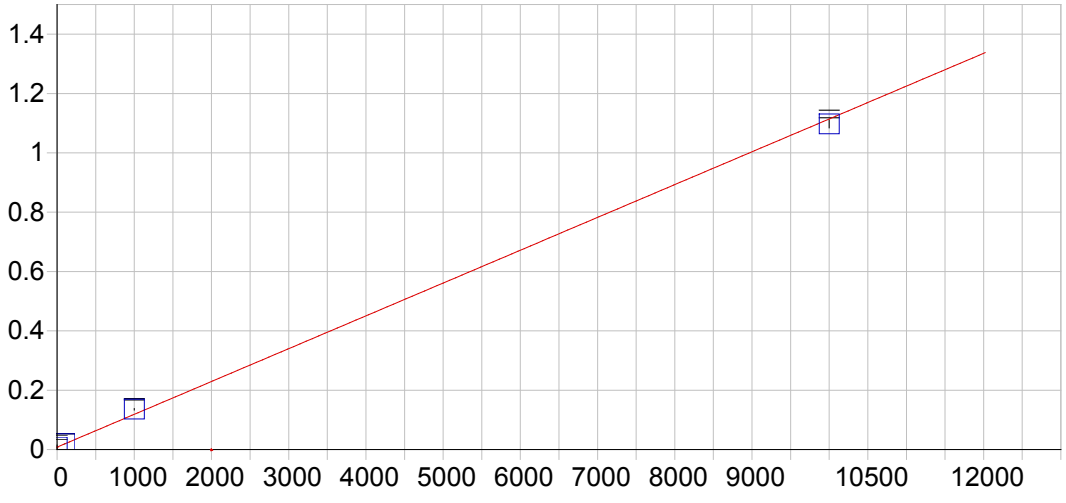



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008895 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000188 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999982 | Status: | OK. |
| Std Error of Est: | 0.000207 | | |
| Predicted MDL: | 0.074229 | | |
| Predicted MQL: | 0.247430 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 16.421 | 16.4 | .000 | .01198 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .196 | .020 | .19683 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.972 | -.028 | -.028 | .02768 | .000 | 1 |

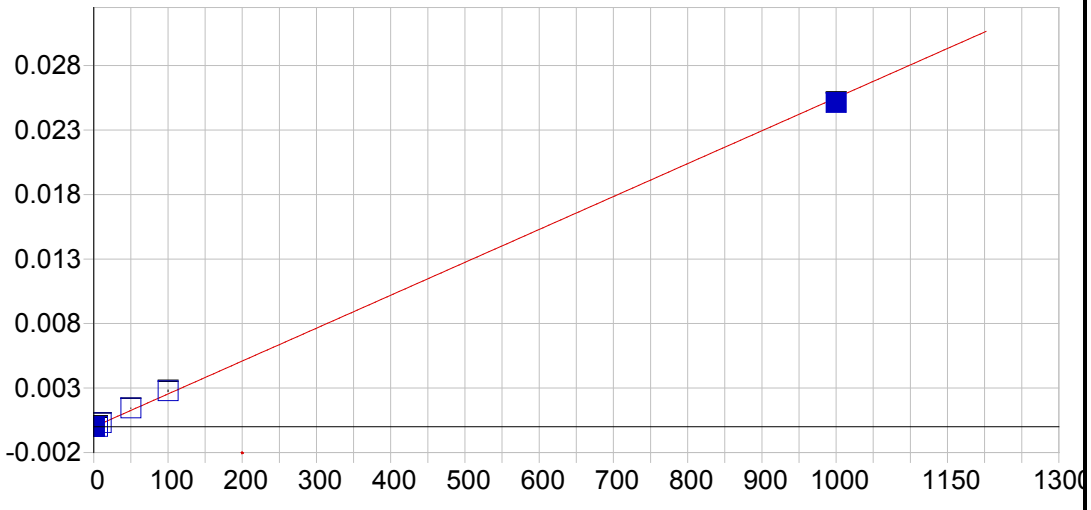



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000111 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998837 | Status: | OK. |
| Std Error of Est: | 0.000251 | | |
| Predicted MDL: | 0.118050 | | |
| Predicted MQL: | 0.393499 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01340 | -.013 | .000 | .00813 | .007 | 1 |
| CalStd10=10 | 10000. | 9847.0 | -153. | -1.53 | 1.0973 | .013 | 1 |
| CalStd8=100 | 100.00 | 99.586 | -.414 | -.414 | .01915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1153.4 | 153. | 15.3 | .13571 | .002 | 1 |

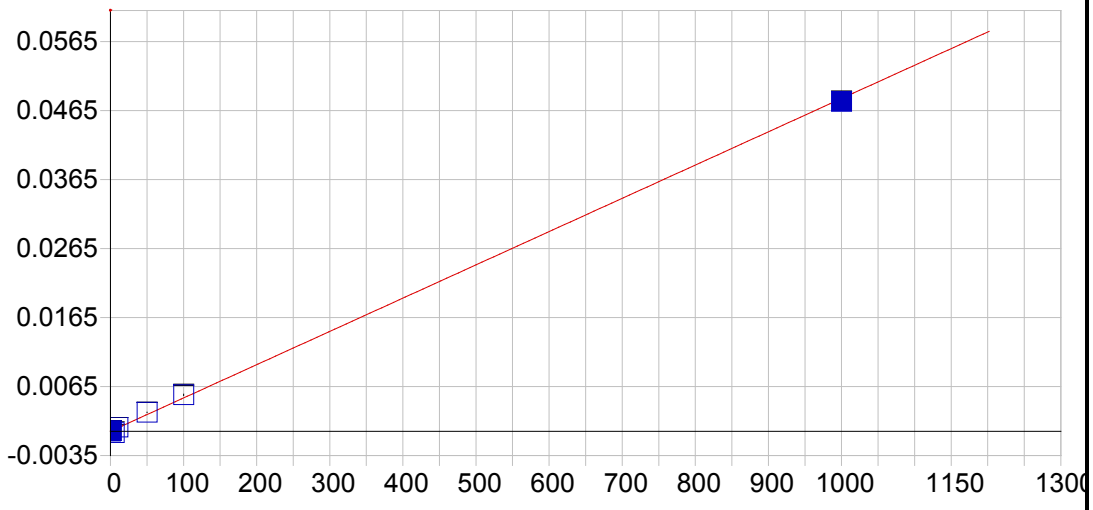



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997348 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.233555 | | |
| Predicted MQL: | 0.778515 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.865 | 6.87 | 13.7 | .00144 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2285 | .228 | 22.8 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61713 | .117 | 23.4 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | .73284 | -4.27 | -85.3 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.55 | 9.55 | 9.55 | .00278 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.062 | 2.06 | 20.6 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.44 | -14.6 | -1.46 | .02513 | .000 | 1 |

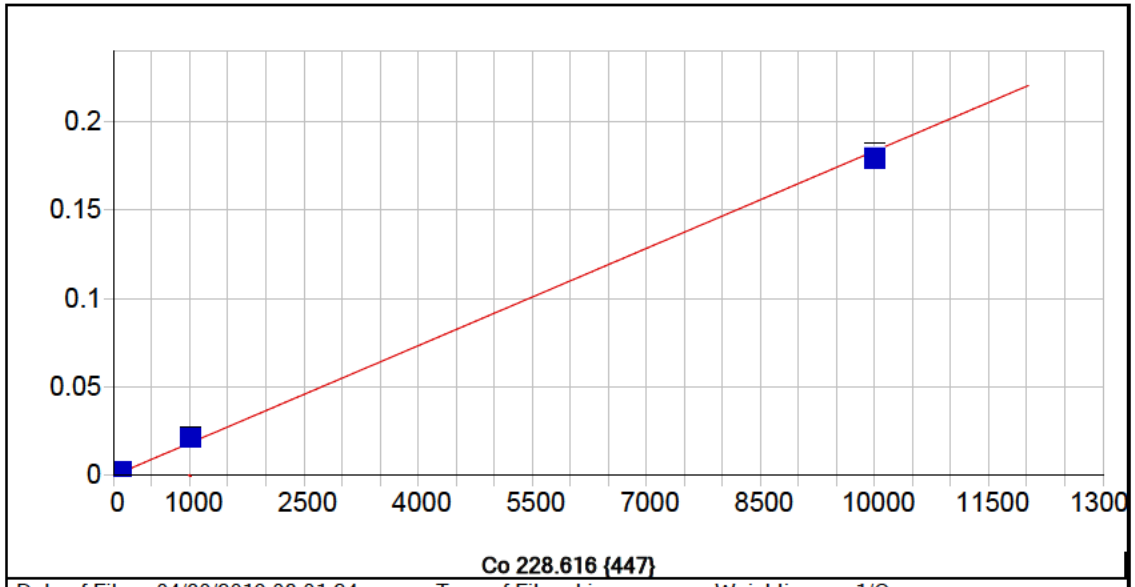



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991474 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.157317 | | |
| Predicted MQL: | 0.524389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.791 | 6.79 | 13.6 | .00276 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1739 | .174 | 17.4 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71504 | .215 | 43.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | -4.4200 | -9.42 | -188. | -.00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00530 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.002 | 2.00 | 20.0 | .00060 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.91 | -9.09 | -.909 | .04781 | .000 | 1 |

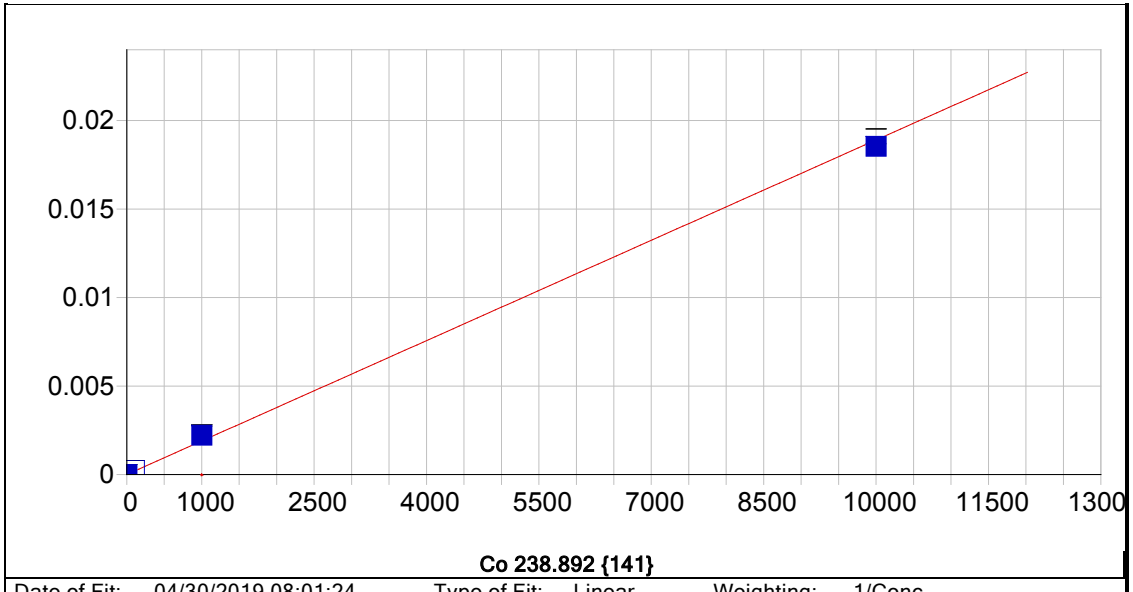



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996680 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.449246 | | |
| Predicted MQL: | 1.497487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00352 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.275 | 16.3 | 32.6 | .00123 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.608 | 3.61 | 36.1 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 16.987 | 12.0 | 240. | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 127.97 | 28.0 | 28.0 | .00236 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1163.2 | 163. | 16.3 | .02135 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0124 | .012 | 1.24 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9777.2 | -223. | -2.23 | .17958 | .003 | 1 |

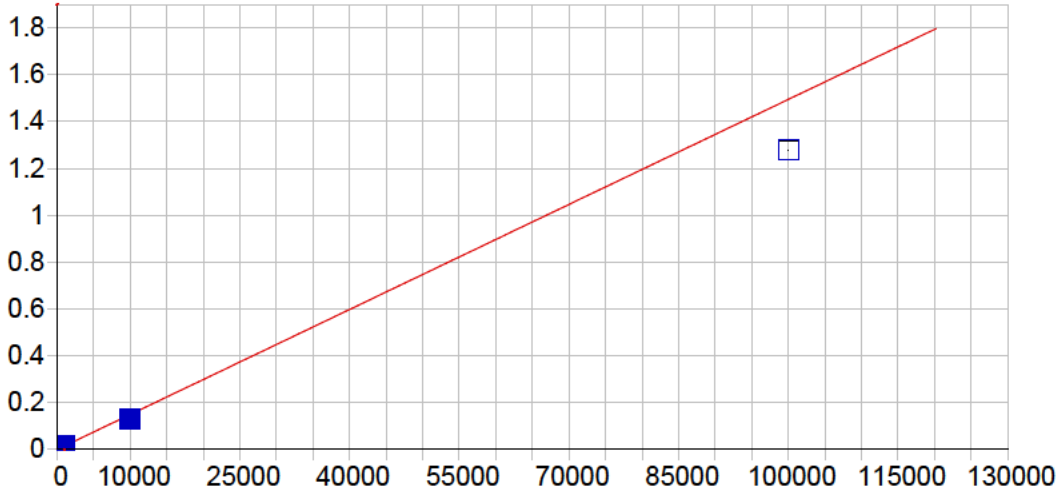



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998281 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.890001 | | |
| Predicted MQL: | 2.966671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03977 | -.040 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1168.3 | 168. | 16.8 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9806.8 | -193. | -1.93 | .01854 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.86 | 24.9 | 24.9 | .00024 | .000 | 1 |

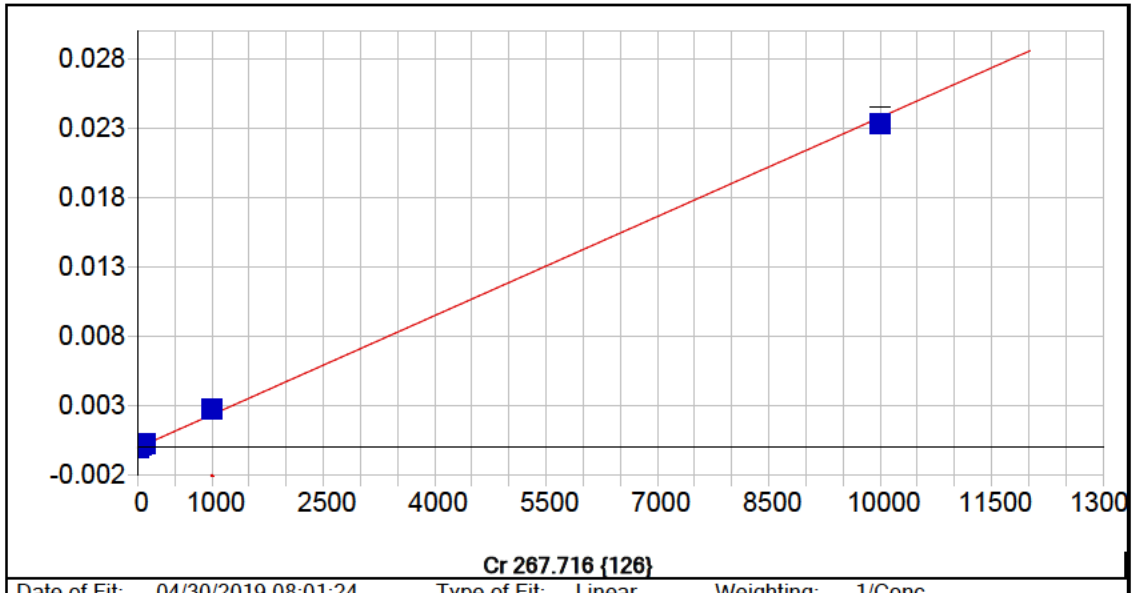



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997498 | Status: | OK. |
| Std Error of Est: | 0.000145 | | |
| Predicted MDL: | 0.312030 | | |
| Predicted MQL: | 1.040101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.1414 | -2.14 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9178 | -.082 | -.822 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.687 | 5.69 | 11.4 | .00087 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.5 | 30.5 | 3.05 | .01544 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.35 | 9.35 | 9.35 | .00167 | .000 | 1 |
| CalStd4=5 | 5.0000 | 51.363 | 46.4 | 927. | .00080 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.5639 | -2.56 | -256. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 8651.3 | -1350. | -13.5 | .12935 | .002 | 1 |
| CalStd12=10 | 100000. | 85458. | -14500. | -14.5 | 1.2774 | .003 | 1 |

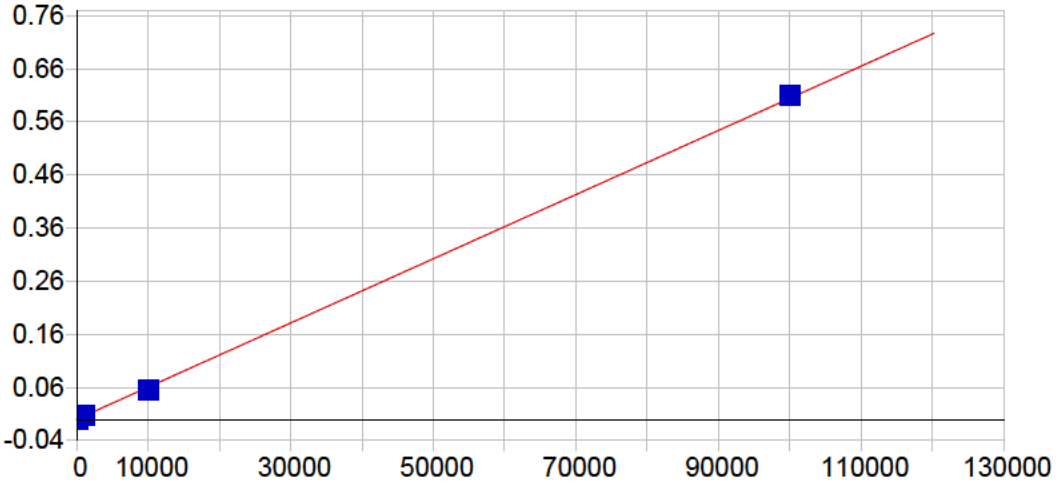



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998132 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.923046 | | |
| Predicted MQL: | 3.076818 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00873 | -.009 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.160 | 3.16 | 31.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 63.410 | 13.4 | 26.8 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1156.3 | 156. | 15.6 | .00275 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.83 | 23.8 | 23.8 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 8.9402 | 3.94 | 78.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9799.4 | -201. | -2.01 | .02328 | .001 | 1 |

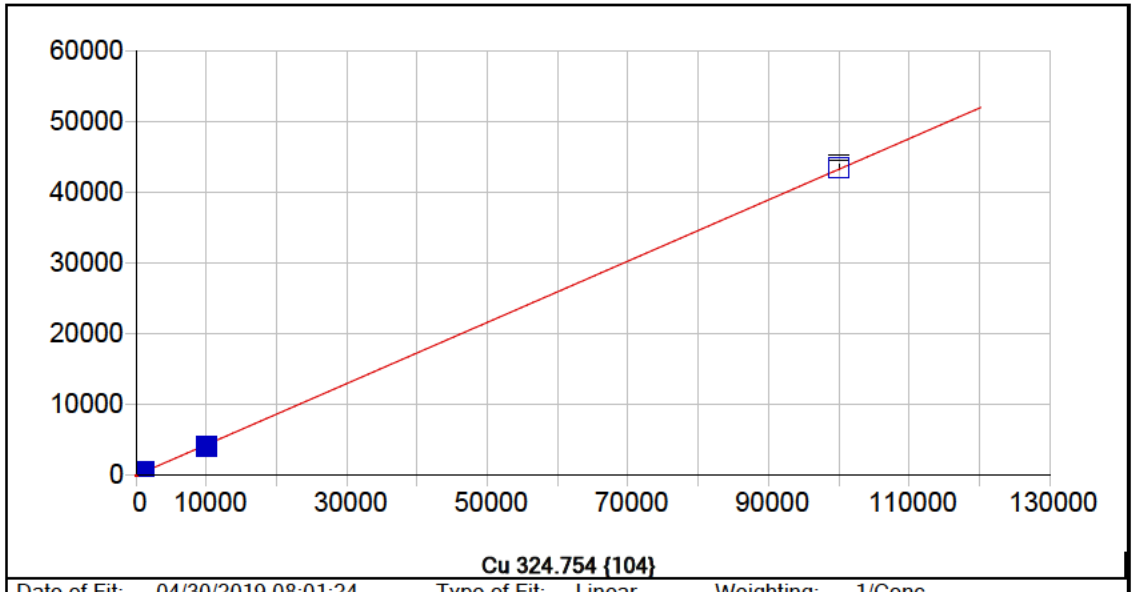



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999425 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.447985 | | |
| Predicted MQL: | 1.493282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03345 | .033 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.2 | 44.2 | 4.42 | .00631 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.011 | -27.0 | -54.0 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.772 | -33.2 | -33.2 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.7070 | -15.3 | -76.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100930. | 926. | .926 | .60996 | .000 | 1 |
| CalStd10=10 | 10000. | 9105.5 | -895. | -8.95 | .05503 | .001 | 1 |

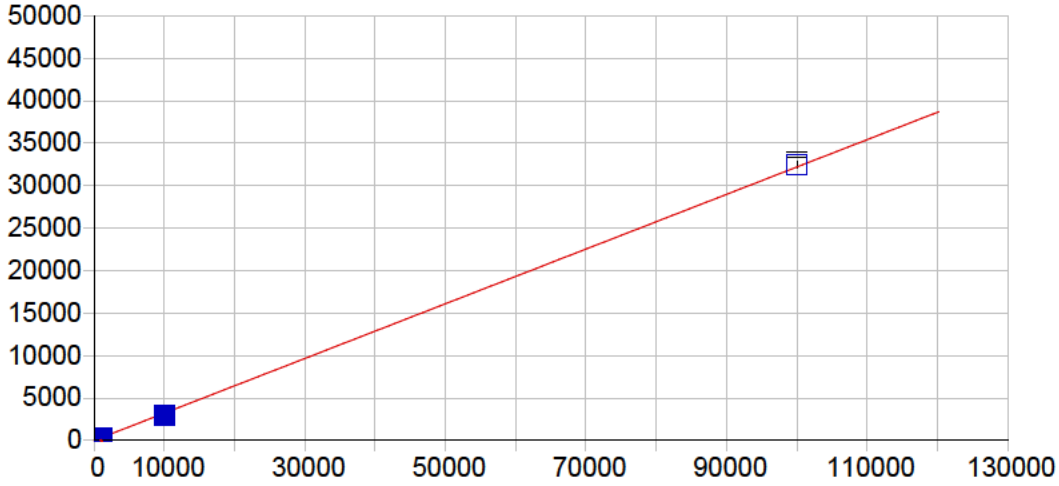



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 32.917937 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.432226 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999630 | Status: | OK. |
| Std Error of Est: | 0.452439 | | |
| Predicted MDL: | 5.608774 | | |
| Predicted MQL: | 18.695912 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01484 | -.015 | .000 | 32.912 | 1.24 | 1 |
| CalStd9=100 | 1000.0 | 1083.9 | 83.9 | 8.39 | 501.38 | 9.93 | 1 |
| CalStd8=100 | 100.00 | 121.35 | 21.4 | 21.4 | 85.370 | 1.21 | 1 |
| CalStd10=10 | 10000. | 9248.4 | -752. | -7.52 | 4030.0 | 17.9 | 1 |
| CalStd12=10 | 100000. | 100620. | 619. | .619 | 43523. | 365. | 1 |
| CalStd5=10 | 10.000 | 15.681 | 5.68 | 56.8 | 39.696 | 3.29 | 1 |
| CalStd6=20 | 20.000 | 28.281 | 8.28 | 41.4 | 45.142 | .661 | 1 |
| CalStd7=50 | 50.000 | 63.663 | 13.7 | 27.3 | 60.435 | .678 | 1 |

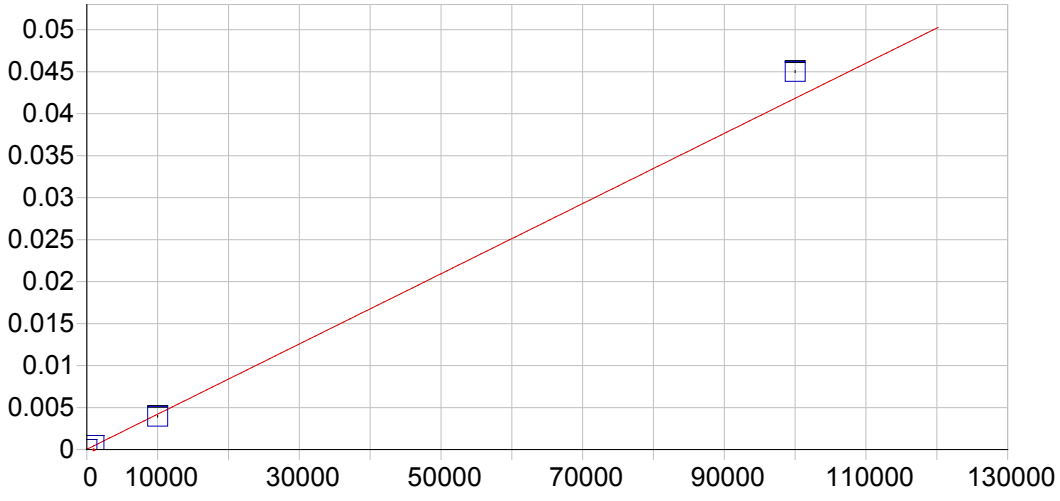



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.187822 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.321888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999459 | Status: | OK. |
| Std Error of Est: | 0.282912 | | |
| Predicted MDL: | 9.835319 | | |
| Predicted MQL: | 32.784397 | | |

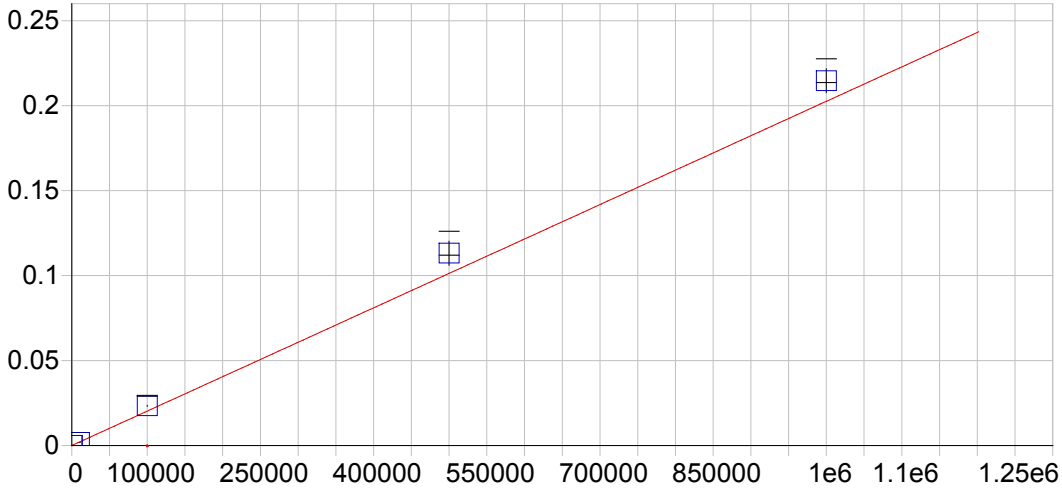
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01440 | -.014 | .000 | 7.1832 | 2.95 | 1 |
| CalStd6=20 | 20.000 | 24.984 | 4.98 | 24.9 | 15.226 | 3.16 | 1 |
| CalStd7=50 | 50.000 | 66.452 | 16.5 | 32.9 | 28.568 | 1.65 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | 46.347 | 5.06 | 1 |
| CalStd9=100 | 1000.0 | 1078.5 | 78.5 | 7.85 | 354.16 | 6.84 | 1 |
| CalStd10=10 | 10000. | 9093.8 | -906. | -9.06 | 2934.4 | 26.3 | 1 |
| CalStd12=10 | 100000. | 100770. | 771. | .771 | 32444. | 356. | 1 |
| CalStd4=5 | 5.0000 | 12.546 | 7.55 | 151. | 11.225 | 2.33 | 1 |
| CalStd5=10 | 10.000 | 15.797 | 5.80 | 58.0 | 12.271 | 2.94 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000030 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999923 | | Status: | OK. | |
| Std Error of Est: | 0.000006 | | | | |
| Predicted MDL: | 1.861928 | | | | |
| Predicted MQL: | 6.206425 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23485 | -.235 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9375.0 | -625. | -6.25 | .00395 | .000 | 1 |
| CalStd13=10 | 100000. | 107610. | 7610. | 7.61 | .04501 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1097.8 | 97.8 | 9.78 | .00049 | .000 | 1 |

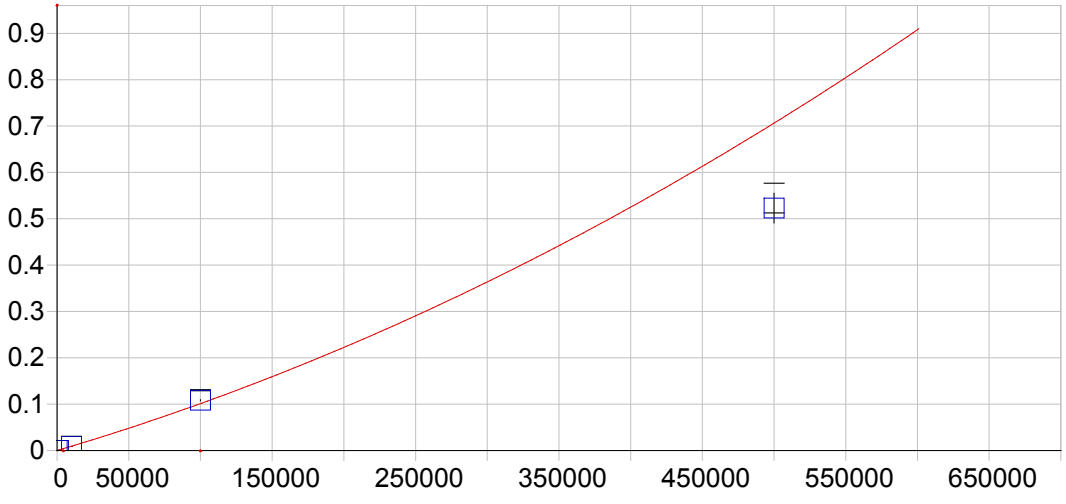



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994823 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 17.270833 | | |
| Predicted MQL: | 57.569443 | | |

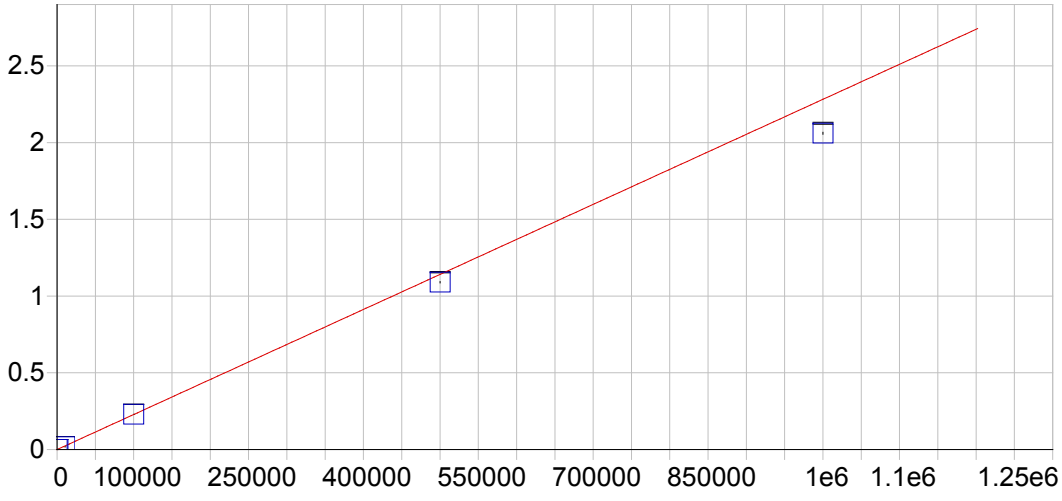
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0192 | -2.02 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9267.3 | -733. | -7.33 | .00189 | .000 | 1 |
| CalStd13=10 | 100000. | 115270. | 15300. | 15.3 | .02336 | .000 | 1 |
| CalStd14=50 | 500000. | 558690. | 58700. | 11.7 | .11317 | .007 | 1 |
| CalStd9=100 | 1000.0 | 1068.1 | 68.1 | 6.81 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 1059600. | 59600. | 5.96 | .21464 | .007 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000065 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997286 | | Status: | Warning | Positive Curvature |
| Std Error of Est: | 0.000158 | | | | |
| Predicted MDL: | 5.216183 | | | | |
| Predicted MQL: | 17.387276 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.898 | -24.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9540.9 | -459. | -4.59 | .00886 | .000 | 1 |
| CalStd13=10 | 100000. | 106310. | 6310. | 6.31 | .10833 | .001 | 1 |
| CalStd14=50 | 500000. | 398750. | -101000. | -20.2 | .52289 | .032 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .00106 | .000 | 1 |

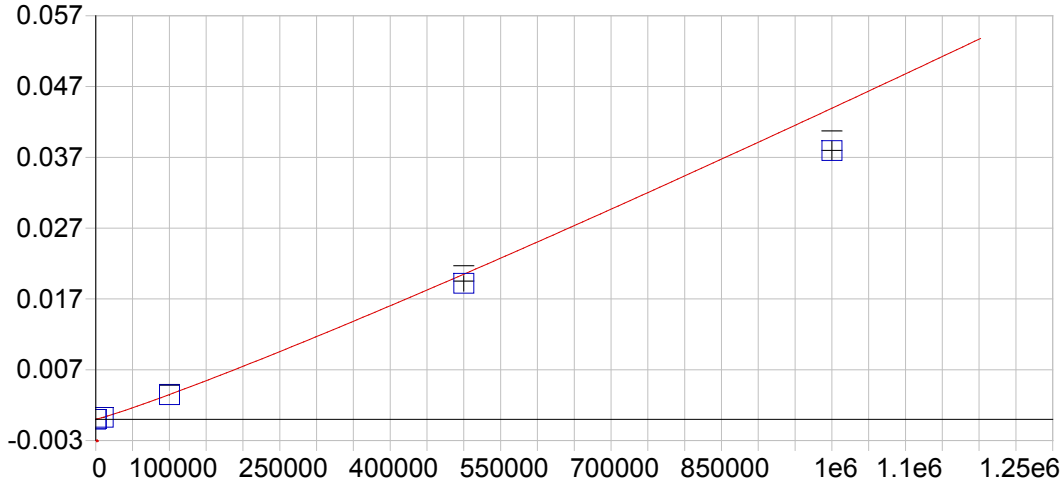



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999696 | Status: | OK. |
| Std Error of Est: | 0.000343 | | |
| Predicted MDL: | 2.203469 | | |
| Predicted MQL: | 7.344897 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 23.811 | 23.8 | .000 | .00006 | .000 | 1 |
| CalStd13=10 | 100000. | 100590. | 591. | .591 | .22957 | .000 | 1 |
| CalStd10=10 | 10000. | 7754.8 | -2250. | -22.5 | .01770 | .000 | 1 |
| CalStd14=50 | 500000. | 477620. | -22400. | -4.48 | 1.0900 | .004 | 1 |
| CalStd9=100 | 1000.0 | 997.86 | -2.14 | -.214 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 903090. | -96900. | -9.69 | 2.0610 | .006 | 1 |

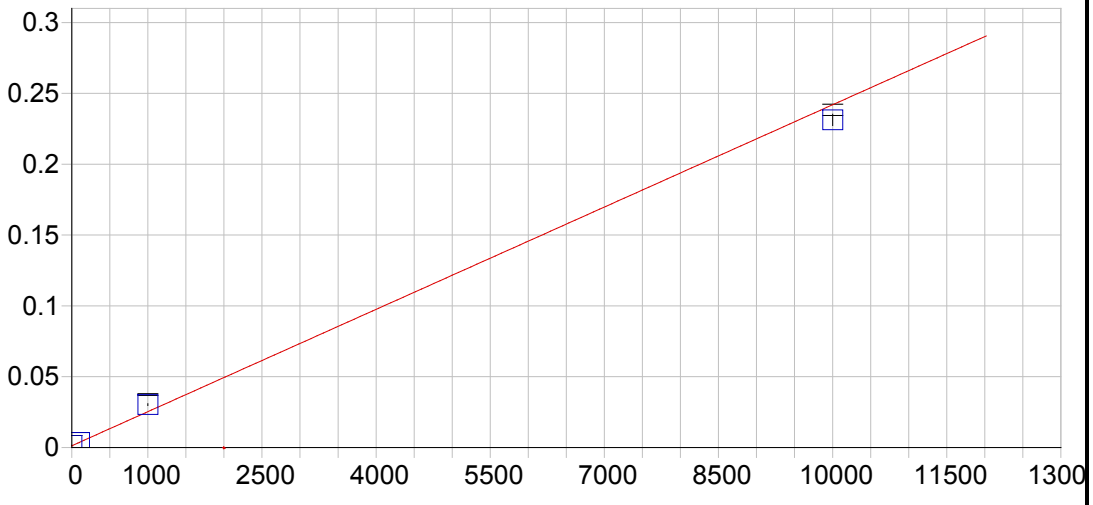



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.100000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 225.466994 | | |
| Predicted MQL: | 751.556647 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99264. | -736. | -.736 | .00346 | .000 | 1 |
| CalStd10=10 | 10000. | 9429.9 | -570. | -5.70 | .00026 | .000 | 1 |
| CalStd14=50 | 500000. | 470980. | -29000. | -5.80 | .01919 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1323.1 | 323. | 32.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 875190. | -125000. | -12.5 | .03794 | .001 | 1 |

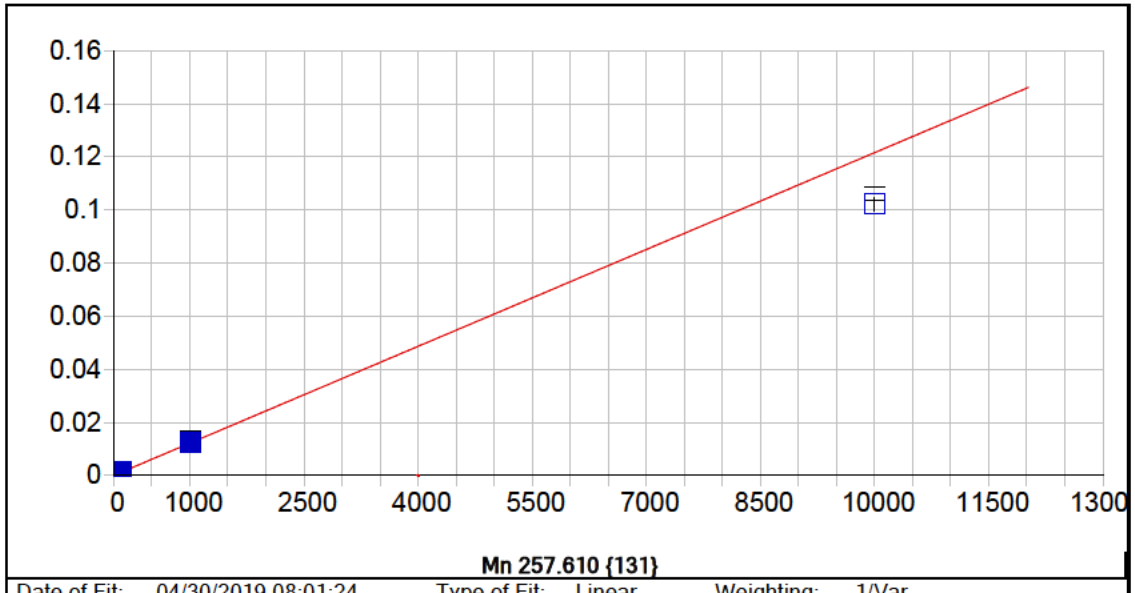



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001262 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992448 | Status: | OK. |
| Std Error of Est: | 0.000619 | | |
| Predicted MDL: | 0.051519 | | |
| Predicted MQL: | 0.171731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.739 | 11.7 | .000 | .00154 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1206.8 | 207. | 20.7 | .03031 | .001 | 1 |
| CalStd10=10 | 10000. | 9556.1 | -444. | -4.44 | .23129 | .004 | 1 |
| CalStd8=100 | 100.00 | 93.604 | -6.40 | -6.40 | .00351 | .000 | 1 |

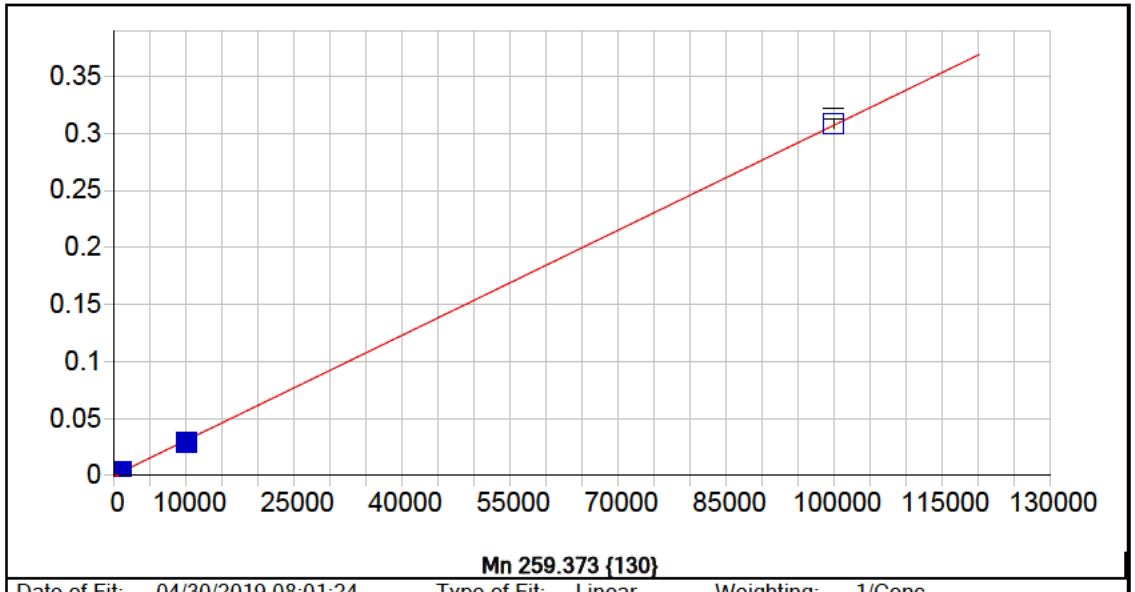



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995548 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.097079 | | |
| Predicted MQL: | 0.323597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04516 | -.045 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.003 | 5.00 | 10.0 | .00070 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.805 | .805 | 4.02 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.55 | 8.55 | 8.55 | .00135 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2295 | -.770 | -15.4 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.2 | 22.2 | 2.22 | .01246 | .000 | 1 |
| CalStd10=10 | 10000. | 8405.2 | -1590. | -15.9 | .10223 | .003 | 1 |

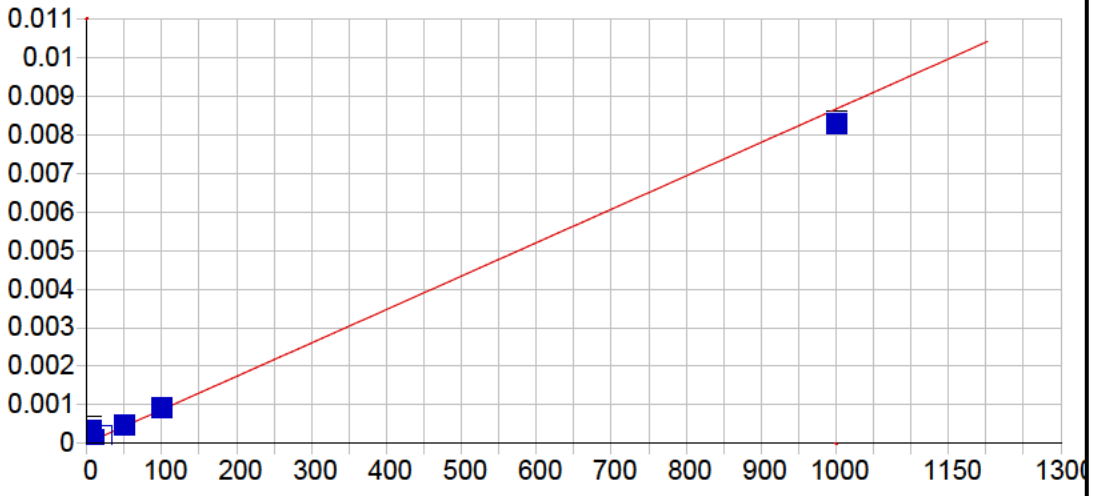



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999811 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 1.512228 | | |
| Predicted MQL: | 5.040759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04534 | -.045 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9446.9 | -553. | -5.53 | .02904 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1096.1 | 96.1 | 9.61 | .00338 | .000 | 1 |
| CalStd12=10 | 100000. | 100460. | 458. | .458 | .30829 | .005 | 1 |

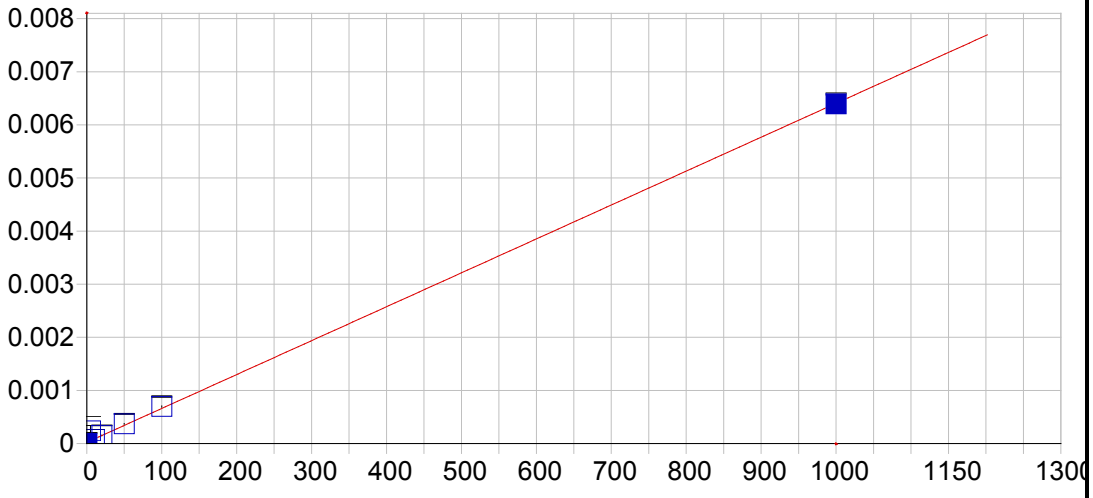



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.918937 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.461169 | | |
| Predicted MQL: | 1.537230 | | |

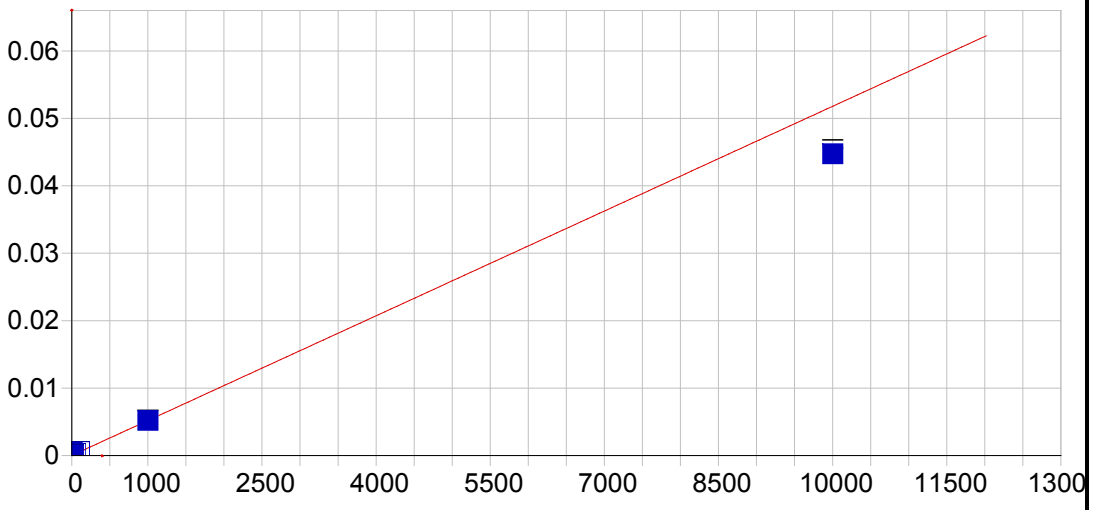
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03405 | -.034 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.376 | 4.38 | 8.75 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.645 | 1.65 | 8.23 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.38 | 4.38 | 4.38 | .00092 | .000 | 1 |
| CalStd4=5 | 5.0000 | 37.919 | 32.9 | 658. | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.12 | -43.9 | -4.39 | .00831 | .000 | 1 |




**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000022 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000006 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999869 | | Status: | OK. | |
| Std Error of Est: | 0.000018 | | | | |
| Predicted MDL: | 0.801215 | | | | |
| Predicted MQL: | 2.670716 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8973 | -1.90 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.529 | 4.53 | 9.06 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.586 | .586 | 2.93 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1156 | -.884 | -8.84 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.51 | 5.51 | 5.51 | .00070 | .000 | 1 |
| CalStd4=5 | 5.0000 | 33.690 | 28.7 | 574. | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.91 | -2.09 | -.209 | .00639 | .000 | 1 |

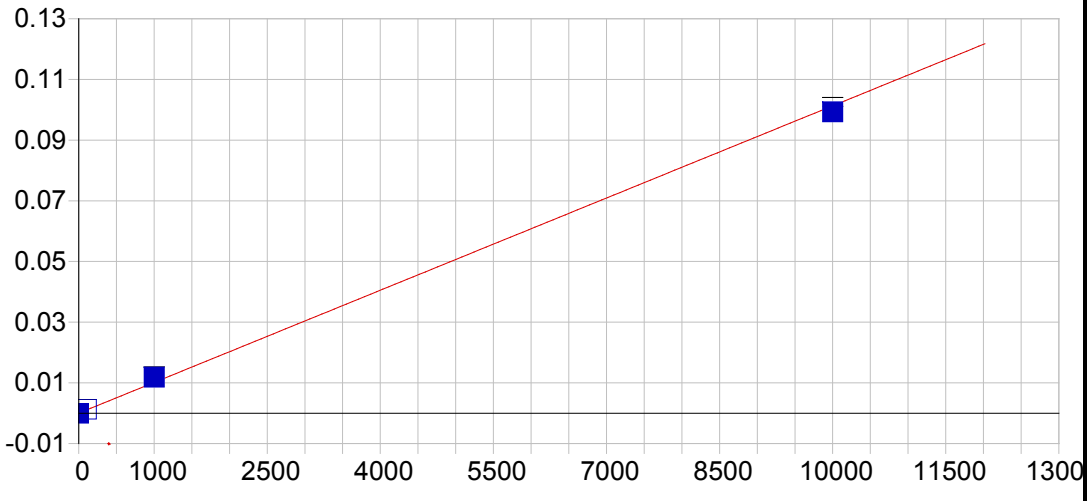



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.916548 | | |
| Predicted MQL: | 3.055158 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3158 | -2.32 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.135 | 5.14 | 10.3 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.378 | .378 | 1.89 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6092 | -.391 | -3.91 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.62 | 7.62 | 7.62 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 83.457 | 78.5 | 1570. | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.19 | .219 | .00520 | .000 | 1 |
| CalStd10=10 | 10000. | 8637.4 | -1360. | -13.6 | .04474 | .001 | 1 |

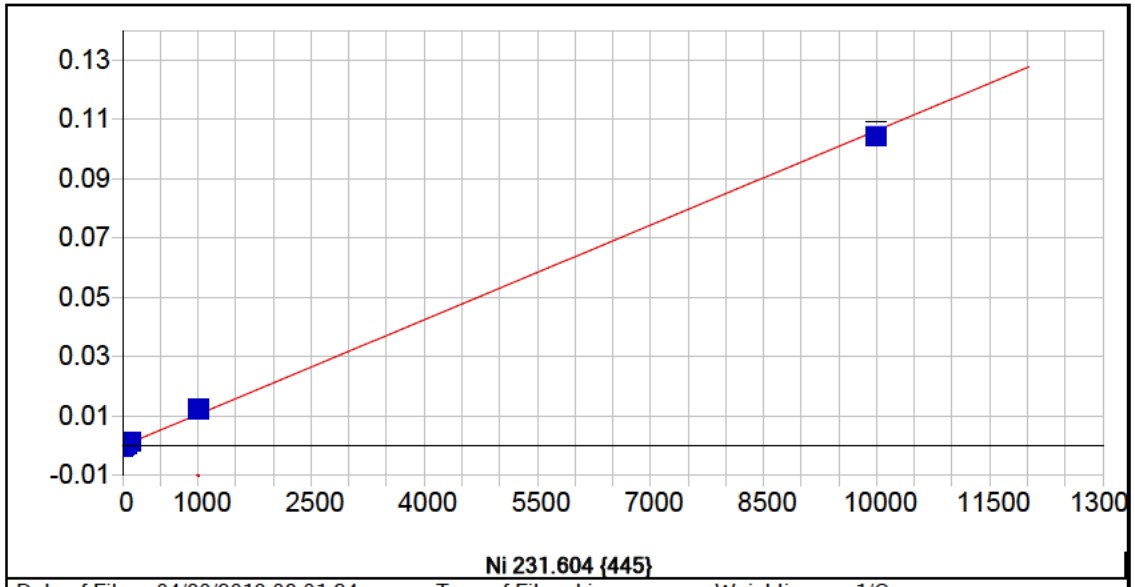



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998093 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 0.768351 | | |
| Predicted MQL: | 2.561171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04496 | -.045 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.5 | -202. | -2.02 | .09927 | .001 | 1 |
| CalStd8=100 | 100.00 | 129.81 | 29.8 | 29.8 | .00132 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1171.7 | 172. | 17.2 | .01187 | .000 | 1 |

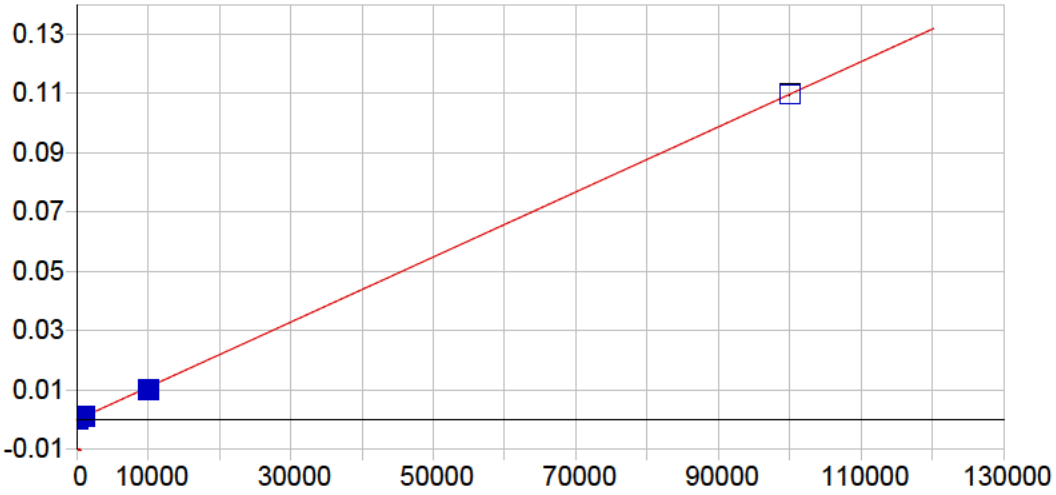



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.984592 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.735570 | | |
| Predicted MQL: | 2.451899 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00668 | .007 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 67.596 | 17.6 | 35.2 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.230 | 4.23 | 42.3 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 130.34 | 30.3 | 30.3 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | -33.889 | -38.9 | -778. | -.00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1173.8 | 174. | 17.4 | .01246 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86059 | -.139 | -13.9 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9813.3 | -187. | -1.87 | .10451 | .002 | 1 |

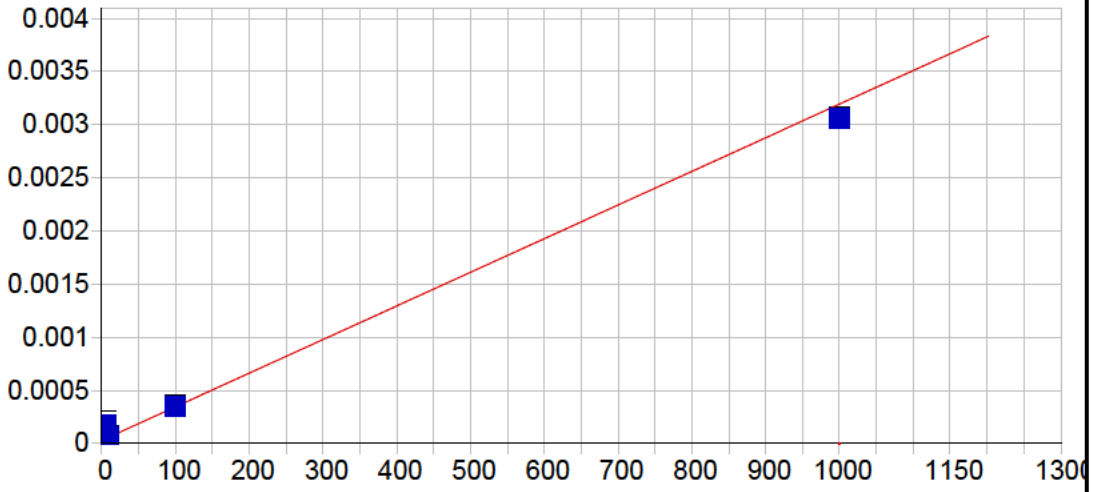



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999773 | Status: | OK. |
| Std Error of Est: | 0.000038 | | |
| Predicted MDL: | 5.620225 | | |
| Predicted MQL: | 18.734085 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.705 | -15.7 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1080.9 | 80.9 | 8.09 | .00120 | .000 | 1 |
| CalStd10=10 | 10000. | 9090.5 | -909. | -9.09 | .00999 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.63 | 8.63 | 8.63 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.9071 | -7.09 | -70.9 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99918. | -82.0 | -.082 | .10965 | .000 | 1 |

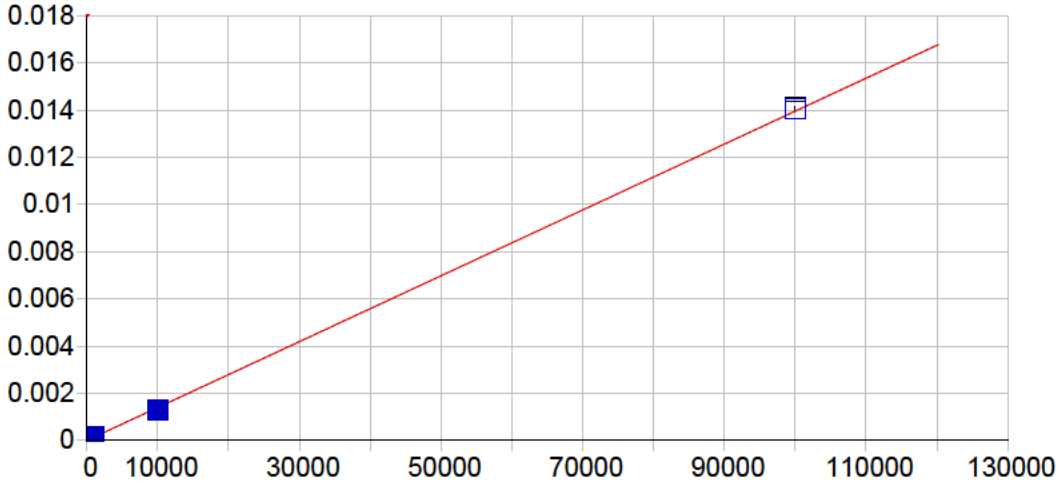



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.878400 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.481162 | | |
| Predicted MQL: | 8.270541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04083 | -.041 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.034 | 1.03 | 10.3 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.10 | 2.10 | 2.10 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 45.423 | 40.4 | 808. | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.47 | -43.5 | -4.35 | .00305 | .000 | 1 |

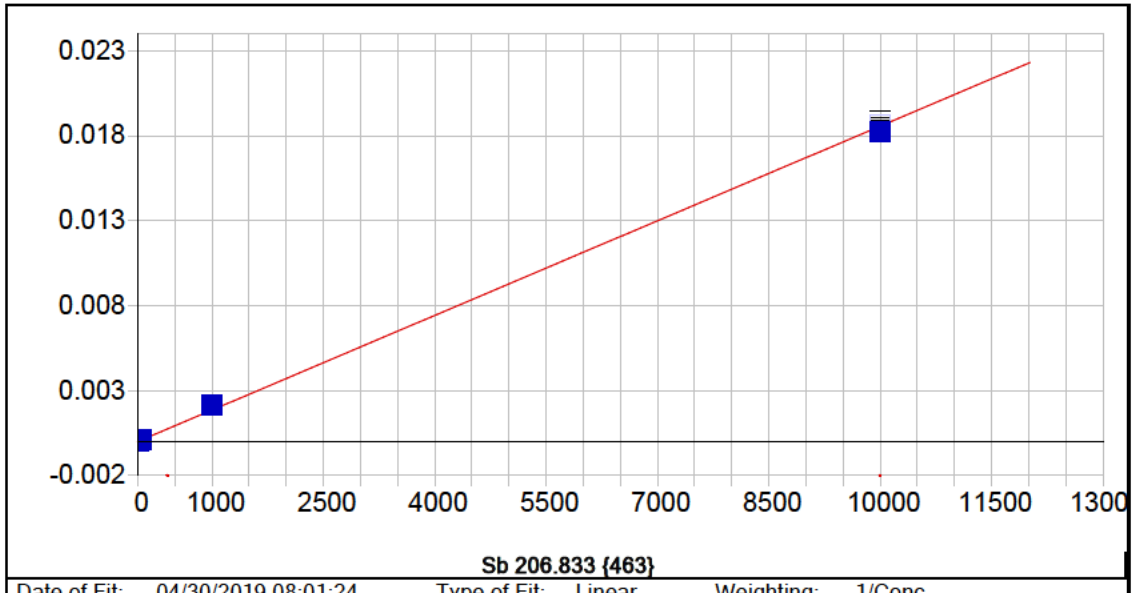



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.969384 | | |
| Predicted MQL: | 23.231279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01616 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1112.0 | 112. | 11.2 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9232.4 | -768. | -7.68 | .00129 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.00 | 12.0 | 12.0 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100640. | 644. | .644 | .01405 | .000 | 1 |

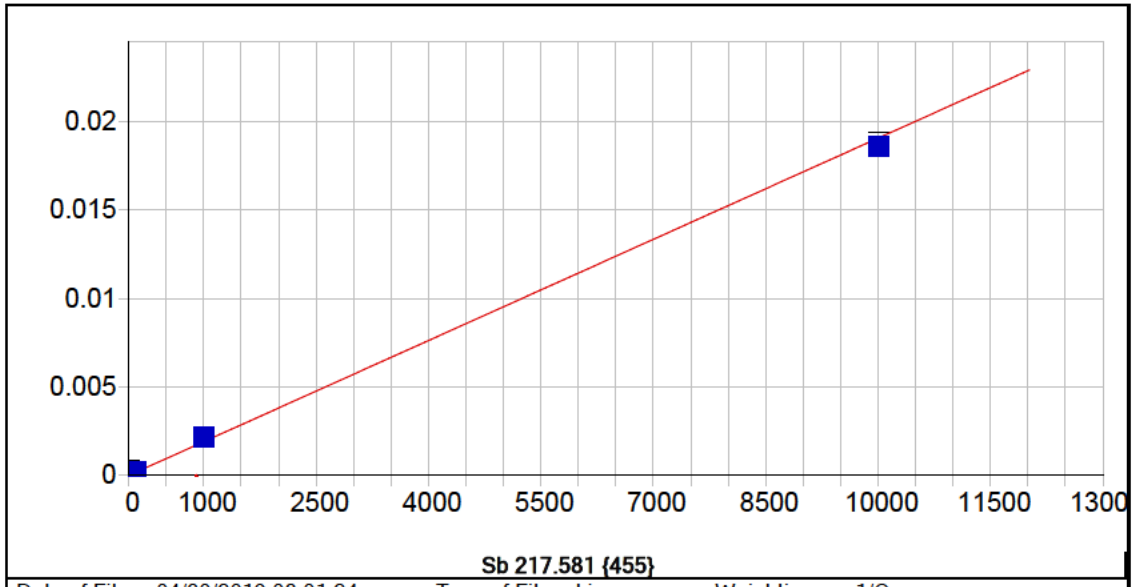



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998562 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.581313 | | |
| Predicted MQL: | 8.604377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00953 | -.010 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1149.7 | 150. | 15.0 | .00217 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.959 | 4.96 | 49.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.221 | 16.2 | 32.4 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.1 | -171. | -1.71 | .01859 | .000 | 1 |

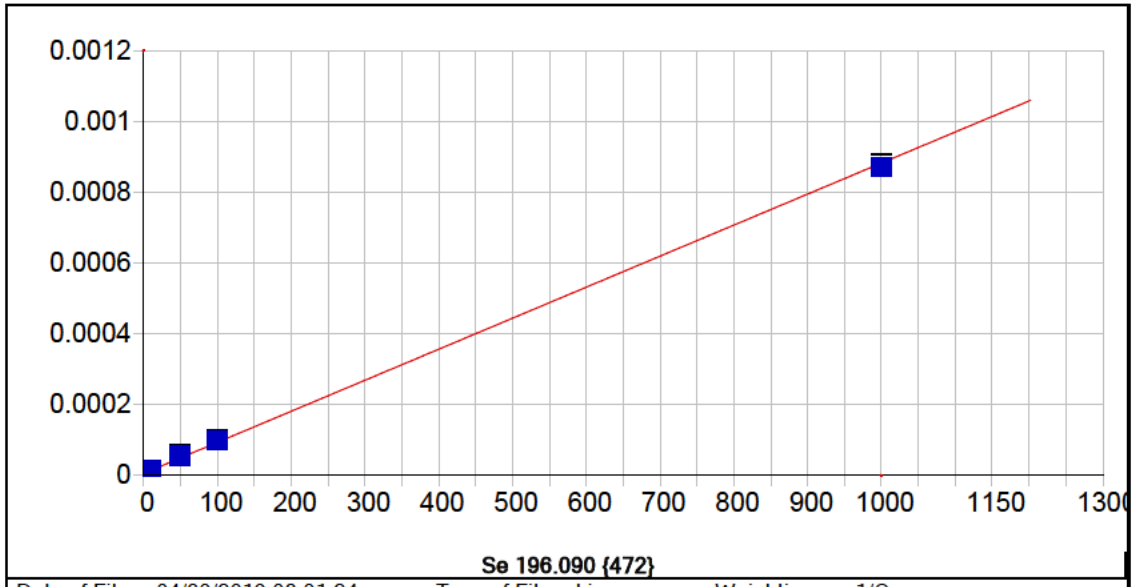



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.933696 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 2.801324 | | |
| Predicted MQL: | 9.337748 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09365 | -.094 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1135.8 | 136. | 13.6 | .00217 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.009 | 5.01 | 25.0 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.209 | 2.21 | 22.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.01 | 24.0 | 24.0 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 94.543 | 89.5 | 1790. | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9743.4 | -257. | -2.57 | .01856 | .000 | 1 |

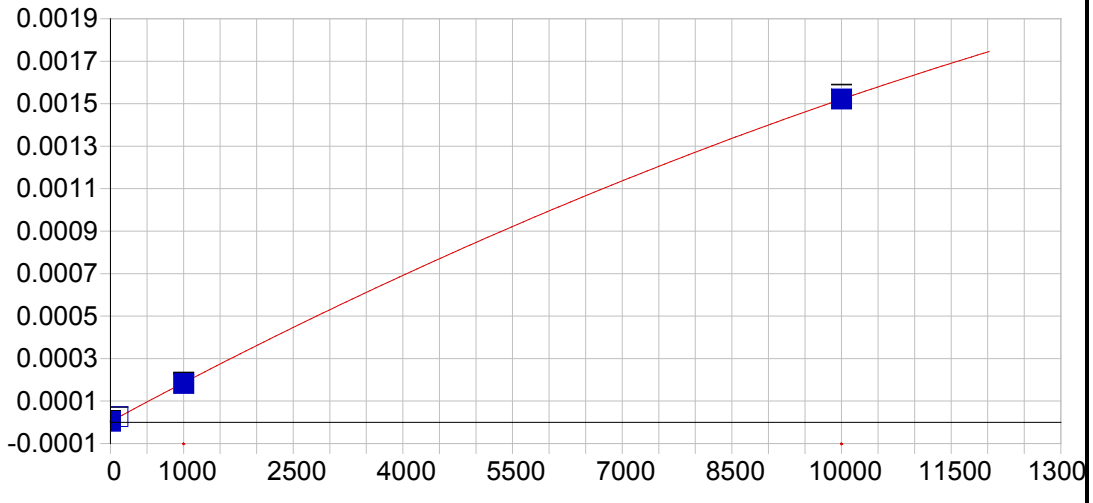



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999198 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.389697 | | |
| Predicted MQL: | 14.632322 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00167 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.114 | 8.11 | 16.2 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.41 | -13.6 | -1.36 | .00087 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5938 | -.406 | -4.06 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.88 | 5.88 | 5.88 | .00010 | .000 | 1 |

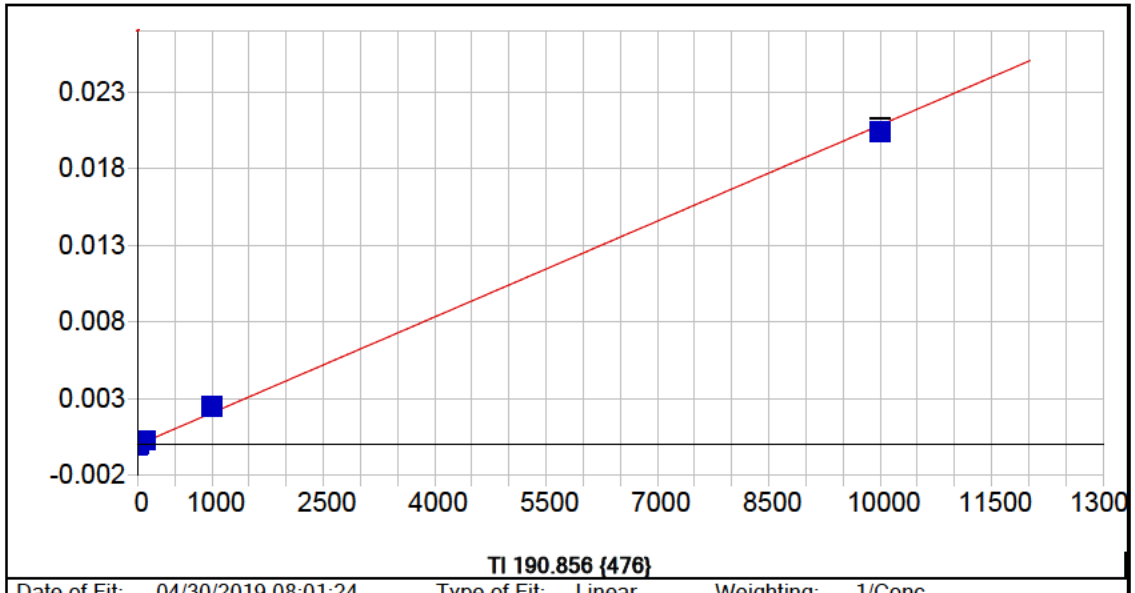



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999688 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.202163 | | |
| Predicted MQL: | 94.007210 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01855 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.30 | -23.7 | -2.37 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.26 | .033 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.89 | 20.9 | 20.9 | .00003 | .000 | 1 |

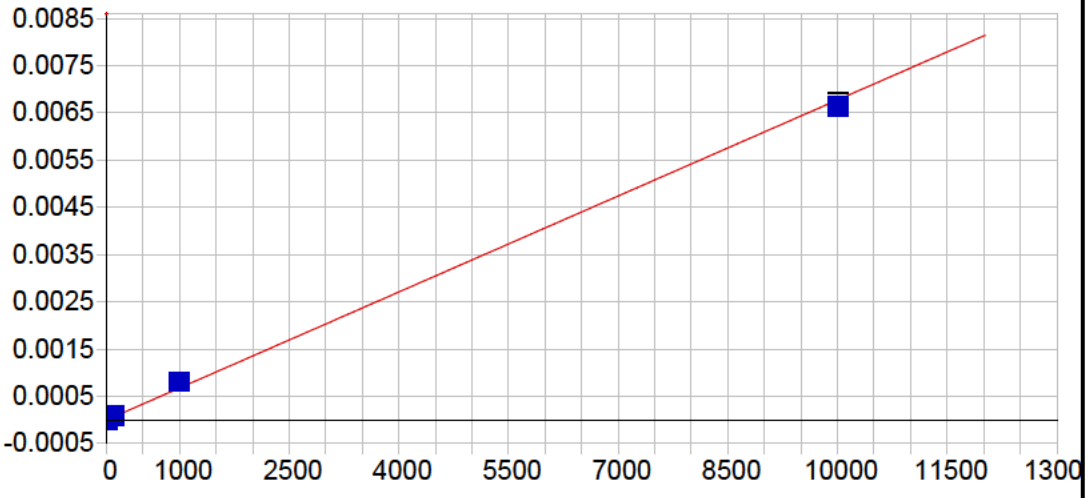



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997608 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 2.696044 | | |
| Predicted MQL: | 8.986812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00879 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1186.9 | 187. | 18.7 | .00248 | .000 | 1 |
| CalStd8=100 | 100.00 | 135.27 | 35.3 | 35.3 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.620 | 3.62 | 36.2 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9774.2 | -226. | -2.26 | .02045 | .000 | 1 |

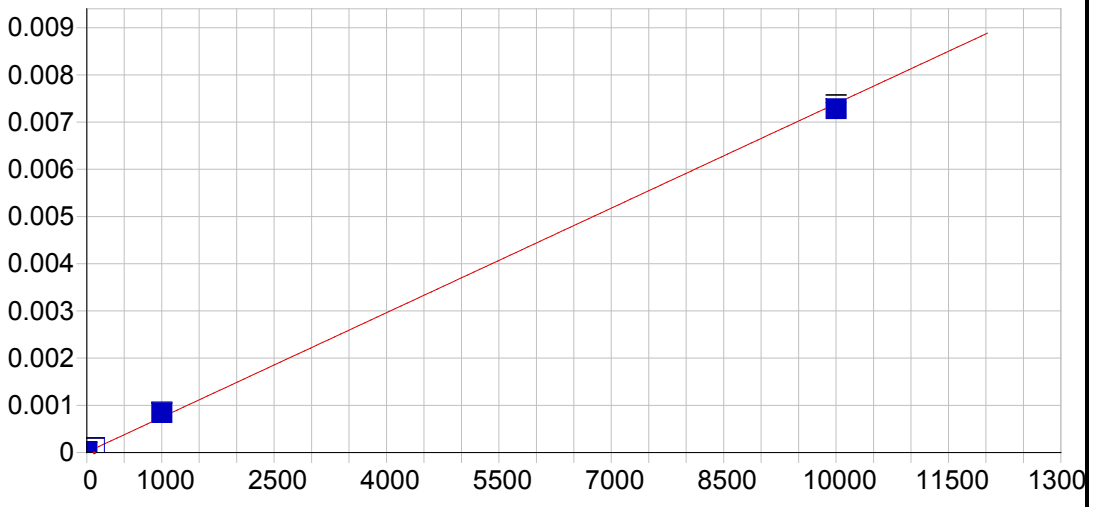



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997785 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.738296 | | |
| Predicted MQL: | 19.127652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00518 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1191.3 | 191. | 19.1 | .00081 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.17 | 28.2 | 28.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.666 | .666 | 6.66 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9779.8 | -220. | -2.20 | .00663 | .000 | 1 |

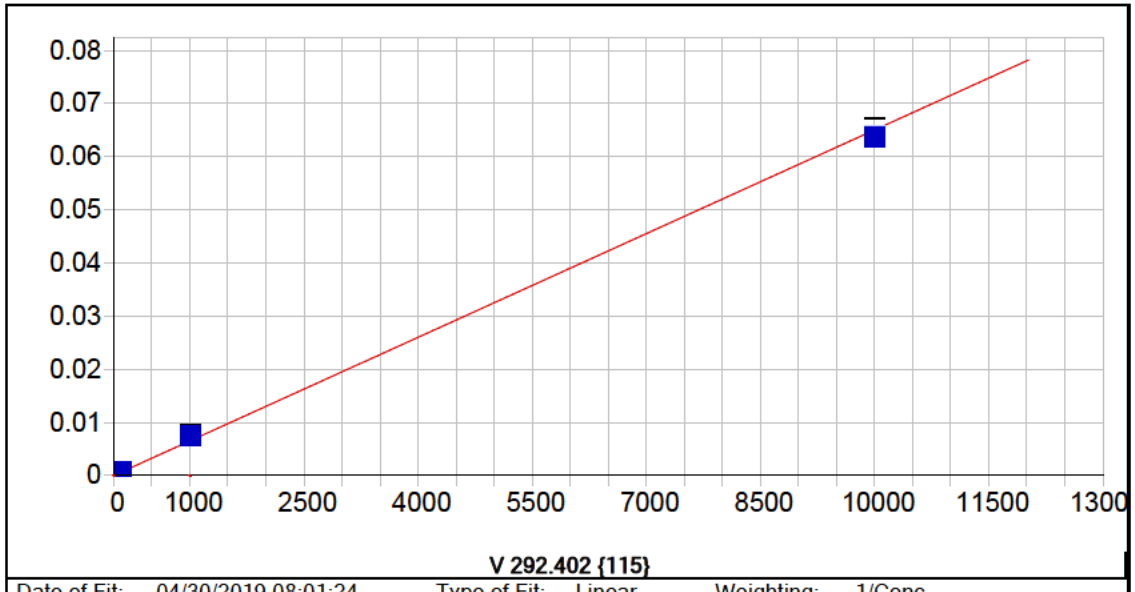



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998924 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 8.162286 | | |
| Predicted MQL: | 27.207619 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03327 | -.033 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1129.9 | 130. | 13.0 | .00084 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.3 | -152. | -1.52 | .00728 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.80 | 21.8 | 21.8 | .00010 | .000 | 1 |

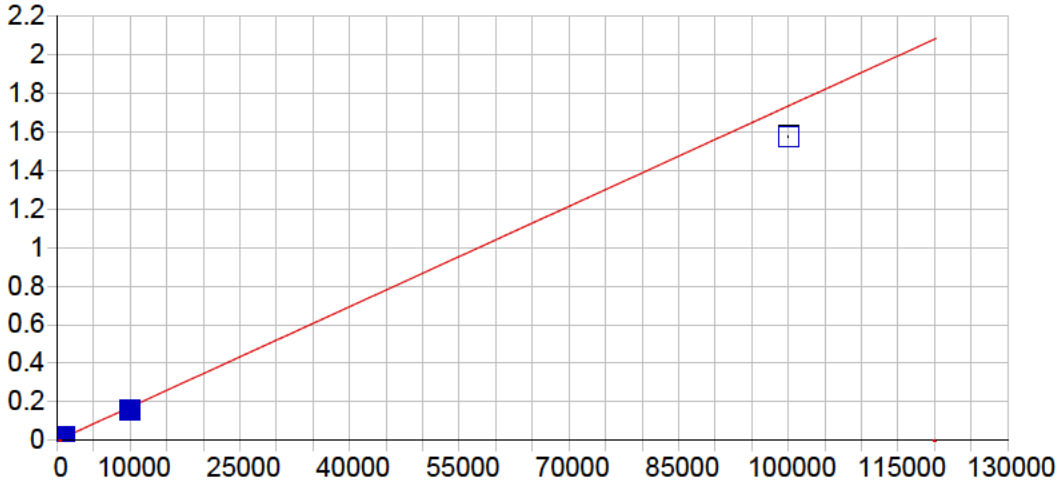



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998319 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.630081 | | |
| Predicted MQL: | 2.100271 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01257 | -.013 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 62.800 | 12.8 | 25.6 | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1150.5 | 150. | 15.0 | .00749 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.252 | 5.25 | 26.3 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.751 | 3.75 | 37.5 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.26 | 23.3 | 23.3 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9805.2 | -195. | -1.95 | .06401 | .002 | 1 |

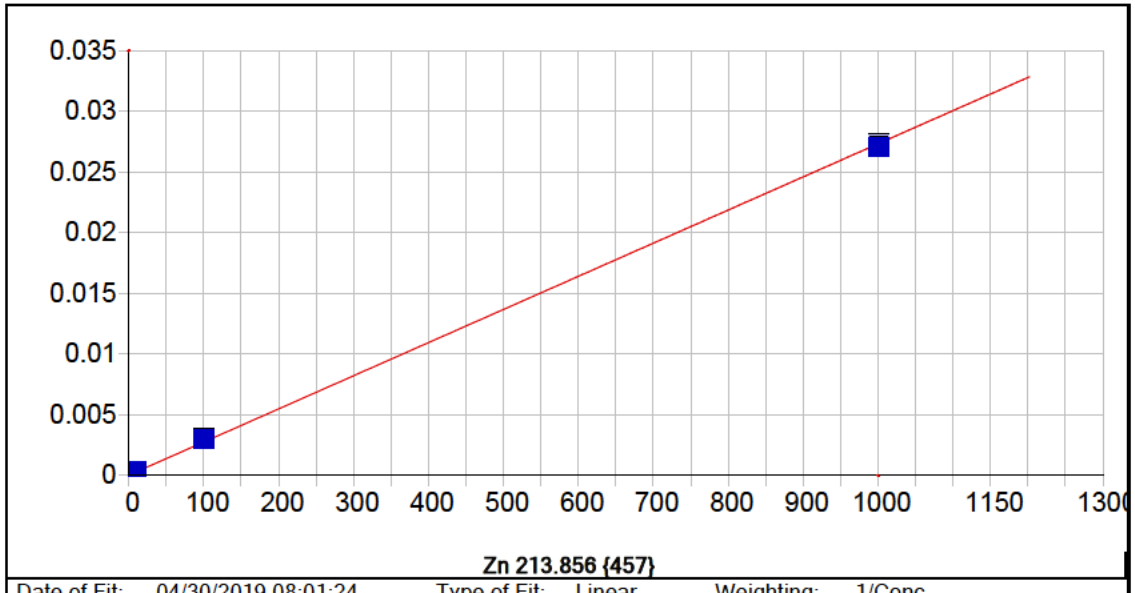



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996075 | Status: | OK. |
| Std Error of Est: | 0.000214 | | |
| Predicted MDL: | 0.372954 | | |
| Predicted MQL: | 1.243179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9095.3 | -905. | -9.05 | .15761 | .003 | 1 |
| Blank | .00000 | -2.7928 | -2.79 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01879 | .000 | 1 |
| CalStd12=10 | 100000. | 90861. | -9140. | -9.14 | 1.5740 | .004 | 1 |
| CalStd5=10 | 10.000 | 10.445 | .445 | 4.45 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.52 | 19.5 | 19.5 | .00213 | .000 | 1 |

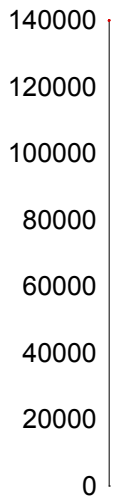



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999485 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.208095 | | |
| Predicted MQL: | 0.693650 | | |

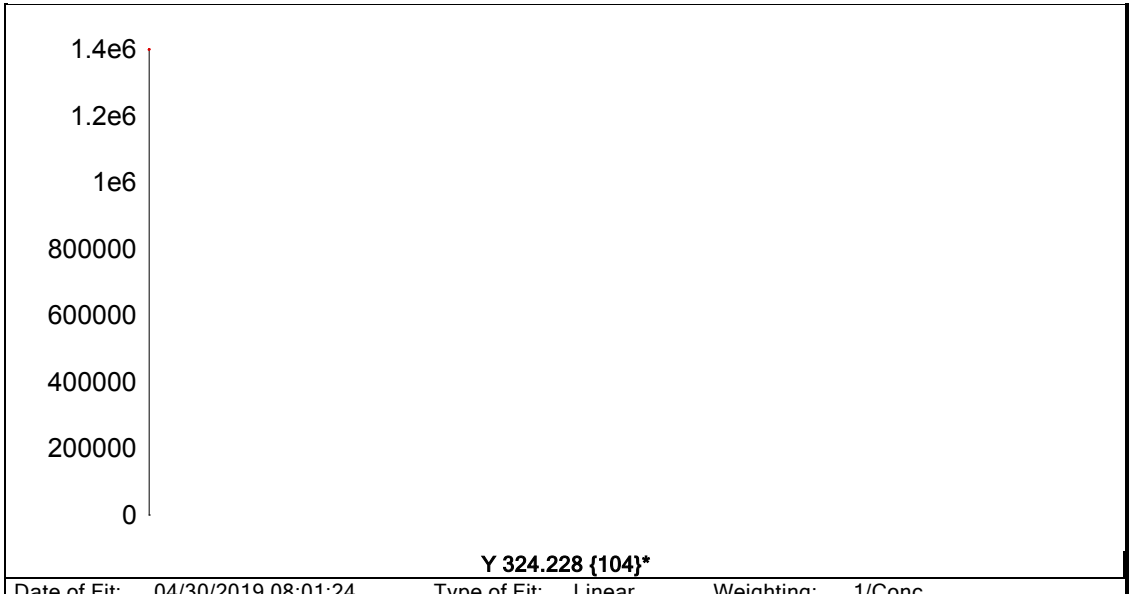
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00259 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.74 | -10.3 | -1.03 | .02724 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.852 | 1.85 | 18.5 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.42 | 8.42 | 8.42 | .00301 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

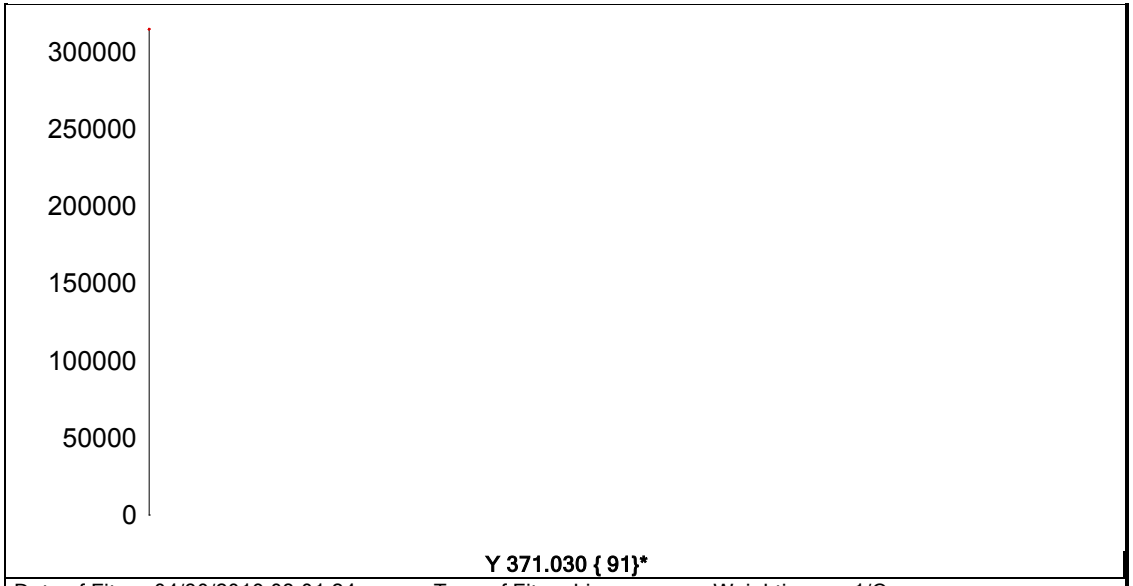
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 126700. | 632. | 1 |




**Y 324.228 {104}***

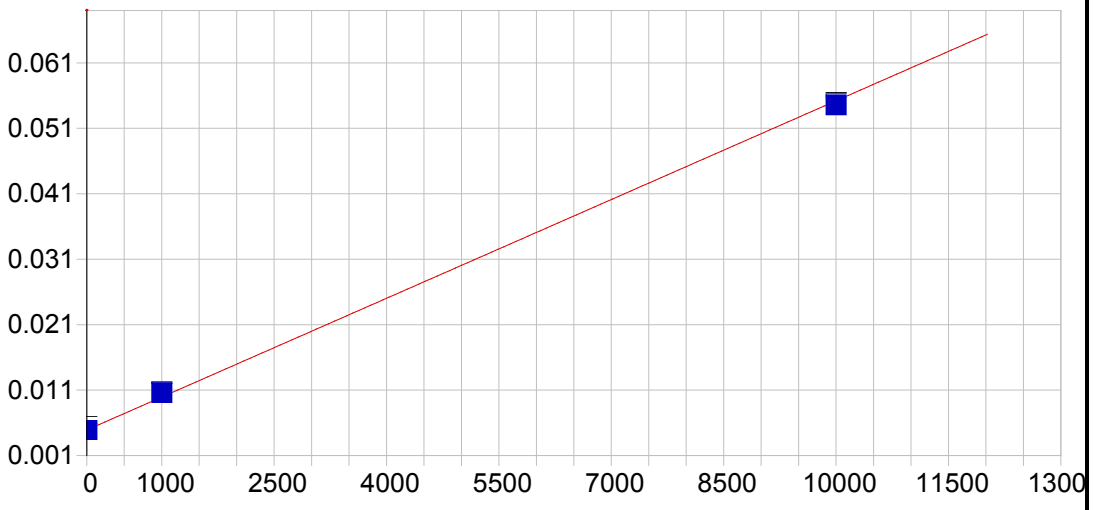
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1295600. | 3610. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 287860. | 9200. | 1 |

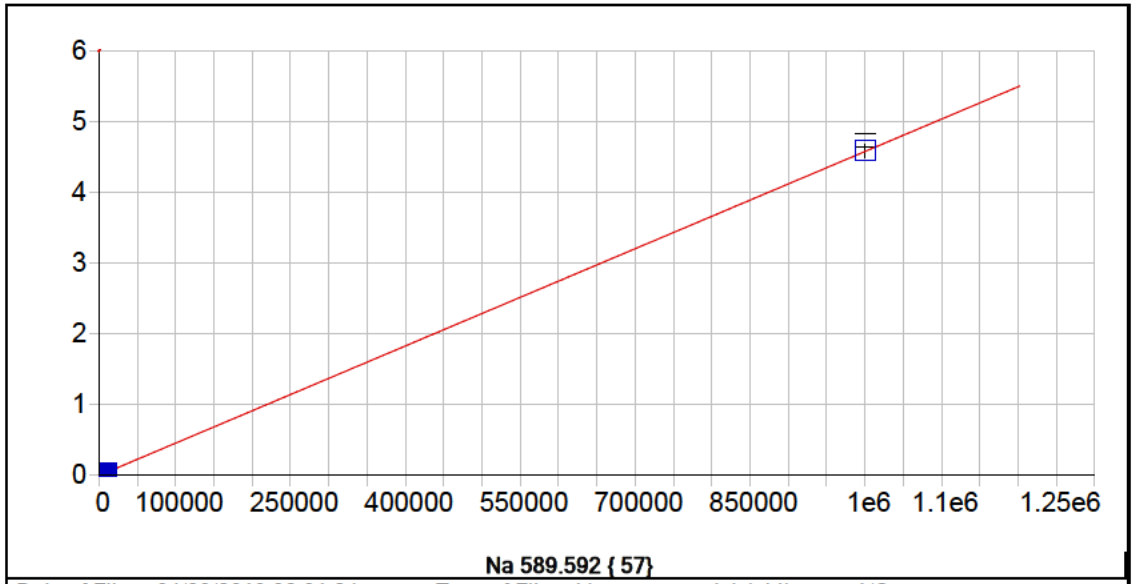



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004901 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999164 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 10.509748 | | |
| Predicted MQL: | 35.032492 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11639 | -.116 | .000 | .00490 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | .01058 | .000 | 1 |
| CalStd10=10 | 10000. | 9870.7 | -129. | -1.29 | .05456 | .000 | 1 |

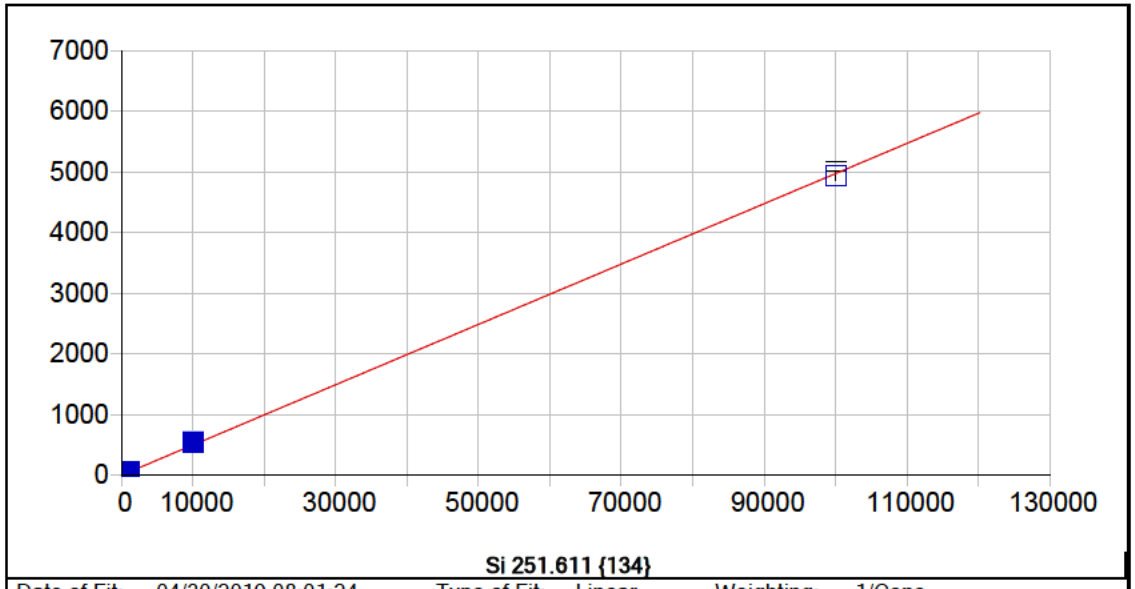



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000353 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 7.542021 | | |
| Predicted MQL: | 25.140069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44012 | .440 | .000 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 814.88 | -185. | -18.5 | .00408 | .000 | 1 |
| CalStd10=10 | 10000. | 7422.4 | -2580. | -25.8 | .03432 | .000 | 1 |
| CalibStd15= | 1000000. | 1002800. | 2760. | .276 | 4.5893 | .089 | 1 |

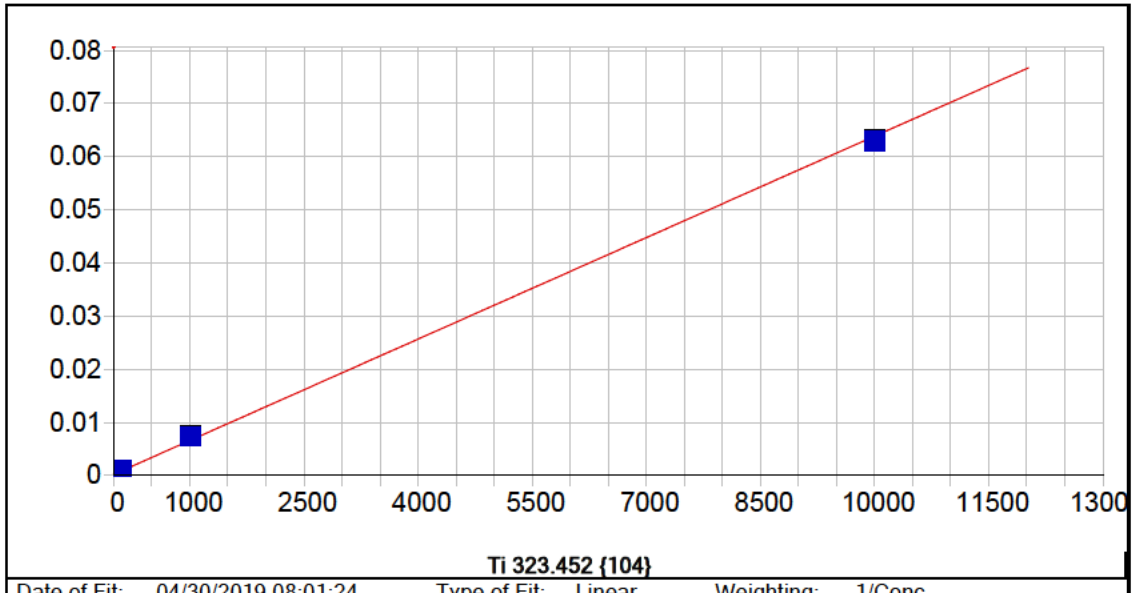



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.496233 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.049700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.563773 | | |
| Predicted MDL: | 25.456914 | | |
| Predicted MQL: | 84.856379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05943 | -.059 | .000 | 5.4933 | 3.24 | 1 |
| CalStd9=100 | 1000.0 | 991.13 | -8.87 | -.887 | 58.676 | 3.89 | 1 |
| CalStd10=10 | 10000. | 10762. | 762. | 7.62 | 565.27 | 4.29 | 1 |
| CalibStd15= | 100000. | 99209. | -791. | -.791 | 4936.2 | 82.1 | 1 |

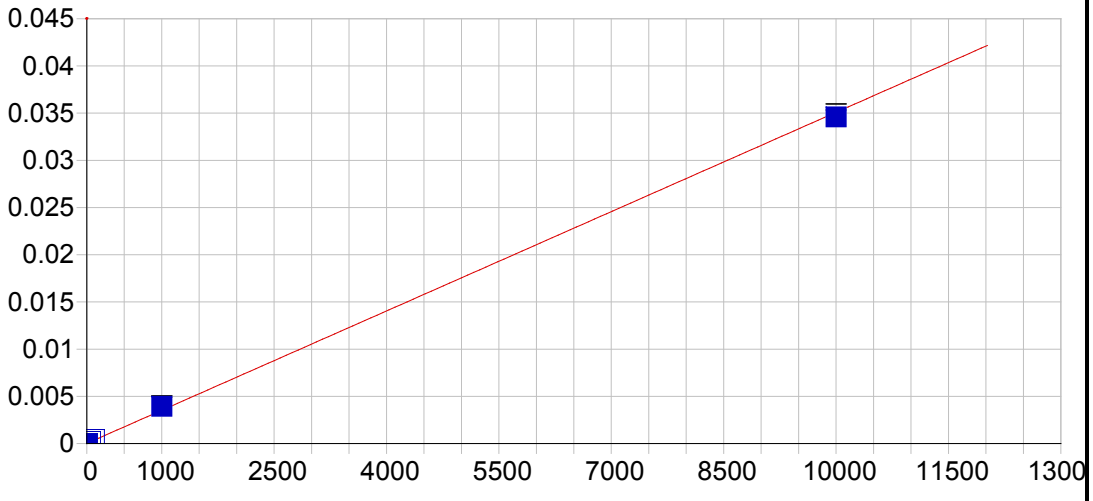



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000229 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998823 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.679766 | | |
| Predicted MQL: | 5.599219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00312 | -.003 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.426 | 1.43 | 14.3 | .00030 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.46 | 21.5 | 21.5 | .00100 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1118.2 | 118. | 11.8 | .00735 | .000 | 1 |
| CalStd10=10 | 10000. | 9843.9 | -156. | -1.56 | .06295 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.862 | 15.9 | 31.7 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2356 | -.764 | -15.3 | .00026 | .000 | 1 |

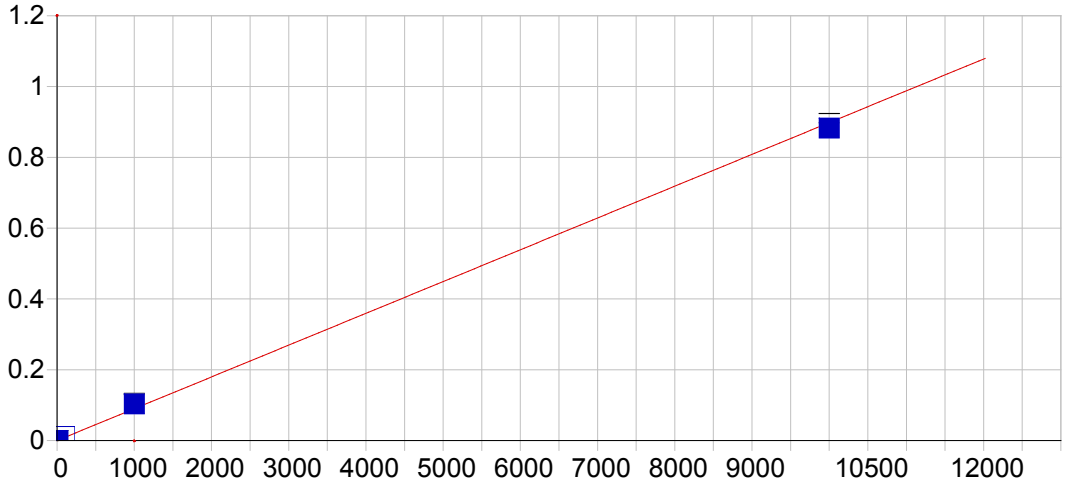



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.153927 | | |
| Predicted MQL: | 7.179758 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.46 | 18.5 | 18.5 | .00043 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1115.8 | 116. | 11.6 | .00393 | .000 | 1 |
| CalStd10=10 | 10000. | 9857.1 | -143. | -1.43 | .03460 | .000 | 1 |
| CalStd7=50 | 50.000 | 60.626 | 10.6 | 21.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5173 | -2.48 | -49.7 | .00002 | .000 | 1 |

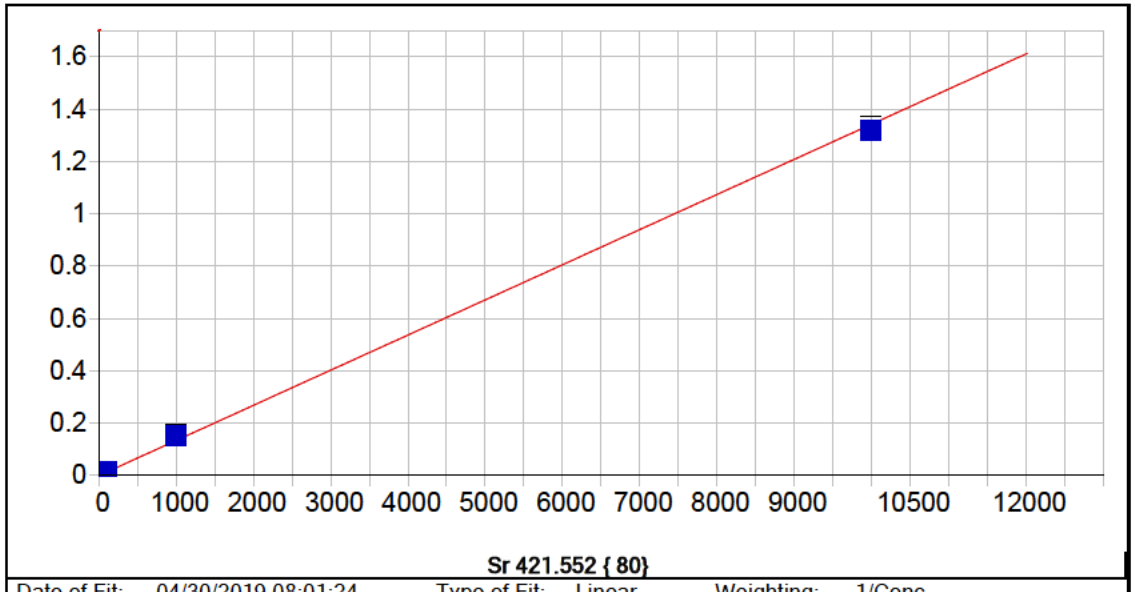



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000090 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998548 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.191487 | | |
| Predicted MQL: | 0.638289 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00094 | -.001 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .96922 | -.031 | -3.08 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.2802 | 1.28 | 25.6 | .00065 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.494 | 3.49 | 34.9 | .00130 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.84 | 23.8 | 23.8 | .01121 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1148.3 | 148. | 14.8 | .10324 | .002 | 1 |
| CalStd10=10 | 10000. | 9823.1 | -177. | -1.77 | .88250 | .013 | 1 |

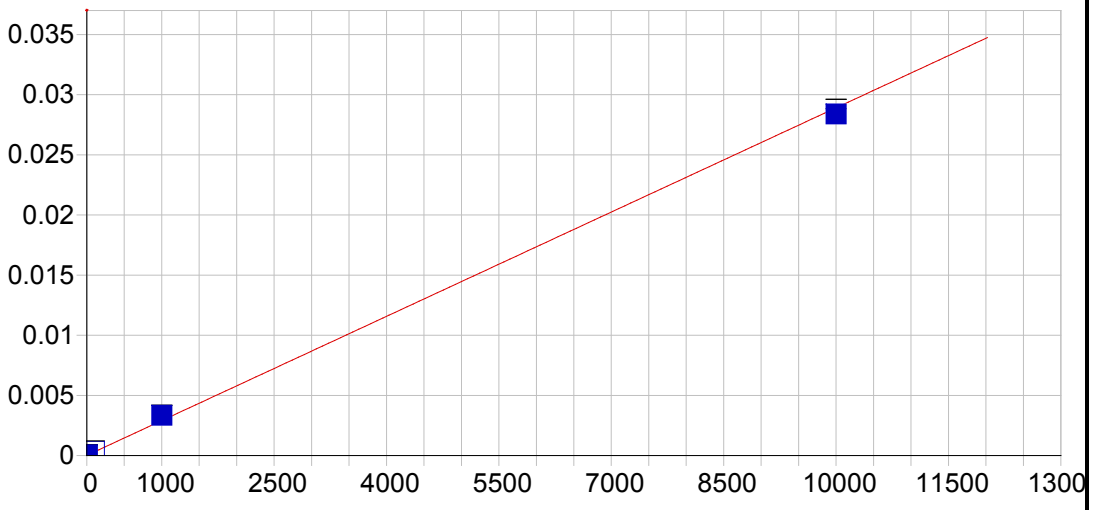



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998725 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.129437 | | |
| Predicted MQL: | 0.431456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | .59172 | -.408 | -40.8 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0861 | 1.09 | 21.7 | .00088 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.395 | 3.40 | 34.0 | .00186 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.02 | 23.0 | 23.0 | .01657 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1137.3 | 137. | 13.7 | .15263 | .003 | 1 |
| CalStd10=10 | 10000. | 9835.6 | -164. | -1.64 | 1.3195 | .013 | 1 |

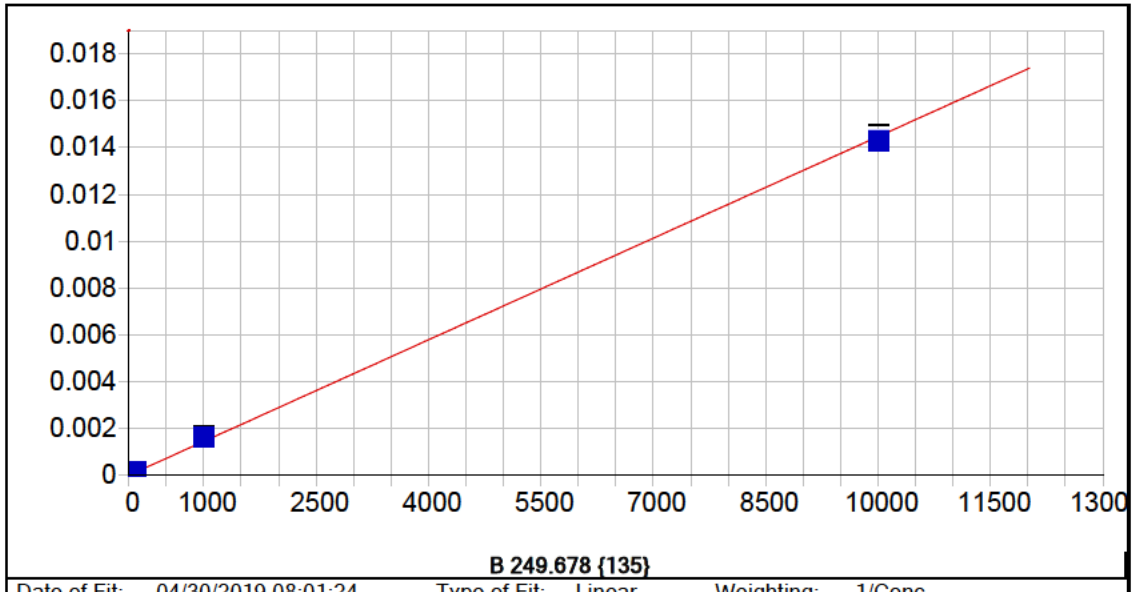



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998477 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.686047 | | |
| Predicted MQL: | 5.620155 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00781 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9819.9 | -180. | -1.80 | .02839 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.1 | 151. | 15.1 | .00334 | .000 | 1 |
| CalStd8=100 | 100.00 | 125.03 | 25.0 | 25.0 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.973 | 3.97 | 39.7 | .00005 | .000 | 1 |

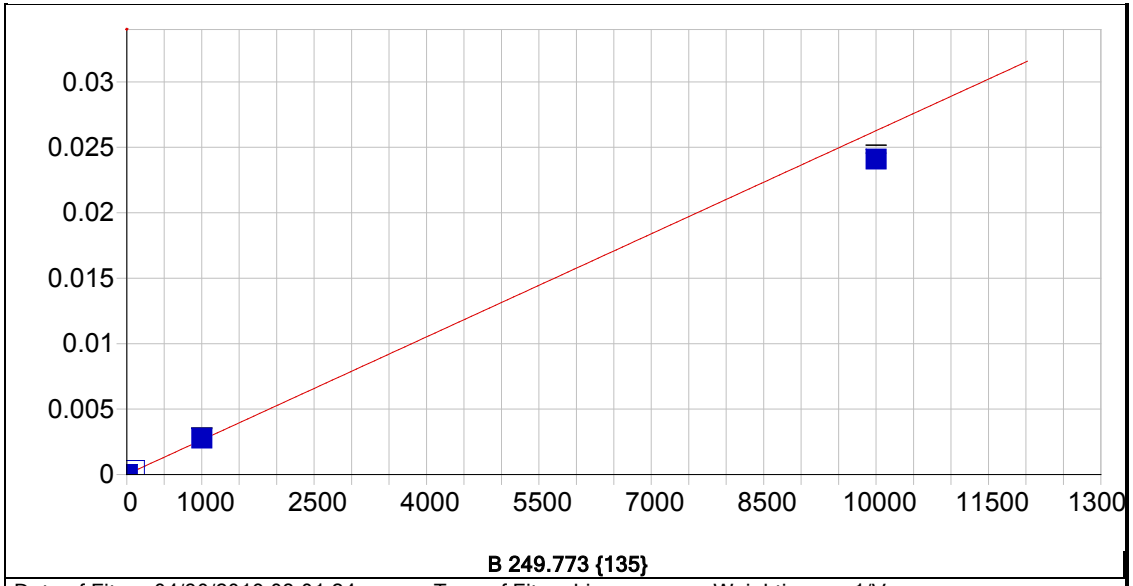



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999110 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.384749 | | |
| Predicted MQL: | 4.615829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00023 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.83 | 15.8 | 15.8 | .00018 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1048 | -2.90 | -29.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1121.6 | 122. | 12.2 | .00164 | .000 | 1 |
| CalStd10=10 | 10000. | 9865.4 | -135. | -1.35 | .01433 | .000 | 1 |

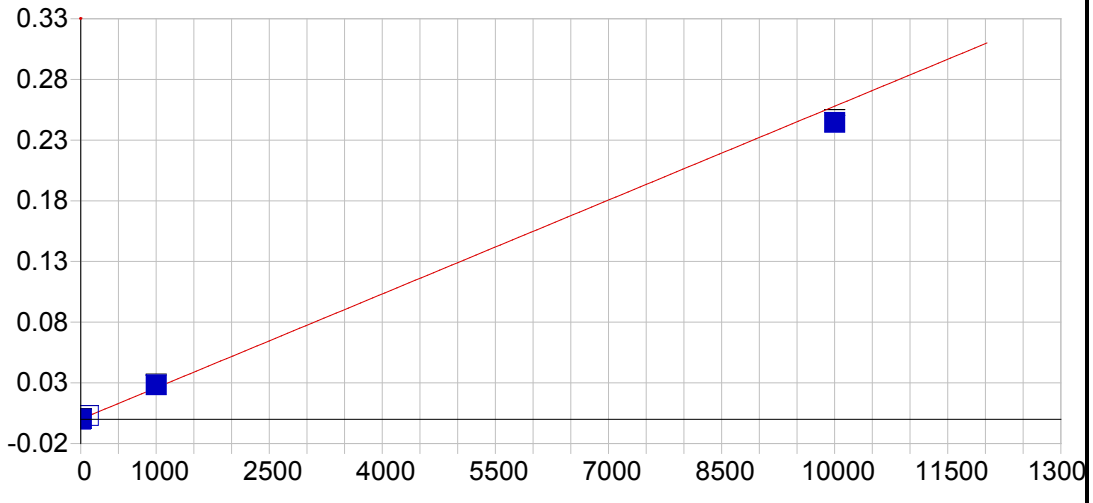



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996375 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.746113 | | |
| Predicted MQL: | 2.487044 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .98371 | .984 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.20 | 10.2 | 10.2 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9208 | -2.08 | -20.8 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.7 | 51.7 | 5.17 | .00278 | .000 | 1 |
| CalStd10=10 | 10000. | 9170.7 | -829. | -8.29 | .02410 | .000 | 1 |

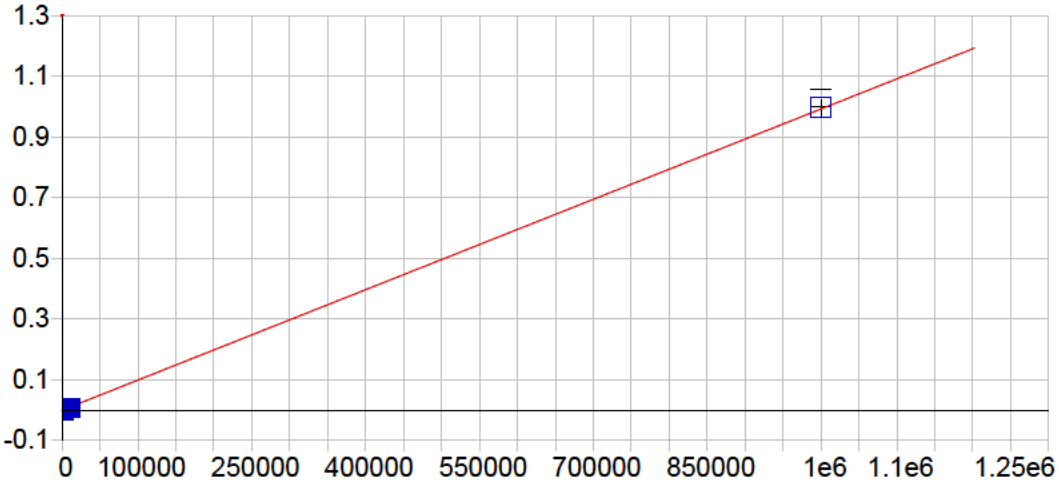



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996196 | Status: | OK. |
| Std Error of Est: | 0.000316 | | |
| Predicted MDL: | 1.644438 | | |
| Predicted MQL: | 5.481459 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.7449 | -7.74 | .000 | -.00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4820 | -3.52 | -35.2 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.33 | 12.3 | 12.3 | .00301 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1095.5 | 95.5 | 9.55 | .02836 | .001 | 1 |
| CalStd10=10 | 10000. | 9480.5 | -520. | -5.20 | .24456 | .002 | 1 |

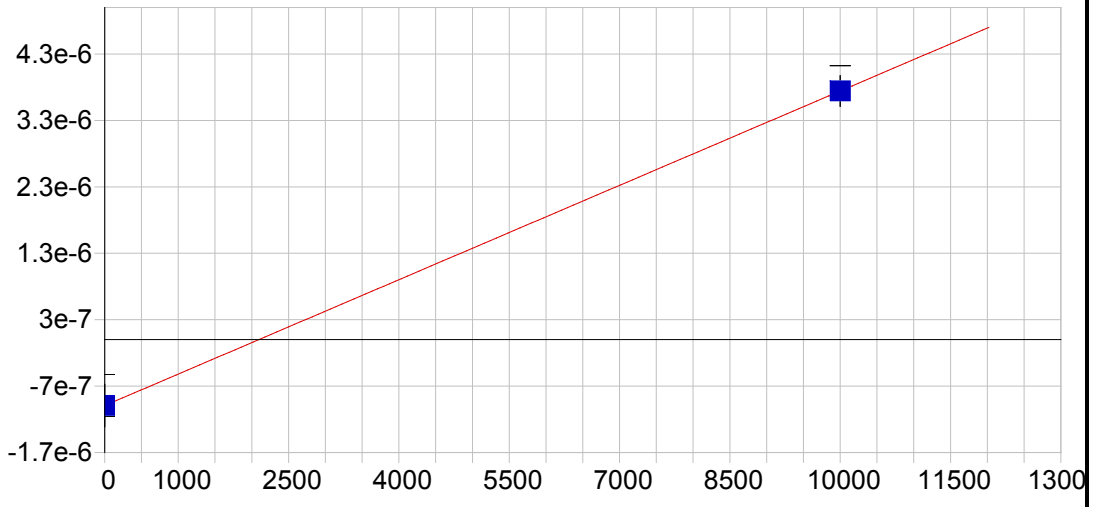



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999481 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 53.224850 | | |
| Predicted MQL: | 177.416168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .55818 | .558 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 750.89 | -249. | -24.9 | .00072 | .000 | 1 |
| CalStd10=10 | 10000. | 6875.5 | -3120. | -31.2 | .00680 | .000 | 1 |
| CalibStd15= | 1000000. | 1003400. | 3370. | .337 | .99608 | .027 | 1 |

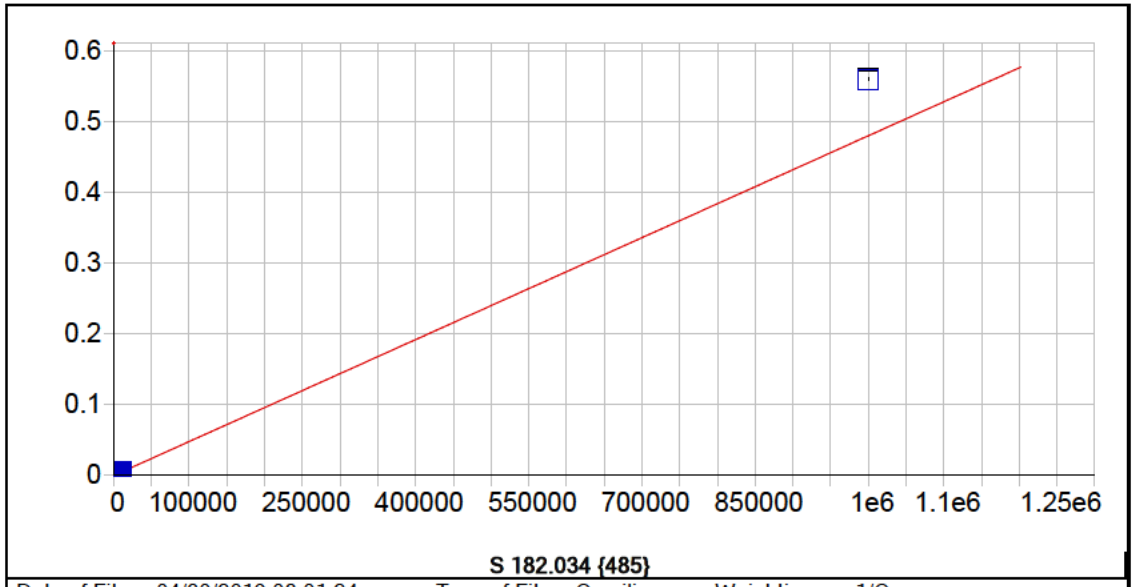



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1106.155392 | | |
| Predicted MQL: | 3687.184641 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00000 | .000 | 1 |

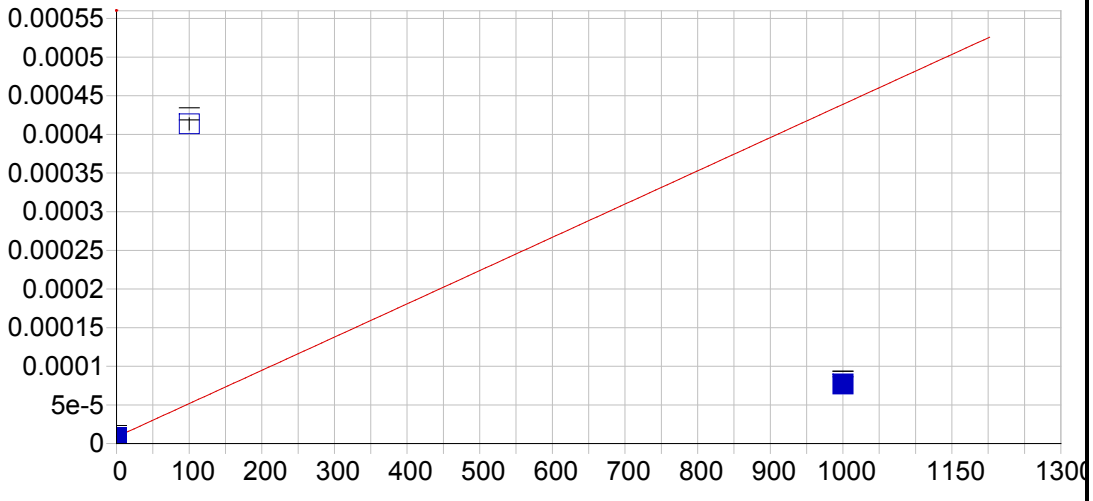



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 6.539657 | | |
| Predicted MQL: | 21.798855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09299 | -.093 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1103.6 | 104. | 10.4 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9912.2 | -87.8 | -.878 | .00479 | .000 | 1 |
| CalibStd15= | 1000000. | 1166000. | 166000. | 16.6 | .55925 | .001 | 1 |

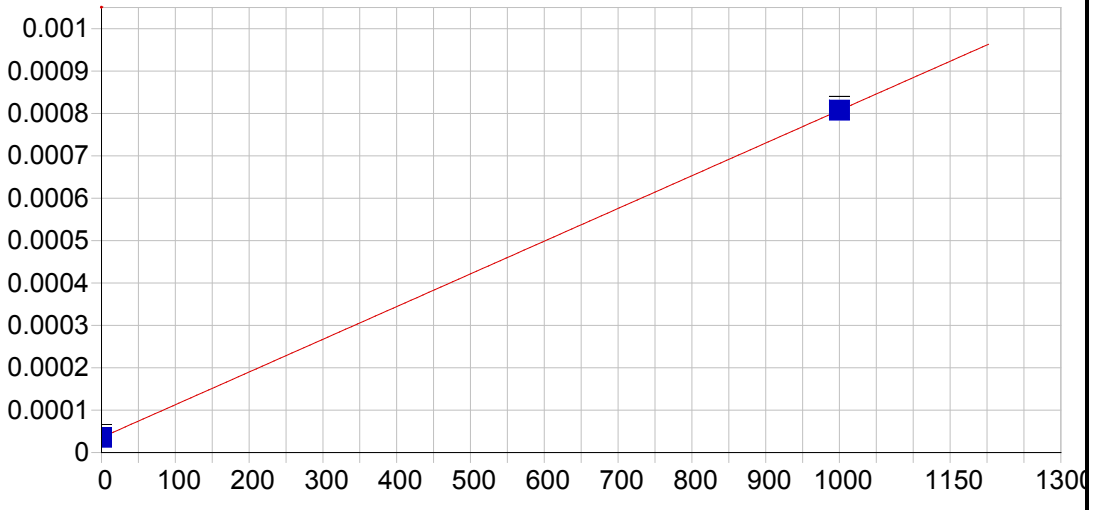



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.351706 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 8.769662 | | |
| Predicted MQL: | 29.232206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75710 | -.757 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 941.22 | 841. | 841. | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 158.78 | -841. | -84.1 | .00008 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000036 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.280330 | | |
| Predicted MQL: | 74.267767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00081 | .000 | 1 |

Sample Name: Blank Acquired: 04/29/2019 14:05:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.595** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.008** | **-.000** |
| Stddev | .000 | .000 | .000 | .623 | .000 | .000 | .000 | .000 | .000 | .000 | .007 | .000 |
| %RSD | 21.1 | 19.7 | 44.3 | 105. | 1380. | 95.5 | 2.89 | 1.22 | 136. | 31.2 | 84.8 | 17.3 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **32.9** | **7.18** | **.000** | **.000** | **.000** | **-.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.2 | 2.95 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.5 | 57.1 | 10.1 | 74.1 | 84.2 | 3.76 | 41.1 | 1.97 | 17.8 | 25.0 | 263. | 5.86 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.35 | 50.7 | 26.0 | 86.5 | 234. | 16.4 | 200. | 9.31 | 190. | 77.9 | 46.1 | 122. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 129. | 53.8 | 28.8 | 40.4 | 12.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1295600.** | **287860.** |
| Stddev | 632. | 3609. | 9201. |
| %RSD | .49904 | .27857 | 3.1964 |

Sample Name: CalStd2=0.5 Acquired: 04/29/2019 14:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.22 | 142. | 3.55 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **126980.** | **1297900.** |
| Stddev | 274. | 2751. |
| %RSD | .21587 | .21197 |

Sample Name: CalStd3=1 Acquired: 04/29/2019 14:18:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.2 | 22.5 | 1.42 | 9.82 | 6.90 | 16.6 | 23.9 | 50.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1298300.** | **279670.** |
| Stddev | 1171. | 9813. | 1746. |
| %RSD | .92435 | .75586 | .62446 |

Sample Name: CalStd4=5 Acquired: 04/29/2019 14:24:48 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.001** | **.000** | **11.2** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.3 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 10.9 | 840. | 123. | 28.5 | 37.1 | 35.4 | 20.7 | 17.1 | 35.4 | 46.7 | 45.9 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 21.1 | 52.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117820.** | **1258200.** | **279990.** |
| Stddev | 1002. | 22700. | 4543. |
| %RSD | .85066 | 1.8042 | 1.6225 |

Sample Name: CalStd5=10 Acquired: 04/29/2019 14:38:57 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.95** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **39.7** |
| Stddev | .000 | .000 | .99 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.3 |
| %RSD | 3.06 | 3.33 | 50.8 | 29.0 | 2.78 | 1.22 | .861 | 1.90 | 1.46 | 1.04 | 1.45 | 8.29 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 23.9 | 1.07 | 1.95 | 4.86 | 2.85 | 22.0 | 10.6 | 8.52 | 5.57 | 6.62 | 12.2 | 3.48 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.54 | .513 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127470.** | **1314900.** | **279840.** |
| Stddev | 543. | 5916. | 2698. |
| %RSD | .42597 | .44994 | .96416 |

Sample Name: CalStd6=20 Acquired: 04/29/2019 14:45:45 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **45.1** | **15.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .7 | 3.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.50 | 1.46 | 20.8 | 4.06 | 1.08 | 2.09 | 7.34 | 4.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127230.** | **1336500.** | **281290.** |
| Stddev | 281. | 43722. | 4762. |
| %RSD | .22067 | 3.2714 | 1.6930 |

Sample Name: CalStd7=50 Acquired: 04/29/2019 14:51:59 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **9.47** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **60.4** | **28.6** | **.001** | **.000** |
| Stddev | .59 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .7 | 1.7 | .000 | .000 |
| %RSD | 6.20 | 13.3 | 6.05 | .715 | .561 | .416 | .571 | 4.00 | 1.12 | 5.76 | 3.81 | .557 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.92 | .610 | 2.57 | 4.98 | 4.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127250.** | **1316800.** | **277460.** |
| Stddev | 420. | 21696. | 1525. |
| %RSD | .32990 | 1.6476 | .54972 |

Sample Name: CalStd8=100 Acquired: 04/29/2019 14:58:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **20.4** | **.000** | **.001** | **.018** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .963 | 1.50 | 2.42 | 3.40 | 1.41 | .981 | 1.80 | 2.05 | 1.32 | 1.97 | 1.86 | 1.68 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **85.4** | **46.3** | **.004** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 1.2 | 5.1 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.44 | 2.03 | 1.56 | 1.42 | 10.9 | 1.66 | 1.75 | 1.48 | 1.88 | 1.49 | 1.90 | 3.34 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.75 | 3.28 | 1.72 | 9.43 | 1.14 | 9.36 | 2.05 | 1.72 | 2.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127180.** | **1310400.** | **281060.** |
| Stddev | 947. | 4674. | 2562. |
| %RSD | .74427 | .35668 | .91156 |

Sample Name: CalStd9=1000 Acquired: 04/29/2019 15:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **187.** | **.001** | **.010** | **.075** | **.057** | **.002** | **.000** | **.136** | **.025** | **.048** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .001 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .200 | 3.18 | .600 | .448 | .355 | 1.58 | 2.26 | 1.21 | 2.00 | 1.68 | .171 | .112 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.003** | **501.** | **354.** | **.000** | **.000** | **.001** | **.000** | **.030** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 7. | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .177 | 2.19 | .085 | 2.28 | 1.98 | 1.93 | 2.35 | 1.99 | 1.63 | 7.99 | 2.19 | 2.33 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.012** | **.012** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.08 | .308 | .184 | .205 | .238 | .841 | .510 | .345 | .214 | .911 | 3.43 | .458 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.019** | **.027** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | 2.36 | .194 | .212 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127570.** | **1307300.** | **280800.** |
| Stddev | 349. | 1896. | 1299. |
| %RSD | .27346 | .14504 | .46270 |

Sample Name: CalStd10=10000 Acquired: 04/29/2019 15:10:04 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.561** | **.003** | **1.10** | **.180** | **.019** | **.129** | **.023** | **4030.** | **2930.** | **.004** |
| Stddev | .000 | .000 | .003 | .000 | .01 | .003 | .000 | .002 | .001 | 18. | 26. | .000 |
| %RSD | 1.36 | 1.33 | .608 | .509 | 1.17 | 1.45 | 2.27 | 1.41 | 2.34 | .443 | .897 | 2.36 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.009** | **.000** | **.231** | **.084** | **.029** | **.045** | **.099** | **.105** | **.010** | **.019** | **.019** |
| Stddev | .000 | .000 | .000 | .004 | .002 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | .808 | .895 | 1.21 | 1.72 | 1.97 | .795 | 1.32 | 1.49 | 1.45 | 1.24 | 1.27 | 1.21 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.020** | **.007** | **.064** | **.158** |
| Stddev | .000 | .000 | .000 | .002 | .003 |
| %RSD | 1.31 | 1.21 | 1.12 | 2.37 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125980.** | **1287600.** | **280530.** |
| Stddev | 699. | 6558. | 1857. |
| %RSD | .55457 | .50933 | .66194 |

Sample Name: CalStd12=100K  Acquired: 04/29/2019 15:16:31  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.28** | **43500.** | **32400.** | **.308** | **.110** | **1.57** |
| Stddev | .00 | 365. | 356. | .005 | .000 | .00 |
| %RSD | .220 | .838 | 1.10 | 1.48 | .171 | .244 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126080.** | **1291400.** | **280400.** |
| Stddev | 291. | 5332. | 3029. |
| %RSD | .23081 | .41287 | 1.0804 |

Sample Name: CalStd13=100000 Acquired: 04/29/2019 15:22:50 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.137** | **.034** | **.045** | **.023** | **.108** | **.003** |
| Stddev | .001 | .001 | .000 | .000 | .001 | .000 |
| %RSD | .846 | 1.58 | .264 | 1.03 | 1.09 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122870.** | **1255700.** | **276750.** |
| Stddev | 346. | 2861. | 2131. |
| %RSD | .28177 | .22782 | .77016 |

Sample Name: CalStd14=500000 Acquired: 04/29/2019 15:29:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.747** | **.174** | **.113** | **.523** | **.019** |
| Stddev | .053 | .010 | .007 | .032 | .001 |
| %RSD | 7.08 | 5.95 | 6.23 | 6.16 | 5.67 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **113070.** | **256400.** |
| Stddev | 158. | 15182. |
| %RSD | .13942 | 5.9212 |

Sample Name: CalibStd15=1000k Acquired: 04/29/2019 15:35:54 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.50** | **.346** | **.215** | **.038** |
| Stddev | .04 | .013 | .007 | .001 |
| %RSD | 3.02 | 3.65 | 3.25 | 3.63 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100510.** | **240940.** |
| Stddev | 265. | 3898. |
| %RSD | .26327 | 1.6180 |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.1** | **9800.** | **1980.** | **2230.** | **2200.** | **47.0** | **8230.** | **47.2** | **53.9** | **567.** | **220.** | **261.** |
| Stddev | .9 | 149. | 22. | 31. | 36. | .8 | 95. | .3 | .7 | 7. | 3. | 3. |
| %RSD | 2.04 | 1.52 | 1.13 | 1.40 | 1.65 | 1.77 | 1.15 | .728 | 1.23 | 1.26 | 1.50 | 1.18 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **266.** | **5250.** | **10400.** | **489.** | **521.** | **465.** | **487.** | **566.** | **565.** | **504.** | **454.** | **558.** |
| Stddev | 8. | 77. | 198. | 9. | 10. | 6. | 5. | 8. | 8. | 13. | 11. | 7. |
| %RSD | 3.18 | 1.46 | 1.90 | 1.87 | 1.91 | 1.24 | .992 | 1.46 | 1.33 | 2.48 | 2.32 | 1.32 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **553.** | **1940.** | **2280.** | **545.** | **552.** | **516.** | **463.** |
| Stddev | 7. | 36. | 21. | 7. | 11. | 8. | 8. |
| %RSD | 1.28 | 1.87 | .934 | 1.24 | 2.07 | 1.49 | 1.77 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127840.** | **1307600.** | **282500.** |
| Stddev | 723. | 3041. | 3053. |
| %RSD | .56570 | .23256 | 1.0807 |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.7** | **1190.** | **1090.** | **62.9** | **29.9** | **11.9** | **1690.** | **15.5** | **15.6** | **34.8** | **35.4** | **33.5** |
| Stddev | .6 | 4. | 10. | 2.2 | .6 | .0 | 19. | .2 | .1 | .6 | .8 | 5.8 |
| %RSD | 2.07 | .337 | .895 | 3.47 | 2.00 | .210 | 1.10 | 1.29 | .722 | 1.84 | 2.40 | 17.5 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2790 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.9** | **1010.** | F **2000.** | **1770.** | **31.3** | **30.8** | **36.0** | **27.9** | F **73.5** | **65.8** | **71.9** | **34.5** |
| Stddev | 9.5 | 7. | 9. | 11. | .1 | .4 | .2 | 1.2 | 3.3 | 3.7 | 1.4 | .2 |
| %RSD | 27.2 | .689 | .472 | .607 | .360 | 1.44 | .578 | 4.12 | 4.43 | 5.66 | 1.91 | .643 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 1500. | | | | | | 60.0 | | | |
| Range | | | 20.0% | | | | | | 20.0% | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.8** |
| Stddev | .5 |
| %RSD | 1.78 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126440.** | **1299100.** | **281370.** |
| Stddev | 219. | 5591. | 1830. |
| %RSD | .17330 | .43034 | .65021 |

Sample Name: icb Acquired: 04/29/2019 16:14:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.28** | **-7.66** | **-3.49** | **-.678** | **.040** | **-65.2** | **-.007** | **-.012** | **-.389** | **-1.22** | **-4.14** | **-25.7** |
| Stddev | .34 | .15 | 1.09 | .359 | .035 | .2 | .032 | .075 | .382 | .46 | 9.91 | 1.7 |
| %RSD | 26.3 | 1.92 | 31.4 | 53.0 | 88.7 | .234 | 459. | 599. | 98.2 | 37.6 | 240. | 6.64 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-45.1** | **-2.33** | **-.779** | **-.444** | **-1.13** | **-1.37** | **-3.02** | **.005** | **-.886** | **-.475** |
| Stddev | .0 | .06 | .620 | .386 | 1.46 | 2.34 | 3.42 | 1.60 | .585 | .118 |
| %RSD | .069 | 2.49 | 79.6 | 87.1 | 129. | 171. | 113. | 35200. | 66.0 | 24.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127950.** | **1314600.** | **279150.** |
| Stddev | 183. | 1396. | 1497. |
| %RSD | .14280 | .10615 | .53616 |

Sample Name: MRL/LLOQ  Acquired: 04/29/2019 16:20:21  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.83** | **399.** | **17.3** | **9.58** | **3.95** | **517.** | **5.09** | **5.18** | **11.3** | **11.0** | F **13.3** | **7.86** |
| Stddev | 1.05 | 1. | 2.5 | .18 | .05 | 14. | .17 | .15 | .5 | .5 | 4.8 | 7.22 |
| %RSD | 10.7 | .244 | 14.5 | 1.86 | 1.29 | 2.78 | 3.44 | 2.86 | 4.58 | 4.90 | 36.2 | 91.9 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 20.0 | | | | | | | | | | 10.0 | |
| Range | -30.0% | | | | | | | | | | 30.0% | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **307.** | **557.** | **8.25** | **9.62** | **11.6** | **8.10** | **21.4** | **19.7** | **23.6** | **10.9** | **10.8** |
| Stddev | 2. | 4. | .12 | .52 | .7 | 1.19 | .9 | 3.6 | 1.2 | .6 | .2 |
| %RSD | .663 | .694 | 1.39 | 5.44 | 5.69 | 14.7 | 4.16 | 18.0 | 4.87 | 5.32 | 1.75 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127160.** | **1305200.** | **281920.** |
| Stddev | 119. | 3887. | 2379. |
| %RSD | .09325 | .29784 | .84390 |

Sample Name: ICSA Acquired: 04/29/2019 16:26:32 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.57** | **526000.** | **.004** | **.000** | **-.667** | **500000.** | **-.001** | **1.18** | **-.018** | **-1.26** | **.003** |
| Stddev | 1.50 | 23900. | 6.63 | 1.21 | .217 | 7850. | .538 | .23 | .727 | 1.07 | 6.54 |
| %RSD | 95.8 | 4.54 | 159000. | 2500000. | 32.5 | 1.57 | 58400. | 19.2 | 4030. | 84.3 | 198000. |
| Check ? | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **542000.** | **473000.** | **-5.48** | **2.51** | **-.575** | **1.54** | **-4.63** | **-11.4** | **-.063** | **13300.** | **-6.89** |
| Stddev | 8100. | 7050. | .16 | .71 | 1.79 | 2.10 | 5.91 | 8.1 | 1.69 | 228. | 1.94 |
| %RSD | 1.49 | 1.49 | 2.86 | 28.5 | 311. | 136. | 128. | 71.3 | 2680. | 1.71 | 28.2 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112330.** | **1167300.** | **261400.** |
| Stddev | 184. | 5118. | 4079. |
| %RSD | .16359 | .43841 | 1.5603 |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **431000.** | **536.** | **577.** | **460.** | **533.** | **447.** | **407000.** | **484.** | **514.** | **523.** |
| Stddev | 1. | 3080. | 4. | 12. | 6. | 2. | 5. | 4890. | 7. | 8. | 4. |
| %RSD | .232 | .714 | .730 | 2.06 | 1.40 | .354 | 1.09 | 1.20 | 1.47 | 1.63 | .686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2025 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | **498.** | **446000.** | **402000.** | **452.** | **521.** | **454.** | **480.** | **503.** | **504.** | F **765.** |
| Stddev | 4. | 12. | 2900. | 6120. | 2. | 7. | 7. | 8. | 8. | 7. | 23. |
| %RSD | .885 | 2.37 | .651 | 1.52 | .475 | 1.27 | 1.59 | 1.59 | 1.58 | 1.40 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | | | 500. |
| Range | | | | | | | | | | | 20.0% |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F **395.** | **502.** | **528.** | **444.** | **534.** | **550.** | **539.** | **482.** | **444.** |
| Stddev | 11. | 6. | 16. | 11. | 8. | 7. | 3. | 7. | 8. |
| %RSD | 2.70 | 1.22 | 3.02 | 2.45 | 1.51 | 1.28 | .483 | 1.39 | 1.80 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | |
| Range | -20.0% | | | | | | | | |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114940.** | **1185100.** | **265530.** |
| Stddev | 897. | 3486. | 319. |
| %RSD | .78024 | .29412 | .12000 |

Sample Name: 254602 Acquired: 04/29/2019 17:30:38 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.35** | **56200.** | **29.9** | **456.** | **659.** | **1.55** | **21600.** | **-.545** | **.907** | **17.2** | **92.5** | **194.** |
| Stddev | .61 | 2430. | 3.2 | 14. | 27. | .05 | 975. | .209 | .207 | .7 | 2.3 | 11. |
| %RSD | 45.4 | 4.32 | 10.8 | 3.11 | 4.15 | 2.99 | 4.51 | 38.4 | 22.9 | 4.28 | 2.53 | 5.69 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **184.** | **41100.** | **4750.** | **28600.** | **10.3** | **49.1** | **147.** | **.295** | **-3.60** | **18.9** | **199.** | **169.** |
| Stddev | 9. | 1620. | 192. | 1230. | .5 | 1.8 | 7. | 1.05 | 4.23 | 2.1 | 11. | 5. |
| %RSD | 4.88 | 3.94 | 4.04 | 4.28 | 5.00 | 3.59 | 5.03 | 357. | 118. | 10.9 | 5.75 | 3.08 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **155.** |
| Stddev | 5. |
| %RSD | 2.94 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127760.** | **1347100.** | **279320.** |
| Stddev | 346. | 30540. | 565. |
| %RSD | .27069 | 2.2670 | .20241 |

Sample Name: 254605 Acquired: 04/29/2019 17:37:17 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.60** | **3260.** | **5.93** | **258.** | **337.** | **.473** | **1680.** | **.217** | **.177** | **4.86** | **3.98** | **93.5** |
| Stddev | .87 | 86. | 1.43 | 16. | 14. | .011 | 44. | .100 | .112 | .49 | .70 | 3.9 |
| %RSD | 54.4 | 2.64 | 24.1 | 6.28 | 3.99 | 2.27 | 2.61 | 46.3 | 63.5 | 10.2 | 17.5 | 4.18 |

| Elem | Cu3273 | Fe2599 | Mg2802 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **87.9** | **5950.** | **698.** | **18400.** | **.841** | **5.50** | **257.** | **-2.59** | **-2.85** | **12.2** | **22.8** | **36.3** |
| Stddev | 8.7 | 238. | 14. | 547. | .366 | .52 | 15. | 1.42 | 2.94 | 2.0 | .7 | 2.5 |
| %RSD | 9.92 | 4.00 | 1.98 | 2.96 | 43.5 | 9.45 | 5.87 | 54.9 | 103. | 16.4 | 3.05 | 6.78 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **129190.** | **1359400.** | **286900.** |
| Stddev | 678. | 4106. | 5615. |
| %RSD | .52503 | .30203 | 1.9569 |

Sample Name: ccv1 Acquired: 04/29/2019 17:49:42 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **460.** | F **4050.** | **5450.** | **5400.** | **459.** | F **4140.** | **485.** | **5340.** | **4640.** | **5180.** | **5240.** | **5390.** |
| Stddev | 23. | 56. | 22. | 119. | 10. | 64. | 1. | 231. | 5. | 83. | 101. | 145. |
| %RSD | 4.89 | 1.38 | .395 | 2.20 | 2.25 | 1.53 | .210 | 4.32 | .106 | 1.61 | 1.93 | 2.68 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | | | |
| Range | | -10.4% | | | | -10.4% | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5320.** | **4980.** | F **5680.** | **5170.** | **5450.** | **4810.** | F **5640.** | **5330.** | **5300.** |
| Stddev | 118. | 28. | 24. | 34. | 22. | 36. | 28. | 105. | 16. |
| %RSD | 2.22 | .563 | .413 | .664 | .403 | .738 | .505 | 1.96 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | 5000. | | |
| Range | | | 10.4% | | | | 10.4% | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123080.** | **1257500.** | **274160.** |
| Stddev | 473. | 75307. | 1908. |
| %RSD | .38434 | 5.9889 | .69588 |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **480.** | **485.** | F **553.** | **503.** | F **587.** | **49.4** | **50.2** | **527.** | **52.0** | **52.2** | F **591.** |
| Stddev | .5 | 1. | 3. | 4. | . | 2. | .6 | 1.1 | 2. | .3 | .1 | 1. |
| %RSD | 1.01 | .272 | .694 | .689 | .096 | .255 | 1.19 | 2.10 | .320 | .565 | .221 | .179 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. | | 500. | | | | | | 500. |
| Range | | | | 10.4% | | 10.4% | | | | | | 10.4% |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **552.** | F **561.** | **514.** | **510.** | **544.** | **472.** | F **556.** | **491.** | **514.** | F **596.** | F **592.** | **545.** |
| Stddev | 5. | 4. | 12. | 5. | 7. | 5. | 1. | 1. | 1. | . | 1. | 4. |
| %RSD | .948 | .784 | 2.34 | 1.03 | 1.33 | 1.15 | .112 | .260 | .267 | .047 | .196 | .745 |
| Check ? | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | 500. | 500. | | | | | 500. | | | 500. | 500. | |
| Range | 10.4% | 10.4% | | | | | 10.4% | | | 10.4% | 10.4% | |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **480.** | F **565.** | F **558.** | **498.** | F **615.** | F **554.** | **544.** | **552.** | **455.** |
| Stddev | 3. | 1. | 3. | 5. | 4. | 11. | 5. | 2. | 1. |
| %RSD | .704 | .182 | .537 | .979 | .574 | 1.95 | .948 | .367 | .247 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 500. | 500. | | 500. | 500. | | | |
| Range | | 10.4% | 10.4% | | 10.4% | 10.4% | | | |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126540.** | **1325700.** | **275670.** |
| Stddev | 143. | 8007. | 1112. |
| %RSD | .11323 | .60400 | .40336 |

Sample Name: ccb Acquired: 04/29/2019 18:00:55 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.615** | **-12.1** | **-4.13** | **-.238** | **.260** | **-64.5** | **.217** | **.078** | **.468** | **.061** | **-3.75** | **-28.2** |
| Stddev | .604 | .2 | 3.07 | .527 | .060 | .6 | .114 | .159 | .143 | .576 | 6.55 | 1.5 |
| %RSD | 98.2 | 1.65 | 74.3 | 221. | 23.2 | .865 | 52.5 | 205. | 30.5 | 946. | 175. | 5.41 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-47.9** | **-1.73** | **1.70** | **.564** | **-.448** | **-.133** | **-1.41** | **1.69** | **.185** | **.066** |
| Stddev | .1 | .15 | .60 | .584 | 3.79 | 2.55 | 3.40 | 2.46 | .360 | .070 |
| %RSD | .188 | 8.63 | 35.3 | 104. | 848. | 1920. | 241. | 146. | 195. | 106. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

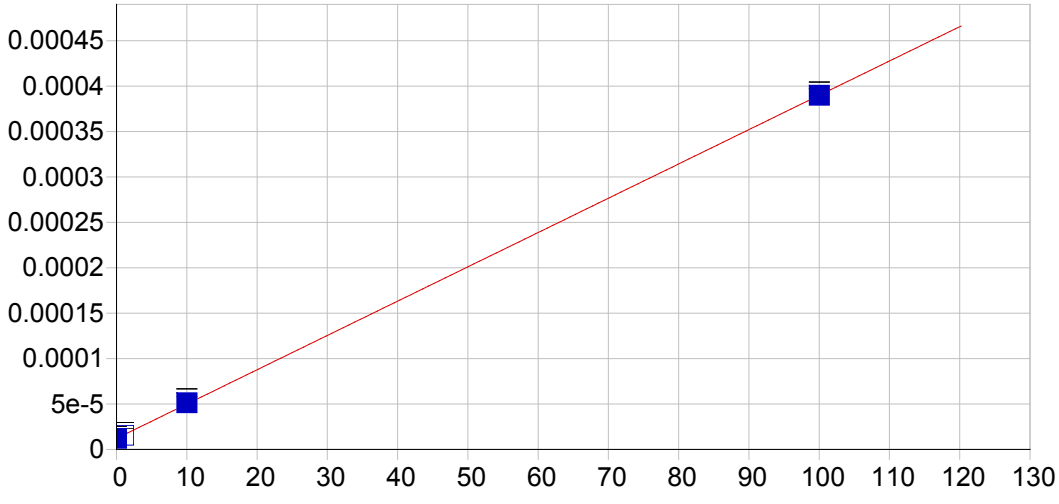
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126900.** | **1349400.** | **276260.** |
| Stddev | 436. | 24445. | 4406. |
| %RSD | .34375 | 1.8115 | 1.5949 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/16/2019 11:23:49 | 04/05/2019 08:06:21 | Linear | 1/Var | 0.000012 | 0.000004 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 0.811773 | 2.705910 |
| Ag 338.289 {100} | 04/16/2019 11:23:49 | 04/05/2019 08:11:57 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.985238 | 0.000002 | 12.717446 | 42.391488 |
| Al 167.079 {501} | 04/16/2019 11:23:49 | 04/05/2019 08:11:57 | Linear | None | 0.000023 | 0.000003 | 0.000000 | 1.000000 | 0.999965 | 0.000014 | 1.055814 | 3.519380 |
| Al 308.215 {109} | 04/16/2019 11:23:49 | 04/05/2019 08:31:19 | Linear | 1/Var | 0.000072 | 0.000000 | 0.000000 | 1.000000 | 0.999869 | 0.000010 | 27.112725 | 90.375749 |
| Al 396.152 { 85} | 04/16/2019 11:23:49 | 04/05/2019 08:45:29 | Curvili | 1/Conc | -0.000026 | 0.000001 | 0.000000 | 1.000000 | 0.999997 | 0.000007 | 12.315633 | 41.052111 |
| As 193.759 {474} | 04/16/2019 11:23:49 | 04/05/2019 08:11:58 | Linear | 1/Conc | 0.073470 | 0.134605 | 0.000000 | 1.000000 | 0.999883 | 0.009020 | 3.616879 | 12.056262 |
| As 197.262 {471} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999976 | 0.000000 | 6.689114 | 22.297048 |
| Ba 233.527 {445} | 04/16/2019 11:23:49 | 04/05/2019 08:11:58 | Linear | 1/Var | -0.353818 | 0.974220 | 0.000000 | 1.000000 | 0.999950 | 0.485342 | 0.461326 | 1.537753 |
| Ba 455.403 { 74} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 20.657103 | 19.075068 | 0.000000 | 1.000000 | 0.999917 | 0.932332 | 0.309469 | 1.031564 |
| Ba 493.409 { 68} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 2891.7049 | 23.227594 | 0.000000 | 1.000000 | 0.999966 | 8.997209 | 0.736012 | 2.453373 |
| Be 313.042 {108} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Conc | -0.000354 | 0.000102 | 0.000000 | 1.000000 | 0.999973 | 0.000001 | 0.047275 | 0.157583 |
| Be 234.861 {144} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Var | -0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999993 | 0.000001 | 1.221748 | 4.072495 |
| Ca 315.887 {107} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Full Fit | 1/Conc | 13.508949 | 0.122957 | -0.000000 | 1.000000 | 0.999999 | 0.326345 | 11.030951 | 36.769838 |
| Ca 317.933 {106} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.003301 | 0.000001 | 0.000000 | 1.000000 | 0.999945 | 0.000014 | 6.389566 | 21.298554 |
| Ca 393.366 { 86} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Var | 1840.7327 | 129.96446 | 0.000000 | 1.000000 | 0.998095 | 1517.8170 | 0.039864 | 0.132878 |
| Ca 396.847 { 85} | 04/16/2019 11:23:49 | 04/05/2019 08:18:32 | Linear | 1/Conc | 0.000342 | 0.000067 | 0.000000 | 1.000000 | 0.999713 | 0.000075 | 0.194718 | 0.649059 |
| Cd 226.502 {449} | 04/16/2019 11:23:49 | 04/05/2019 08:11:59 | Linear | 1/Conc | -0.000002 | 0.000035 | 0.000000 | 1.000000 | 0.999961 | 0.000000 | 0.201373 | 0.671242 |
| Cd 228.802 {447} | 04/16/2019 11:23:49 | 04/05/2019 08:12:00 | Linear | 1/Conc | 0.000035 | 0.000064 | 0.000000 | 1.000000 | 0.999973 | 0.000000 | 0.168711 | 0.562370 |
| Co 228.616 {447} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Conc | 0.000002 | 0.000020 | 0.000000 | 1.000000 | 0.999927 | 0.000001 | 0.395103 | 1.317010 |
| Co 238.892 {141} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Var | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999845 | 0.000017 | 0.774921 | 2.583069 |
| Cr 205.560 {464} | 04/16/2019 11:23:49 | 04/05/2019 08:24:55 | Linear | 1/Var | 0.000116 | 0.000017 | 0.000000 | 1.000000 | 0.996275 | 0.000543 | 0.320402 | 1.068006 |
| Cr 267.716 {126} | 04/16/2019 11:23:49 | 04/05/2019 08:18:33 | Linear | 1/Conc | 0.000000 | 0.000004 | 0.000000 | 1.000000 | 0.999984 | 0.000000 | 0.779459 | 2.598198 |
| Cu 224.700 {450} | 04/16/2019 11:23:49 | 04/05/2019 08:24:55 | Linear | 1/Conc | -0.000001 | 0.000008 | 0.000000 | 1.000000 | 0.999803 | 0.000009 | 0.407926 | 1.359752 |
| Cu 324.754 {104} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 148.59013 | 0.943999 | 0.000000 | 1.000000 | 0.999922 | 0.452769 | 2.842345 | 9.474483 |
| Cu 327.396 {103} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 9.891198 | 0.501962 | 0.000000 | 1.000000 | 0.999946 | 0.139808 | 6.972418 | 23.241395 |
| Fe 234.349 {144} | 04/16/2019 11:23:49 | 04/05/2019 08:31:20 | Curvili | 1/Var | 0.000044 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1.930143 | 6.433810 |
| Fe 239.562 {140} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Var | 0.000039 | 0.000000 | 0.000000 | 1.000000 | 0.996888 | 0.000081 | 10.726217 | 35.754058 |
| Fe 259.940 {129} | 04/16/2019 11:23:49 | 04/05/2019 08:38:12 | Full Fit | 1/Conc | 15.029995 | 0.551164 | -0.000000 | 0.980000 | 0.999997 | 1.675157 | 2.808579 | 9.361928 |
| Mg 202.582 {466} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Var | 0.000027 | 0.000002 | 0.000000 | 1.000000 | 0.999007 | 0.000224 | 2.381545 | 7.938482 |
| Mg 279.079 {121} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Full Fit | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.040000 | 0.999980 | 0.000001 | 93.938827 | 313.12942 |
| Mg 280.270 {120} | 04/16/2019 11:23:49 | 04/05/2019 08:18:34 | Linear | 1/Var | 579.31173 | 49.678342 | 0.000000 | 1.000000 | 0.999159 | 234.36294 | 0.030900 | 0.102999 |
| Mn 257.610 {131} | 04/16/2019 11:23:49 | 04/05/2019 08:18:34 | Linear | 1/Conc | -0.000001 | 0.000016 | 0.000000 | 1.000000 | 0.999800 | 0.000003 | 0.097980 | 0.326601 |
| Mn 259.373 {130} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 1.910672 | 1.406640 | 0.000000 | 1.000000 | 0.999790 | 13.592011 | 1.043152 | 3.477174 |
| Mo 202.030 {466} | 04/16/2019 11:23:49 | 04/05/2019 08:12:02 | Linear | 1/Conc | 0.000003 | 0.000012 | 0.000000 | 1.000000 | 0.999987 | 0.000000 | 0.391709 | 1.305695 |
| Mo 203.844 {465} | 04/16/2019 11:23:49 | 04/05/2019 08:12:02 | Linear | 1/Var | 0.000009 | 0.000008 | 0.000000 | 1.000000 | 0.999983 | 0.000003 | 0.746097 | 2.486991 |
| Mo 204.598 {464} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Var | 0.320630 | 0.824476 | 0.000000 | 1.000000 | 0.999753 | 5.202856 | 0.702655 | 2.342183 |
| Ni 221.647 {452} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.188014 | 1.960989 | 0.000000 | 1.000000 | 0.999792 | 1.883097 | 0.478095 | 1.593652 |
| Ni 231.604 {445} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.000021 | 0.000018 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 0.504511 | 1.681705 |
| Pb 216.999 {455} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Var | 0.000015 | 0.000002 | 0.000000 | 1.000000 | 0.999843 | 0.000040 | 4.065918 | 13.553059 |
| Pb 220.353 {453} | 04/16/2019 11:23:49 | 04/05/2019 08:12:03 | Linear | 1/Conc | 1.115789 | 0.399994 | 0.000000 | 1.000000 | 0.999053 | 0.053098 | 2.370772 | 7.902574 |
| Pb 220.353 {153} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999939 | 0.000000 | 7.123424 | 23.744745 |
| Sb 206.833 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | -0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999969 | 0.000000 | 2.779281 | 9.264269 |
| Sb 217.581 {455} | 04/16/2019 11:23:49 | 04/05/2019 08:18:35 | Linear | 1/Conc | 0.712715 | 0.198078 | 0.000000 | 1.000000 | 0.999882 | 0.026863 | 2.990604 | 9.968681 |
| Se 196.090 {472} | 04/16/2019 11:23:49 | 04/05/2019 08:12:03 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999025 | 0.000000 | 5.886045 | 19.620148 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Curvili | 1/Conc | -0.000001 | 0.000000 | -0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.036920 | 73.456402 |
| Tl 190.856 {476} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999667 | 0.000001 | 2.023818 | 6.746060 |
| Tl 190.856 {477} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | -0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999569 | 0.000000 | 4.888356 | 16.294520 |
| V 290.882 {116} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 5.385278 | 17.950927 |
| V 292.402 {115} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 4.505315 | 9.634950 | 0.000000 | 1.000000 | 0.999906 | 1.656834 | 0.524983 | 1.749942 |
| Zn 206.200 {463} | 04/16/2019 11:23:49 | 04/05/2019 08:24:56 | Linear | 1/Var | 0.000056 | 0.000019 | 0.000000 | 1.000000 | 0.998114 | 0.000252 | 0.409027 | 1.363425 |
| Zn 213.856 {457} | 04/16/2019 11:23:49 | 04/05/2019 08:12:04 | Linear | 1/Var | 6.970675 | 4.401027 | 0.000000 | 1.000000 | 0.999994 | 0.981134 | 0.142347 | 0.474492 |
| Y 224.306 {450}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:36 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/16/2019 11:23:49 | 04/05/2019 07:22:37 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/16/2019 11:23:49 | 04/05/2019 08:18:36 | Linear | 1/Conc | 0.004977 | 0.000006 | 0.000000 | 1.000000 | 0.999998 | 0.000002 | 7.936203 | 26.454008 |
| Na 589.592 { 57} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.000023 | 0.000004 | 0.000000 | 1.000000 | 1.000000 | 0.000005 | 7.911739 | 26.372462 |
| Si 251.611 {134} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.666779 | 0.068766 | 0.000000 | 1.000000 | 0.998096 | 2.011598 | 20.011215 | 66.704049 |
| Ti 323.452 {104} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | 0.000277 | 0.000009 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 1.216005 | 4.053351 |
| Ti 334.941 {101} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | -0.000000 | 0.000005 | 0.000000 | 1.000000 | 0.999972 | 0.000000 | 1.602554 | 5.341845 |
| Sr 407.771 { 83} | 04/16/2019 11:23:49 | 04/05/2019 08:18:37 | Linear | 1/Conc | 0.000044 | 0.000119 | 0.000000 | 1.000000 | 0.999934 | 0.000005 | 0.142843 | 0.476144 |
| Sr 421.552 { 80} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | -0.000003 | 0.000079 | 0.000000 | 1.000000 | 0.999970 | 0.000002 | 0.216521 | 0.721737 |
| Sn 189.989 {477} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | 0.000015 | 0.000004 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 1.559447 | 5.198156 |
| B 249.678 {135} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999968 | 0.000000 | 2.012222 | 6.707406 |
| B 249.773 {135} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Var | 0.000005 | 0.000004 | 0.000000 | 1.000000 | 0.999981 | 0.000004 | 0.702004 | 2.340014 |
| Li 670.784 { 50} | 04/16/2019 11:23:49 | 04/05/2019 08:18:38 | Linear | 1/Var | -0.000033 | 0.000041 | 0.000000 | 1.000000 | 0.999976 | 0.000026 | 0.955321 | 3.184404 |
| K 766.490 { 44} | 04/16/2019 11:23:49 | 04/05/2019 08:45:30 | Linear | 1/Conc | 0.000028 | 0.000002 | 0.000000 | 1.000000 | 0.999999 | 0.000003 | 26.624067 | 88.746890 |
| P 213.618 {457} | 04/16/2019 11:23:49 | 04/05/2019 08:18:39 | Linear | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 4.405910 | 14.686365 |
| S 182.034 {485} | 04/16/2019 11:23:49 | 04/05/2019 08:45:31 | Curvili | 1/Conc | 0.000001 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 5.874381 | 19.581270 |
| Hg 184.950 {482} | 04/16/2019 11:23:49 | 04/05/2019 08:12:06 | Linear | 1/Conc | 0.000010 | 0.000005 | 0.000000 | 1.000000 | 0.999969 | 0.000001 | 0.988337 | 3.294457 |
| Ce 404.076 { 83} | 04/16/2019 11:23:49 | 04/05/2019 08:12:06 | Linear | 1/Conc | 0.000040 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 19.309682 | 64.365606 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

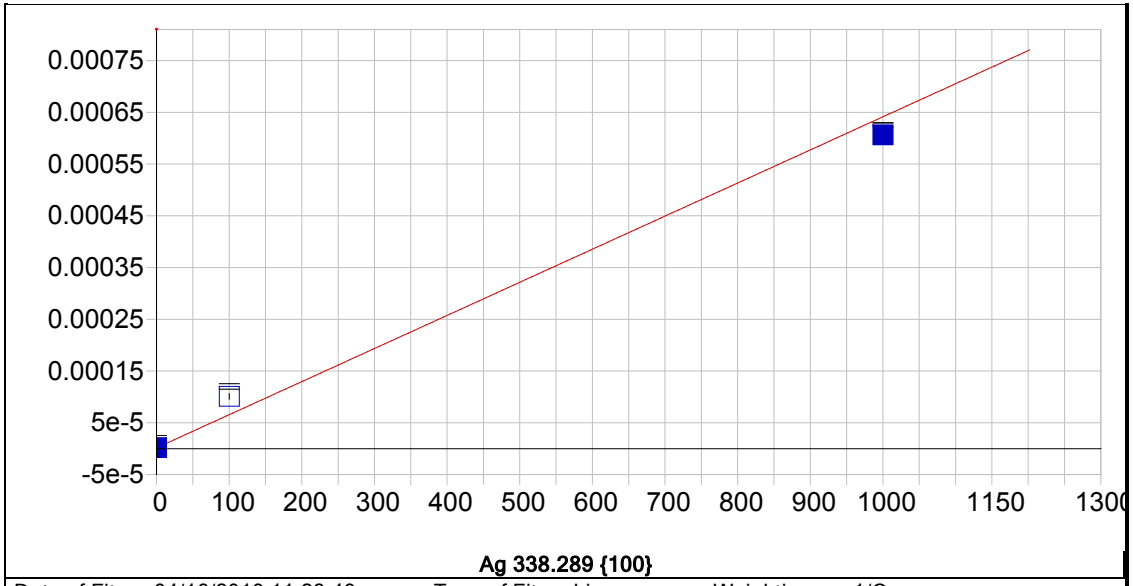



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.811773 | | |
| Predicted MQL: | 2.705910 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01809 | -.018 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.361 | .361 | 3.61 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.975 | -.025 | -.025 | .00039 | .000 | 1 |
| CalStd3=1 | 1.0000 | .87048 | -.130 | -13.0 | .00002 | .000 | 1 |

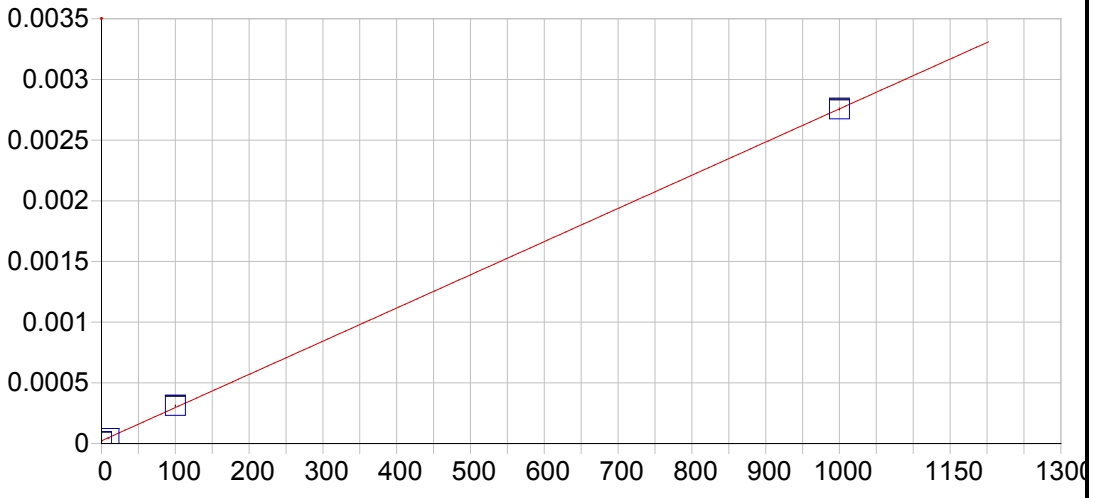



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.985238 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 12.717446 | | |
| Predicted MQL: | 42.391488 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04943 | -.049 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 154.92 | 54.9 | 54.9 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 945.08 | -54.9 | -5.49 | .00061 | .000 | 1 |

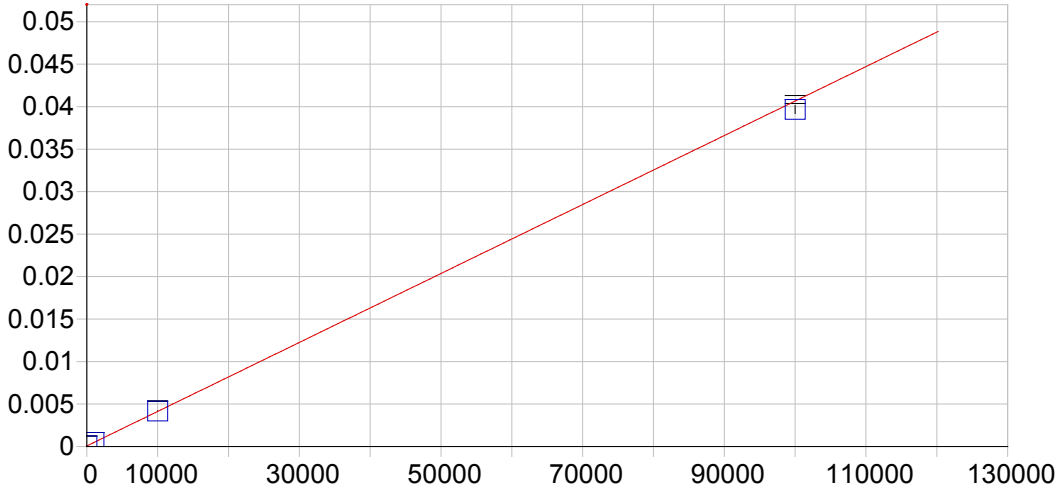



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999965 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 1.055814 | | |
| Predicted MQL: | 3.519380 | | |

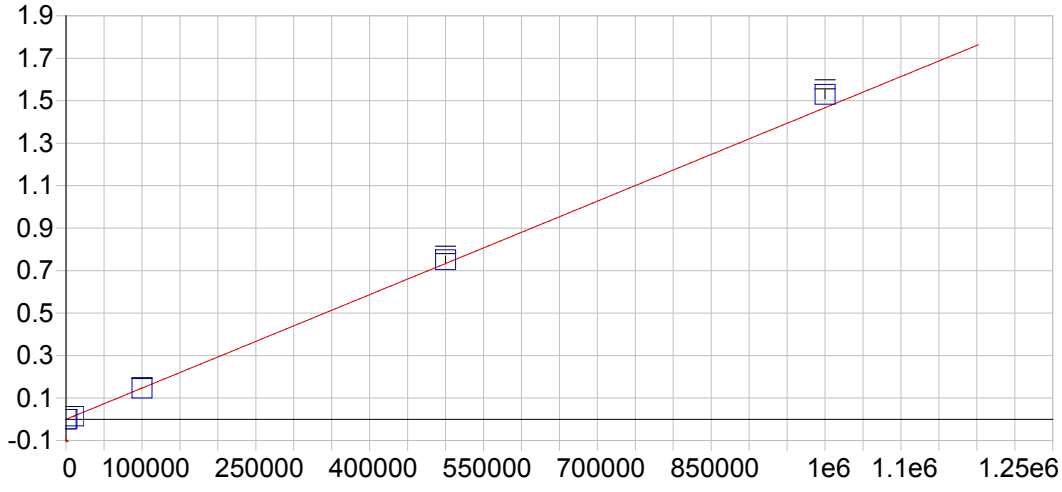
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5643 | -2.56 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.44 | -.559 | -.056 | .00276 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.2572 | -2.74 | -27.4 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.87 | 5.87 | 5.87 | .00031 | .000 | 1 |




**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000072 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999869 | | Status: | OK. | |
| Std Error of Est: | 0.000010 | | | | |
| Predicted MDL: | 27.112725 | | | | |
| Predicted MQL: | 90.375749 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -8.3885 | -8.39 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 10075. | 74.8 | .748 | .00416 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.6 | 7.64 | .764 | .00048 | .000 | 1 |
| CalStd13=10 | 100000. | 97533. | -2470. | -2.47 | .03966 | .000 | 1 |

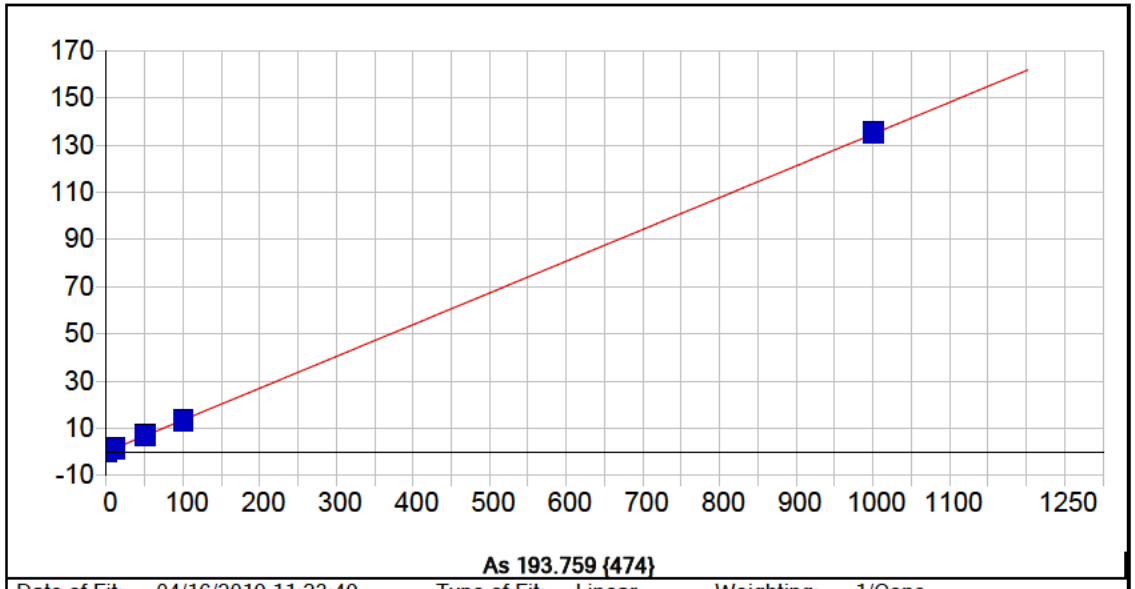



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 12.315633 | | |
| Predicted MQL: | 41.052111 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05514 | -.055 | .000 | -.00003 | .000 | 1 |
| CalStd14=50 | 500000. | 511610. | 11600. | 2.32 | .75050 | .018 | 1 |
| CalStd13=10 | 100000. | 99738. | -262. | -.262 | .14629 | .002 | 1 |
| CalStd10=10 | 10000. | 10161. | 161. | 1.61 | .01488 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1045.1 | 45.1 | 4.51 | .00151 | .000 | 1 |
| CalibStd15= | 1000000. | 1042700. | 42700. | 4.27 | 1.5296 | .022 | 1 |

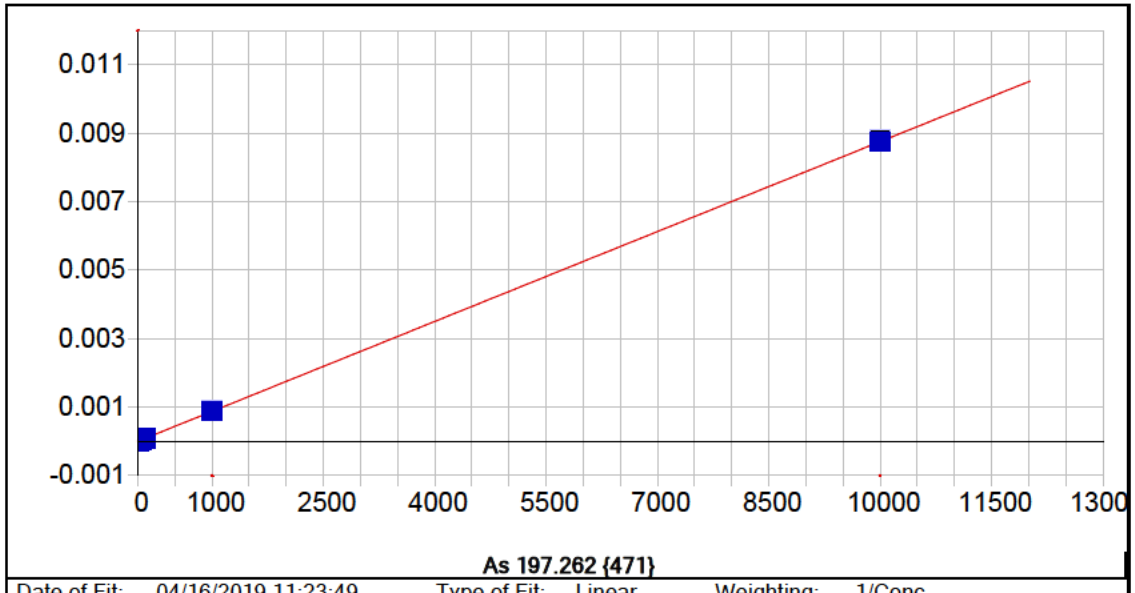



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.073470 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.134605 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999883 | Status: | OK. |
| Std Error of Est: | 0.009020 | | |
| Predicted MDL: | 3.616879 | | |
| Predicted MQL: | 12.056262 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00092 | .001 | .000 | .07359 | .387 | 1 |
| CalStd9=100 | 1000.0 | 1002.5 | 2.52 | .252 | 134.87 | .668 | 1 |
| CalStd7=50 | 50.000 | 51.743 | 1.74 | 3.49 | 7.0386 | .153 | 1 |
| CalStd5=10 | 10.000 | 9.0316 | -.968 | -9.68 | 1.2887 | .402 | 1 |
| CalStd8=100 | 100.00 | 96.701 | -3.30 | -3.30 | 13.075 | .529 | 1 |

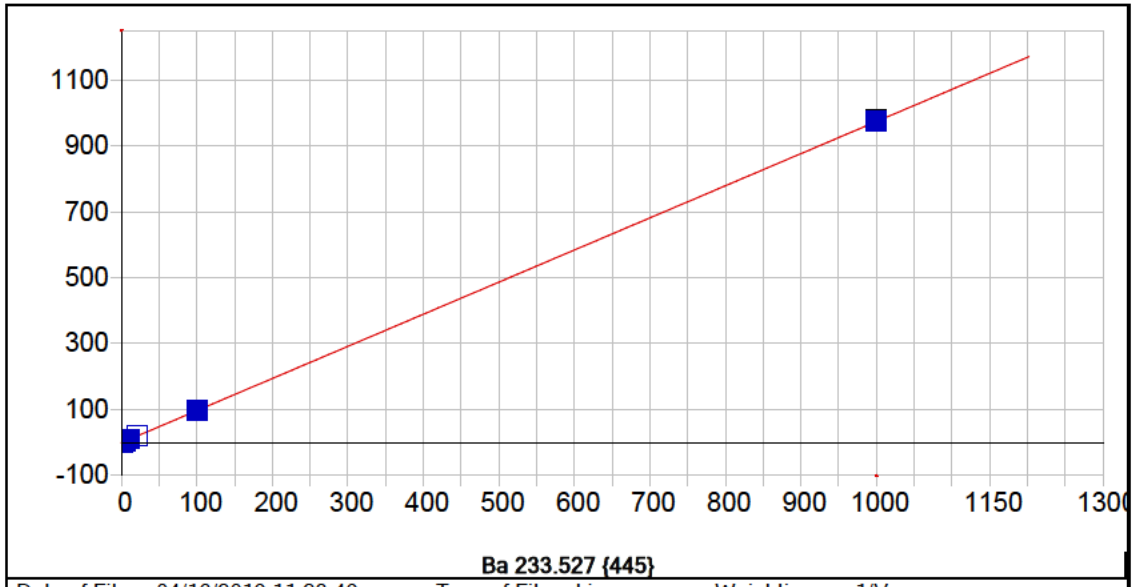



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.689114 | | |
| Predicted MQL: | 22.297048 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00195 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.8 | 8.77 | .877 | .00089 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.705 | -1.30 | -2.59 | .00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.067 | 2.07 | 20.7 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.69 | .692 | .692 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 9989.8 | -10.2 | -.102 | .00880 | .000 | 1 |

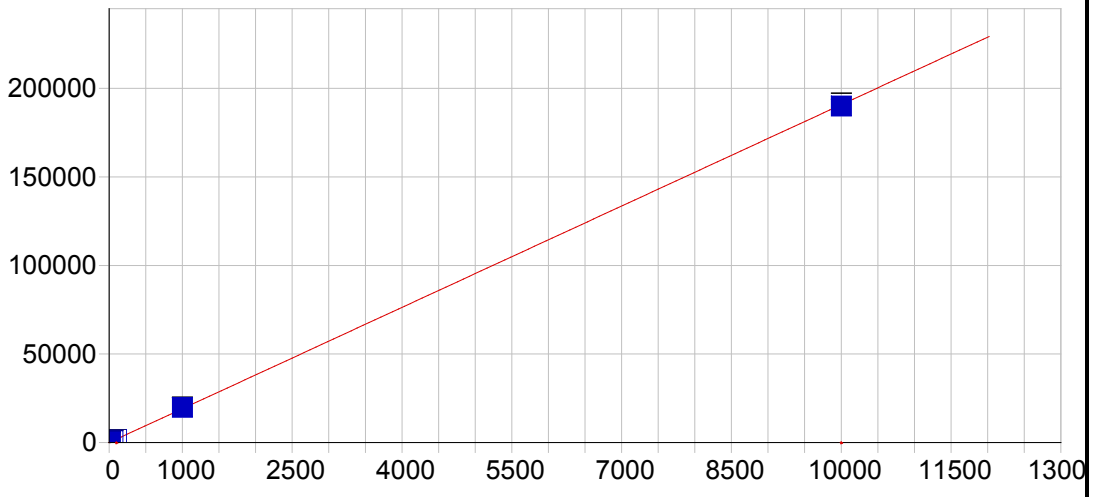



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.353818 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.974220 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999950 | Status: | OK. |
| Std Error of Est: | 0.485342 | | |
| Predicted MDL: | 0.461326 | | |
| Predicted MQL: | 1.537753 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.34750 | -.347 | .000 | -.69236 | .293 | 1 |
| CalStd5=10 | 10.000 | 10.904 | .904 | 9.04 | 10.270 | .354 | 1 |
| CalStd6=20 | 20.000 | 20.053 | .053 | .264 | 19.182 | .293 | 1 |
| CalStd8=100 | 100.00 | 99.607 | -.393 | -.393 | 96.697 | .563 | 1 |
| CalStd4=5 | 5.0000 | 4.7813 | -.219 | -4.37 | 4.3048 | .203 | 1 |
| CalStd9=100 | 1000.0 | 1000.7 | .743 | .074 | 974.67 | 3.43 | 1 |
| CalStd3=1 | 1.0000 | 1.5873 | .587 | 58.7 | 1.1926 | .465 | 1 |

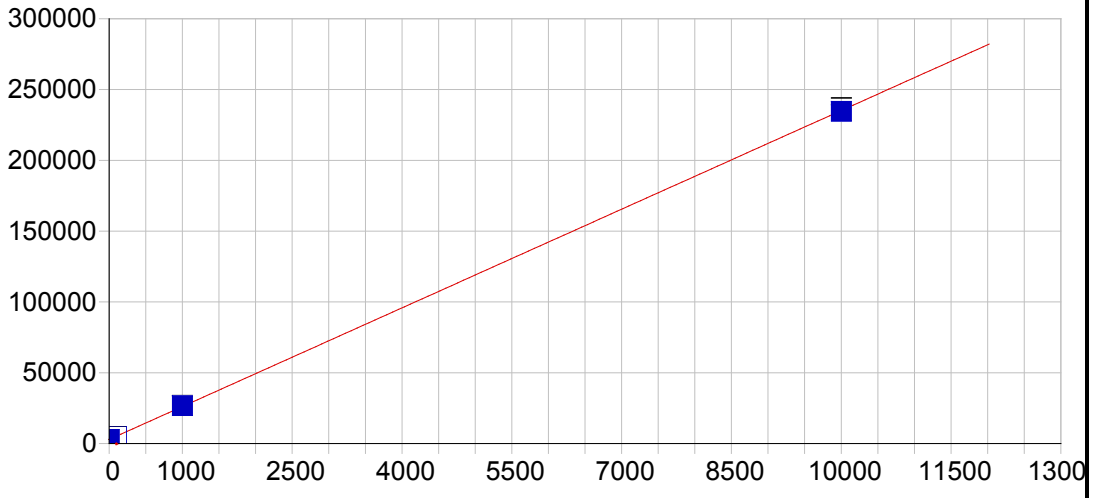



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 20.657103 | Re-Slope: | 1.000000 |
| A1 (Gain): | 19.075068 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999917 | Status: | OK. |
| Std Error of Est: | 0.932332 | | |
| Predicted MDL: | 0.309469 | | |
| Predicted MQL: | 1.031564 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | 20.648 | 3.14 | 1 |
| CalStd7=50 | 50.000 | 52.185 | 2.19 | 4.37 | 1016.1 | 11.9 | 1 |
| CalStd5=10 | 10.000 | 11.025 | 1.02 | 10.2 | 230.96 | 1.81 | 1 |
| CalStd6=20 | 20.000 | 20.753 | .753 | 3.77 | 416.53 | 4.42 | 1 |
| CalStd8=100 | 100.00 | 102.07 | 2.07 | 2.07 | 1967.6 | 21.4 | 1 |
| CalStd4=5 | 5.0000 | 5.2009 | .201 | 4.02 | 119.87 | 5.31 | 1 |
| CalStd9=100 | 1000.0 | 1036.7 | 36.7 | 3.67 | 19796. | 168. | 1 |
| CalStd3=1 | 1.0000 | 1.2184 | .218 | 21.8 | 43.899 | .366 | 1 |
| CalStd10=10 | 10000. | 9956.9 | -43.1 | -.431 | 189950. | 1730. | 1 |

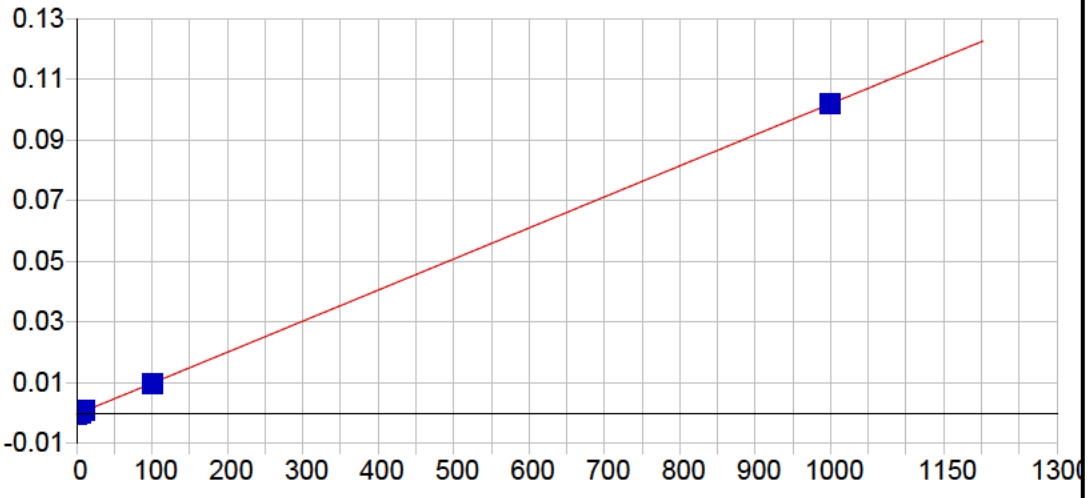



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 2891.704970 | Re-Slope: | 1.000000 |
| A1 (Gain): | 23.227594 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 8.997209 | | |
| Predicted MDL: | 0.736012 | | |
| Predicted MQL: | 2.453373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00362 | -.004 | .000 | 2891.6 | 5.85 | 1 |
| CalStd9=100 | 1000.0 | 1025.7 | 25.7 | 2.57 | 26719. | 230. | 1 |
| CalStd8=100 | 100.00 | 101.32 | 1.32 | 1.32 | 5245.1 | 28.4 | 1 |
| CalStd10=10 | 10000. | 9973.0 | -27.0 | -.270 | 234560. | 2390. | 1 |

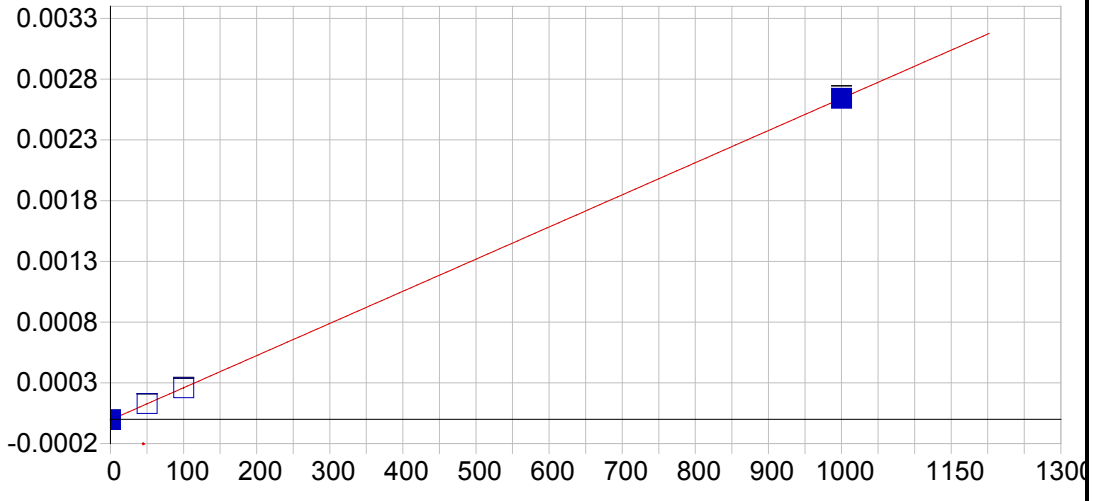



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000354 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000102 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.047275 | | |
| Predicted MQL: | 0.157583 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00001 | -.000 | .000 | -.00035 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.707 | .707 | 7.07 | .00074 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.411 | -.589 | -.589 | .00982 | .000 | 1 |
| CalStd2=0.5 | .50000 | .47610 | -.024 | -4.78 | -.00031 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1591 | .159 | 3.18 | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.77 | -.233 | -.023 | .10197 | .000 | 1 |
| CalStd3=1 | 1.0000 | .97924 | -.021 | -2.08 | -.00025 | .000 | 1 |

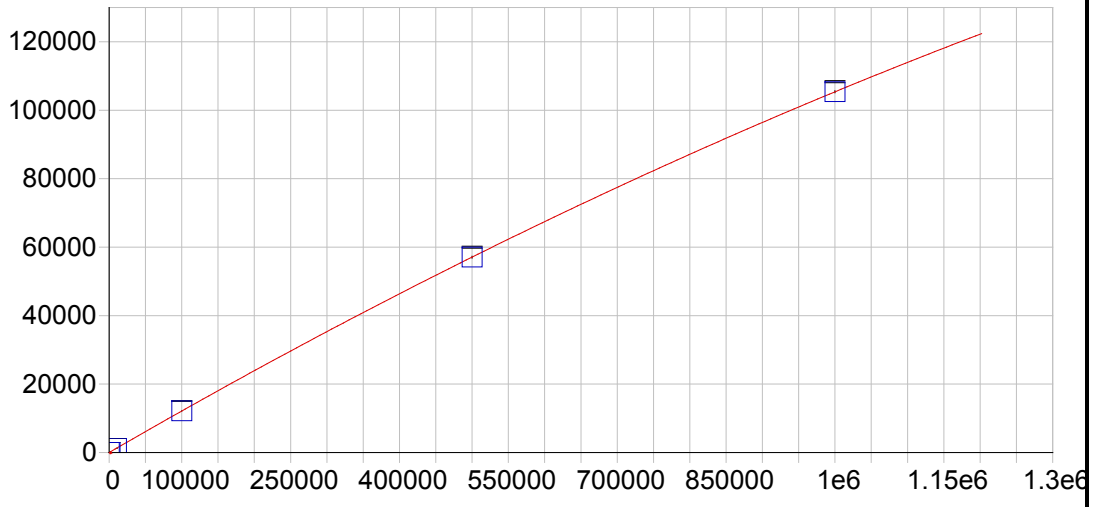



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.221748 | | |
| Predicted MQL: | 4.072495 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23499 | -.235 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.77 | -.228 | -.023 | .00264 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.515 | -.485 | -.485 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.288 | .288 | .575 | .00013 | .000 | 1 |

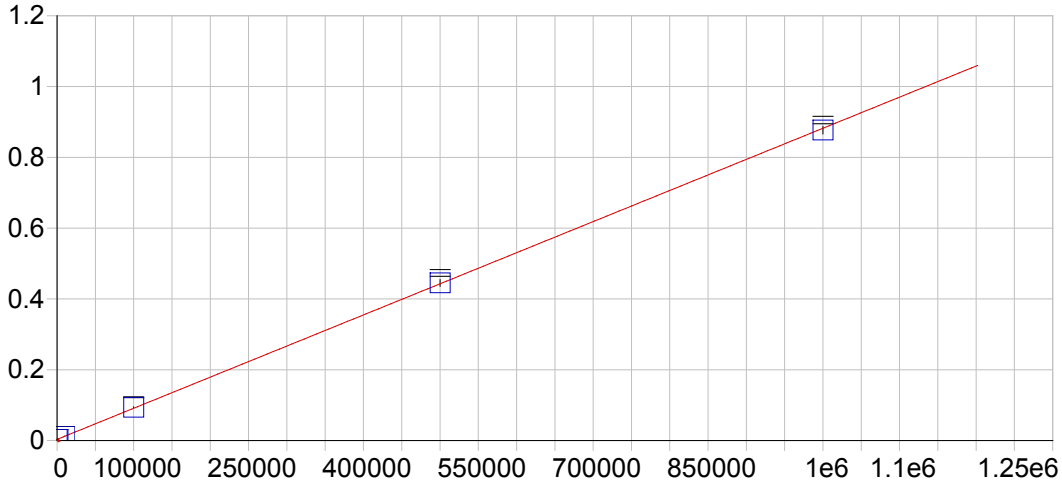



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 13.508949 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.122957 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.326345 | | |
| Predicted MDL: | 11.030951 | | |
| Predicted MQL: | 36.769838 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 13.505 | .897 | 1 |
| CalStd10=10 | 10000. | 10137. | 137. | 1.37 | 1258.1 | 5.56 | 1 |
| CalStd13=10 | 100000. | 99980. | -19.5 | -.020 | 12131. | 72.4 | 1 |
| CalStd14=50 | 500000. | 499680. | -317. | -.063 | 57059. | 269. | 1 |
| CalStd9=100 | 1000.0 | 1018.0 | 18.0 | 1.80 | 138.66 | 2.63 | 1 |
| CalibStd15= | 1000000. | 1000200. | 191. | .019 | 105390. | 304. | 1 |

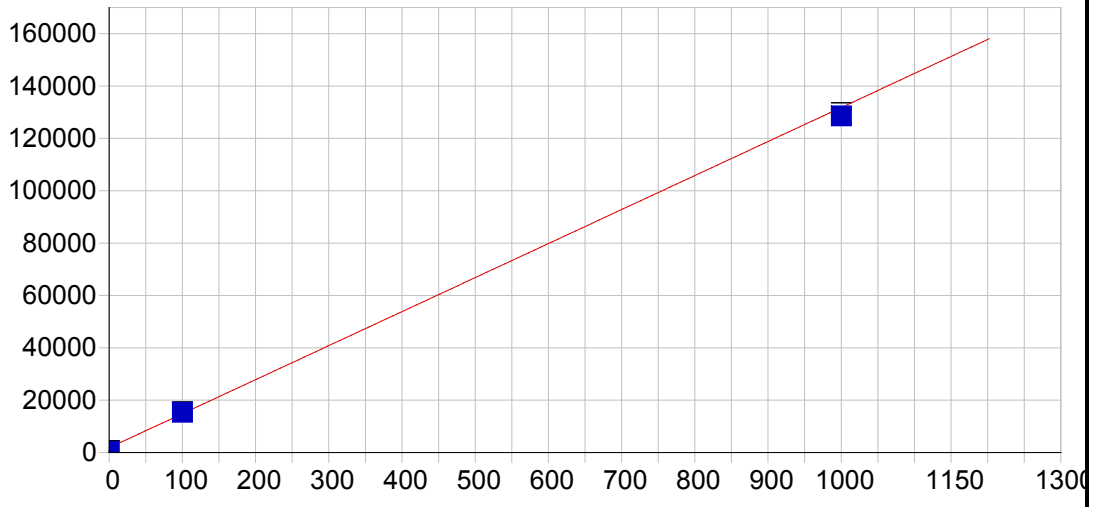



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003301 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999945 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 6.389566 | | |
| Predicted MQL: | 21.298554 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .10872 | .109 | .000 | .00330 | .000 | 1 |
| CalStd10=10 | 10000. | 10311. | 311. | 3.11 | .01236 | .000 | 1 |
| CalStd13=10 | 100000. | 102960. | 2960. | 2.96 | .09380 | .001 | 1 |
| CalStd14=50 | 500000. | 502860. | 2860. | .571 | .44526 | .010 | 1 |
| CalStd9=100 | 1000.0 | 830.78 | -169. | -16.9 | .00403 | .000 | 1 |
| CalibStd15= | 1000000. | 994040. | -5960. | -.596 | .87696 | .011 | 1 |

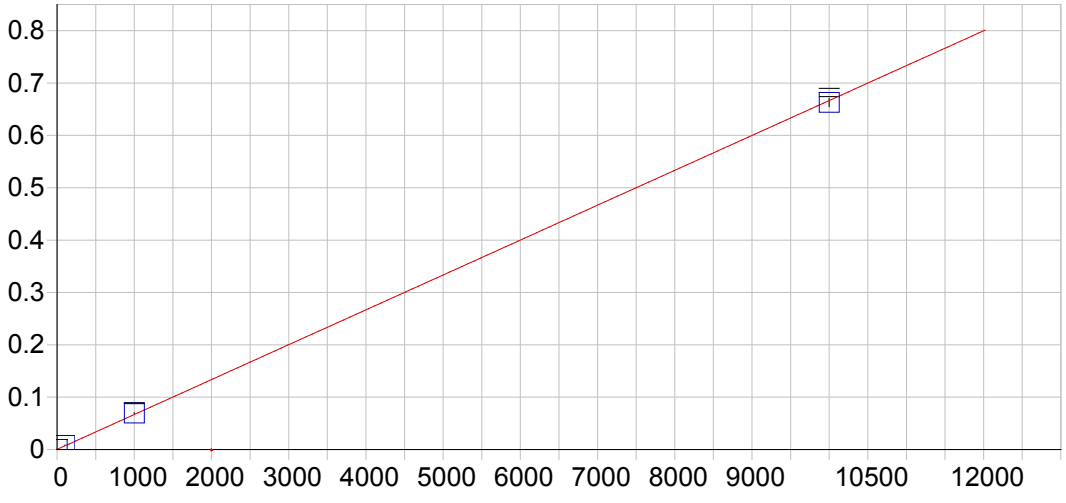



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1840.732744 | Re-Slope: | 1.000000 |
| A1 (Gain): | 129.964465 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998095 | Status: | OK. |
| Std Error of Est: | 1517.817017 | | |
| Predicted MDL: | 0.039864 | | |
| Predicted MQL: | 0.132878 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.040 | -10.0 | .000 | 535.87 | 259. | 1 |
| CalStd9=100 | 1000.0 | 975.13 | -24.9 | -2.49 | 128570. | 1220. | 1 |
| CalStd8=100 | 100.00 | 104.03 | 4.03 | 4.03 | 15360. | 155. | 1 |

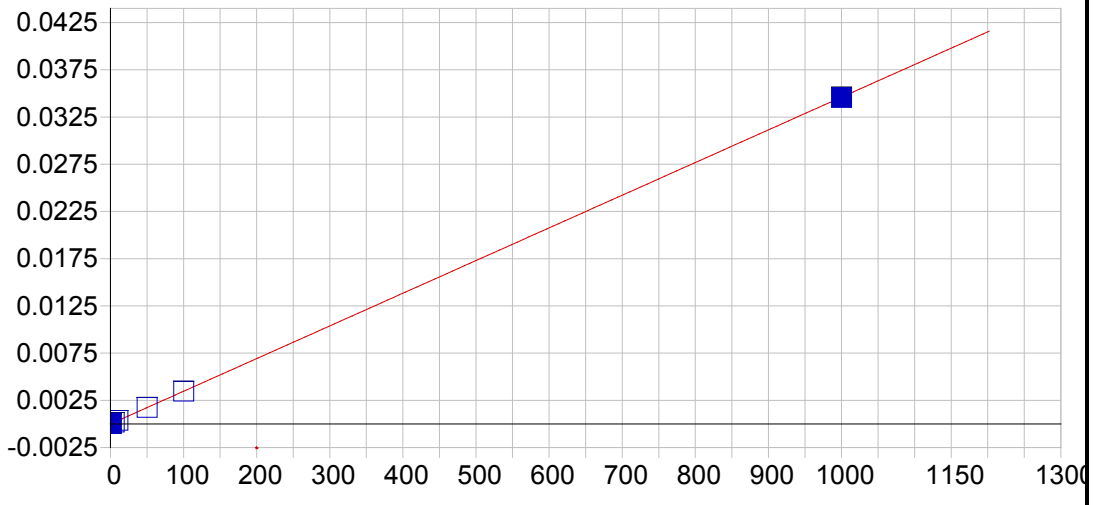



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000342 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000067 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.000075 | | |
| Predicted MDL: | 0.194718 | | |
| Predicted MQL: | 0.649059 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02476 | -.025 | .000 | .00034 | .000 | 1 |
| CalStd10=10 | 10000. | 9941.9 | -58.1 | -.581 | .66273 | .008 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | .00845 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.4 | 36.4 | 3.64 | .06939 | .001 | 1 |

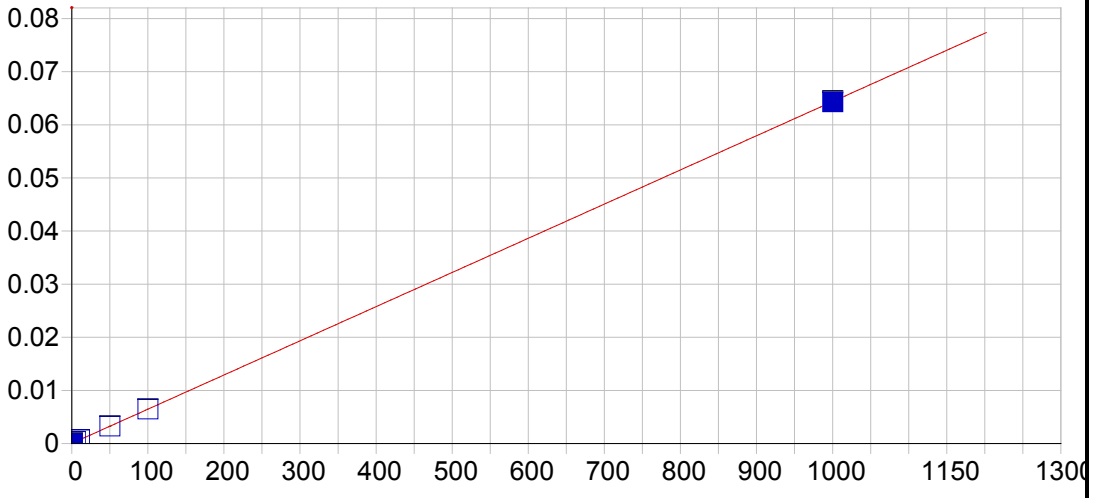



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000035 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.201373 | | |
| Predicted MQL: | 0.671242 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00020 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.364 | .364 | .728 | .00174 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0391 | .039 | 3.91 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61943 | .119 | 23.9 | .00002 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3050 | .305 | 6.10 | .00018 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.920 | -.080 | -.080 | .00346 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.615 | .615 | 6.15 | .00037 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.64 | -1.36 | -.136 | .03456 | .000 | 1 |

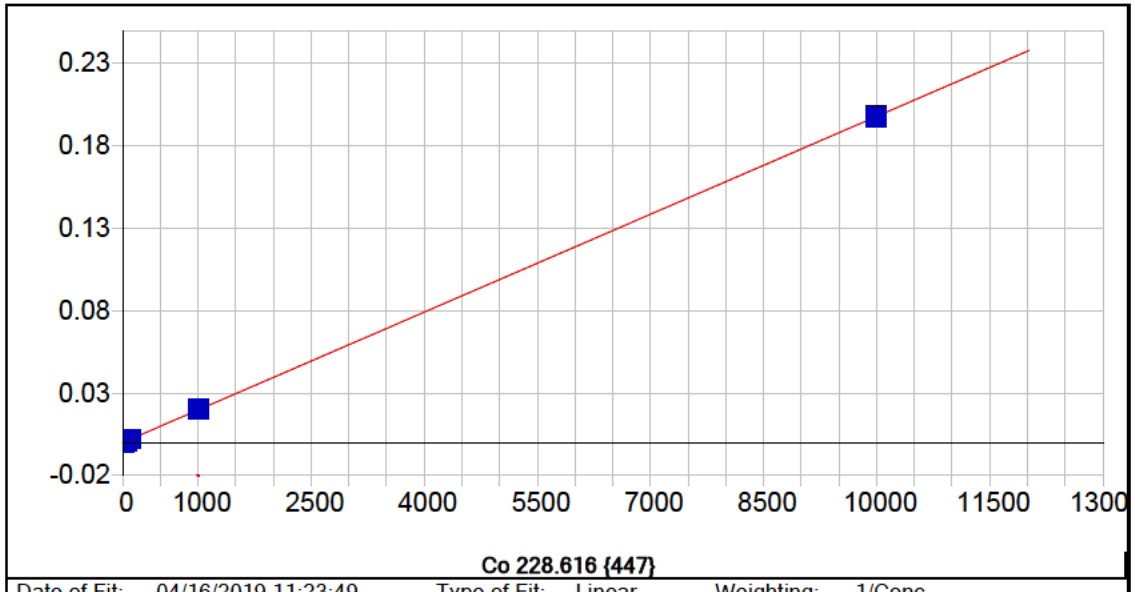



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000064 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.168711 | | |
| Predicted MQL: | 0.562370 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00008 | .000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.325 | .325 | .650 | .00327 | .000 | 1 |
| CalStd3=1 | 1.0000 | .89504 | -.105 | -10.5 | .00009 | .000 | 1 |
| CalStd2=0.5 | .50000 | .42376 | -.076 | -15.2 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1512 | .151 | 3.02 | .00037 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.961 | -.039 | -.039 | .00647 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.576 | .576 | 5.76 | .00071 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.17 | -.832 | -.083 | .06432 | .000 | 1 |

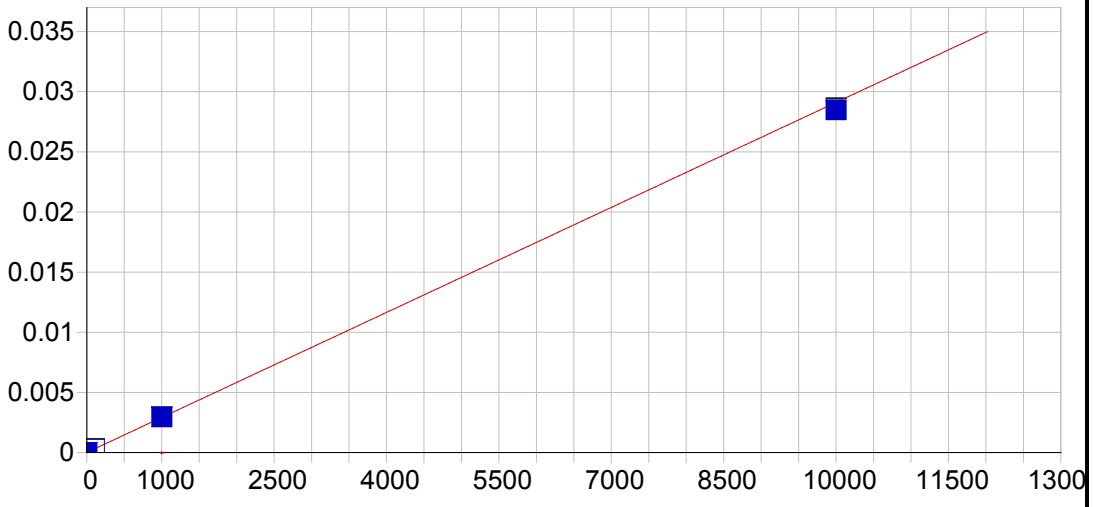



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000020 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999927 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.395103 | | |
| Predicted MQL: | 1.317010 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00040 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.960 | 1.96 | 3.92 | .00103 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.663 | .663 | 6.63 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0739 | .074 | 1.48 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.58 | 2.58 | 2.58 | .00204 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.5 | 31.5 | 3.15 | .02046 | .000 | 1 |
| CalStd3=1 | 1.0000 | .42491 | -.575 | -57.5 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.9 | -36.1 | -.361 | .19782 | .000 | 1 |

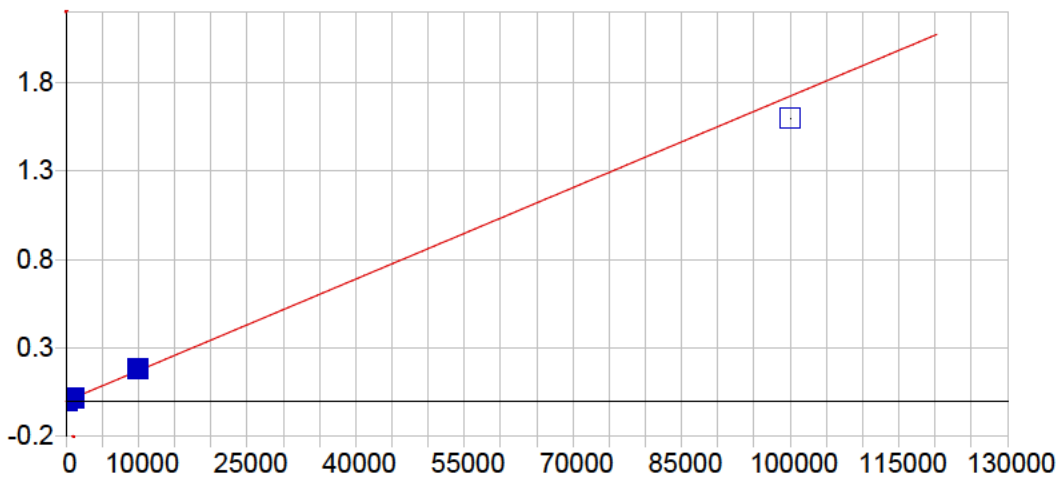



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999845 | Status: | OK. |
| Std Error of Est: | 0.000017 | | |
| Predicted MDL: | 0.774921 | | |
| Predicted MQL: | 2.583069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.2136 | -1.21 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.2 | 13.2 | 1.32 | .00296 | .000 | 1 |
| CalStd10=10 | 10000. | 9785.6 | -214. | -2.14 | .02849 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.21 | .210 | .210 | .00030 | .000 | 1 |

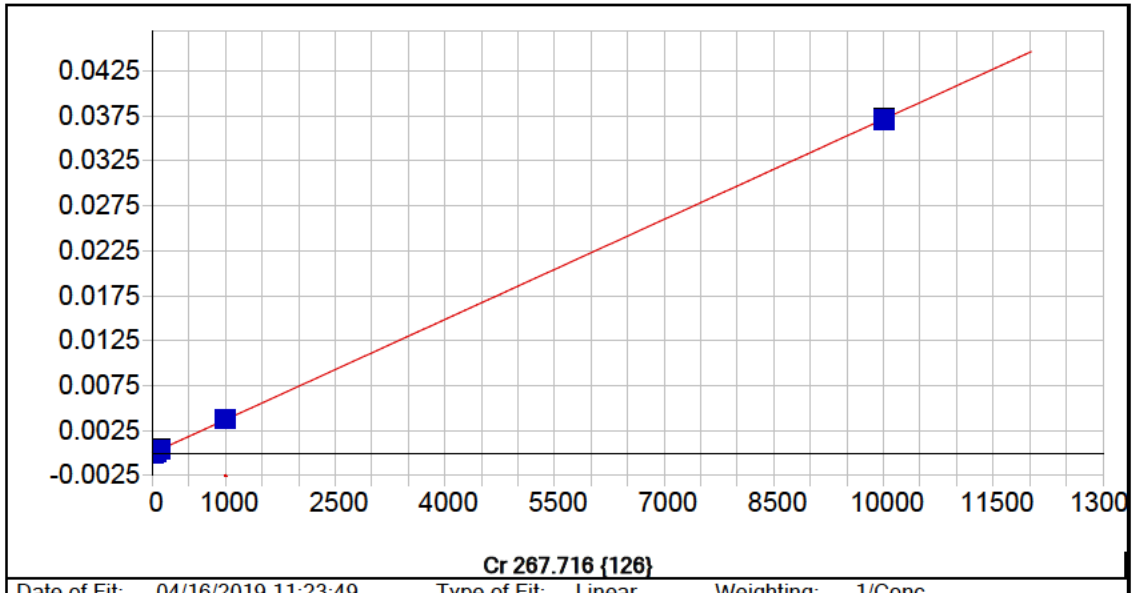



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000116 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996275 | Status: | OK. |
| Std Error of Est: | 0.000543 | | |
| Predicted MDL: | 0.320402 | | |
| Predicted MQL: | 1.068006 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.2302 | -7.23 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 4.7033 | -5.30 | -53.0 | .00020 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.866 | -1.13 | -2.27 | .00096 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1100.1 | 100. | 10.0 | .01908 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.62 | 2.62 | 2.62 | .00188 | .000 | 1 |
| CalStd4=5 | 5.0000 | -.99547 | -6.00 | -120. | .00010 | .000 | 1 |
| CalStd3=1 | 1.0000 | -5.5102 | -6.51 | -651. | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10687. | 687. | 6.87 | .18429 | .000 | 1 |
| CalStd12=10 | 100000. | 92673. | -7330. | -7.33 | 1.5972 | .001 | 1 |

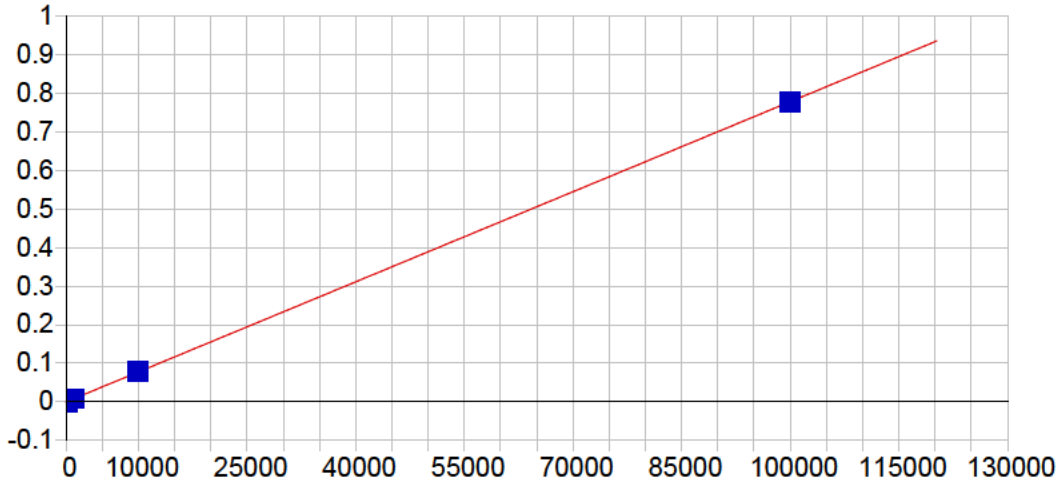



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999984 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.779459 | | |
| Predicted MQL: | 2.598198 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00090 | -.001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.358 | .358 | 3.58 | .00004 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.431 | .431 | .862 | .00019 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1015.0 | 15.0 | 1.50 | .00377 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.09 | 1.09 | 1.09 | .00038 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5581 | .558 | 11.2 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.5 | -17.5 | -.175 | .03708 | .000 | 1 |

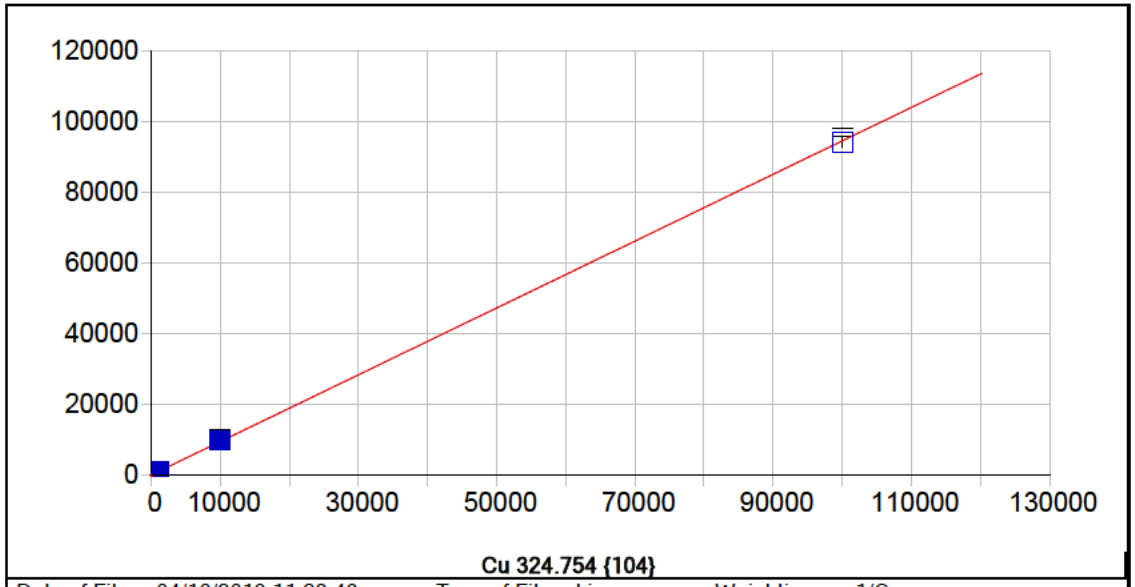



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999803 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.407926 | | |
| Predicted MQL: | 1.359752 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03226 | .032 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.2 | 35.2 | 3.52 | .00805 | .000 | 1 |
| CalStd7=50 | 50.000 | 24.274 | -25.7 | -51.5 | .00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.181 | -33.8 | -33.8 | .00051 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.7108 | -16.3 | -81.4 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99833. | -167. | -.167 | .77629 | .000 | 1 |
| CalStd10=10 | 10000. | 10208. | 208. | 2.08 | .07938 | .000 | 1 |

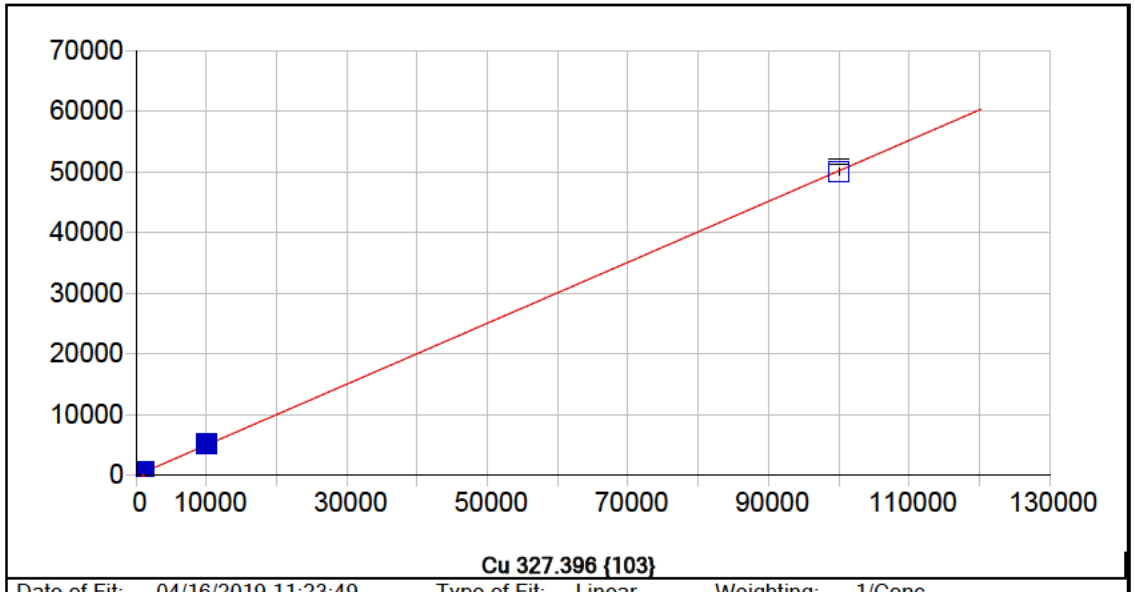



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 148.590134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.943999 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999922 | Status: | OK. |
| Std Error of Est: | 0.452769 | | |
| Predicted MDL: | 2.842345 | | |
| Predicted MQL: | 9.474483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00435 | -.004 | .000 | 148.59 | 1.60 | 1 |
| CalStd9=100 | 1000.0 | 1055.4 | 55.4 | 5.54 | 1144.9 | 11.8 | 1 |
| CalStd8=100 | 100.00 | 104.61 | 4.61 | 4.61 | 247.34 | 3.94 | 1 |
| CalStd10=10 | 10000. | 10337. | 337. | 3.37 | 9905.7 | 131. | 1 |
| CalStd12=10 | 100000. | 99595. | -405. | -.405 | 94166. | 1180. | 1 |
| CalStd5=10 | 10.000 | 10.388 | .388 | 3.88 | 158.40 | 3.42 | 1 |
| CalStd6=20 | 20.000 | 23.696 | 3.70 | 18.5 | 170.96 | 1.70 | 1 |
| CalStd7=50 | 50.000 | 54.024 | 4.02 | 8.05 | 199.59 | 4.31 | 1 |

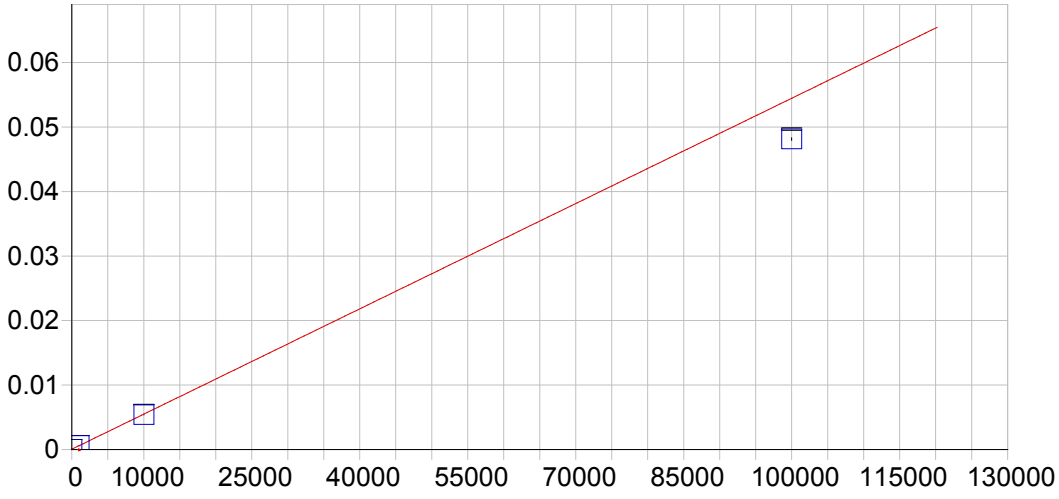



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.891198 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.501962 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999946 | Status: | OK. |
| Std Error of Est: | 0.139808 | | |
| Predicted MDL: | 6.972418 | | |
| Predicted MQL: | 23.241395 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00299 | .003 | .000 | 9.8927 | 3.07 | 1 |
| CalStd6=20 | 20.000 | 18.675 | -1.32 | -6.62 | 19.260 | 2.56 | 1 |
| CalStd7=50 | 50.000 | 51.080 | 1.08 | 2.16 | 35.516 | 1.83 | 1 |
| CalStd8=100 | 100.00 | 99.925 | -.075 | -.075 | 60.020 | 2.43 | 1 |
| CalStd9=100 | 1000.0 | 1051.0 | 51.0 | 5.10 | 537.14 | 8.80 | 1 |
| CalStd10=10 | 10000. | 10261. | 261. | 2.61 | 5160.6 | 79.8 | 1 |
| CalStd12=10 | 100000. | 99693. | -307. | -.307 | 50052. | 501. | 1 |
| CalStd4=5 | 5.0000 | 3.6138 | -1.39 | -27.7 | 11.704 | 2.50 | 1 |
| CalStd5=10 | 10.000 | 6.5030 | -3.50 | -35.0 | 13.153 | 3.32 | 1 |

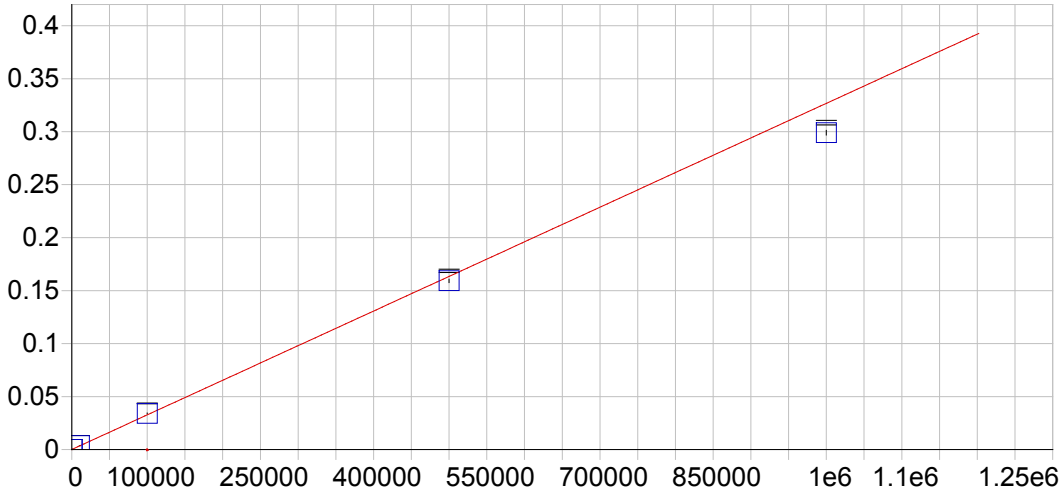



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.930143 | | |
| Predicted MQL: | 6.433810 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11978 | -.120 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9880.1 | -120. | -1.20 | .00542 | .000 | 1 |
| CalStd13=10 | 100000. | 88389. | -11600. | -11.6 | .04814 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.05 | -.951 | -.095 | .00059 | .000 | 1 |

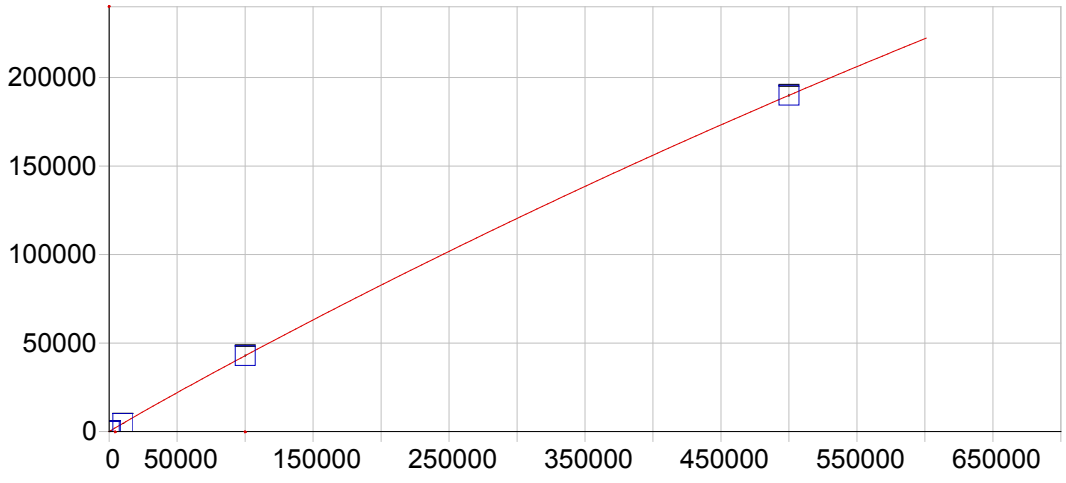



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996888 | Status: | OK. |
| Std Error of Est: | 0.000081 | | |
| Predicted MDL: | 10.726217 | | |
| Predicted MQL: | 35.754058 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -71.523 | -71.5 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10965. | 965. | 9.65 | .00362 | .000 | 1 |
| CalStd13=10 | 100000. | 104030. | 4030. | 4.03 | .03402 | .000 | 1 |
| CalStd14=50 | 500000. | 487250. | -12800. | -2.55 | .15921 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1024.6 | 24.6 | 2.46 | .00037 | .000 | 1 |
| CalibStd15= | 1000000. | 915180. | -84800. | -8.48 | .29901 | .002 | 1 |

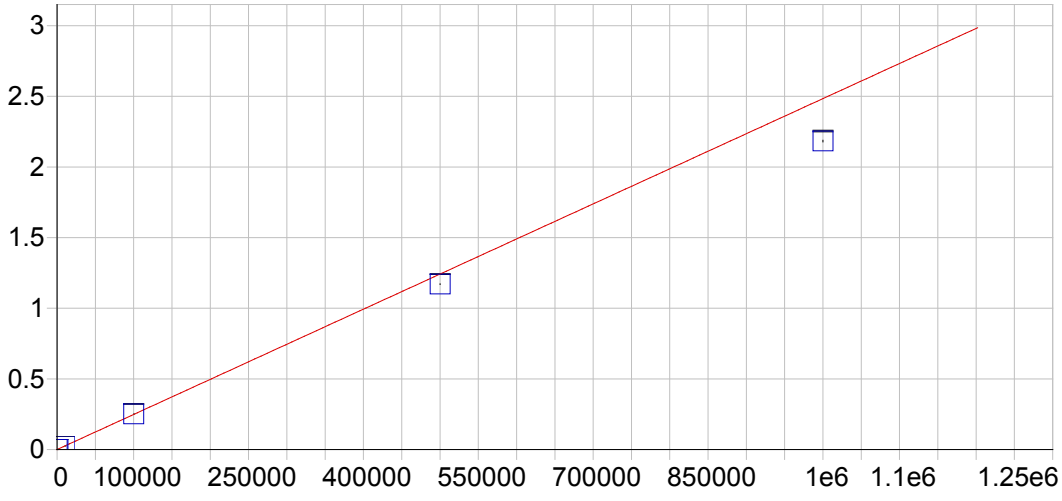



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 15.029995 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.551164 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 0.980000 | | |
| Correlation: | 0.999997 | Status: | OK. |
| Std Error of Est: | 1.675157 | | |
| Predicted MDL: | 2.808579 | | |
| Predicted MQL: | 9.361928 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03957 | .040 | .000 | 15.053 | 4.18 | 1 |
| CalStd10=10 | 10000. | 9996.5 | -3.53 | -.035 | 4587.5 | 40.5 | 1 |
| CalStd13=10 | 100000. | 100080. | 83.7 | .084 | 42890. | 397. | 1 |
| CalStd14=50 | 500000. | 499980. | -22.0 | -.004 | 189930. | 522. | 1 |
| CalStd9=100 | 1000.0 | 950.19 | -49.8 | -4.98 | 471.53 | 4.31 | 1 |

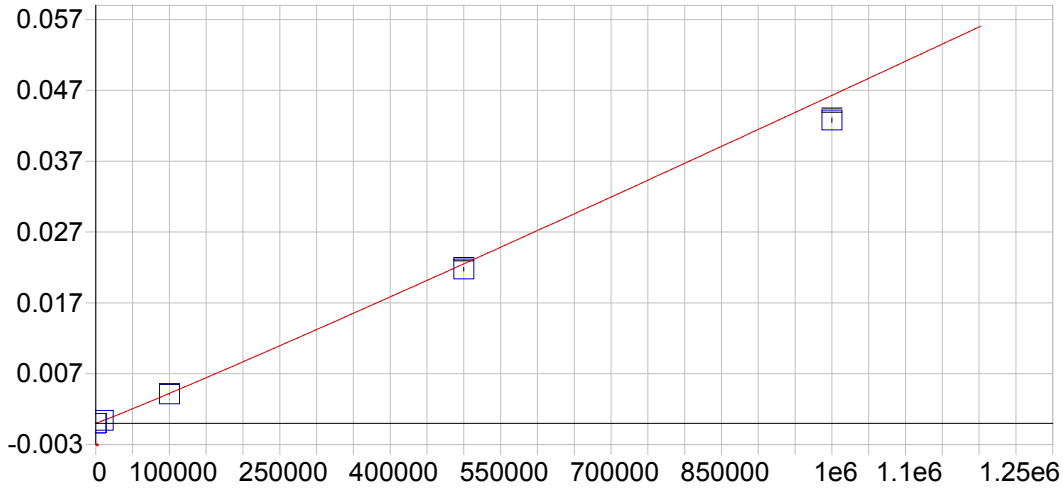



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000027 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999007 | Status: | OK. |
| Std Error of Est: | 0.000224 | | |
| Predicted MDL: | 2.381545 | | |
| Predicted MQL: | 7.938482 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.6205 | -7.62 | .000 | .00001 | .000 | 1 |
| CalStd13=10 | 100000. | 101200. | 1200. | 1.20 | .25140 | .000 | 1 |
| CalStd10=10 | 10000. | 10195. | 195. | 1.95 | .02535 | .000 | 1 |
| CalStd14=50 | 500000. | 471240. | -28800. | -5.75 | 1.1706 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1100.6 | 101. | 10.1 | .00276 | .000 | 1 |
| CalibStd15= | 1000000. | 878990. | -121000. | -12.1 | 2.1834 | .006 | 1 |

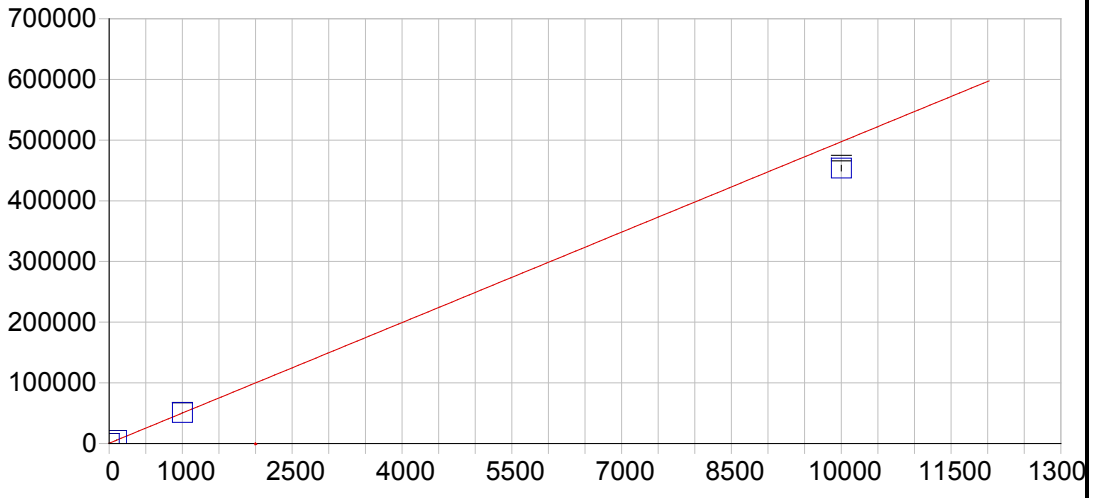



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.040000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 93.938827 | | |
| Predicted MQL: | 313.129423 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97830. | -2170. | -2.17 | .00413 | .000 | 1 |
| CalStd10=10 | 10000. | 10495. | 495. | 4.95 | .00040 | .000 | 1 |
| CalStd14=50 | 500000. | 483930. | -16100. | -3.21 | .02176 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.7 | 132. | 13.2 | .00004 | .000 | 1 |
| CalibStd15= | 1000000. | 927180. | -72800. | -7.28 | .04279 | .000 | 1 |

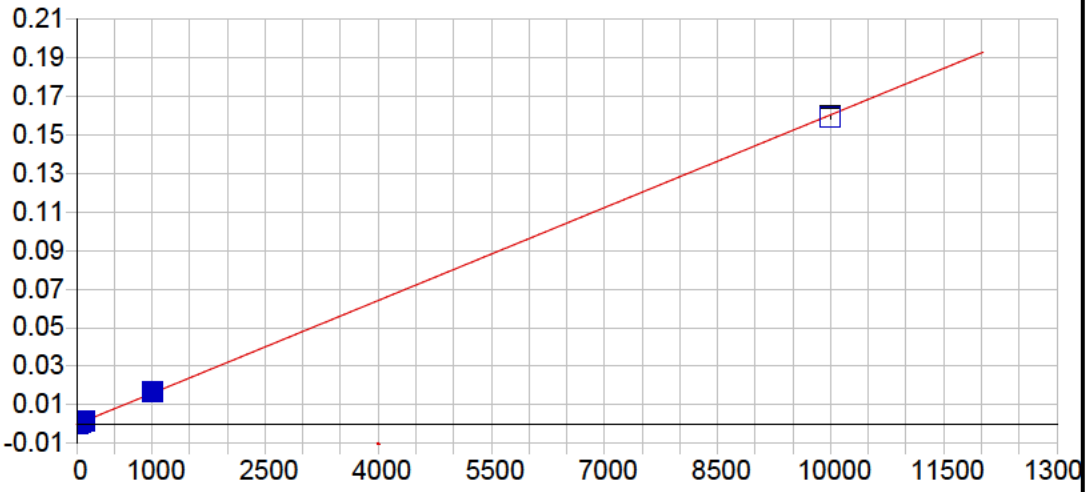



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 579.311732 | Re-Slope: | 1.000000 |
| A1 (Gain): | 49.678342 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999159 | Status: | OK. |
| Std Error of Est: | 234.362940 | | |
| Predicted MDL: | 0.030900 | | |
| Predicted MQL: | 0.102999 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.0030 | -1.00 | .000 | 529.48 | 19.2 | 1 |
| CalStd9=100 | 1000.0 | 1011.5 | 11.5 | 1.15 | 50827. | 263. | 1 |
| CalStd10=10 | 10000. | 9122.9 | -877. | -8.77 | 453790. | 4540. | 1 |
| CalStd8=100 | 100.00 | 101.79 | 1.79 | 1.79 | 5636.0 | 26.2 | 1 |

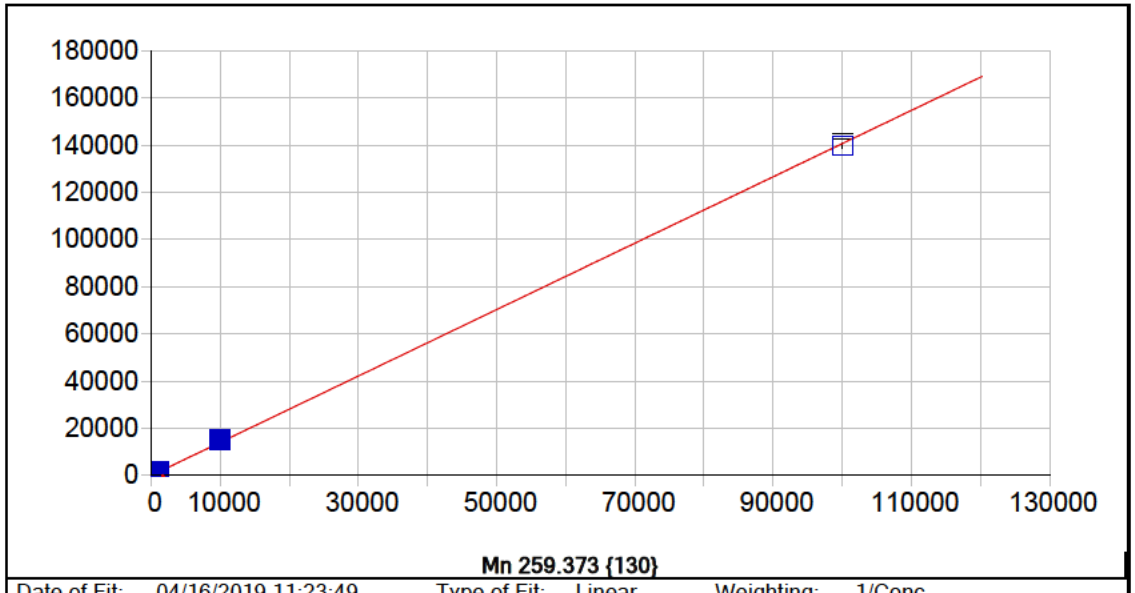



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999800 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.097980 | | |
| Predicted MQL: | 0.326601 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00328 | -.003 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.716 | 1.72 | 17.2 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.252 | 4.25 | 8.50 | .00087 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.794 | 1.79 | 8.97 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00171 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9911 | .991 | 19.8 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1050.6 | 50.6 | 5.06 | .01684 | .000 | 1 |
| CalStd10=10 | 10000. | 9933.9 | -66.1 | -.661 | .15920 | .001 | 1 |

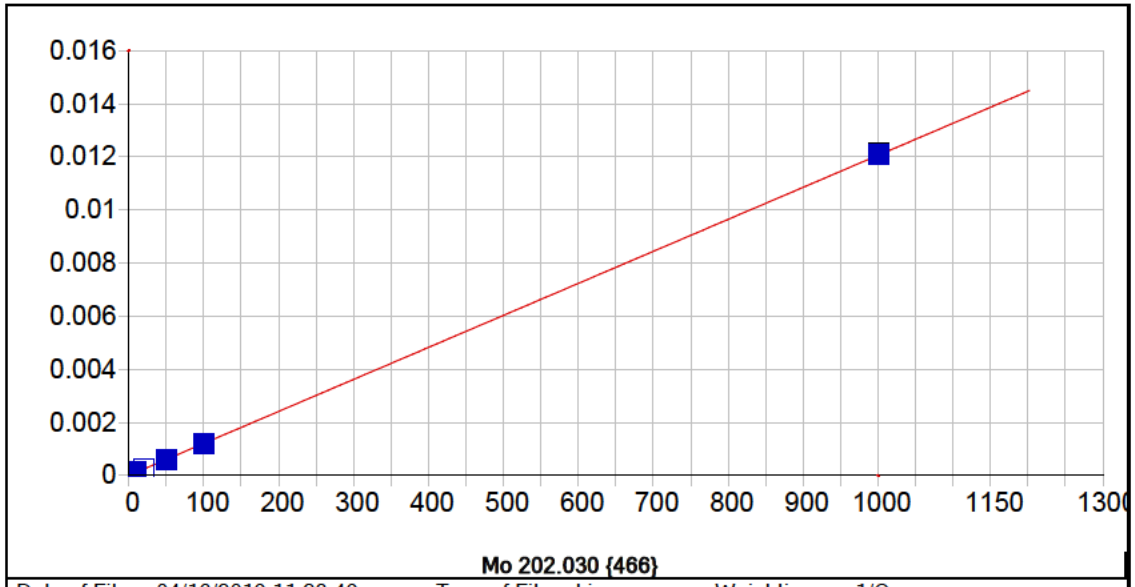



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.910672 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.406640 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999790 | Status: | OK. |
| Std Error of Est: | 13.592011 | | |
| Predicted MDL: | 1.043152 | | |
| Predicted MQL: | 3.477174 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.13393 | -.134 | .000 | 1.7223 | .965 | 1 |
| CalStd10=10 | 10000. | 10596. | 596. | 5.96 | 14925. | 123. | 1 |
| CalStd9=100 | 1000.0 | 1081.1 | 81.1 | 8.11 | 1524.4 | 14.3 | 1 |
| CalStd12=10 | 100000. | 99322. | -678. | -.678 | 139710. | 1150. | 1 |

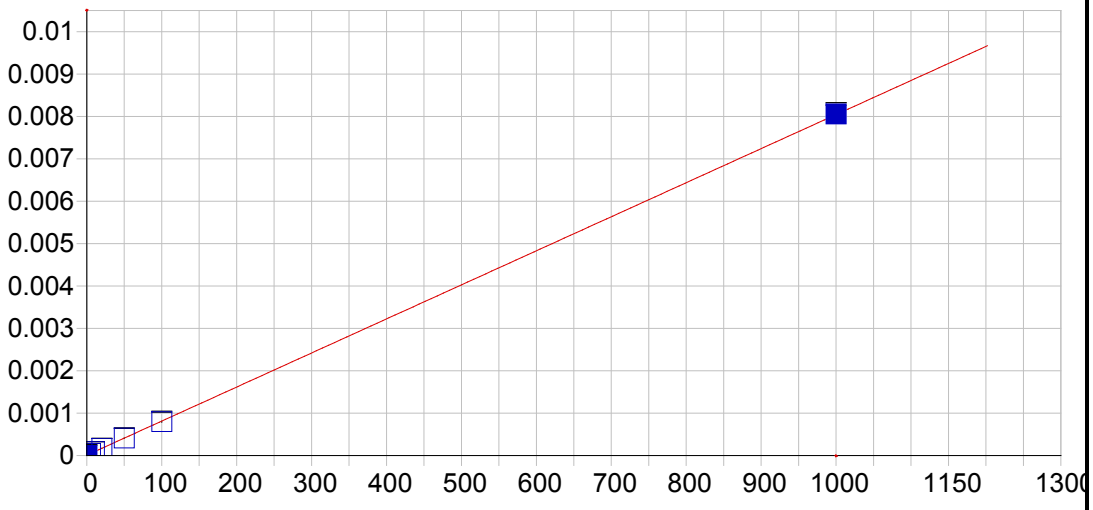



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.391709 | | |
| Predicted MQL: | 1.305695 | | |

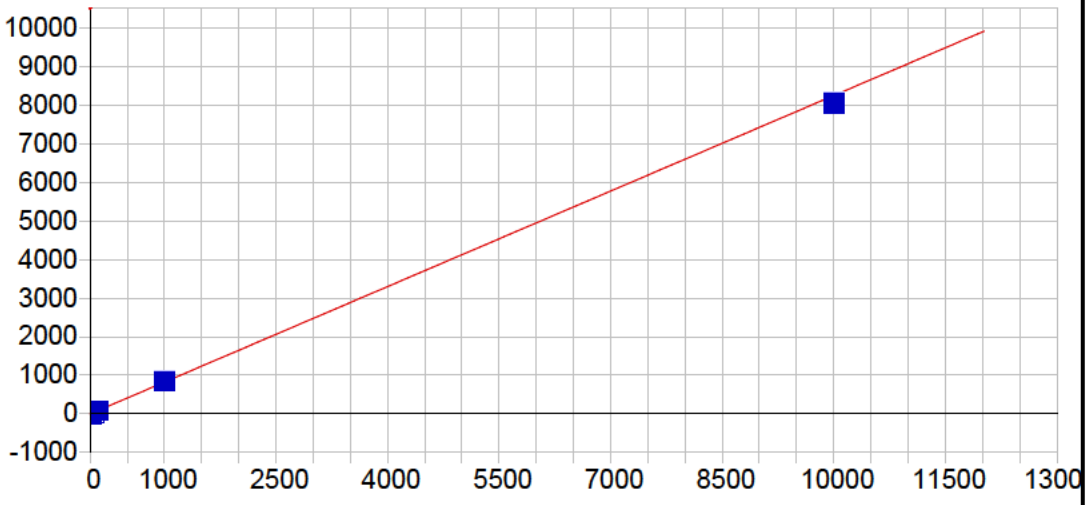
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00005 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.868 | -.132 | -.265 | .00061 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.739 | -.261 | -1.30 | .00024 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.424 | .424 | 4.24 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.152 | -.848 | -.848 | .00120 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9573 | -.043 | -.854 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .859 | .086 | .01211 | .000 | 1 |




**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000009 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000008 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999983 | | Status: | OK. | |
| Std Error of Est: | 0.000003 | | | | |
| Predicted MDL: | 0.746097 | | | | |
| Predicted MQL: | 2.486991 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .40029 | .400 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.698 | -.302 | -.604 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.844 | -.156 | -.781 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.219 | .219 | 2.19 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.268 | -1.73 | -1.73 | .00080 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8282 | -.172 | -3.44 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.4 | 1.42 | .142 | .00806 | .000 | 1 |

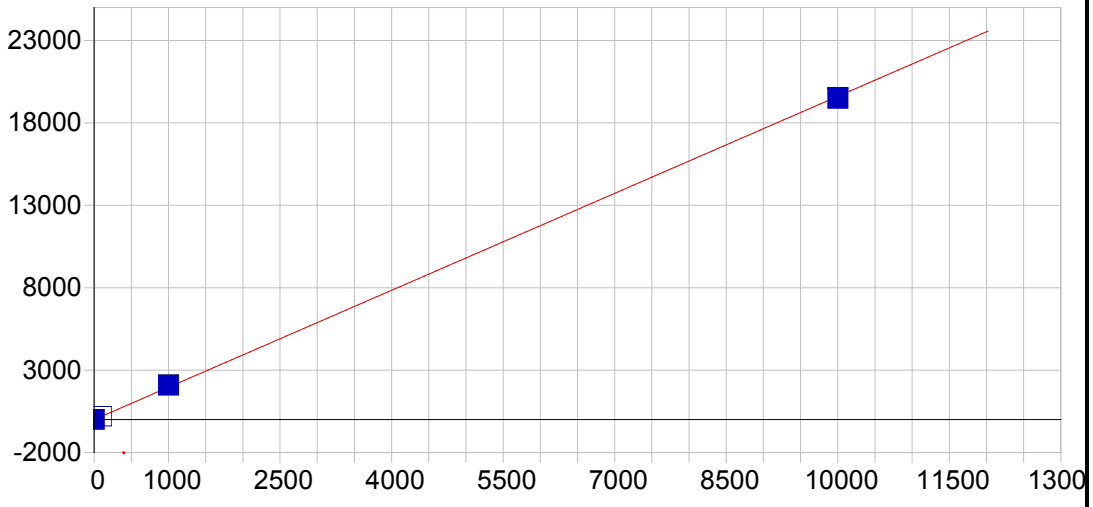



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.320630 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.824476 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999753 | Status: | OK. |
| Std Error of Est: | 5.202856 | | |
| Predicted MDL: | 0.702655 | | |
| Predicted MQL: | 2.342183 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.30787 | -.308 | .000 | .06680 | .586 | 1 |
| CalStd7=50 | 50.000 | 50.082 | .082 | .165 | 41.612 | .762 | 1 |
| CalStd6=20 | 20.000 | 18.981 | -1.02 | -5.10 | 15.970 | .251 | 1 |
| CalStd5=10 | 10.000 | 10.248 | .248 | 2.48 | 8.7700 | .278 | 1 |
| CalStd8=100 | 100.00 | 99.211 | -.789 | -.789 | 82.248 | .863 | 1 |
| CalStd4=5 | 5.0000 | 4.0190 | -.981 | -19.6 | 3.6342 | .220 | 1 |
| CalStd9=100 | 1000.0 | 1019.8 | 19.8 | 1.98 | 842.43 | .714 | 1 |
| CalStd10=10 | 10000. | 9762.8 | -237. | -2.37 | 8062.9 | 7.87 | 1 |

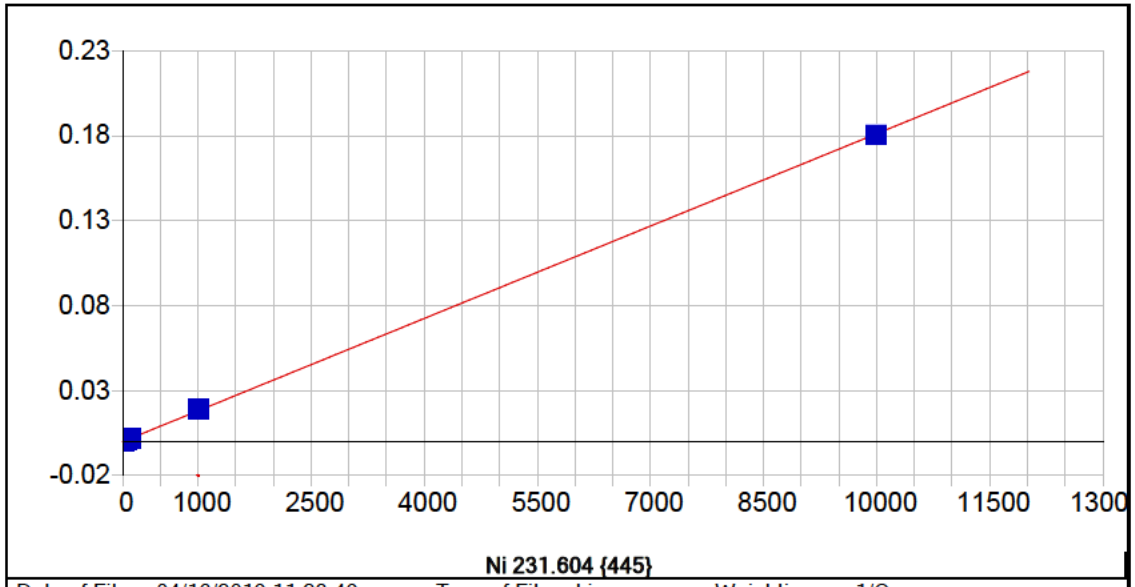



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.188014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.960989 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999792 | Status: | OK. |
| Std Error of Est: | 1.883097 | | |
| Predicted MDL: | 0.478095 | | |
| Predicted MQL: | 1.593652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01109 | -.011 | .000 | -.20977 | .211 | 1 |
| CalStd10=10 | 10000. | 9932.4 | -67.6 | -.676 | 19478. | 43.1 | 1 |
| CalStd8=100 | 100.00 | 105.57 | 5.57 | 5.57 | 206.83 | .722 | 1 |
| CalStd9=100 | 1000.0 | 1062.0 | 62.0 | 6.20 | 2082.5 | 8.82 | 1 |

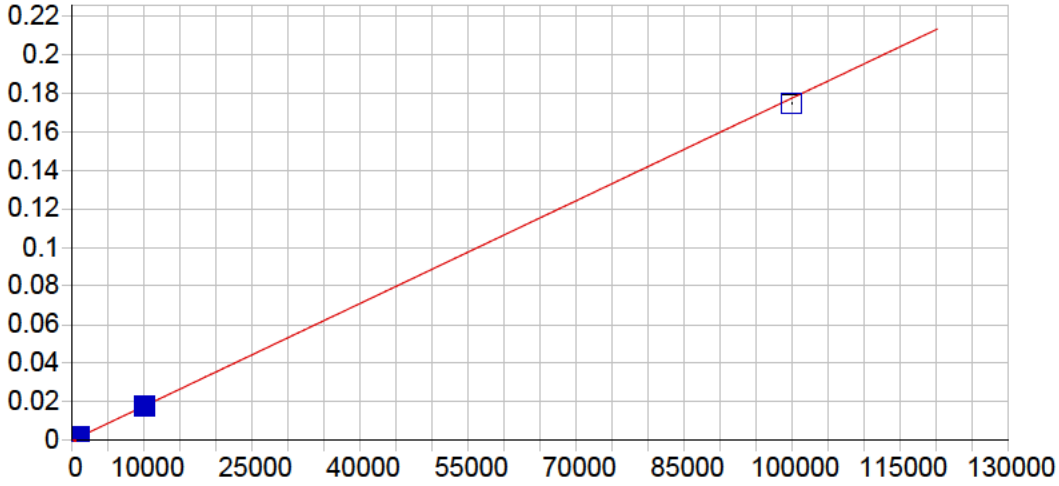



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.504511 | | |
| Predicted MQL: | 1.681705 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00074 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.572 | 2.57 | 5.14 | .00093 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.443 | 1.44 | 14.4 | .00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.22 | 4.22 | 4.22 | .00187 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1918 | .192 | 3.84 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1040.5 | 40.5 | 4.05 | .01886 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.4315 | .432 | 43.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.7 | -49.3 | -.493 | .18085 | .000 | 1 |

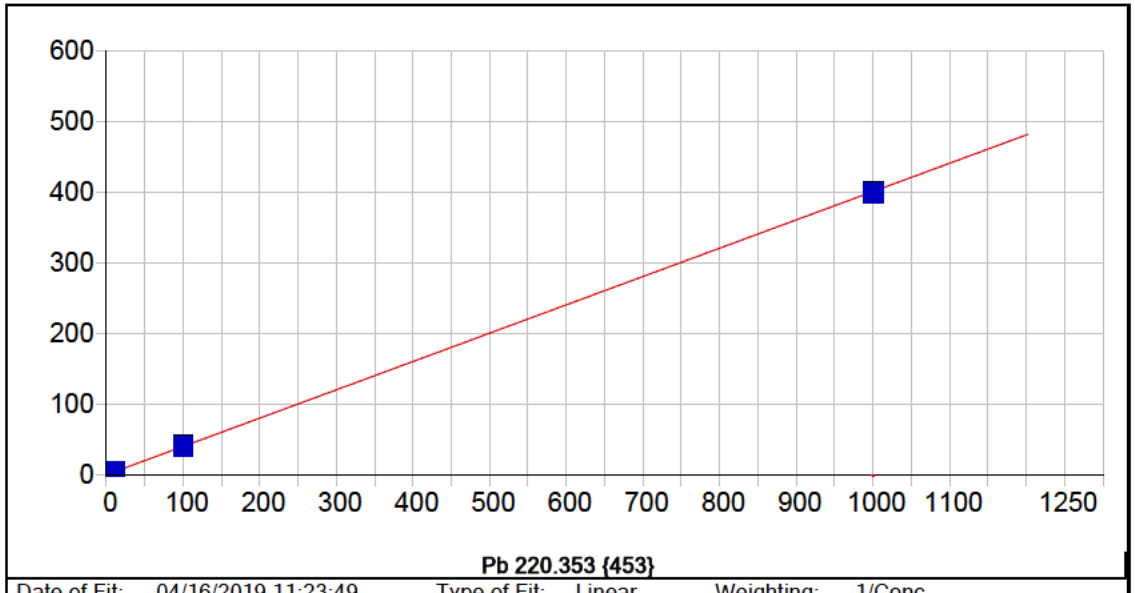



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999843 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 4.065918 | | |
| Predicted MQL: | 13.553059 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -5.8657 | -5.87 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1055.6 | 55.6 | 5.56 | .00189 | .000 | 1 |
| CalStd10=10 | 10000. | 10121. | 121. | 1.21 | .01794 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.46 | 4.46 | 4.46 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.6190 | -3.38 | -33.8 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 98402. | -1600. | -1.60 | .17433 | .000 | 1 |

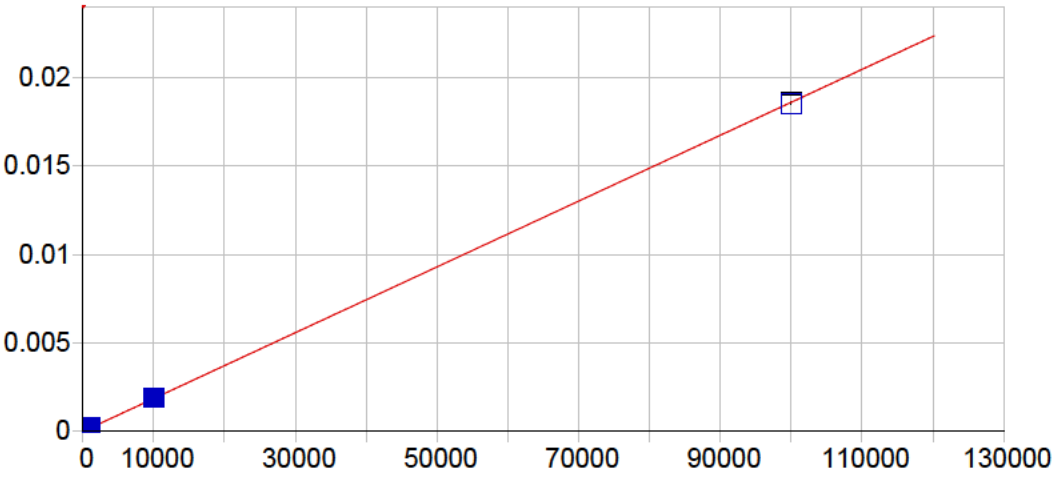



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.115789 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.399994 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999053 | Status: | OK. |
| Std Error of Est: | 0.053098 | | |
| Predicted MDL: | 2.370772 | | |
| Predicted MQL: | 7.902574 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | 1.1143 | .782 | 1 |
| CalStd5=10 | 10.000 | 11.494 | 1.49 | 14.9 | 5.7135 | .514 | 1 |
| CalStd8=100 | 100.00 | 100.30 | .297 | .297 | 41.254 | 1.02 | 1 |
| CalStd4=5 | 5.0000 | 8.0556 | 3.06 | 61.1 | 4.3380 | .519 | 1 |
| CalStd9=100 | 1000.0 | 995.16 | -4.84 | -.484 | 399.38 | .875 | 1 |

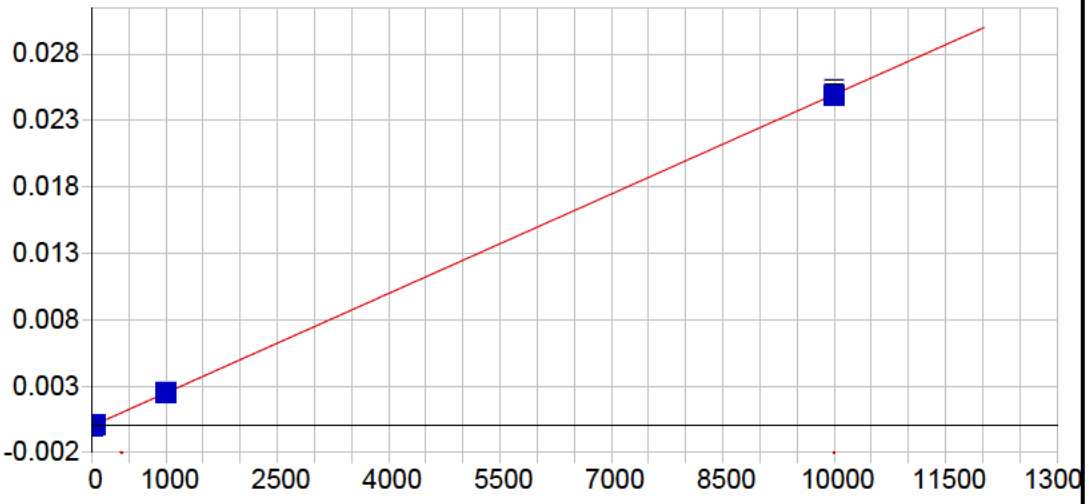



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.123424 | | |
| Predicted MQL: | 23.744745 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01547 | -.015 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1087.1 | 87.1 | 8.71 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 10217. | 217. | 2.17 | .00190 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.90 | 4.90 | 4.90 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99691. | -309. | -.309 | .01854 | .000 | 1 |

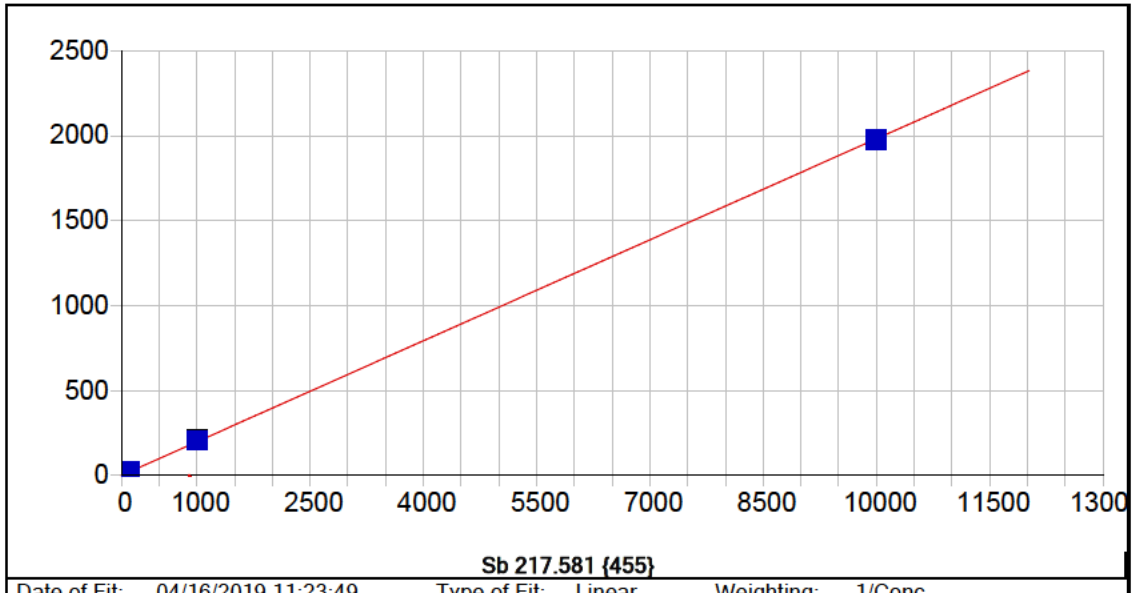



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.779281 | | |
| Predicted MQL: | 9.264269 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00209 | -.002 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.4 | 18.4 | 1.84 | .00258 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.788 | 1.79 | 17.9 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.683 | .683 | 1.37 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.1 | -20.9 | -.209 | .02536 | .000 | 1 |

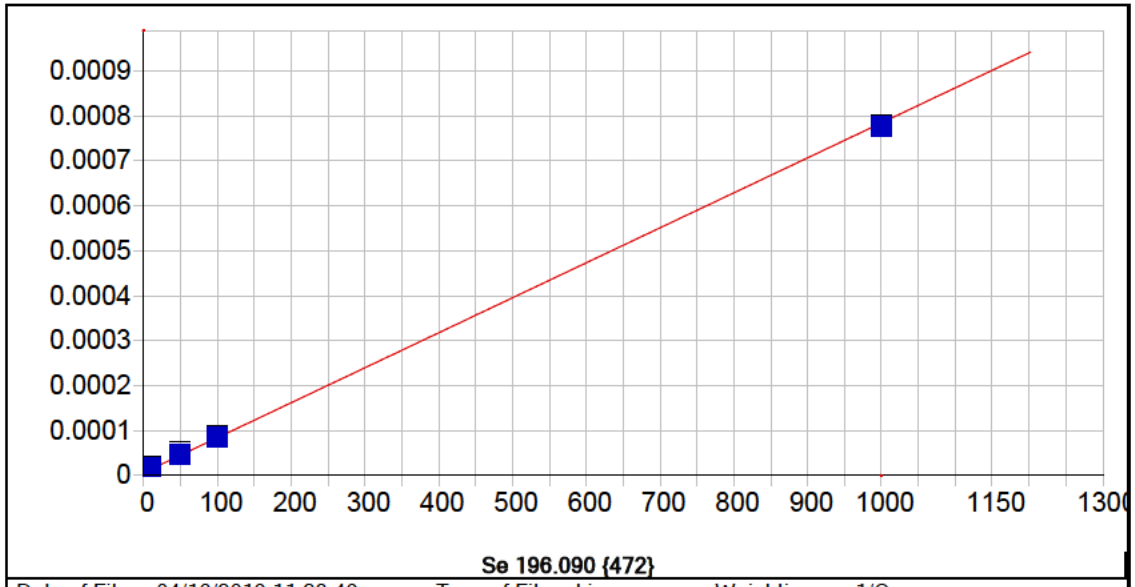



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.712715 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.198078 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.026863 | | |
| Predicted MDL: | 2.990604 | | |
| Predicted MQL: | 9.968681 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00264 | .003 | .000 | .71324 | .128 | 1 |
| CalStd9=100 | 1000.0 | 1036.3 | 36.3 | 3.63 | 205.99 | .935 | 1 |
| CalStd6=20 | 20.000 | 20.589 | .589 | 2.95 | 4.7910 | .718 | 1 |
| CalStd5=10 | 10.000 | 7.7144 | -2.29 | -22.9 | 2.2408 | .497 | 1 |
| CalStd8=100 | 100.00 | 100.24 | .243 | .243 | 20.571 | .167 | 1 |
| CalStd4=5 | 5.0000 | 3.1790 | -1.82 | -36.4 | 1.3424 | .587 | 1 |
| CalStd10=10 | 10000. | 9967.0 | -33.0 | -.330 | 1975.1 | 2.66 | 1 |

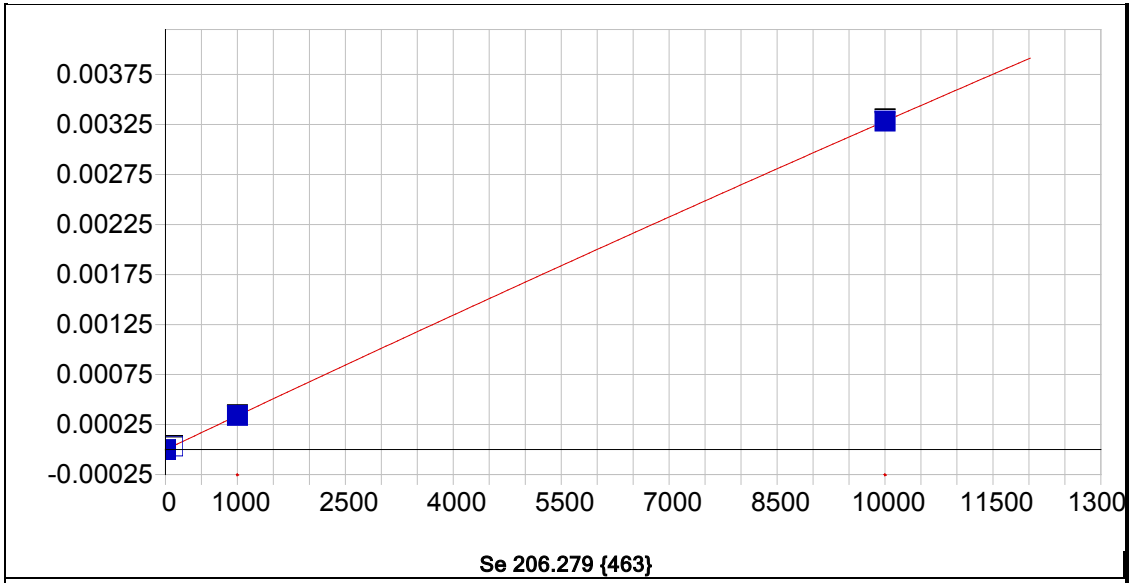



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999025 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.886045 | | |
| Predicted MQL: | 19.620148 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00498 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.048 | 1.05 | 2.10 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.14 | -8.86 | -.886 | .00078 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.534 | 4.53 | 45.3 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.28 | 3.28 | 3.28 | .00009 | .000 | 1 |

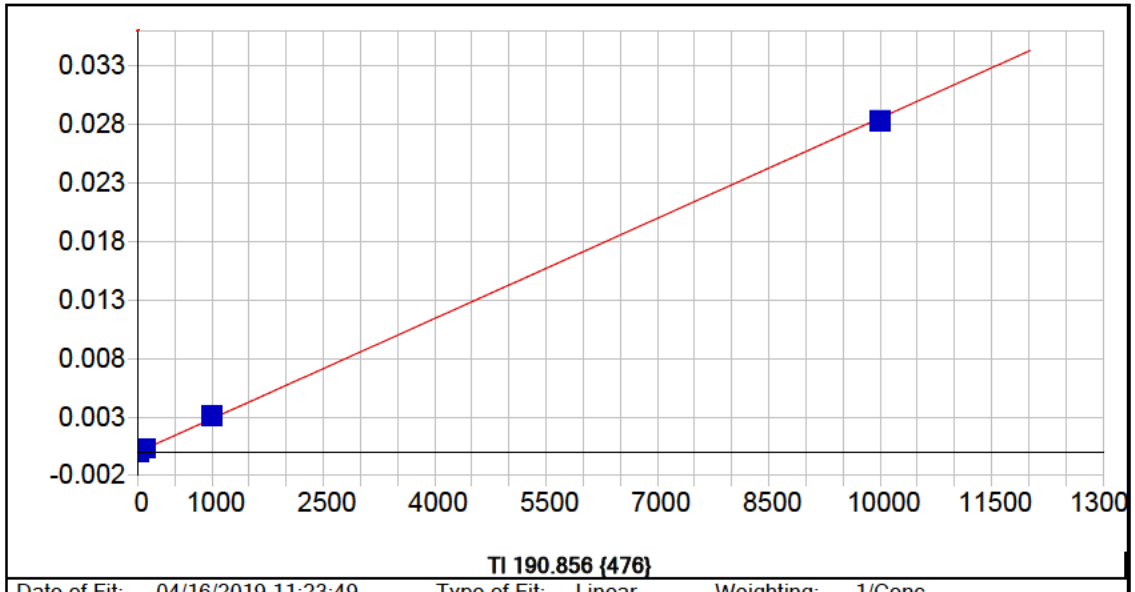



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.036920 | | |
| Predicted MQL: | 73.456402 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00005 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .057 | .006 | .00034 | .000 | 1 |
| CalStd10=10 | 10000. | 10000.0 | -.006 | -.000 | .00329 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.948 | -.052 | -.052 | .00003 | .000 | 1 |

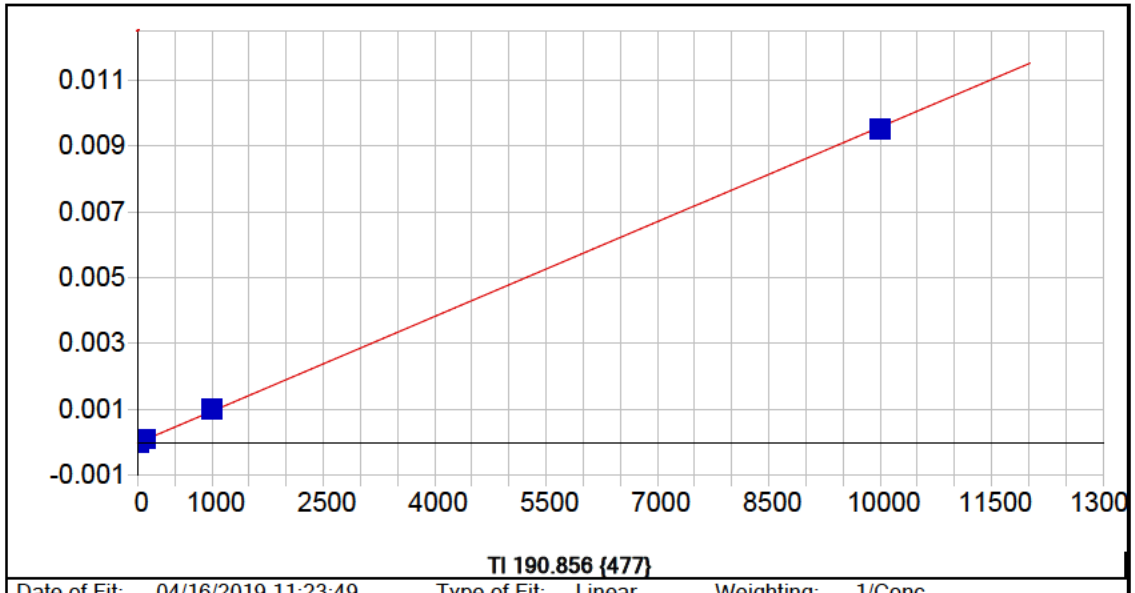



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999667 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.023818 | | |
| Predicted MQL: | 6.746060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00410 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1072.8 | 72.8 | 7.28 | .00307 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.76 | 8.76 | 8.76 | .00031 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.583 | 2.58 | 25.8 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9915.9 | -84.1 | -.841 | .02837 | .000 | 1 |

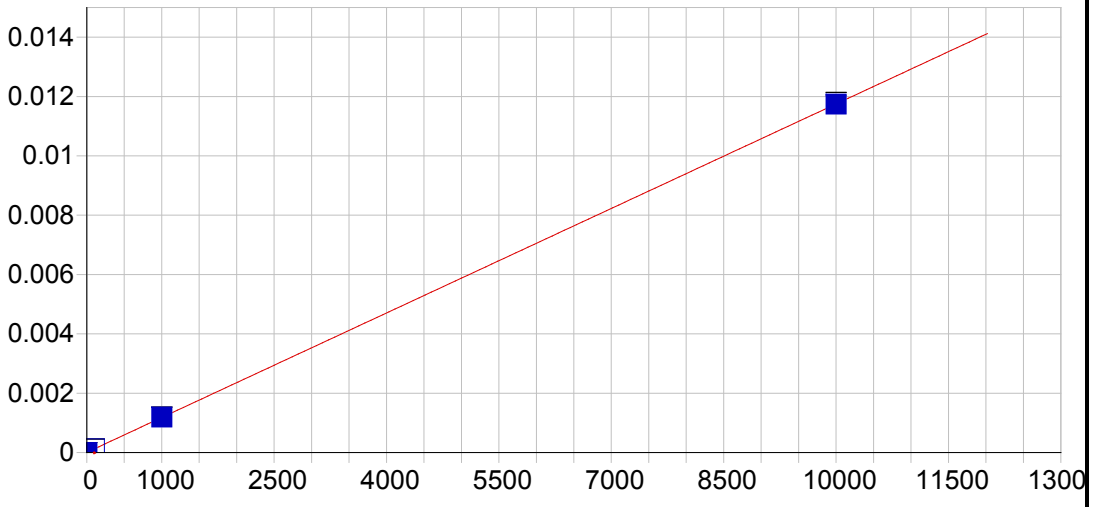



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999569 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.888356 | | |
| Predicted MQL: | 16.294520 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00700 | -.007 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1067.5 | 67.5 | 6.75 | .00102 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.90 | 12.9 | 12.9 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.125 | 5.12 | 51.2 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9914.4 | -85.6 | -.856 | .00950 | .000 | 1 |

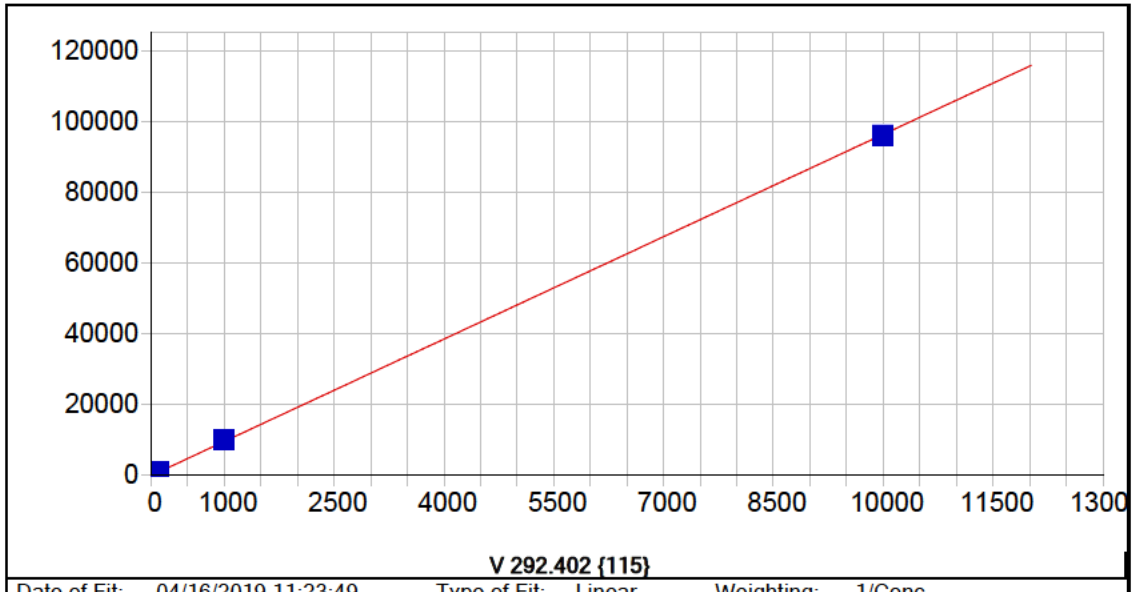



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.385278 | | |
| Predicted MQL: | 17.950927 | | |

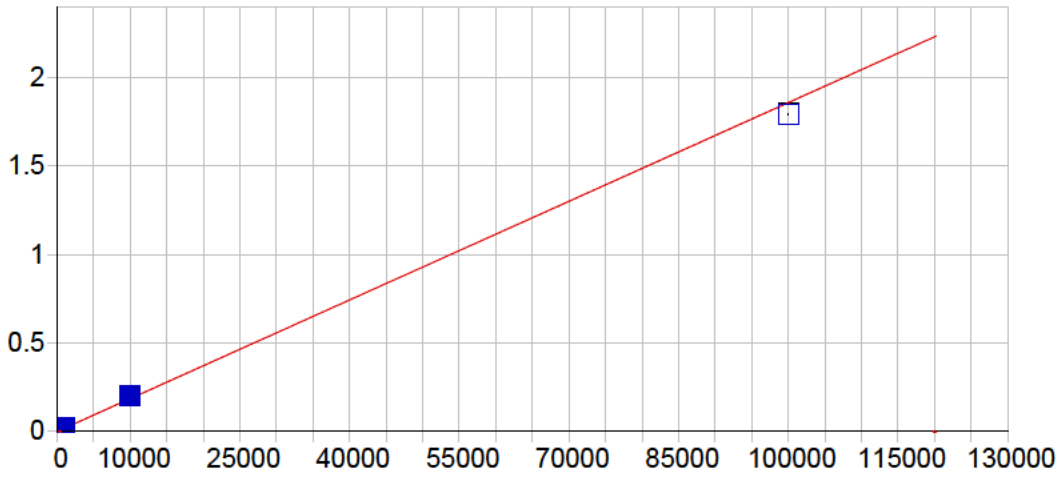
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00160 | .002 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.5 | 8.49 | .849 | .00119 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.9 | -6.10 | -.061 | .01174 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.613 | -2.39 | -2.39 | .00012 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 4.505315 | Re-Slope: | 1.000000 |
| A1 (Gain): | 9.634950 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999906 | Status: | OK. |
| Std Error of Est: | 1.656834 | | |
| Predicted MDL: | 0.524983 | | |
| Predicted MQL: | 1.749942 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00185 | -.002 | .000 | 4.4875 | 1.86 | 1 |
| CalStd7=50 | 50.000 | 51.616 | 1.62 | 3.23 | 501.70 | 5.36 | 1 |
| CalStd9=100 | 1000.0 | 1041.8 | 41.8 | 4.18 | 10040. | 35.4 | 1 |
| CalStd6=20 | 20.000 | 20.906 | .906 | 4.53 | 205.21 | 5.26 | 1 |
| CalStd5=10 | 10.000 | 10.522 | .522 | 5.22 | 105.86 | 5.44 | 1 |
| CalStd8=100 | 100.00 | 101.79 | 1.79 | 1.79 | 984.97 | 6.21 | 1 |
| CalStd10=10 | 10000. | 9953.5 | -46.5 | -.465 | 96244. | 220. | 1 |

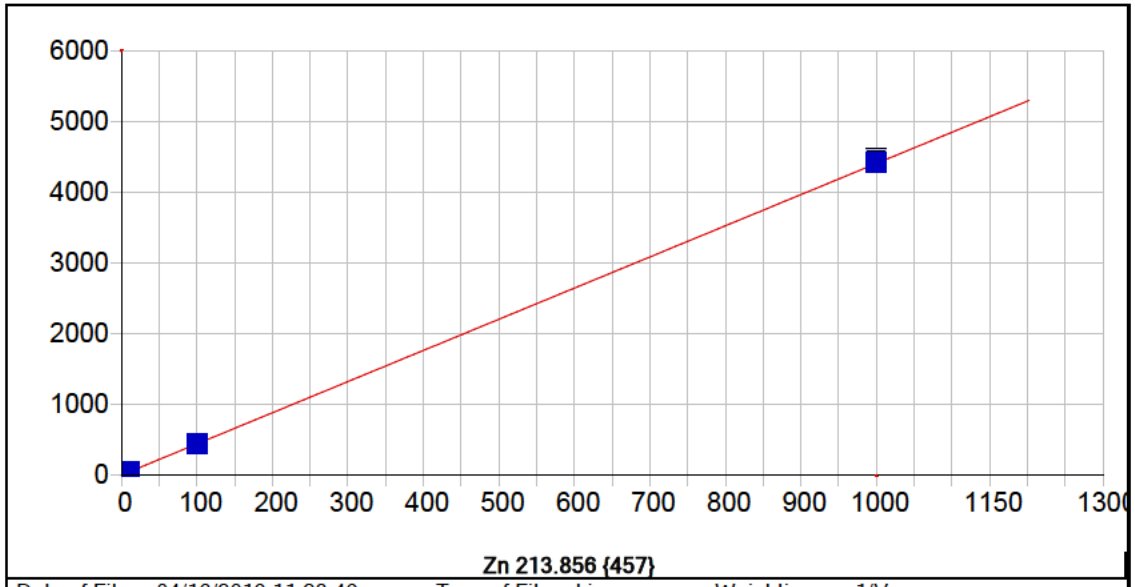



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000056 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998114 | Status: | OK. |
| Std Error of Est: | 0.000252 | | |
| Predicted MDL: | 0.409027 | | |
| Predicted MQL: | 1.363425 | | |

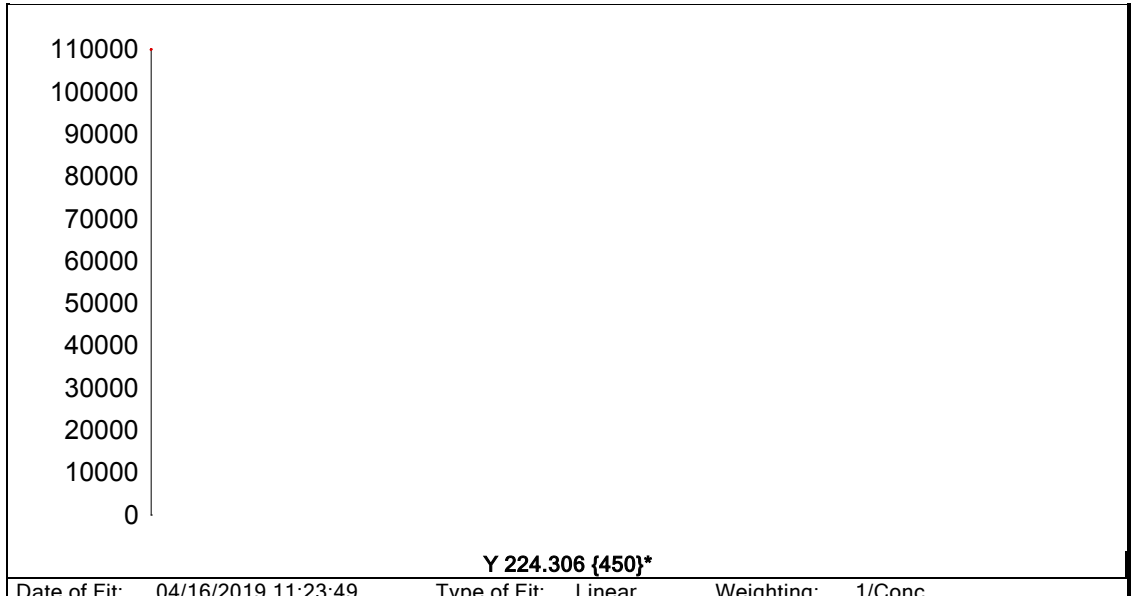
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10934. | 934. | 9.34 | .20323 | .001 | 1 |
| Blank | .00000 | -1.8640 | -1.86 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1147.0 | 147. | 14.7 | .02137 | .000 | 1 |
| CalStd12=10 | 100000. | 96569. | -3430. | -3.43 | 1.7945 | .003 | 1 |
| CalStd5=10 | 10.000 | 9.8021 | -.198 | -1.98 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.46 | 12.5 | 12.5 | .00215 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 6.970675 | Re-Slope: | 1.000000 |
| A1 (Gain): | 4.401027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.981134 | | |
| Predicted MDL: | 0.142347 | | |
| Predicted MQL: | 0.474492 | | |

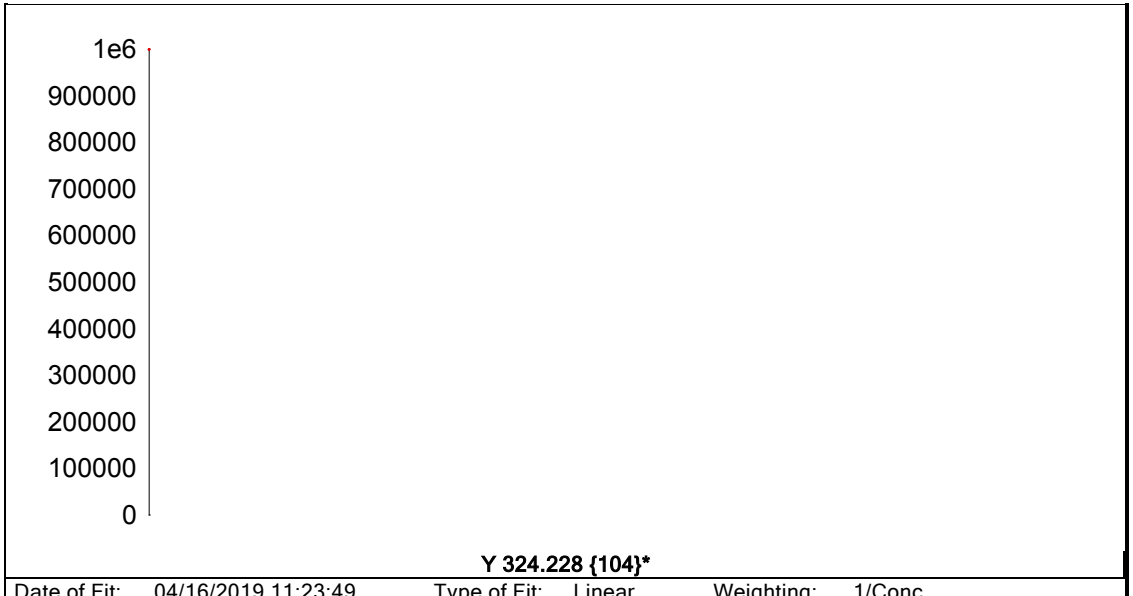
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.16024 | -.160 | .000 | 6.2655 | .622 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.80 | .280 | 4461.6 | 12.2 | 1 |
| CalStd5=10 | 10.000 | 10.120 | .120 | 1.20 | 51.538 | .430 | 1 |
| CalStd8=100 | 100.00 | 99.839 | -.161 | -.161 | 450.43 | .796 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

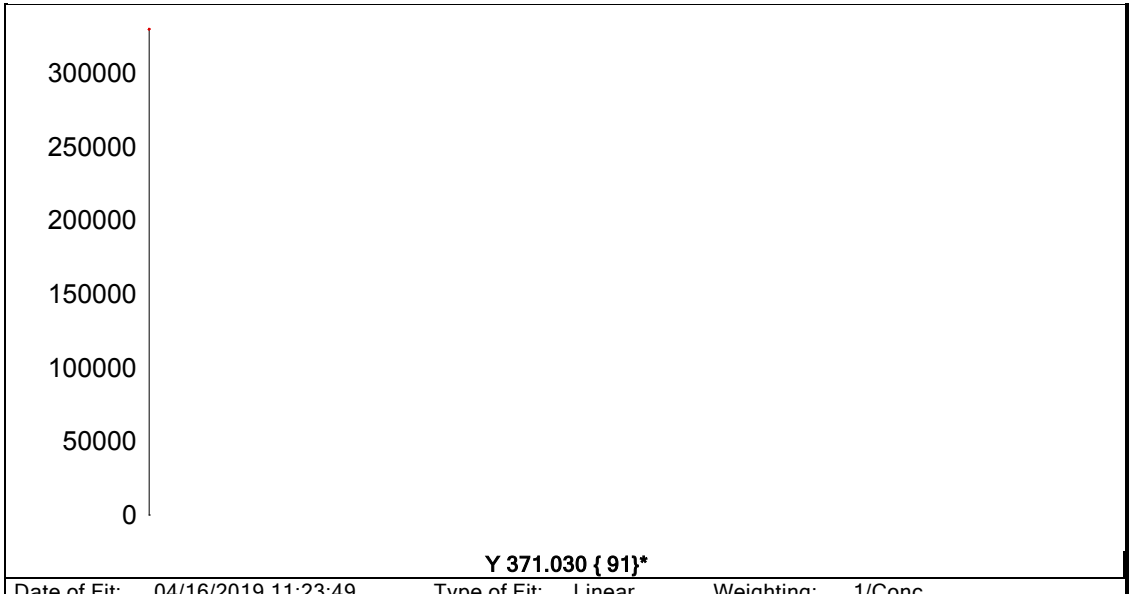
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 103200. | 284. | 1 |




**Y 324.228 {104}***

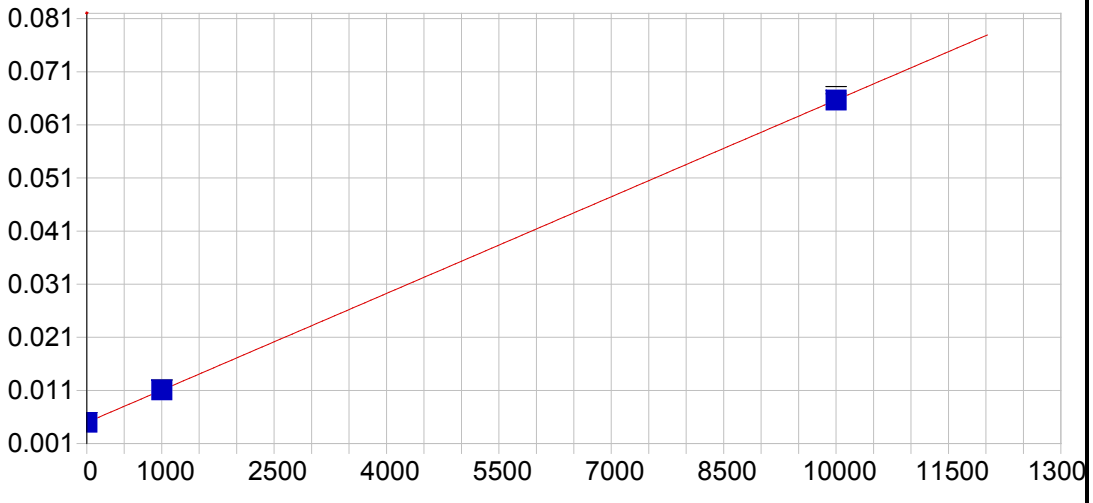
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 937860. | 1520. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 308380. | 2850. | 1 |

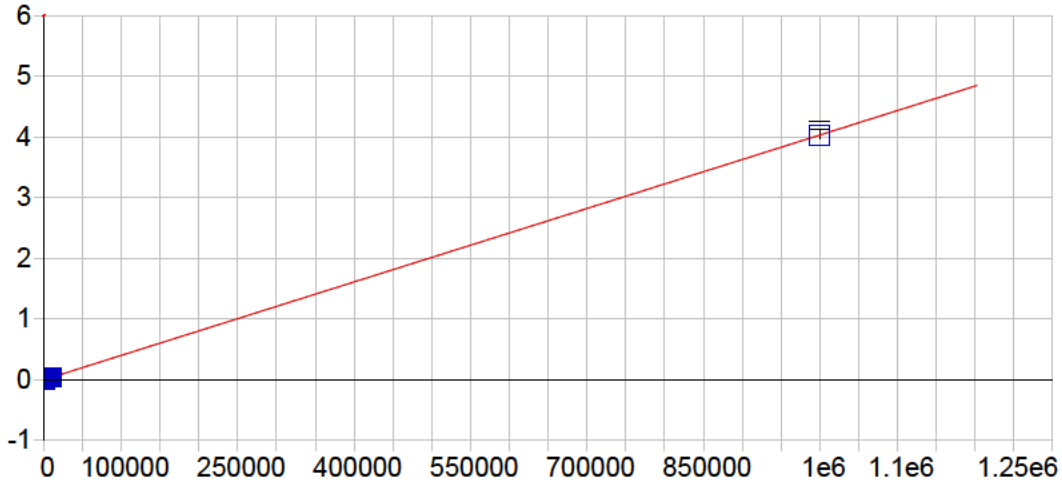



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004977 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 7.936203 | | |
| Predicted MQL: | 26.454008 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00521 | -.005 | .000 | .00498 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.8 | 5.78 | .578 | .01108 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.2 | -5.78 | -.058 | .06564 | .001 | 1 |

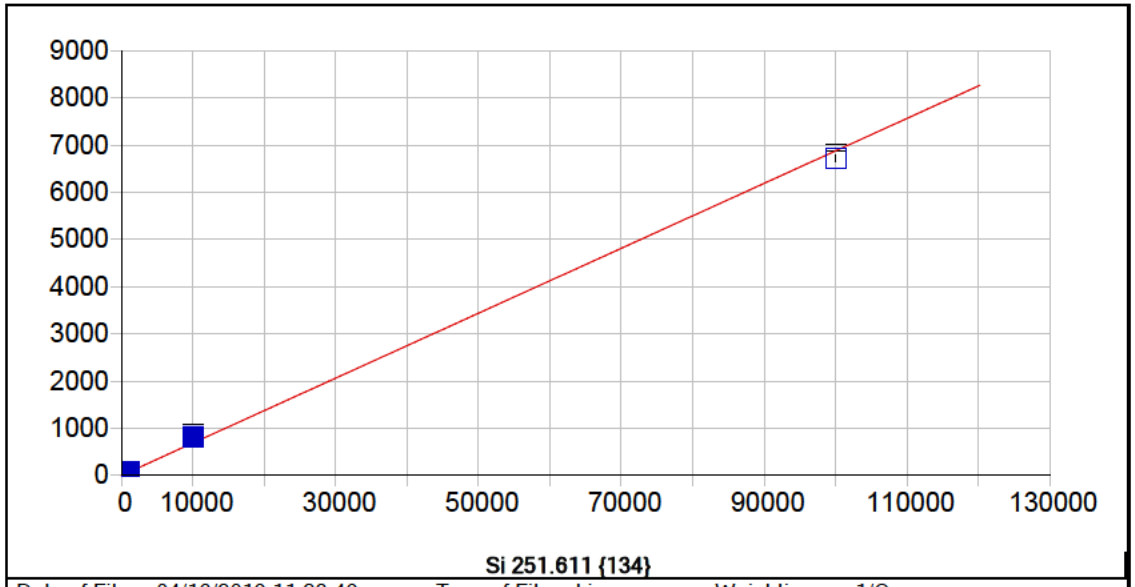



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 7.911739 | | |
| Predicted MQL: | 26.372462 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02552 | -.026 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.2 | 26.2 | 2.62 | .00416 | .000 | 1 |
| CalStd10=10 | 10000. | 9993.3 | -6.67 | -.067 | .04034 | .000 | 1 |
| CalibStd15= | 1000000. | 999980. | -19.5 | -.002 | 4.0343 | .062 | 1 |

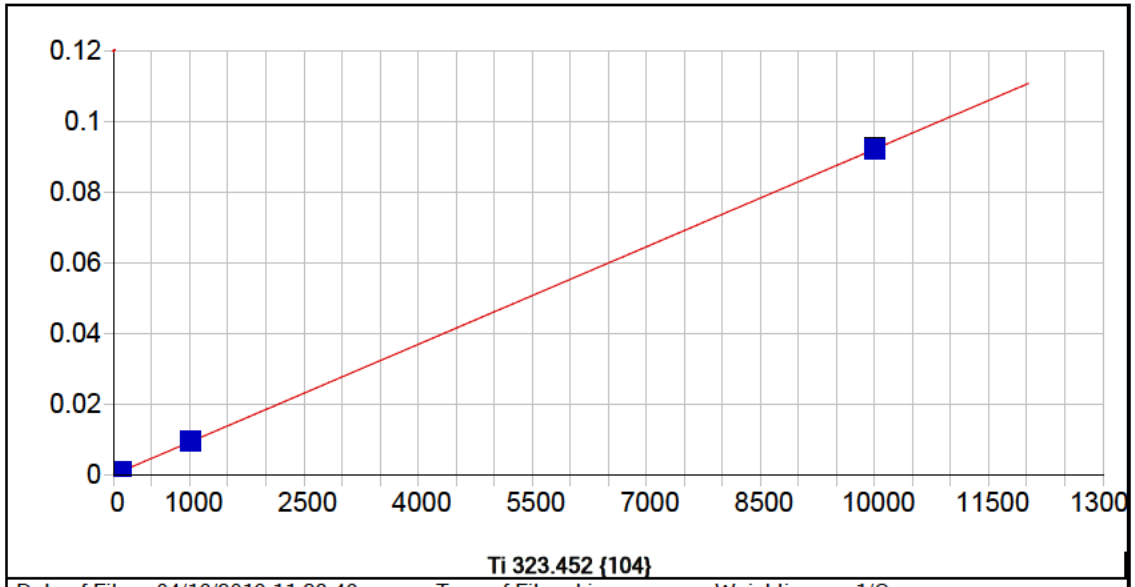



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.666779 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.068766 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998096 | Status: | OK. |
| Std Error of Est: | 2.011598 | | |
| Predicted MDL: | 20.011215 | | |
| Predicted MQL: | 66.704049 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.29899 | -.299 | .000 | .64622 | .270 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | 83.748 | 2.22 | 1 |
| CalStd10=10 | 10000. | 11912. | 1910. | 19.1 | 854.23 | 9.97 | 1 |
| CalibStd15= | 100000. | 97853. | -2150. | -2.15 | 6729.6 | 74.0 | 1 |

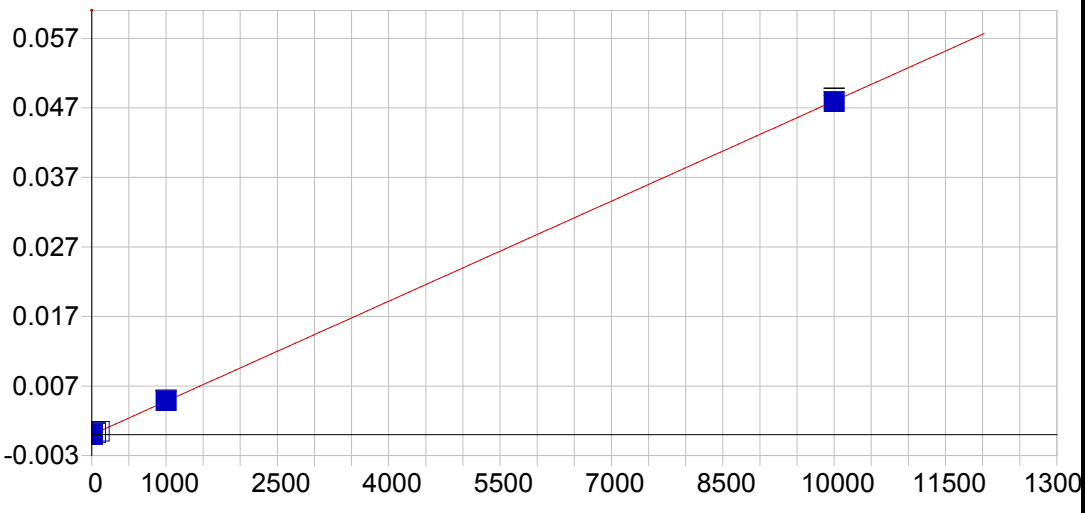



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000277 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.216005 | | |
| Predicted MQL: | 4.053351 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00187 | .002 | .000 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.9901 | -1.01 | -10.1 | .00036 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.796 | -1.20 | -1.20 | .00119 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.9 | 13.9 | 1.39 | .00960 | .000 | 1 |
| CalStd10=10 | 10000. | 9991.8 | -8.17 | -.082 | .09221 | .001 | 1 |
| CalStd7=50 | 50.000 | 47.613 | -2.39 | -4.77 | .00072 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.8662 | -1.13 | -22.7 | .00031 | .000 | 1 |

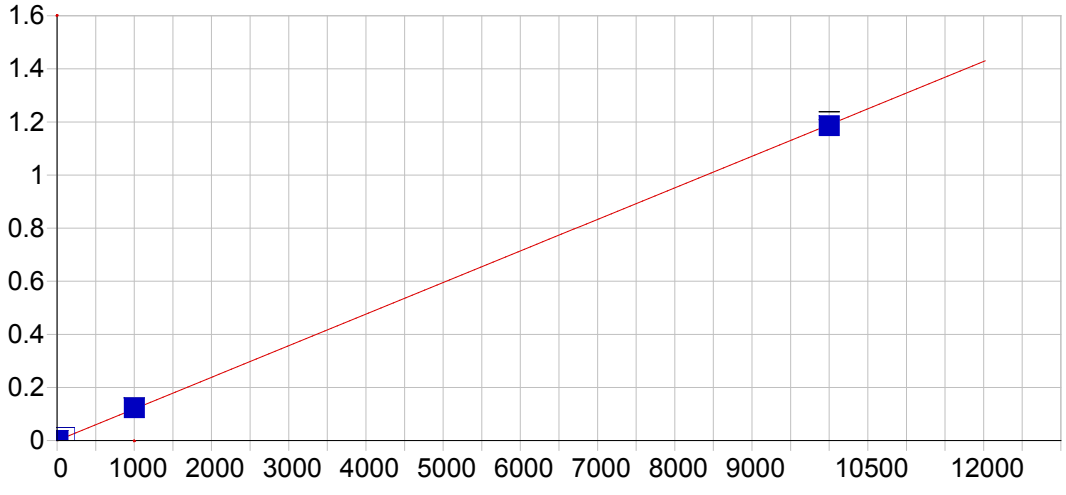



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.602554 | | |
| Predicted MQL: | 5.341845 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00163 | -.002 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.946 | .946 | 9.46 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.884 | -.116 | -.116 | .00048 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.6 | 16.6 | 1.66 | .00488 | .000 | 1 |
| CalStd10=10 | 10000. | 9980.0 | -20.0 | -.200 | .04790 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.717 | 1.72 | 3.43 | .00025 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9199 | .920 | 18.4 | .00003 | .000 | 1 |

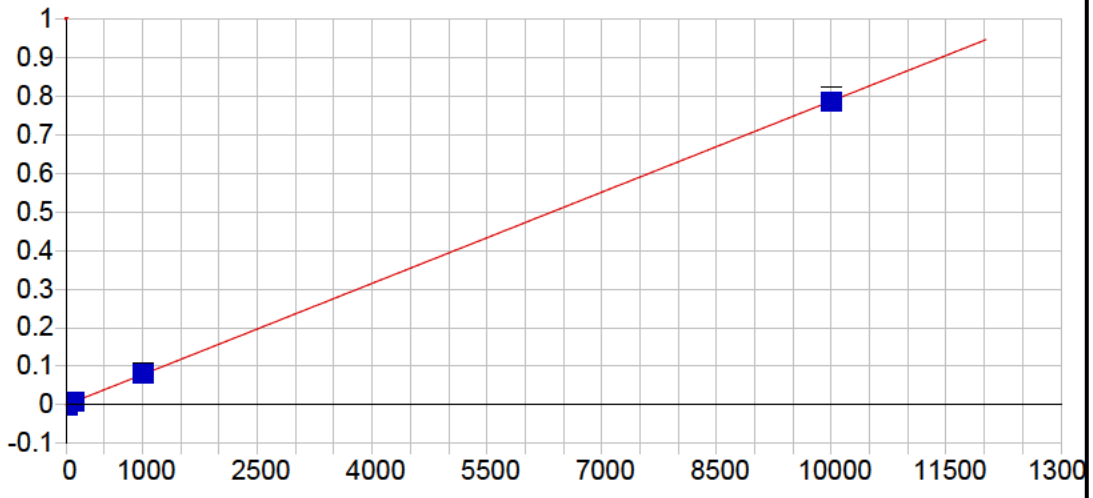



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000119 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.142843 | | |
| Predicted MQL: | 0.476144 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00032 | -.000 | .000 | .00004 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1221 | .122 | 12.2 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1875 | .187 | 3.75 | .00066 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.028 | 1.03 | 10.3 | .00136 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.37 | 2.37 | 2.37 | .01222 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.7 | 33.7 | 3.37 | .12308 | .001 | 1 |
| CalStd10=10 | 10000. | 9962.6 | -37.4 | -.374 | 1.1858 | .015 | 1 |

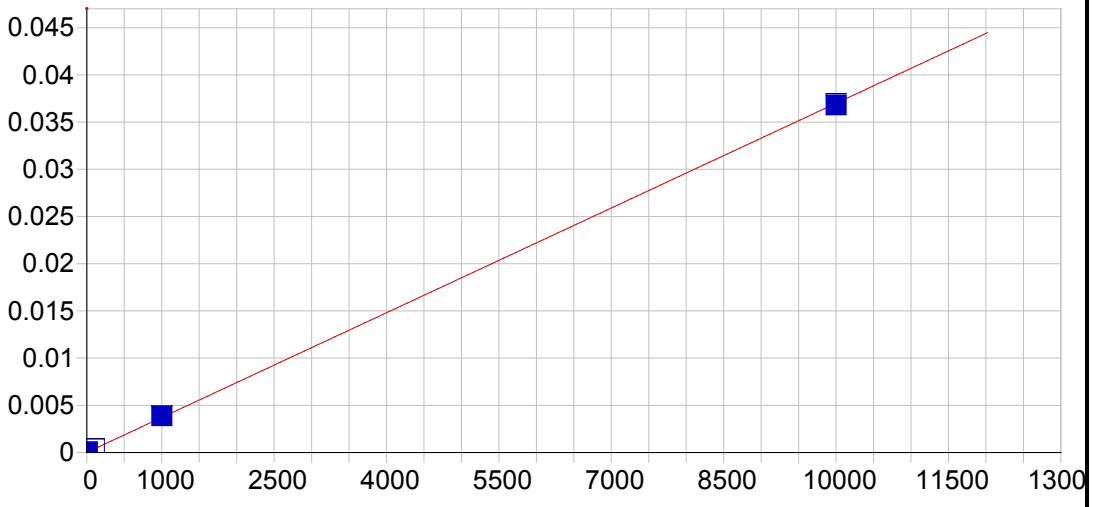



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000079 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999970 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.216521 | | |
| Predicted MQL: | 0.721737 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00032 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0641 | .064 | 6.41 | .00008 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5673 | .567 | 11.3 | .00043 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.086 | 1.09 | 10.9 | .00087 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.16 | 2.16 | 2.16 | .00804 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.5 | 19.5 | 1.95 | .08022 | .001 | 1 |
| CalStd10=10 | 10000. | 9976.6 | -23.4 | -.234 | .78503 | .014 | 1 |

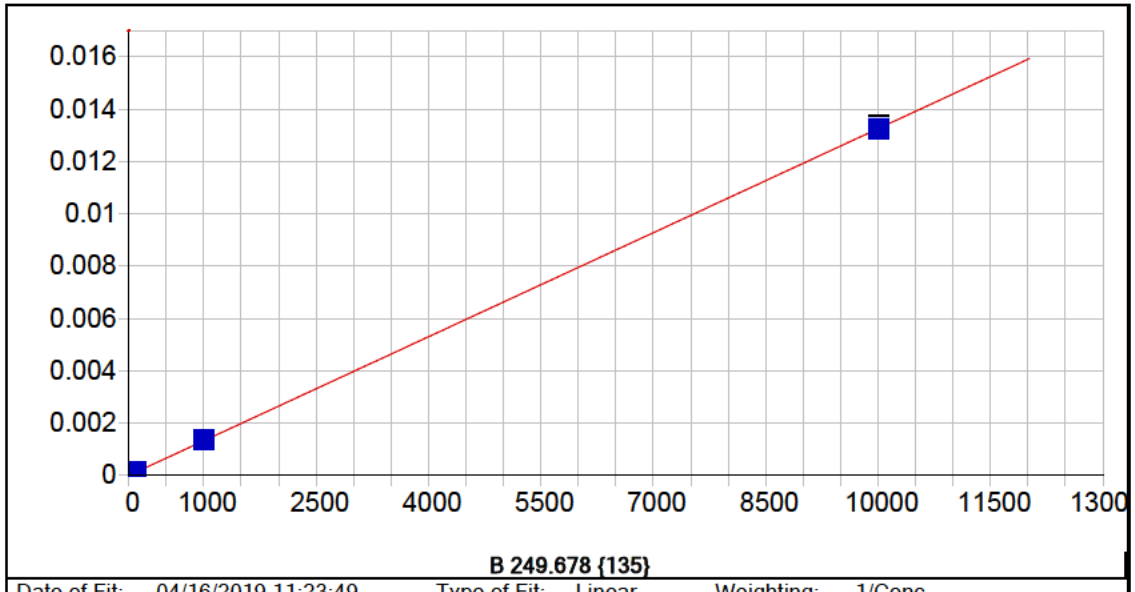



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.559447 | | |
| Predicted MQL: | 5.198156 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00175 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.6 | -49.4 | -.494 | .03681 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1046.6 | 46.6 | 4.66 | .00389 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.66 | 1.66 | 1.66 | .00039 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.167 | 1.17 | 11.7 | .00006 | .000 | 1 |

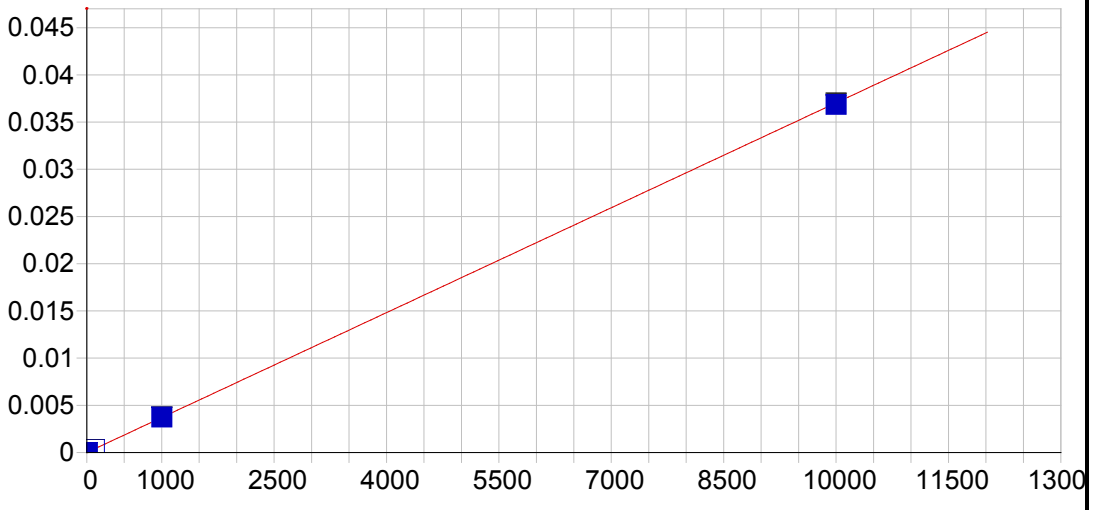



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999968 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.012222 | | |
| Predicted MQL: | 6.707406 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00247 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.795 | -.205 | -.205 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.388 | 2.39 | 23.9 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.5 | 11.5 | 1.15 | .00135 | .000 | 1 |
| CalStd10=10 | 10000. | 9986.3 | -13.7 | -.137 | .01328 | .000 | 1 |

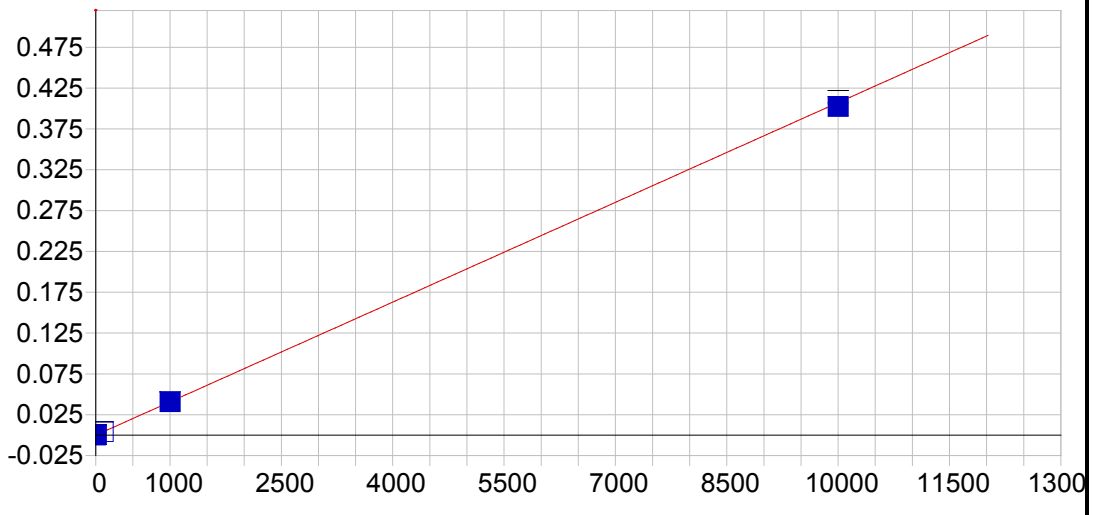



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.702004 | | |
| Predicted MQL: | 2.340014 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.19623 | -.196 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.25 | .249 | .249 | .00038 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7822 | -.218 | -2.18 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.4 | 8.45 | .845 | .00374 | .000 | 1 |
| CalStd10=10 | 10000. | 9952.1 | -47.9 | -.479 | .03688 | .000 | 1 |

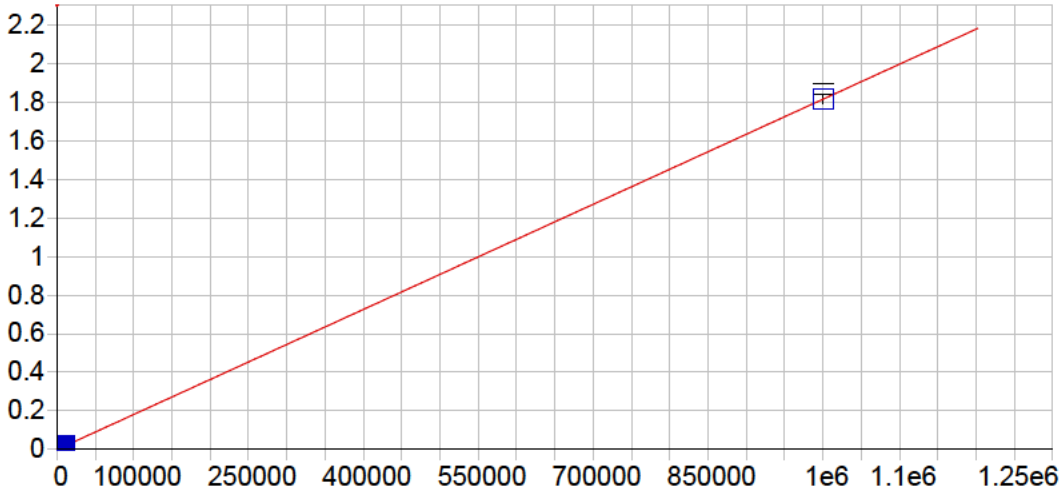



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000041 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999976 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 0.955321 | | |
| Predicted MQL: | 3.184404 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24079 | -.241 | .000 | -.00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.723 | .723 | 7.23 | .00040 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.20 | .196 | .196 | .00405 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.8 | .839 | .084 | .04073 | .000 | 1 |
| CalStd10=10 | 10000. | 9877.4 | -123. | -1.23 | .40227 | .008 | 1 |

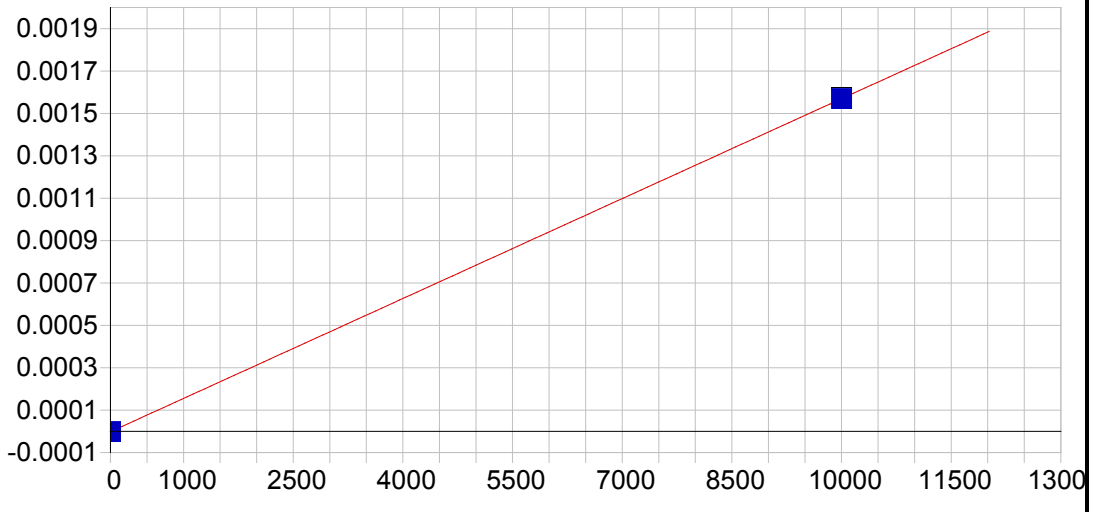



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 26.624067 | | |
| Predicted MQL: | 88.746890 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02327 | .023 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.04 | -13.0 | -1.30 | .00182 | .000 | 1 |
| CalStd10=10 | 10000. | 9895.7 | -104. | -1.04 | .01797 | .000 | 1 |
| CalibStd15= | 1000000. | 1000100. | 117. | .012 | 1.8147 | .026 | 1 |

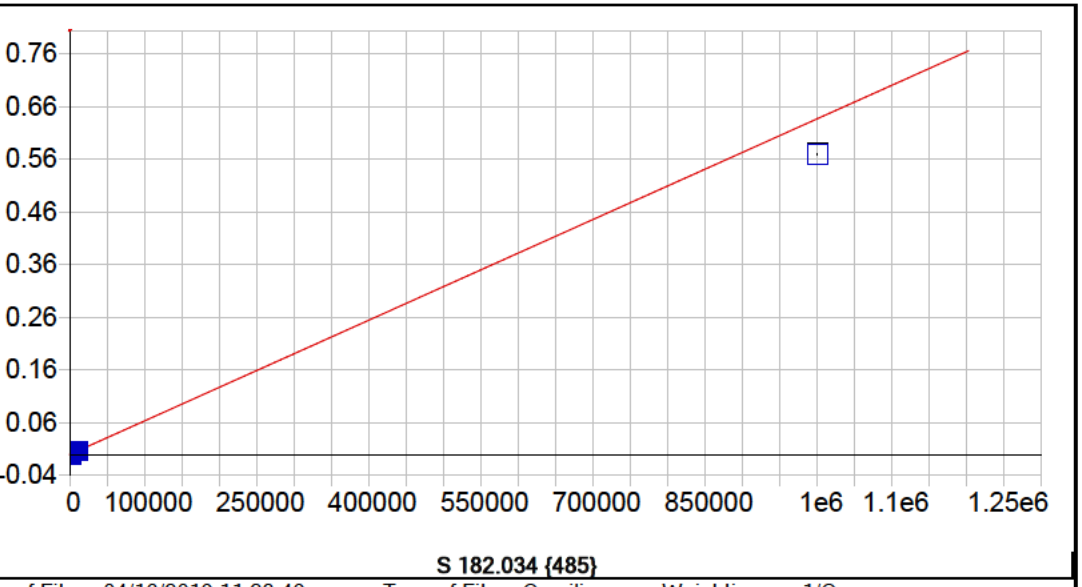



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.405910 | | |
| Predicted MQL: | 14.686365 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00157 | .000 | 1 |

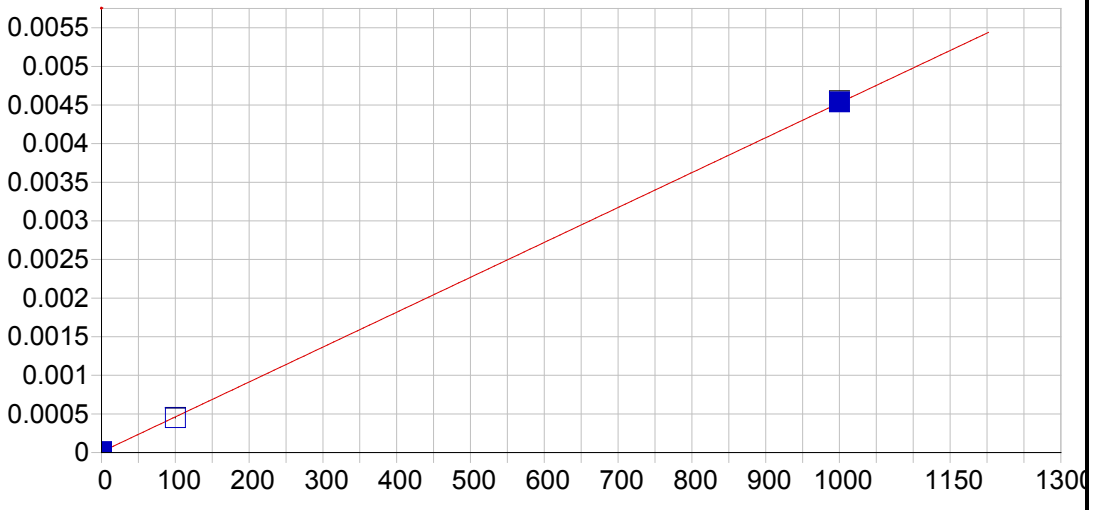



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.874381 | | |
| Predicted MQL: | 19.581270 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00442 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.8 | 4.82 | .482 | .00064 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.5 | -15.5 | -.155 | .00638 | .000 | 1 |
| CalibStd15= | 1000000. | 894590. | -105000. | -10.5 | .57030 | .001 | 1 |

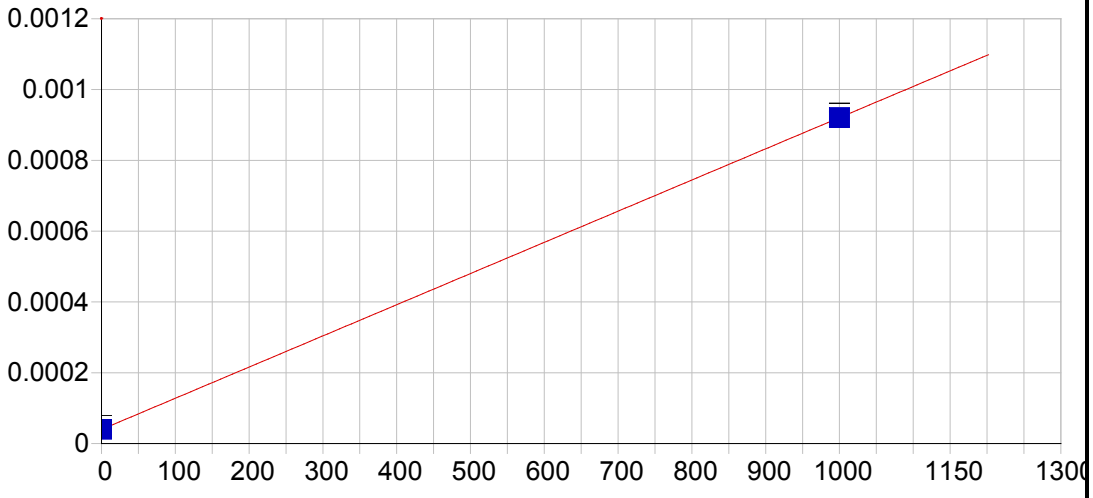



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.988337 | | |
| Predicted MQL: | 3.294457 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00226 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.494 | -2.51 | -2.51 | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.5 | 2.51 | .251 | .00454 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/16/2019 11:23:49 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000040 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 19.309682 | | |
| Predicted MQL: | 64.365606 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00092 | .000 | 1 |

Sample Name: Blank Acquired: 04/05/2019 07:16:20 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.074** | **-.000** | **-.692** | **20.6** | **-.000** | **13.5** | **536.** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .387 | .000 | .293 | 3.1 | .000 | .9 | 259. | .000 | .000 |
| %RSD | 15.4 | 22.2 | 67.4 | 526. | 389. | 42.3 | 15.2 | 1.77 | 6.64 | 48.3 | 416. | 13.6 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **149.** | **9.89** | **.000** | **.000** | **15.1** | **-.000** | **529.** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | 2. | 3.07 | .000 | .000 | 4.2 | .000 | 19. | .000 |
| %RSD | 301. | 79.4 | 68.5 | 536. | 1.08 | 31.0 | 5.15 | 32.0 | 27.7 | 5700. | 3.62 | 72.4 |

| Elem | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.72** | **.067** | **-.210** | **-.000** | **.000** | **1.11** | **-.000** | **.713** | **.000** | **-.000** | **-.000** | **4.49** |
| Stddev | .96 | .586 | .211 | .000 | .000 | .78 | .000 | .128 | .000 | .000 | .000 | 1.86 |
| %RSD | 56.0 | 877. | 101. | 55.8 | 83.0 | 70.2 | 76.1 | 17.9 | 72.6 | 482. | 179. | 41.5 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **6.27** |
| Stddev | .000 | .62 |
| %RSD | 34.4 | 9.92 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103200.** | **937860.** | **308380.** |
| Stddev | 284. | 1522. | 2853. |
| %RSD | .27556 | .16233 | .92503 |

Sample Name: CalStd2=0.5 Acquired: 04/05/2019 07:22:42 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.72 | 7.54 | 14.5 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **104240.** | **953120.** |
| Stddev | 35. | 9528. |
| %RSD | .03386 | .99971 |

Sample Name: CalStd3=1 Acquired: 04/05/2019 07:28:55 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **1.19** | **43.9** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .47 | .4 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 20.9 | 39.0 | .833 | 2.37 | 11.6 | 17.2 | 33.9 | 28.6 | 107. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104960.** | **968740.** | **315020.** |
| Stddev | 121. | 7828. | 3478. |
| %RSD | .11502 | .80801 | 1.1040 |

Sample Name: CalStd4=5 Acquired: 04/05/2019 07:35:30 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.30** | **120.** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **11.7** | **.000** | **3.63** | **.000** |
| Stddev | .20 | 5. | .000 | .000 | .000 | .000 | .000 | .000 | 2.5 | .000 | .22 | .000 |
| %RSD | 4.72 | 4.43 | 1.81 | 3.13 | 1.08 | 3.48 | 3.33 | 3.97 | 21.4 | .680 | 6.06 | 7.40 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **4.34** | **1.34** |
| Stddev | .52 | .59 |
| %RSD | 12.0 | 43.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105180.** | **975070.** | **320520.** |
| Stddev | 171. | 5139. | 3305. |
| %RSD | .16242 | .52705 | 1.0313 |

Sample Name: CalStd5=10 Acquired: 04/05/2019 07:41:46 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.29** | **.000** | **10.3** | **231.** | **.001** | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .40 | .000 | .4 | 2. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 8.37 | 3.30 | 31.2 | 49.2 | 3.45 | .784 | 1.19 | 1.00 | 1.57 | 1.75 | 3.62 | 7.69 |

| Elem | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158.** | **13.2** | **.000** | **8.77** | **.000** | **.000** | **5.71** | **.000** | **2.24** | **.000** | **.000** | **106.** |
| Stddev | 3. | 3.3 | .000 | .28 | .000 | .000 | .51 | .000 | .50 | .000 | .000 | 5. |
| %RSD | 2.16 | 25.3 | 1.13 | 3.17 | 1.04 | 10.2 | 8.99 | 18.5 | 22.2 | 14.1 | 9.44 | 5.14 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **51.5** |
| Stddev | .000 | .4 |
| %RSD | 2.70 | .835 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105510.** | **984030.** | **322290.** |
| Stddev | 212. | 3604. | 3058. |
| %RSD | .20096 | .36623 | .94898 |

Sample Name: CalStd6=20 Acquired: 04/05/2019 07:48:03 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Ba4554 | Cu3247 | Cu3273 | Mn2576 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **19.2** | **417.** | **171.** | **19.3** | **.000** | **16.0** | **4.79** | **205.** |
| Stddev | .3 | 4. | 2. | 2.6 | .000 | .3 | .72 | 5. |
| %RSD | 1.53 | 1.06 | .995 | 13.3 | .644 | 1.57 | 15.0 | 2.56 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105800.** | **984500.** |
| Stddev | 273. | 4802. |
| %RSD | .25795 | .48776 |

Sample Name: CalStd7=50 Acquired: 04/05/2019 07:54:13 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Ba4554 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2045 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.04** | **.000** | **1020.** | **.002** | **.003** | **.001** | **.001** | **.000** | **200.** | **35.5** | **.001** | **41.6** |
| Stddev | .15 | .000 | 12. | .000 | .000 | .000 | .000 | .000 | 4. | 1.8 | .000 | .8 |
| %RSD | 2.17 | 10.1 | 1.17 | .348 | .247 | .393 | .614 | .279 | 2.16 | 5.14 | .156 | 1.83 |

| Elem | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.000** | **502.** |
| Stddev | .000 | .000 | .000 | 5. |
| %RSD | .971 | 4.45 | 13.0 | 1.07 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106000.** | **988570.** | **322530.** |
| Stddev | 277. | 2989. | 2206. |
| %RSD | .26097 | .30234 | .68401 |

Sample Name: CalStd8=100 Acquired: 04/05/2019 08:00:22 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **13.1** | **.000** | **96.7** | **1970.** | **.010** | **15400.** | **.003** | **.006** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .6 | 21. | .000 | 155. | .000 | .000 | .000 |
| %RSD | .948 | 1.44 | 4.04 | 3.64 | .583 | 1.09 | .606 | 1.01 | .231 | .387 | .188 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **247.** | **60.0** | **5640.** | **.002** | **82.2** | **207.** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 4. | 2.4 | 26. | .000 | .9 | 1. | .000 | .000 |
| %RSD | .952 | .263 | 1.31 | 1.59 | 4.05 | .465 | .888 | 1.05 | .349 | .268 | 2.52 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **41.3** | **20.6** | **.000** | **.000** | **.000** | **985.** | **.002** | **450.** |
| Stddev | 1.0 | .2 | .000 | .000 | .000 | 6. | .000 | 1. |
| %RSD | 2.46 | .812 | 3.52 | 22.9 | 2.01 | .630 | .987 | .177 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106590.** | **991390.** | **322150.** |
| Stddev | 86. | 4912. | 2445. |
| %RSD | .08039 | .49550 | .75900 |

Sample Name: CalStd9=1000 Acquired: 04/05/2019 08:06:31 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Ca3933 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.002** | **135.** | **.001** | **975.** | **19800.** | **.102** | **139.** | **129000.** | **.035** |
| Stddev | .000 | .000 | 1. | .000 | 3. | 168. | .000 | 3. | 1220. | .000 |
| %RSD | .266 | .955 | .495 | 1.48 | .352 | .848 | .209 | 1.89 | .950 | .122 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.064** | **.020** | **.003** | **.019** | **.004** | **1140.** | **537.** | **.001** | **.000** | **472.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 12. | 9. | .000 | .000 | 4. |
| %RSD | .275 | .406 | .383 | .053 | .080 | 1.03 | 1.64 | .481 | 1.24 | .915 |

| Elem | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **50800.** | **.017** | **1520.** | **842.** | **2080.** | **.019** | **.002** | **399.** | **.003** |
| Stddev | .000 | 263. | .000 | 14. | 1. | 9. | .000 | .000 | 1. | .000 |
| %RSD | 5.43 | .518 | .212 | .938 | .085 | .424 | .186 | .580 | .219 | .682 |

| Elem | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **206.** | **.001** | **.000** | **.003** | **10000.** | **.021** | **4460.** |
| Stddev | 1. | .000 | .000 | .000 | 35. | .000 | 12. |
| %RSD | .454 | .273 | 1.72 | .076 | .352 | .569 | .273 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106990.** | **1000500.** | **324740.** |
| Stddev | 335. | 4893. | 1702. |
| %RSD | .31296 | .48909 | .52398 |

Sample Name: CalStd10=10000 Acquired: 04/05/2019 08:12:10 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4554 | Ca3158 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.015** | **.009** | **190000.** | **1260.** | **.198** | **.028** | **.184** | **.037** | **9910.** | **5160.** |
| Stddev | .000 | .000 | 1730. | 6. | .000 | .000 | .000 | .000 | 131. | 80. |
| %RSD | .880 | .297 | .910 | .442 | .164 | .501 | .137 | .395 | 1.32 | 1.55 |

| Elem | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.005** | **.004** | **4590.** | **.000** | **454000.** | **.159** | **14900.** | **8060.** | **19500.** | **.181** |
| Stddev | .000 | .000 | 41. | .000 | 4540. | .001 | 123. | 8. | 43. | .000 |
| %RSD | .665 | .665 | .883 | 1.08 | 1.00 | .545 | .822 | .098 | .221 | .034 |

| Elem | Pb2169 | Sb2068 | Sb2175 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.018** | **.025** | **1980.** | **.003** | **.028** | **96200.** | **.203** |
| Stddev | .000 | .000 | 3. | .000 | .000 | 220. | .001 |
| %RSD | .158 | .285 | .135 | .524 | .117 | .228 | .298 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104810.** | **976730.** | **325360.** |
| Stddev | 168. | 3799. | 1969. |
| %RSD | .15989 | .38894 | .60521 |

Sample Name: CalStd12=100K  Acquired: 04/05/2019 08:18:42  Type: Cal

Method: DOD Calibration Updated 060614(v3295)  Mode: IR  Corr. Factor: 1.000000

User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1

Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.60** | **94200.** | **50100.** | **140000.** | **.174** | **1.79** |
| Stddev | .00 | 1180. | 501. | 1150. | .000 | .00 |
| %RSD | .051 | 1.26 | 1.00 | .825 | .163 | .167 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **105470.** | **986270.** |
| Stddev | 86. | 3826. |
| %RSD | .08111 | .38792 |

Sample Name: CalStd13=100000 Acquired: 04/05/2019 08:25:00 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.146** | **12100.** | **.048** | **.034** | **42900.** | **.004** |
| Stddev | .002 | 72. | .000 | .000 | 397. | .000 |
| %RSD | 1.36 | .597 | .383 | 1.00 | .926 | .924 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103450.** | **986050.** | **323600.** |
| Stddev | 134. | 4009. | 1860. |
| %RSD | .12942 | .40654 | .57480 |

Sample Name: CalStd14=500000 Acquired: 04/05/2019 08:31:24 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.751** | **57100.** | **.159** | **190000.** | **.022** |
| Stddev | .018 | 269. | .002 | 522. | .000 |
| %RSD | 2.36 | .471 | .981 | .275 | 1.06 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **95857.** | **308780.** |
| Stddev | 187. | 2213. |
| %RSD | .19559 | .71663 |

Sample Name: CalibStd15=1000k Acquired: 04/05/2019 08:38:16 Type: Cal
Method: DOD Calibration Updated 060614(v3295) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.53** | **105000.** | **.299** | **.043** |
| Stddev | .02 | 304. | .002 | .000 |
| %RSD | 1.41 | .288 | .713 | .685 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **86218.** | **287800.** |
| Stddev | 176. | 1560. |
| %RSD | .20456 | .54215 |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.2** | **11800.** | **1950.** | **1920.** | **2020.** | **46.5** | **9870.** | **47.2** | **504.** | **192.** | **251.** | **256.** |
| Stddev | .9 | 133. | 10. | 10. | 6. | .2 | 71. | .1 | 1. | 2. | 2. | 4. |
| %RSD | 2.09 | 1.13 | .534 | .506 | .288 | .504 | .720 | .199 | .199 | 1.12 | .940 | 1.68 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4860.** | **10300.** | **500.** | **511.** | **508.** | **494.** | **470.** | **478.** | **496.** | **500.** | **1930.** | **2000.** |
| Stddev | 19. | 132. | 4. | 2. | 1. | 1. | 5. | 2. | 2. | 2. | 13. | 7. |
| %RSD | .390 | 1.28 | .717 | .332 | .287 | .208 | 1.10 | .491 | .466 | .346 | .695 | .361 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Avg | **495.** | **527.** | **482.** |
| Stddev | 1. | 3. | 1. |
| %RSD | .133 | .543 | .107 |
| Check ? | None | None | None |
| Value | | | |
| Range | | | |

Sample Name: icv Acquired: 04/05/2019 08:51:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107870.** | **1017900.** | **330150.** |
| Stddev | 155. | 5761. | 2766. |
| %RSD | .14372 | .56599 | .83786 |

Sample Name: ICVLL Acquired: 04/05/2019 09:04:20 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.4** | **1170.** | **1180.** | **62.4** | **29.1** | **10.9** | **1400.** | **14.4** | **14.7** | **29.0** | **29.1** | **28.0** |
| Stddev | 1.0 | 5. | 11. | 3.0 | .4 | .0 | 6. | .3 | .1 | .4 | .9 | 4.4 |
| %RSD | 3.30 | .450 | .913 | 4.76 | 1.21 | .388 | .465 | 1.74 | .834 | 1.45 | 3.13 | 15.7 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **27.9** | **880.** | **1440.** | **32.3** | **29.0** | **29.5** | **31.9** | **62.8** | **65.7** | **59.6** | **29.2** | **28.8** |
| Stddev | 3.1 | 3. | 5. | .3 | .3 | .4 | 1.3 | 3.2 | 4.7 | 1.6 | .5 | .2 |
| %RSD | 11.0 | .322 | .347 | .943 | 1.09 | 1.41 | 4.20 | 5.09 | 7.16 | 2.72 | 1.72 | .524 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107650.** | **1025000.** | **332350.** |
| Stddev | 64. | 4162. | 4275. |
| %RSD | .05979 | .40602 | 1.2863 |

Sample Name: icb Acquired: 04/05/2019 09:10:25 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.683** | **-1.64** | **-.338** | **.229** | **-.074** | **-9.72** | **.077** | **-.062** | **-.284** | **-.761** | **-3.27** | **-12.2** |
| Stddev | .756 | 1.07 | 2.47 | .448 | .038 | .73 | .092 | .174 | .152 | .371 | 6.43 | 2.3 |
| %RSD | 111. | 65.0 | 730. | 196. | 51.7 | 7.54 | 119. | 281. | 53.6 | 48.8 | 197. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.32** | **.151** | **-.858** | **.305** | **.273** | **-3.89** | **2.65** | **1.53** | **-.291** | **-.741** |
| Stddev | .04 | .090 | .552 | .430 | 6.90 | 1.68 | 5.63 | 2.28 | .164 | .047 |
| %RSD | .515 | 59.5 | 64.4 | 141. | 2530. | 43.2 | 213. | 149. | 56.5 | 6.40 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108740.** | **1038400.** | **330070.** |
| Stddev | 216. | 7591. | 1142. |
| %RSD | .19875 | .73105 | .34597 |

Sample Name: ICSA Acquired: 04/05/2019 09:29:07 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.535** | **529000.** | **-.502** | **.000** | **-.473** | **514000.** | **.010** | **-.699** | **-.372** | **-2.79** | **-1.73** |
| Stddev | .822 | 8170. | 9.70 | .506 | .058 | 3140. | 1.26 | .271 | .155 | .85 | 6.83 |
| %RSD | 154. | 1.54 | 1930. | 239000. | 12.3 | .611 | 12500. | 38.8 | 41.7 | 30.3 | 395. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481000.** | **494000.** | **-2.73** | **-1.91** | **-.450** | **1.02** | **.001** | **.002** | **-.087** | **8970.** | **6.35** |
| Stddev | 5460. | 5380. | .27 | .59 | .782 | 2.41 | 6.42 | 10.9 | .964 | 17. | .83 |
| %RSD | 1.14 | 1.09 | 9.71 | 30.9 | 174. | 237. | 697000. | 465000. | 1100. | .188 | 13.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **96186.** | **927730.** | **313820.** |
| Stddev | 132. | 2680. | 2397. |
| %RSD | .13760 | .28885 | .76366 |

Sample Name: ICSAB Acquired: 04/05/2019 09:35:53 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **444.** | **544000.** | **568.** | **476.** | **450.** | **480.** | **502000.** | **493.** | **461.** | **485.** | **444.** |
| Stddev | 3. | 7240. | 14. | 2. | 2. | 3. | 2570. | 1. | 1. | 3. | 6. |
| %RSD | .643 | 1.33 | 2.37 | .449 | .528 | .601 | .512 | .160 | .153 | .701 | 1.38 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **526.** | **506000.** | **508000.** | **512.** | **477.** | **493.** | **445.** | **451.** | **879.** | **412.** | **459.** |
| Stddev | 8. | 3160. | 2730. | 2. | . | 1. | 3. | 2. | 18. | 4. | 11. |
| %RSD | 1.56 | .625 | .537 | .465 | .034 | .294 | .657 | .426 | 2.08 | .850 | 2.45 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **488.** | **468.** | **476.** | **507.** | **564.** | **510.** | **499.** |
| Stddev | 12. | 5. | 3. | 3. | 5. | 1. | 1. |
| %RSD | 2.35 | 1.09 | .672 | .620 | .889 | .123 | .141 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: MRL/LLOQ Acquired: 04/05/2019 09:22:55 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.0** | **397.** | **17.5** | **9.52** | **3.49** | **445.** | **4.73** | **4.81** | **9.30** | **9.42** | **8.80** | **286.** |
| Stddev | .7 | 1. | 3.1 | .16 | .05 | 4. | .16 | .19 | .36 | .59 | 3.61 | 1. |
| %RSD | 6.87 | .277 | 17.9 | 1.68 | 1.46 | .988 | 3.28 | 3.84 | 3.83 | 6.28 | 41.1 | .369 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **469.** | **9.15** | **9.36** | **9.97** | **12.6** | **18.8** | **21.9** | **20.8** | **8.88** | **9.86** |
| Stddev | 2. | .05 | .31 | .39 | 1.7 | 2.3 | 3.4 | 1.9 | .17 | .06 |
| %RSD | .442 | .509 | 3.30 | 3.91 | 13.3 | 12.2 | 15.7 | 9.04 | 1.90 | .574 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108050.** | **1039400.** | **331930.** |
| Stddev | 301. | 5126. | 2002. |
| %RSD | .27862 | .49316 | .60315 |

Sample Name: lcss71284 Acquired: 04/05/2019 10:19:33 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **89.9** | **694.** | **1910.** | **1900.** | **148.** | **158.** | **-.026** | **19900.** | **.075** | **9.89** | **1.27** | **99.8** |
| Stddev | .6 | 1. | 6. | 13. | . | 2. | .013 | 95. | .131 | .09 | .32 | .7 |
| %RSD | .701 | .150 | .288 | .662 | .212 | 1.27 | 51.3 | .479 | 174. | .882 | 25.2 | .712 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **79.1** | **75.0** | **8530.** | **6970.** | **1970.** | **2060.** | **5.28** | **23.9** | **20.3** | **-1.64** | **5.82** | **5.44** |
| Stddev | 1.6 | 5.5 | 88. | 54. | 12. | 4. | .58 | .5 | 2.2 | 2.69 | 2.78 | 1.49 |
| %RSD | 1.98 | 7.33 | 1.03 | .778 | .599 | .191 | 11.0 | 1.97 | 10.7 | 165. | 47.7 | 27.3 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.937** | **105.** |
| Stddev | .268 | . |
| %RSD | 28.6 | .114 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107420.** | **997390.** | **330440.** |
| Stddev | 149. | 5517. | 3012. |
| %RSD | .13838 | .55316 | .91155 |

Sample Name: mbs71284 Acquired: 04/05/2019 10:26:05 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **75.6** | **2150.** | **5.42** | **488.** | **515.** | **.058** | **28300.** | **.078** | **.324** | **2.10** | **60.4** | **114.** |
| Stddev | .9 | 17. | 2.32 | 1. | 2. | .024 | 239. | .100 | .165 | .37 | .8 | 2. |
| %RSD | 1.20 | .793 | 42.8 | .287 | .381 | 41.2 | .843 | 127. | 51.0 | 17.4 | 1.39 | 1.96 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **112.** | **14700.** | **6440.** | **226.** | **2.34** | **19.0** | **26.6** | **-2.70** | **11.3** | **4.55** | **3.46** | **143.** |
| Stddev | 6. | 89. | 25. | 2. | .27 | .3 | 2.0 | .88 | 3.4 | .72 | .64 | . |
| %RSD | 5.36 | .607 | .394 | .766 | 11.4 | 1.66 | 7.61 | 32.6 | 29.8 | 15.8 | 18.6 | .102 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106600.** | **998520.** | **327270.** |
| Stddev | 256. | 7032. | 2147. |
| %RSD | .24034 | .70423 | .65611 |

Sample Name: 255901 Acquired: 04/05/2019 10:32:32 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.909** | **196000.** | **584.** | **2030.** | **13.1** | **181000.** | **-.315** | **6.90** | **171.** | **388.** | **456.** |
| Stddev | .725 | 2590. | 6. | 16. | .1 | 1590. | .991 | .28 | . | 4. | 3. |
| %RSD | 79.8 | 1.32 | .966 | .807 | .421 | .880 | 315. | 4.04 | .201 | 1.03 | .717 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **464.** | **270000.** | **50400.** | **21400.** | **6.28** | **282.** | **467.** | **717.** | **-3.12** | **2.05** | **43.5** |
| Stddev | 6. | 4710. | 751. | 93. | .21 | 1. | 16. | 3. | 3.13 | 6.08 | 4.5 |
| %RSD | 1.27 | 1.74 | 1.49 | .435 | 3.34 | .267 | 3.48 | .368 | 100. | 296. | 10.4 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **722.** | **1120.** | **971.** |
| Stddev | 4. | 1. | 1. |
| %RSD | .497 | .090 | .116 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103430.** | **959300.** | **321870.** |
| Stddev | 205. | 1403. | 3761. |
| %RSD | .19808 | .14627 | 1.1686 |

Sample Name: 255903 Acquired: 04/05/2019 10:38:49 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.798** | **217000.** | **710.** | **1500.** | **13.2** | **54800.** | **-4.73** | **4.67** | **199.** | **400.** | **360.** |
| Stddev | .799 | 1530. | 7. | 14. | .1 | 495. | .79 | .30 | 1. | 3. | 3. |
| %RSD | 100. | .706 | .929 | .926 | .416 | .904 | 16.8 | 6.36 | .649 | .830 | .899 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **362.** | **402000.** | **31400.** | **16500.** | **4.87** | **362.** | **507.** | **-8.65** | **11.5** | **60.0** | **732.** |
| Stddev | 7. | 2060. | 196. | 97. | .63 | 2. | 4. | 4.56 | 3.8 | 3.5 | 2. |
| %RSD | 1.99 | .513 | .624 | .586 | 12.9 | .473 | .851 | 52.7 | 33.5 | 5.89 | .297 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **939.** | **801.** |
| Stddev | 1. | 1. |
| %RSD | .133 | .088 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104620.** | **965540.** | **323220.** |
| Stddev | 176. | 4094. | 1248. |
| %RSD | .16815 | .42403 | .38622 |

Sample Name: 255904 Acquired: 04/05/2019 10:45:21 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.68** | **244000.** | **135.** | **2500.** | **16.9** | **54200.** | **-3.12** | **2.21** | **153.** | **304.** | **1330.** |
| Stddev | 1.14 | 1190. | 9. | 13. | .1 | 517. | .53 | .16 | 1. | 3. | 6. |
| %RSD | 67.9 | .486 | 6.95 | .506 | .679 | .953 | 17.0 | 7.21 | .490 | .900 | .422 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **264000.** | **21100.** | **15200.** | **9.95** | **330.** | **2460.** | **.109** | **14.1** | **36.2** | **501.** | **2230.** |
| Stddev | 2000. | 269. | 70. | .87 | 1. | 13. | 2.30 | 3.1 | 1.6 | 2. | 10. |
| %RSD | .755 | 1.27 | .458 | 8.71 | .242 | .530 | 2100. | 22.1 | 4.44 | .476 | .459 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106140.** | **973750.** | **326860.** |
| Stddev | 62. | 4173. | 1364. |
| %RSD | .05836 | .42859 | .41731 |

Sample Name: ccv1 Acquired: 04/05/2019 10:51:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **447.** | **4570.** | **4640.** | F **4460.** | **449.** | **4580.** | **450.** | **4500.** | **4720.** | **4670.** | **4700.** | **4740.** |
| Stddev | 3. | 135. | 14. | 28. | 4. | 23. | 2. | 39. | 14. | 26. | 266. | 52. |
| %RSD | .618 | 2.95 | .304 | .639 | .803 | .507 | .353 | .866 | .297 | .562 | 5.66 | 1.09 |
| Check ? | None | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | 5000. | | | | | | | | |
| Range | | | | -10.4% | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4850.** | F **4430.** | **4530.** | F **4460.** | F **4380.** | **4510.** | **4520.** | **4560.** | **5160.** |
| Stddev | 24. | 6. | 7. | 19. | 29. | 32. | 8. | 8. | 20. |
| %RSD | .501 | .130 | .160 | .419 | .668 | .713 | .177 | .176 | .393 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | 5000. | 5000. | | | | |
| Range | | -10.4% | | -10.4% | -10.4% | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106320.** | **975200.** | **328870.** |
| Stddev | 163. | 8151. | 1406. |
| %RSD | .15343 | .83585 | .42744 |

Sample Name: ccv2 Acquired: 04/05/2019 10:57:22 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.6** | F **430.** | **459.** | F **436.** | **456.** | **47.9** | F **422.** | **46.0** | **47.7** | F **441.** | F **445.** | **486.** |
| Stddev | .4 | 3. | 4. | 1. | 3. | .5 | 3. | .1 | .1 | 1. | 4. | 3. |
| %RSD | .844 | .592 | .792 | .331 | .627 | 1.02 | .609 | .301 | .126 | .328 | .982 | .682 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **470.** | F **438.** | F **440.** | **468.** | **450.** | **469.** | **452.** | **455.** | F **437.** | F **441.** | **465.** | F **447.** |
| Stddev | 14. | 1. | 1. | 4. | 2. | 1. | 1. | 4. | 3. | 3. | 2. | 4. |
| %RSD | 3.01 | .215 | .333 | .914 | .390 | .275 | .145 | .772 | .578 | .599 | .431 | .976 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | | | | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | | | | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **480.** | **465.** | **519.** | **448.** |
| Stddev | 3. | 3. | 3. | 1. |
| %RSD | .727 | .596 | .662 | .278 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | |
| Range | | | | |

Sample Name: ccv2 Acquired: 04/05/2019 10:57:22 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108640.** | **996320.** | **331170.** |
| Stddev | 240. | 7185. | 4057. |
| %RSD | .22059 | .72115 | 1.2251 |

Sample Name: ccb Acquired: 04/05/2019 11:03:06 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.239** | **-6.80** | **.289** | **.469** | **.095** | **-13.0** | **-.023** | **-.009** | **.059** | **-.452** | **-2.27** | **-12.3** |
| Stddev | .933 | 1.11 | 2.75 | .372 | .016 | .6 | .218 | .159 | .184 | .413 | 2.75 | 2.0 |
| %RSD | 390. | 16.3 | 951. | 79.2 | 16.7 | 4.51 | 950. | 1720. | 310. | 91.6 | 121. | 16.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-9.95** | **.157** | **-.373** | **.031** | **3.30** | **-2.07** | **6.85** | **1.23** | **-.102** | **-1.03** |
| Stddev | .10 | .087 | .657 | .586 | .53 | 1.50 | 4.82 | 1.33 | .330 | .14 |
| %RSD | .957 | 55.3 | 176. | 1910. | 15.9 | 72.3 | 70.4 | 108. | 324. | 13.6 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108270.** | **987450.** | **329640.** |
| Stddev | 201. | 3644. | 916. |
| %RSD | .18553 | .36902 | .27795 |

Sample Name: 1dup255904 Acquired: 04/05/2019 11:09:24 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.67** | **270000.** | **156.** | **2560.** | **18.0** | **65800.** | **-2.58** | **2.23** | **154.** | **347.** | **1300.** |
| Stddev | .96 | 3440. | 8. | 16. | .1 | 708. | .93 | .19 | . | 4. | 13. |
| %RSD | 57.6 | 1.28 | 5.20 | .604 | .637 | 1.08 | 36.0 | 8.71 | .263 | 1.14 | .979 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **280000.** | **23300.** | **15600.** | **12.2** | **350.** | **2170.** | **3.51** | **8.07** | **40.5** | **546.** | **2350.** |
| Stddev | 4230. | 317. | 179. | .6 | 1. | 8. | 1.29 | 3.55 | 1.8 | 2. | 6. |
| %RSD | 1.51 | 1.36 | 1.14 | 5.17 | .199 | .390 | 36.8 | 44.1 | 4.55 | .325 | .272 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105450.** | **946860.** | **324690.** |
| Stddev | 391. | 5192. | 4260. |
| %RSD | .37057 | .54833 | 1.3119 |

Sample Name: 2dup255904 Acquired: 04/05/2019 11:15:54 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.00** | **265000.** | **152.** | **2570.** | **17.7** | **62900.** | **-2.07** | **2.26** | **157.** | **331.** | **1340.** |
| Stddev | .63 | 5970. | 5. | 32. | .1 | 650. | .97 | .20 | . | 3. | 10. |
| %RSD | 31.4 | 2.26 | 3.44 | 1.23 | .510 | 1.03 | 46.8 | 8.67 | .307 | .851 | .729 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **274000.** | **23000.** | **15100.** | **13.2** | **346.** | **2210.** | **3.79** | **14.1** | **39.5** | **549.** | **2390.** |
| Stddev | 3420. | 335. | 178. | .5 | 1. | 25. | 4.37 | 3.3 | 2.1 | 2. | 3. |
| %RSD | 1.25 | 1.46 | 1.18 | 3.47 | .209 | 1.13 | 115. | 23.2 | 5.28 | .446 | .144 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105940.** | **957360.** | **329430.** |
| Stddev | 225. | 6018. | 3026. |
| %RSD | .21260 | .62860 | .91872 |

Sample Name: 255905 Acquired: 04/05/2019 11:22:24 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.825** | **200000.** | **123.** | **2000.** | **13.0** | **11600.** | **-4.96** | **.727** | **152.** | **307.** | **1720.** |
| Stddev | .842 | 884. | 9. | 9. | .0 | 108. | .44 | .152 | . | 2. | 11. |
| %RSD | 102. | .442 | 7.30 | .440 | .358 | .936 | 8.88 | 20.9 | .309 | .615 | .638 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **337000.** | **19700.** | **9440.** | **4.13** | **297.** | **1660.** | **-6.22** | **9.00** | **46.3** | **532.** | **1870.** |
| Stddev | 2330. | 211. | 86. | .62 | 1. | 3. | 5.14 | 6.19 | 3.5 | 1. | 6. |
| %RSD | .692 | 1.07 | .908 | 15.0 | .370 | .199 | 82.6 | 68.9 | 7.64 | .155 | .336 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106280.** | **960570.** | **327180.** |
| Stddev | 239. | 5707. | 1955. |
| %RSD | .22527 | .59410 | .59752 |

Sample Name: 255906 Acquired: 04/05/2019 11:28:40 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.36** | **331000.** | **220.** | **1810.** | **14.8** | **88500.** | **-3.07** | **1.44** | **165.** | **589.** | **731.** |
| Stddev | .74 | 1900. | 5. | 7. | .1 | 928. | 1.17 | .01 | . | 4. | 7. |
| %RSD | 54.4 | .574 | 2.37 | .380 | .581 | 1.05 | 38.3 | .544 | .286 | .604 | .900 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **722.** | **476000.** | **24800.** | **7520.** | **9.60** | **298.** | **1060.** | **-12.9** | **-.953** | **64.4** | **973.** |
| Stddev | 7. | 6010. | 174. | 49. | 1.30 | . | 14. | 3.9 | 6.63 | 3.1 | 3. |
| %RSD | .908 | 1.26 | .702 | .651 | 13.5 | .141 | 1.36 | 29.8 | 696. | 4.77 | .267 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1660.** |
| Stddev | 5. |
| %RSD | .315 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104080.** | **941990.** | **326670.** |
| Stddev | 107. | 5531. | 1573. |
| %RSD | .10299 | .58718 | .48150 |

Sample Name: 255907 Acquired: 04/05/2019 11:34:51 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.963** | **237000.** | **165.** | **1330.** | **13.5** | **32200.** | **-5.53** | **.617** | **149.** | **459.** | **1120.** |
| Stddev | .517 | 2220. | 8. | 11. | .0 | 375. | 1.37 | .302 | 1. | 4. | 10. |
| %RSD | 53.7 | .935 | 4.63 | .852 | .167 | 1.17 | 24.8 | 49.0 | .438 | .875 | .902 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **450000.** | **21000.** | **5600.** | **3.26** | **332.** | **516.** | **818.** | **-16.0** | **6.39** | **62.7** | **816.** |
| Stddev | 4790. | 324. | 44. | .40 | 1. | 13. | 5. | 2.9 | 6.06 | 3.2 | 1. |
| %RSD | 1.06 | 1.54 | .777 | 12.1 | .388 | 2.58 | .638 | 18.4 | 94.8 | 5.08 | .119 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1300.** |
| Stddev | 7. |
| %RSD | .536 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **105340.** | **948720.** | **325910.** |
| Stddev | 102. | 5157. | 1127. |
| %RSD | .09727 | .54360 | .34582 |

Sample Name: 255908 Acquired: 04/05/2019 11:41:10 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.25** | **130000.** | **115.** | **704.** | **763.** | **6.51** | **64600.** | **-3.15** | **1.95** | **67.5** | **316.** |
| Stddev | .56 | 913. | 5. | 2. | 6. | .09 | 531. | .45 | .22 | .8 | 2. |
| %RSD | 44.9 | .701 | 4.66 | .337 | .846 | 1.33 | .822 | 14.2 | 11.2 | 1.24 | .558 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **273.** | **267.** | **284000.** | **35800.** | **5280.** | **6.36** | **331.** | **406.** | **553.** | **-11.3** | **2.60** |
| Stddev | 1. | 4. | 2300. | 266. | 45. | .82 | 1. | 8. | 3. | 3.3 | 6.21 |
| %RSD | .469 | 1.52 | .810 | .741 | .844 | 12.9 | .379 | 1.85 | .550 | 29.6 | 239. |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **39.1** | **567.** | **821.** | **683.** |
| Stddev | .6 | 2. | 5. | 1. |
| %RSD | 1.55 | .359 | .582 | .203 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **104660.** | **957860.** | **323060.** |
| Stddev | 287. | 2457. | 3497. |
| %RSD | .27374 | .25656 | 1.0824 |

Sample Name: 255909 Acquired: 04/05/2019 11:47:35 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.171** | **120000.** | **99.9** | **573.** | **613.** | **6.25** | **23900.** | **-3.70** | **.698** | **58.6** | **249.** |
| Stddev | .297 | 791. | 6.3 | 2. | 5. | .04 | 206. | .36 | .114 | .2 | 2. |
| %RSD | 174. | .659 | 6.34 | .391 | .806 | .666 | .864 | 9.78 | 16.4 | .358 | .987 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **198.** | **193.** | **242000.** | **17300.** | **2300.** | **2650.** | **4.98** | **426.** | **403.** | **360.** | **-7.99** |
| Stddev | 5. | 8. | 1090. | 169. | 19. | 22. | 1.64 | 1. | . | 4. | 1.97 |
| %RSD | 2.42 | 3.91 | .449 | .973 | .806 | .809 | 32.9 | .225 | .122 | 1.18 | 24.7 |

| Elem | Se1960 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **11.7** | **33.4** | **496.** | **531.** | **442.** |
| Stddev | 7.7 | 2.0 | 1. | 1. | 1. |
| %RSD | 66.2 | 5.84 | .301 | .222 | .303 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **106300.** | **966360.** | **327260.** |
| Stddev | 239. | 7308. | 1165. |
| %RSD | .22515 | .75629 | .35593 |

Sample Name: 255910 Acquired: 04/05/2019 11:53:48 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **4.52** | **488000.** | **265.** | **3050.** | **13.0** | **466000.** | **-.433** | **4.19** | **123.** | **603.** | **530.** |
| Stddev | .48 | 5930. | 5. | 21. | .1 | 4950. | .649 | .19 | 1. | 8. | 3. |
| %RSD | 10.6 | 1.21 | 2.01 | .679 | 1.05 | 1.06 | 150. | 4.47 | .722 | 1.40 | .649 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **527.** | **344000.** | **33400.** | **8780.** | **19.7** | **362.** | **604.** | **5.39** | **28.4** | **55.1** | **874.** |
| Stddev | 7. | 3620. | 383. | 54. | 2.3 | 2. | 13. | 1.31 | 10.6 | 2.1 | 3. |
| %RSD | 1.40 | 1.05 | 1.15 | .620 | 11.9 | .492 | 2.22 | 24.3 | 37.3 | 3.83 | .358 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1830.** |
| Stddev | 6. |
| %RSD | .303 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101170.** | **899270.** | **314060.** |
| Stddev | 192. | 7814. | 3026. |
| %RSD | .18987 | .86891 | .96354 |

Sample Name: 255911 Acquired: 04/05/2019 12:00:11 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.27** | **459000.** | **248.** | **2680.** | **14.0** | **286000.** | **-1.41** | **2.90** | **133.** | **563.** | **464.** |
| Stddev | .59 | 8670. | 7. | 17. | .1 | 4430. | 1.03 | .24 | 1. | 5. | 4. |
| %RSD | 18.2 | 1.89 | 2.93 | .627 | .411 | 1.55 | 73.2 | 8.28 | .773 | .870 | .835 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **465.** | **355000.** | **32800.** | **6560.** | **15.5** | **531.** | **524.** | **-3.45** | **15.2** | **51.7** | **856.** |
| Stddev | 2. | 5670. | 388. | 44. | .9 | 2. | 2. | 4.14 | 9.6 | 3.3 | 2. |
| %RSD | .377 | 1.60 | 1.18 | .663 | 5.67 | .354 | .294 | 120. | 63.1 | 6.39 | .230 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **1590.** |
| Stddev | 10. |
| %RSD | .614 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102070.** | **906590.** | **318310.** |
| Stddev | 150. | 4317. | 2296. |
| %RSD | .14739 | .47614 | .72134 |

Sample Name: 255912 Acquired: 04/05/2019 12:06:27 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.72** | **146000.** | **3660.** | **1770.** | **10.7** | **52900.** | **3.40** | **25.7** | **111.** | **435.** | **1190.** |
| Stddev | .76 | 1670. | 22. | 15. | .1 | 607. | 2.18 | .2 | . | 3. | 11. |
| %RSD | 44.2 | 1.14 | .590 | .862 | .653 | 1.15 | 64.1 | .659 | .245 | .601 | .902 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **541000.** | **22700.** | **15900.** | **12.7** | **269.** | **2150.** | **-9.45** | **7.41** | **75.4** | **865.** | **1940.** |
| Stddev | 9530. | 307. | 111. | .2 | 1. | 14. | 4.62 | 4.49 | 2.5 | 3. | 8. |
| %RSD | 1.76 | 1.35 | .699 | 1.50 | .456 | .645 | 48.9 | 60.6 | 3.30 | .387 | .386 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **103270.** | **945450.** | **321840.** |
| Stddev | 328. | 4831. | 1133. |
| %RSD | .31800 | .51101 | .35196 |

Sample Name: ccv1 Acquired: 04/05/2019 12:12:54 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | F **4430.** | **4710.** | F **4390.** | **454.** | **4550.** | F **442.** | **4580.** | **4640.** | **4670.** | **4900.** | **4770.** |
| Stddev | 3. | 84. | 10. | 44. | 2. | 49. | 1. | 15. | 10. | 44. | 522. | 47. |
| %RSD | .673 | 1.88 | .219 | 1.00 | .383 | 1.07 | .228 | .329 | .213 | .947 | 10.7 | .992 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | 5000. | | | 500. | | | | | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4840.** | F **4380.** | F **4480.** | F **4420.** | F **4270.** | F **4460.** | **4500.** | **4560.** | **5200.** |
| Stddev | 12. | 4. | 11. | 9. | 10. | 15. | 10. | 7. | 5. |
| %RSD | .248 | .091 | .247 | .204 | .237 | .346 | .231 | .157 | .096 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106100.** | **958600.** | **327930.** |
| Stddev | 106. | 5342. | 2573. |
| %RSD | .10013 | .55726 | .78450 |

Sample Name: ccv2 Acquired: 04/05/2019 12:18:24 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.7** | F **420.** | **464.** | F **429.** | **452.** | **48.1** | F **420.** | **45.6** | **46.9** | F **432.** | F **440.** | **491.** |
| Stddev | .8 | 4. | 4. | 2. | 1. | .4 | 1. | .2 | .4 | 1. | 4. | 4. |
| %RSD | 1.72 | .853 | .785 | .526 | .327 | .730 | .324 | .372 | .781 | .244 | .804 | .893 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | F **437.** | F **436.** | **469.** | F **445.** | **465.** | F **447.** | **452.** | F **433.** | F **427.** | **459.** | F **435.** |
| Stddev | 6. | 4. | 2. | 3. | 1. | 2. | 1. | 1. | 3. | 4. | 2. | 2. |
| %RSD | 1.26 | .943 | .365 | .543 | .166 | .533 | .187 | .245 | .794 | .877 | .363 | .386 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **480.** | **463.** | **529.** | F **443.** |
| Stddev | 2. | 1. | 2. | 2. |
| %RSD | .385 | .240 | .359 | .394 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 12:18:24 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108240.** | **985090.** | **329020.** |
| Stddev | 460. | 4920. | 3052. |
| %RSD | .42538 | .49945 | .92755 |

Sample Name: ccb Acquired: 04/05/2019 12:24:08 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.285** | **-5.78** | **-1.12** | **.424** | **.201** | **-12.2** | **.058** | **-.067** | **-.269** | **-.031** | **10.7** | **.429** |
| Stddev | .615 | .90 | 1.38 | .312 | .033 | .6 | .061 | .064 | .210 | .805 | 3.6 | 2.68 |
| %RSD | 216. | 15.5 | 124. | 73.7 | 16.5 | 5.22 | 105. | 95.7 | 78.2 | 2590. | 33.3 | 626. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-9.83** | **-9.30** | **.249** | **-.400** | **-.094** | **2.92** | **-2.01** | **.786** | **2.16** | **-.039** | **-.957** |
| Stddev | 2.01 | .04 | .058 | .386 | .229 | .90 | 1.98 | 2.44 | 1.55 | .304 | .073 |
| %RSD | 20.4 | .431 | 23.4 | 96.3 | 244. | 30.7 | 99.0 | 310. | 71.8 | 775. | 7.63 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107720.** | **984850.** | **327200.** |
| Stddev | 256. | 3115. | 3972. |
| %RSD | .23811 | .31624 | 1.2140 |

Sample Name: 255913 Acquired: 04/05/2019 12:30:25 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.783** | **173000.** | **2560.** | **2680.** | **1380.** | **10.5** | **94100.** | **-.492** | **16.2** | **85.0** | **432.** |
| Stddev | .475 | 1510. | 15. | 17. | 9. | .1 | 1340. | 1.73 | .1 | .4 | 3. |
| %RSD | 60.6 | .875 | .599 | .634 | .646 | .816 | 1.42 | 351. | .495 | .514 | .794 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **601.** | **586.** | **517000.** | **29400.** | **6980.** | **7.36** | **235.** | **569.** | **669.** | **-13.3** | **5.61** |
| Stddev | 7. | 5. | 7560. | 409. | 102. | 1.37 | 1. | 6. | 4. | 4.3 | 3.58 |
| %RSD | 1.12 | .772 | 1.46 | 1.39 | 1.46 | 18.7 | .396 | .987 | .642 | 32.2 | 63.8 |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **69.9** | **737.** | **1040.** | **830.** |
| Stddev | 2.9 | 3. | 2. | 1. |
| %RSD | 4.09 | .437 | .218 | .167 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101920.** | **922380.** | **317510.** |
| Stddev | 200. | 5415. | 2339. |
| %RSD | .19575 | .58709 | .73650 |

Sample Name: 255914 Acquired: 04/05/2019 12:36:39 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.78** | **184000.** | **3920.** | **1740.** | **11.8** | **58400.** | **3.55** | **26.0** | **122.** | **536.** | **1230.** |
| Stddev | 1.44 | 1770. | 12. | 8. | .1 | 582. | 1.37 | .1 | 1. | 4. | 9. |
| %RSD | 81.1 | .960 | .308 | .438 | .960 | .997 | 38.5 | .469 | .490 | .712 | .730 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **619000.** | **28300.** | **18100.** | **16.9** | **297.** | **2000.** | **-5.51** | **7.65** | **85.0** | **987.** | **2040.** |
| Stddev | 8510. | 418. | 79. | 1.7 | 1. | 22. | 2.85 | 8.15 | 3.0 | 4. | 4. |
| %RSD | 1.37 | 1.48 | .437 | 9.87 | .296 | 1.09 | 51.7 | 106. | 3.51 | .364 | .181 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102300.** | **924850.** | **320240.** |
| Stddev | 235. | 3839. | 2974. |
| %RSD | .22946 | .41514 | .92862 |

Sample Name: 255915 Acquired: 04/05/2019 12:43:05 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.618** | **164000.** | **2060.** | **2120.** | **966.** | **1050.** | **10.1** | **82900.** | **-2.16** | **12.1** | **85.6** |
| Stddev | .299 | 2580. | 9. | 32. | 2. | 14. | .1 | 808. | 1.59 | .2 | .5 |
| %RSD | 48.4 | 1.57 | .442 | 1.49 | .231 | 1.38 | 1.06 | .974 | 73.4 | 1.94 | .557 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **413.** | **538.** | **530.** | **497000.** | **27900.** | **8330.** | **6.06** | **196.** | **532.** | **629.** | **-13.8** |
| Stddev | 1. | 12. | 11. | 4420. | 344. | 73. | 1.29 | 1. | 16. | 2. | 4.3 |
| %RSD | .291 | 2.14 | 2.12 | .889 | 1.23 | .881 | 21.4 | .550 | 3.03 | .337 | 30.8 |

| Elem | Se1960 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **8.44** | **67.7** | **741.** | **898.** | **727.** |
| Stddev | 10.8 | 3.9 | 2. | 2. | 1. |
| %RSD | 128. | 5.76 | .251 | .259 | .168 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102640.** | **931830.** | **321110.** |
| Stddev | 195. | 2922. | 2034. |
| %RSD | .18952 | .31357 | .63350 |

Sample Name: 255916 Acquired: 04/05/2019 12:49:24 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.61** | **176000.** | **492.** | **1290.** | **9.28** | **104000.** | **1.81** | **5.93** | **104.** | **400.** | **1160.** |
| Stddev | .24 | 1790. | 4. | 6. | .10 | 1300. | 1.00 | .08 | . | 2. | 11. |
| %RSD | 15.0 | 1.01 | .810 | .479 | 1.04 | 1.25 | 55.0 | 1.41 | .103 | .409 | .954 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **482000.** | **27700.** | **10500.** | **21.2** | **373.** | **1360.** | **-11.1** | **20.6** | **68.7** | **662.** | **2140.** |
| Stddev | 4990. | 241. | 115. | .6 | 1. | 13. | 3.9 | 3.3 | 2.3 | 2. | 5. |
| %RSD | 1.03 | .869 | 1.10 | 2.80 | .323 | .955 | 35.4 | 16.1 | 3.43 | .262 | .240 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102200.** | **928190.** | **321360.** |
| Stddev | 145. | 3370. | 3692. |
| %RSD | .14224 | .36301 | 1.1489 |

Sample Name: 255917 Acquired: 04/05/2019 12:55:36 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.995** | **172000.** | **381.** | **965.** | **1060.** | **10.0** | **143000.** | **-2.41** | **2.18** | **125.** | **329.** |
| Stddev | .341 | 965. | 10. | 2. | 12. | .1 | 2020. | .87 | .16 | 1. | 3. |
| %RSD | 34.3 | .560 | 2.70 | .208 | 1.13 | 1.15 | 1.42 | 36.0 | 7.26 | .546 | .826 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **552.** | **550.** | **451000.** | **25700.** | **8580.** | **11.5** | **474.** | **463.** | **513.** | **644.** | **-16.4** |
| Stddev | 3. | 4. | 2990. | 246. | 111. | .4 | 1. | 1. | 6. | 3. | 2.1 |
| %RSD | .497 | .798 | .663 | .957 | 1.30 | 3.74 | .290 | .216 | 1.14 | .425 | 12.7 |

| Elem | Se1960 | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.66** | **67.0** | **584.** | **997.** | **807.** |
| Stddev | 8.03 | 2.3 | 2. | 2. | 2. |
| %RSD | 83.2 | 3.36 | .292 | .176 | .281 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102110.** | **919230.** | **316490.** |
| Stddev | 147. | 9590. | 2137. |
| %RSD | .14405 | 1.0433 | .67535 |

Sample Name: 255918 Acquired: 04/05/2019 13:01:44 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.74** | **191000.** | **610.** | **1460.** | **9.38** | **91400.** | **.447** | **5.55** | **93.7** | **370.** | **1090.** |
| Stddev | .30 | 1740. | 4. | 14. | .08 | 1130. | .720 | .16 | .5 | 3. | 11. |
| %RSD | 17.1 | .907 | .601 | .934 | .861 | 1.24 | 161. | 2.79 | .520 | .682 | .958 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **523000.** | **27300.** | **18600.** | **22.3** | **289.** | **2150.** | **-3.34** | **17.5** | **76.0** | **660.** | **2170.** |
| Stddev | 2430. | 156. | 125. | .7 | 1. | 9. | 4.51 | 3.1 | 2.3 | 3. | 8. |
| %RSD | .465 | .571 | .670 | 3.31 | .305 | .436 | 135. | 17.6 | 2.97 | .391 | .355 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102710.** | **934390.** | **318720.** |
| Stddev | 112. | 5978. | 3029. |
| %RSD | .10884 | .63981 | .95039 |

Sample Name: 255919 Acquired: 04/05/2019 13:08:07 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.939** | **183000.** | **522.** | **922.** | **1010.** | **8.17** | **71900.** | **-3.27** | **2.24** | **75.1** | **377.** |
| Stddev | .815 | 689. | 9. | 3. | 7. | .05 | 910. | .77 | .26 | .3 | 4. |
| %RSD | 86.8 | .376 | 1.71 | .330 | .677 | .632 | 1.26 | 23.5 | 11.5 | .424 | .952 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **506.** | **494.** | **544000.** | **23200.** | **5140.** | **14.3** | **260.** | **423.** | **569.** | **-19.6** | **22.9** |
| Stddev | 7. | 9. | 2160. | 62. | 53. | 1.1 | 2. | 3. | 1. | 4.4 | 7.9 |
| %RSD | 1.35 | 1.82 | .396 | .267 | 1.03 | 7.89 | .622 | .698 | .247 | 22.2 | 34.7 |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **76.5** | **657.** | **1030.** | **827.** |
| Stddev | 2.2 | 1. | 3. | 1. |
| %RSD | 2.87 | .092 | .244 | .155 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102720.** | **930000.** | **318250.** |
| Stddev | 239. | 4118. | 2433. |
| %RSD | .23236 | .44278 | .76442 |

Sample Name: I255919 Acquired: 04/05/2019 13:14:28 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.086** | **59500.** | **106.** | **173.** | **348.** | **2.12** | **24900.** | **-20.4** | **.528** | **12.0** | **93.6** |
| Stddev | .910 | 5420. | 13. | 25. | 28. | .14 | 2060. | .8 | .161 | 1.8 | 9.2 |
| %RSD | 1050. | 9.10 | 11.9 | 14.1 | 7.98 | 6.39 | 8.24 | 3.98 | 30.6 | 15.3 | 9.79 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **181.** | **171.** | **189000.** | **8110.** | **1150.** | **1810.** | **-1.31** | **51.5** | **117.** | **.979** | **14.2** |
| Stddev | 11. | 15. | 16400. | 696. | 105. | 149. | .84 | 7.0 | 14. | 3.79 | 4.5 |
| %RSD | 6.04 | 8.77 | 8.67 | 8.57 | 9.21 | 8.25 | 64.3 | 13.6 | 12.0 | 387. | 31.4 |

| Elem | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **28.2** | **172.** | **148.** |
| Stddev | 3.4 | 15. | 23. |
| %RSD | 12.2 | 8.85 | 15.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108780.** | **976980.** | **329720.** |
| Stddev | 358. | 3706. | 3157. |
| %RSD | .32920 | .37936 | .95742 |

Sample Name: 1dup255919 Acquired: 04/05/2019 13:20:54 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.590** | **198000.** | **501.** | **950.** | **1060.** | **9.22** | **139000.** | **-.164** | **2.11** | **72.6** | **348.** |
| Stddev | .572 | 1230. | 6. | 2. | 5. | .06 | 2490. | 1.23 | .17 | .4 | 2. |
| %RSD | 96.9 | .621 | 1.29 | .251 | .490 | .680 | 1.79 | 749. | 7.81 | .499 | .711 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **473.** | **471.** | **530000.** | **28900.** | **5250.** | **13.2** | **255.** | **526.** | **-18.4** | **17.1** | **74.0** |
| Stddev | 6. | 16. | 5600. | 314. | 51. | .6 | 1. | 3. | 3.9 | 11.3 | 2.6 |
| %RSD | 1.29 | 3.35 | 1.06 | 1.09 | .967 | 4.39 | .350 | .608 | 21.3 | 66.1 | 3.52 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **605.** | **1000.** | **805.** |
| Stddev | 4. | 5. | 2. |
| %RSD | .716 | .518 | .207 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101140.** | **920480.** | **317650.** |
| Stddev | 277. | 2581. | 1417. |
| %RSD | .27342 | .28036 | .44593 |

Sample Name: 2dup255919 Acquired: 04/05/2019 13:27:03 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.684** | **190000.** | **500.** | **958.** | **1060.** | **9.34** | **131000.** | **-3.56** | **2.17** | **75.5** | **333.** |
| Stddev | .173 | 1080. | 7. | 2. | 8. | .05 | 1640. | 1.49 | .16 | .6 | . |
| %RSD | 25.2 | .569 | 1.33 | .167 | .783 | .582 | 1.25 | 41.9 | 7.21 | .728 | .111 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **486.** | **478.** | **538000.** | **28300.** | **6170.** | **14.9** | **262.** | **505.** | **-17.9** | **9.79** | **73.8** |
| Stddev | 4. | 9. | 7490. | 448. | 67. | .7 | 1. | 1. | 5.2 | 8.89 | 4.1 |
| %RSD | .913 | 1.95 | 1.39 | 1.59 | 1.09 | 4.63 | .220 | .202 | 28.8 | 90.8 | 5.58 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **631.** | **1030.** | **823.** |
| Stddev | 2. | 3. | 2. |
| %RSD | .331 | .308 | .208 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101660.** | **926140.** | **313640.** |
| Stddev | 159. | 3874. | 2549. |
| %RSD | .15642 | .41825 | .81276 |

Sample Name: ccv1 Acquired: 04/05/2019 13:33:11 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | F **4400.** | **4700.** | F **4320.** | **454.** | **4520.** | F **439.** | **4590.** | **4610.** | **4650.** | **4630.** | **4810.** |
| Stddev | 1. | 19. | 9. | 8. | 1. | 15. | 1. | 18. | 2. | 21. | 198. | 38. |
| %RSD | .236 | .429 | .192 | .191 | .316 | .324 | .235 | .396 | .041 | .448 | 4.27 | .792 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | 5000. | | | 500. | | | | | |
| Range | | -10.4% | | -10.4% | | | -10.4% | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4890.** | F **4360.** | F **4450.** | F **4400.** | F **4240.** | F **4390.** | **4490.** | **4530.** | **5190.** |
| Stddev | 1. | 10. | 9. | 11. | 16. | 38. | . | 7. | 15. |
| %RSD | .018 | .225 | .209 | .251 | .378 | .874 | .008 | .157 | .282 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106050.** | **951470.** | **322420.** |
| Stddev | 205. | 2766. | 204. |
| %RSD | .19359 | .29075 | .06324 |

Sample Name: ccv2 Acquired: 04/05/2019 13:38:42 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.9** | F **418.** | **462.** | F **428.** | F **445.** | **47.8** | F **414.** | **45.4** | **46.9** | F **430.** | F **437.** | **481.** |
| Stddev | .5 | 2. | 4. | 1. | 3. | .2 | 3. | .2 | .4 | 1. | 2. | 10. |
| %RSD | .979 | .358 | .830 | .127 | .757 | .330 | .700 | .453 | .954 | .161 | .358 | 2.09 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | F **439.** | F **436.** | **467.** | F **443.** | **462.** | F **445.** | **453.** | F **429.** | F **425.** | **456.** | F **436.** |
| Stddev | 5. | 2. | 1. | 1. | 1. | 1. | 1. | 3. | 3. | 3. | 3. | 5. |
| %RSD | 1.04 | .505 | .133 | .319 | .119 | .155 | .286 | .579 | .726 | .673 | .593 | 1.19 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **477.** | **461.** | **523.** | F **441.** |
| Stddev | 3. | 1. | 1. | 1. |
| %RSD | .692 | .231 | .168 | .226 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 13:38:42 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **108110.** | **985100.** | **327740.** |
| Stddev | 232. | 2472. | 2254. |
| %RSD | .21478 | .25089 | .68759 |

Sample Name: ccb Acquired: 04/05/2019 13:44:27 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.122** | **-5.33** | **1.02** | **.307** | **.206** | **-12.1** | **-.086** | **.005** | **.066** | **.070** | **12.7** | **-7.27** |
| Stddev | .213 | 1.40 | 1.99 | .236 | .029 | .3 | .115 | .136 | .150 | .387 | 3.0 | 4.65 |
| %RSD | 175. | 26.3 | 196. | 77.0 | 13.9 | 2.65 | 133. | 2540. | 229. | 551. | 24.0 | 63.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.50** | **-9.02** | **.418** | **-.153** | **.296** | **2.14** | **-2.93** | **5.44** | **1.09** | **.210** | **-.654** |
| Stddev | 2.08 | .04 | .040 | .299 | .539 | 1.86 | 1.89 | 4.51 | .31 | .212 | .097 |
| %RSD | 27.7 | .388 | 9.46 | 195. | 182. | 86.7 | 64.4 | 82.8 | 28.6 | 101. | 14.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107880.** | **981870.** | **330400.** |
| Stddev | 119. | 2941. | 1399. |
| %RSD | .10990 | .29950 | .42351 |

Sample Name: mss255919 Acquired: 04/05/2019 13:50:44 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.964** | **165000.** | **16900.** | **901.** | **996.** | **8.65** | **98400.** | **-1.34** | **97.8** | **68.2** | **314.** |
| Stddev | 1.07 | 1100. | 13. | 1. | 14. | .06 | 1370. | 1.36 | 1.2 | .4 | 2. |
| %RSD | 111. | .664 | .076 | .139 | 1.46 | .703 | 1.39 | 102. | 1.26 | .517 | .520 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **476.** | **470.** | **504000.** | **23000.** | **23100.** | **13.4** | **251.** | **405.** | **525.** | **-18.9** | **12.1** |
| Stddev | 6. | 15. | 5000. | 145. | 241. | .7 | 2. | 3. | 1. | 3.3 | 10.7 |
| %RSD | 1.32 | 3.11 | .993 | .631 | 1.04 | 5.47 | .660 | .738 | .226 | 17.5 | 88.5 |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **77.4** | **566.** | **947.** | **749.** |
| Stddev | 2.4 | 3. | 3. | 2. |
| %RSD | 3.13 | .583 | .338 | .268 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101770.** | **916580.** | **317170.** |
| Stddev | 347. | 4029. | 3609. |
| %RSD | .34123 | .43952 | 1.1379 |

Sample Name: msds255919 Acquired: 04/05/2019 13:57:08 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.739** | **203000.** | **17900.** | **968.** | **1060.** | **9.56** | **121000.** | **-1.78** | **103.** | **76.3** | **343.** |
| Stddev | .278 | 1250. | 28. | 3. | 9. | .03 | 1670. | .72 | 1. | 1.0 | 2. |
| %RSD | 37.6 | .616 | .155 | .285 | .857 | .332 | 1.38 | 40.3 | .803 | 1.30 | .586 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **494.** | **482.** | **536000.** | **27400.** | **24200.** | **14.3** | **268.** | **516.** | **-15.3** | **10.7** | **76.8** |
| Stddev | 5. | 12. | 4480. | 153. | 221. | 1.1 | 1. | 1. | 3.9 | 7.8 | 1.3 |
| %RSD | 1.07 | 2.48 | .836 | .560 | .916 | 7.56 | .336 | .273 | 25.5 | 72.6 | 1.72 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **627.** | **1020.** | **822.** |
| Stddev | 1. | 3. | 1. |
| %RSD | .178 | .299 | .154 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101430.** | **914340.** | **315710.** |
| Stddev | 274. | 3469. | 1184. |
| %RSD | .26993 | .37937 | .37488 |

Sample Name: pdss255919 Acquired: 04/05/2019 14:03:24 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.980** | **181000.** | **80000.** | **926.** | **1030.** | **9.24** | **126000.** | **.170** | **529.** | **74.4** | **323.** |
| Stddev | .818 | 1710. | 75. | 2. | 8. | .09 | 1640. | 1.01 | 1. | .5 | 3. |
| %RSD | 83.5 | .943 | .094 | .201 | .773 | .932 | 1.30 | 593. | .232 | .607 | 1.08 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **470.** | **469.** | **518000.** | **26800.** | **91500.** | **15.6** | **249.** | **489.** | **-18.2** | **-1.68** | **93.9** |
| Stddev | 3. | 4. | 5550. | 276. | 579. | 1.0 | 1. | 4. | 8.2 | 10.9 | 2.0 |
| %RSD | .685 | .832 | 1.07 | 1.03 | .633 | 6.22 | .230 | .815 | 45.0 | 646. | 2.09 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **618.** | **1020.** | **795.** |
| Stddev | 2. | 2. | 1. |
| %RSD | .341 | .221 | .077 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **100650.** | **906480.** | **318080.** |
| Stddev | 155. | 5534. | 2440. |
| %RSD | .15387 | .61048 | .76721 |

Sample Name: 255920 Acquired: 04/05/2019 14:09:41 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.30** | **165000.** | **663.** | **1540.** | **9.83** | **107000.** | **1.15** | **6.52** | **84.8** | **342.** | **1100.** |
| Stddev | .35 | 617. | 9. | 20. | .07 | 1200. | .82 | .26 | .3 | 3. | 11. |
| %RSD | 15.1 | .374 | 1.40 | 1.28 | .679 | 1.12 | 71.7 | 3.92 | .335 | .893 | 1.00 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **498000.** | **26400.** | **9880.** | **39.3** | **320.** | **1460.** | **-5.73** | **21.5** | **76.8** | **622.** | **2790.** |
| Stddev | 2170. | 190. | 54. | .8 | 1. | 7. | .93 | 8.1 | 2.4 | 2. | 7. |
| %RSD | .436 | .718 | .545 | 1.96 | .173 | .488 | 16.2 | 37.9 | 3.17 | .270 | .236 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **101440.** | **912890.** | **314720.** |
| Stddev | 245. | 7711. | 2726. |
| %RSD | .24194 | .84465 | .86604 |

Sample Name: 256795 Acquired: 04/05/2019 14:15:49 Type: Unk
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4554 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.56** | **424000.** | **989.** | **2150.** | **16.8** | **87900.** | **2.53** | **10.4** | **168.** | **1190.** | **538.** |
| Stddev | .60 | 4020. | 16. | 22. | .1 | 1150. | 1.53 | .1 | 1. | 1. | 7. |
| %RSD | 23.6 | .950 | 1.64 | 1.02 | .446 | 1.31 | 60.4 | 1.38 | .376 | .098 | 1.26 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **530.** | **496000.** | **44300.** | **17900.** | **19.9** | **359.** | **712.** | **-11.8** | **18.2** | **68.9** | **1060.** |
| Stddev | 6. | 6640. | 296. | 180. | 1.9 | 1. | 2. | 3.8 | 3.6 | 2.3 | 5. |
| %RSD | 1.10 | 1.34 | .669 | 1.01 | 9.59 | .259 | .348 | 32.5 | 19.6 | 3.29 | .434 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **2620.** |
| Stddev | 11. |
| %RSD | .418 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **102770.** | **917100.** | **317190.** |
| Stddev | 355. | 5835. | 2252. |
| %RSD | .34504 | .63620 | .71006 |

Sample Name: ccv1 Acquired: 04/05/2019 14:55:24 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4554 | Be3130 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **448.** | F **4250.** | **4720.** | F **4320.** | F **446.** | F **4370.** | F **436.** | **4510.** | **4570.** | **4610.** | F **4400.** | **4720.** |
| Stddev | 3. | 61. | 26. | 18. | 3. | 39. | 1. | 30. | 6. | 8. | 69. | 109. |
| %RSD | .702 | 1.42 | .561 | .406 | .693 | .891 | .280 | .673 | .134 | .176 | 1.56 | 2.31 |
| Check ? | None | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | | 5000. | 500. | 5000. | 500. | | | | 5000. | |
| Range | | -10.4% | | -10.4% | -10.4% | -10.4% | -10.4% | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4730.** | F **4280.** | F **4360.** | F **4400.** | F **4290.** | F **4440.** | **4500.** | F **4440.** | **5170.** |
| Stddev | 48. | 7. | 13. | 13. | 42. | 19. | 10. | 18. | 11. |
| %RSD | 1.01 | .163 | .293 | .303 | .988 | .420 | .229 | .416 | .203 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass |
| Value | | 5000. | 5000. | 5000. | 5000. | 5000. | | 5000. | |
| Range | | -10.4% | -10.4% | -10.4% | -10.4% | -10.4% | | -10.4% | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **104450.** | **947500.** | **326290.** |
| Stddev | 265. | 4724. | 3224. |
| %RSD | .25334 | .49859 | .98798 |

Sample Name: ccv2 Acquired: 04/05/2019 15:00:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4554 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.3** | F **423.** | **457.** | F **424.** | F **446.** | **47.2** | F **414.** | **45.2** | **46.9** | F **435.** | F **434.** | **482.** |
| Stddev | .5 | 2. | 4. | 2. | 4. | .3 | 3. | .2 | .3 | 1. | 3. | 6. |
| %RSD | 1.11 | .419 | .979 | .438 | .914 | .690 | .676 | .530 | .570 | .308 | .576 | 1.16 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | 500. | | 500. | 500. | | 500. | | | 500. | 500. | |
| Range | | -10.4% | | -10.4% | -10.4% | | -10.4% | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **452.** | F **434.** | F **430.** | **463.** | F **439.** | **456.** | F **444.** | **456.** | F **424.** | F **433.** | **451.** | F **436.** |
| Stddev | 9. | 4. | 1. | 2. | 1. | 2. | . | 4. | 1. | 6. | 2. | 6. |
| %RSD | 2.06 | .905 | .291 | .326 | .176 | .367 | .069 | .939 | .259 | 1.38 | .514 | 1.44 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | | 500. | 500. | | 500. | | 500. | | 500. | 500. | | 500. |
| Range | | -10.4% | -10.4% | | -10.4% | | -10.4% | | -10.4% | -10.4% | | -10.4% |

| Elem | Tl1908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Avg | **477.** | **454.** | **512.** | F **436.** |
| Stddev | 1. | 2. | 2. | 1. |
| %RSD | .125 | .338 | .335 | .210 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | 500. |
| Range | | | | -10.4% |

Sample Name: ccv2 Acquired: 04/05/2019 15:00:51 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **107100.** | **982050.** | **330030.** |
| Stddev | 215. | 2942. | 2824. |
| %RSD | .20083 | .29962 | .85573 |

Sample Name: ccb Acquired: 04/05/2019 15:06:36 Type: QC
Method: DOD Calibration Updated 060614(v3295) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.130** | **-4.61** | **3.11** | **.733** | **.184** | **-11.7** | **.140** | **.016** | **-.171** | **.333** | **-2.49** | **-8.16** |
| Stddev | .536 | .78 | 2.42 | .513 | .033 | .7 | .233 | .081 | .288 | .393 | 4.35 | 1.72 |
| %RSD | 411. | 16.8 | 77.9 | 70.0 | 17.9 | 5.78 | 166. | 508. | 168. | 118. | 175. | 21.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2045 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.98** | **.487** | **-.460** | **.194** | **2.27** | **-2.01** | **1.79** | **1.73** | **.283** | **-.647** |
| Stddev | .02 | .073 | .570 | .333 | 1.38 | 1.98 | 3.06 | 2.07 | .553 | .124 |
| %RSD | .188 | 15.1 | 124. | 172. | 60.7 | 98.8 | 171. | 120. | 195. | 19.2 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

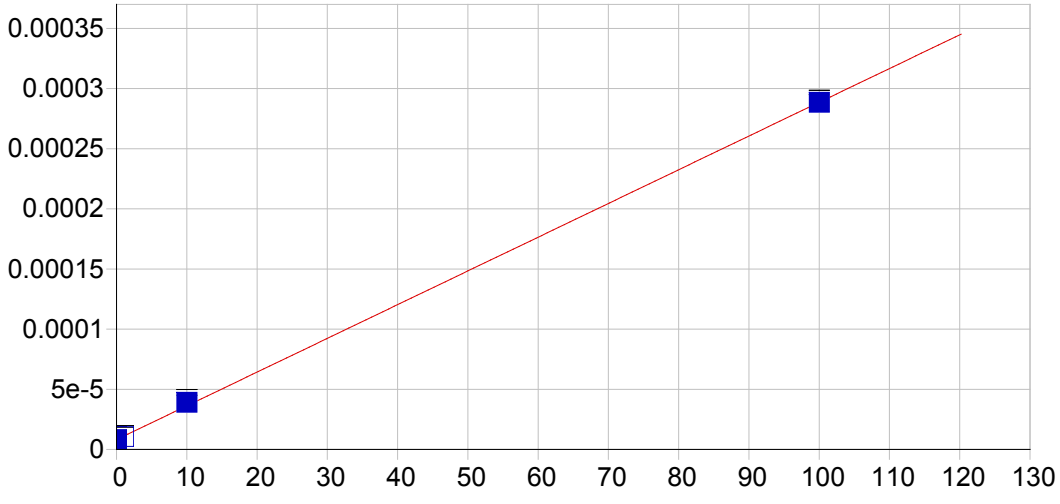
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **106910.** | **975640.** | **328850.** |
| Stddev | 168. | 7301. | 1794. |
| %RSD | .15704 | .74835 | .54561 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/24/2019 13:50:46 | 04/18/2019 15:17:51 | Linear | 1/Var | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999962 | 0.000001 | 0.900286 | 3.000953 |
| Ag 338.289 {100} | 04/24/2019 13:50:46 | 04/18/2019 15:23:29 | Linear | 1/Conc | 0.000004 | 0.000000 | 0.000000 | 1.000000 | 0.992506 | 0.000001 | 15.020644 | 50.068813 |
| Al 167.079 {501} | 04/24/2019 13:50:46 | 04/18/2019 15:23:29 | Linear | None | 0.000018 | 0.000003 | 0.000000 | 1.000000 | 0.999999 | 0.000003 | 0.766921 | 2.556402 |
| Al 308.215 {109} | 04/24/2019 13:50:46 | 04/18/2019 15:42:53 | Linear | 1/Var | 0.000035 | 0.000000 | 0.000000 | 1.000000 | 0.999448 | 0.000013 | 58.178649 | 193.92882 |
| Al 396.152 { 85} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Full Fit | None | 0.000441 | 0.000001 | 0.000000 | 1.030000 | 0.999999 | 0.000964 | 18.990877 | 63.302922 |
| As 193.759 {474} | 04/24/2019 13:50:46 | 04/18/2019 15:23:29 | Linear | 1/Var | -0.000001 | 0.000001 | 0.000000 | 1.000000 | 0.999948 | 0.000001 | 4.149907 | 13.833022 |
| As 197.262 {471} | 04/24/2019 13:50:46 | 04/18/2019 15:30:00 | Linear | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999509 | 0.000000 | 11.973894 | 39.912980 |
| Ba 233.527 {445} | 04/24/2019 13:50:46 | 04/18/2019 15:23:29 | Linear | 1/Conc | -0.000003 | 0.000011 | 0.000000 | 1.000000 | 0.999939 | 0.000000 | 0.380671 | 1.268902 |
| Ba 455.403 { 74} | 04/24/2019 13:50:46 | 04/18/2019 15:30:00 | Linear | 1/Conc | 0.000054 | 0.000054 | 0.000000 | 1.000000 | 0.999944 | 0.000002 | 0.331578 | 1.105259 |
| Ba 493.409 { 68} | 04/24/2019 13:50:46 | 04/18/2019 15:30:00 | Linear | 1/Conc | 0.009738 | 0.000056 | 0.000000 | 1.000000 | 0.999951 | 0.000026 | 0.801562 | 2.671875 |
| Be 313.042 {108} | 04/24/2019 13:50:46 | 04/18/2019 15:23:30 | Linear | 1/Conc | -0.000322 | 0.000057 | 0.000000 | 1.000000 | 0.999931 | 0.000001 | 0.061299 | 0.204331 |
| Be 234.861 {144} | 04/24/2019 13:50:46 | 04/18/2019 15:23:30 | Linear | 1/Conc | -0.000000 | 0.000003 | 0.000000 | 1.000000 | 0.999994 | 0.000000 | 1.202506 | 4.008353 |
| Ca 315.887 {107} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Linear | 1/Var | 0.000040 | 0.000000 | 0.000000 | 1.000000 | 0.999766 | 0.000008 | 14.154868 | 47.182892 |
| Ca 317.933 {106} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Linear | 1/Conc | 0.002590 | 0.000001 | 0.000000 | 1.000000 | 0.999975 | 0.000008 | 7.249121 | 24.163738 |
| Ca 393.366 { 86} | 04/24/2019 13:50:46 | 04/18/2019 15:23:30 | Linear | 1/Var | 0.002337 | 0.000199 | 0.000000 | 1.000000 | 0.999660 | 0.000407 | 0.062715 | 0.209051 |
| Ca 396.847 { 85} | 04/24/2019 13:50:46 | 04/18/2019 15:30:01 | Linear | 1/Conc | 0.002824 | 0.000114 | 0.000000 | 1.000000 | 0.999944 | 0.000057 | 0.103931 | 0.346437 |
| Cd 226.502 {449} | 04/24/2019 13:50:46 | 04/18/2019 15:23:30 | Linear | 1/Conc | -0.000003 | 0.000029 | 0.000000 | 1.000000 | 0.999955 | 0.000000 | 0.214093 | 0.713645 |
| Cd 228.802 {447} | 04/24/2019 13:50:46 | 04/18/2019 15:23:31 | Linear | 1/Conc | 0.000023 | 0.000047 | 0.000000 | 1.000000 | 0.999959 | 0.000000 | 0.170749 | 0.569162 |
| Co 228.616 {447} | 04/24/2019 13:50:46 | 04/18/2019 15:30:01 | Linear | 1/Conc | 0.000000 | 0.000018 | 0.000000 | 1.000000 | 0.999951 | 0.000000 | 0.382292 | 1.274307 |
| Co 238.892 {141} | 04/24/2019 13:50:46 | 04/18/2019 15:30:01 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.837205 | 2.790683 |
| Cr 205.560 {464} | 04/24/2019 13:50:46 | 04/18/2019 15:36:24 | Linear | 1/Var | -0.000004 | 0.000015 | 0.000000 | 1.000000 | 0.997527 | 0.000058 | 0.322375 | 1.074584 |
| Cr 267.716 {126} | 04/24/2019 13:50:46 | 04/18/2019 15:30:01 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999936 | 0.000000 | 1.565172 | 5.217239 |
| Cu 224.700 {450} | 04/24/2019 13:50:46 | 04/18/2019 15:36:24 | Linear | 1/Conc | -0.000002 | 0.000007 | 0.000000 | 1.000000 | 0.999722 | 0.000009 | 0.399921 | 1.333068 |
| Cu 324.754 {104} | 04/24/2019 13:50:46 | 04/18/2019 15:36:24 | Linear | 1/Conc | 163.53659 | 0.696518 | 0.000000 | 1.000000 | 0.999863 | 0.443395 | 4.292971 | 14.309902 |
| Cu 327.396 {103} | 04/24/2019 13:50:46 | 04/18/2019 15:36:24 | Linear | 1/Conc | 9.767836 | 0.373453 | 0.000000 | 1.000000 | 0.999890 | 0.148162 | 8.488538 | 28.295127 |
| Fe 234.349 {144} | 04/24/2019 13:50:46 | 04/18/2019 15:42:53 | Curvili | 1/Var | 0.000017 | 0.000000 | 0.000000 | 1.000000 | 0.999954 | 0.000003 | 1.905590 | 6.351967 |
| Fe 239.562 {140} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Linear | 1/Var | 0.000010 | 0.000000 | 0.000000 | 1.000000 | 0.998022 | 0.000041 | 15.498248 | 51.660826 |
| Fe 259.940 {129} | 04/24/2019 13:50:46 | 04/18/2019 15:49:33 | Linear | 1/Var | 0.000024 | 0.000001 | 0.000000 | 1.000000 | 0.997765 | 0.000053 | 4.548391 | 15.161303 |
| Mg 202.582 {466} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Linear | 1/Var | 0.000290 | 0.000002 | 0.000000 | 1.000000 | 0.999168 | 0.000367 | 2.785559 | 9.285197 |
| Mg 279.079 {121} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.040000 | 0.999950 | 0.000001 | 118.92832 | 396.42775 |
| Mg 280.270 {120} | 04/24/2019 13:50:46 | 04/18/2019 15:30:03 | Linear | 1/Var | 0.000235 | 0.000025 | 0.000000 | 1.000000 | 0.999487 | 0.000107 | 0.052961 | 0.176537 |
| Mn 257.610 {131} | 04/24/2019 13:50:46 | 04/18/2019 15:30:03 | Linear | 1/Conc | 0.000004 | 0.000011 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 0.143925 | 0.479749 |
| Mn 259.373 {130} | 04/24/2019 13:50:46 | 04/18/2019 15:36:25 | Linear | 1/Conc | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999780 | 0.000029 | 1.467214 | 4.890713 |
| Mo 202.030 {466} | 04/24/2019 13:50:46 | 04/18/2019 15:23:32 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.999793 | 0.000001 | 0.413177 | 1.377258 |
| Mo 203.844 {465} | 04/24/2019 13:50:46 | 04/18/2019 15:23:33 | Linear | 1/Var | -0.000000 | 0.000007 | 0.000000 | 1.000000 | 0.999969 | 0.000011 | 0.764132 | 2.547106 |
| Mo 204.598 {464} | 04/24/2019 13:50:46 | 04/18/2019 15:30:03 | Linear | 1/Var | -0.000007 | 0.000007 | 0.000000 | 1.000000 | 0.999967 | 0.000012 | 0.756995 | 2.523317 |
| Ni 221.647 {452} | 04/24/2019 13:50:46 | 04/18/2019 15:30:03 | Linear | 1/Conc | 0.000003 | 0.000016 | 0.000000 | 1.000000 | 0.999939 | 0.000008 | 0.522557 | 1.741857 |
| Ni 231.604 {445} | 04/24/2019 13:50:46 | 04/18/2019 15:30:04 | Linear | 1/Conc | -0.000015 | 0.000011 | 0.000000 | 1.000000 | 0.999870 | 0.000001 | 0.780143 | 2.600476 |
| Pb 216.999 {455} | 04/24/2019 13:50:46 | 04/18/2019 15:36:25 | Linear | 1/Var | 0.000032 | 0.000002 | 0.000000 | 1.000000 | 0.999259 | 0.000059 | 4.245553 | 14.151845 |
| Pb 220.353 {453} | 04/24/2019 13:50:46 | 04/18/2019 15:23:33 | Linear | 1/Conc | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999922 | 0.000000 | 2.556179 | 8.520597 |
| Pb 220.353 {153} | 04/24/2019 13:50:46 | 04/18/2019 15:36:25 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999803 | 0.000000 | 8.304185 | 27.680617 |
| Sb 206.833 {463} | 04/24/2019 13:50:46 | 04/18/2019 15:30:04 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999967 | 0.000000 | 2.381043 | 7.936811 |
| Sb 217.581 {455} | 04/24/2019 13:50:46 | 04/18/2019 15:30:04 | Linear | 1/Conc | 0.000000 | 0.000002 | 0.000000 | 1.000000 | 0.999937 | 0.000000 | 2.662513 | 8.875043 |
| Se 196.090 {472} | 04/24/2019 13:50:46 | 04/18/2019 15:23:34 | Linear | 1/Conc | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999903 | 0.000000 | 4.971823 | 16.572742 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/24/2019 13:50:46 | 04/18/2019 15:30:04 | Curvili | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999905 | 0.000000 | 28.249775 | 94.165917 |
| Tl 190.856 {476} | 04/24/2019 13:50:46 | 04/18/2019 15:30:04 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999760 | 0.000001 | 2.192165 | 7.307215 |
| Tl 190.856 {477} | 04/24/2019 13:50:46 | 04/18/2019 15:30:05 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.999871 | 0.000000 | 4.846494 | 16.154979 |
| V 290.882 {116} | 04/24/2019 13:50:46 | 04/18/2019 15:30:05 | Linear | 1/Conc | 0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999992 | 0.000000 | 6.369193 | 21.230643 |
| V 292.402 {115} | 04/24/2019 13:50:46 | 04/18/2019 15:30:05 | Linear | 1/Conc | 0.000005 | 0.000008 | 0.000000 | 1.000000 | 0.999960 | 0.000001 | 0.572351 | 1.907838 |
| Zn 206.200 {463} | 04/24/2019 13:50:46 | 04/18/2019 15:36:25 | Linear | 1/Var | 0.000034 | 0.000014 | 0.000000 | 1.000000 | 0.996901 | 0.000139 | 0.501904 | 1.673013 |
| Zn 213.856 {457} | 04/24/2019 13:50:46 | 04/18/2019 15:23:34 | Linear | 1/Conc | 0.000025 | 0.000031 | 0.000000 | 1.000000 | 0.999972 | 0.000001 | 0.194607 | 0.648692 |
| Y 224.306 {450}* | 04/24/2019 13:50:46 | 04/18/2019 14:32:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/24/2019 13:50:46 | 04/18/2019 14:32:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/24/2019 13:50:46 | 04/18/2019 14:32:12 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/24/2019 13:50:46 | 04/18/2019 15:30:05 | Linear | 1/Conc | 0.003891 | 0.000005 | 0.000000 | 1.000000 | 0.999993 | 0.000003 | 9.462005 | 31.540015 |
| Na 589.592 { 57} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Linear | 1/Conc | 0.000062 | 0.000004 | 0.000000 | 1.000000 | 0.999999 | 0.000008 | 7.503540 | 25.011799 |
| Si 251.611 {134} | 04/24/2019 13:50:46 | 04/18/2019 15:56:29 | Linear | 1/Conc | 0.433857 | 0.043107 | 0.000000 | 1.000000 | 0.994628 | 2.123873 | 29.357599 | 97.858664 |
| Ti 323.452 {104} | 04/24/2019 13:50:46 | 04/18/2019 15:30:06 | Linear | 1/Conc | 0.000210 | 0.000007 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 1.371559 | 4.571865 |
| Ti 334.941 {101} | 04/24/2019 13:50:46 | 04/18/2019 15:30:06 | Linear | 1/Conc | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999986 | 0.000000 | 2.100267 | 7.000889 |
| Sr 407.771 { 83} | 04/24/2019 13:50:46 | 04/18/2019 15:30:06 | Linear | 1/Conc | 0.000067 | 0.000105 | 0.000000 | 1.000000 | 0.999978 | 0.000003 | 0.148440 | 0.494802 |
| Sr 421.552 { 80} | 04/24/2019 13:50:46 | 04/18/2019 15:30:06 | Linear | 1/Conc | 0.000026 | 0.000134 | 0.000000 | 1.000000 | 0.999993 | 0.000002 | 0.116329 | 0.387765 |
| Sn 189.989 {477} | 04/24/2019 13:50:46 | 04/18/2019 15:30:06 | Linear | 1/Conc | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999865 | 0.000001 | 2.044113 | 6.813710 |
| B 249.678 {135} | 04/24/2019 13:50:46 | 04/18/2019 15:30:06 | Linear | 1/Conc | -0.000000 | 0.000002 | 0.000000 | 1.000000 | 0.999948 | 0.000000 | 1.301276 | 4.337586 |
| B 249.773 {135} | 04/24/2019 13:50:46 | 04/18/2019 15:30:07 | Linear | 1/Var | 0.000003 | 0.000003 | 0.000000 | 1.000000 | 0.999803 | 0.000004 | 0.789229 | 2.630764 |
| Li 670.784 { 50} | 04/24/2019 13:50:46 | 04/18/2019 15:30:07 | Linear | 1/Var | -0.000011 | 0.000027 | 0.000000 | 1.000000 | 0.999901 | 0.000045 | 1.356925 | 4.523082 |
| K 766.490 { 44} | 04/24/2019 13:50:46 | 04/18/2019 15:56:30 | Linear | 1/Conc | -0.000013 | 0.000001 | 0.000000 | 1.000000 | 0.999988 | 0.000007 | 49.698240 | 165.66079 |
| P 213.618 {457} | 04/24/2019 13:50:46 | 04/18/2019 15:30:07 | Linear | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.085080 | 20.283599 |
| S 182.034 {485} | 04/24/2019 13:50:46 | 04/18/2019 15:56:30 | Curvili | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.556417 | 21.854722 |
| Hg 184.950 {482} | 04/24/2019 13:50:46 | 04/18/2019 15:23:36 | Linear | 1/Conc | 0.000008 | 0.000004 | 0.000000 | 1.000000 | 0.999904 | 0.000001 | 1.092822 | 3.642741 |
| Ce 404.076 { 83} | 04/24/2019 13:50:46 | 04/18/2019 15:23:36 | Linear | 1/Conc | 0.000028 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 20.028422 | 66.761407 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

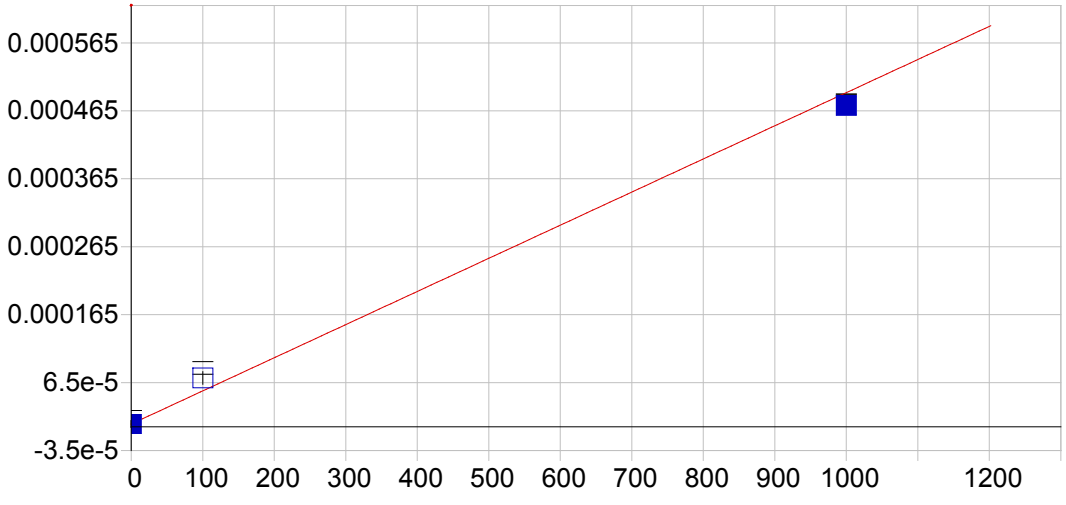



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.900286 | | |
| Predicted MQL: | 3.000953 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03578 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.016 | 1.02 | 10.2 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.951 | -.049 | -.049 | .00029 | .000 | 1 |
| CalStd3=1 | 1.0000 | .87230 | -.128 | -12.8 | .00001 | .000 | 1 |

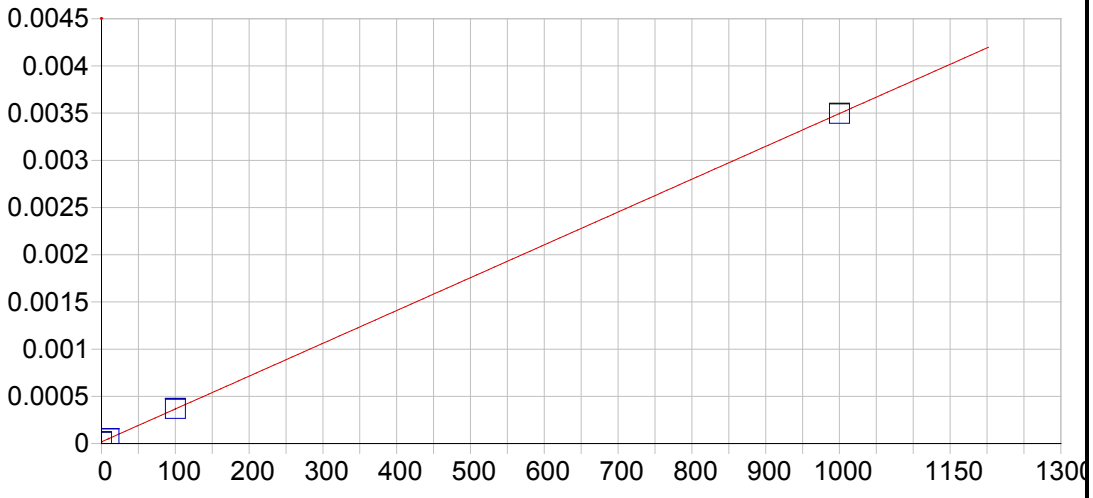



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992506 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 15.020644 | | |
| Predicted MQL: | 50.068813 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03503 | -.035 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 138.92 | 38.9 | 38.9 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 961.09 | -38.9 | -3.89 | .00047 | .000 | 1 |

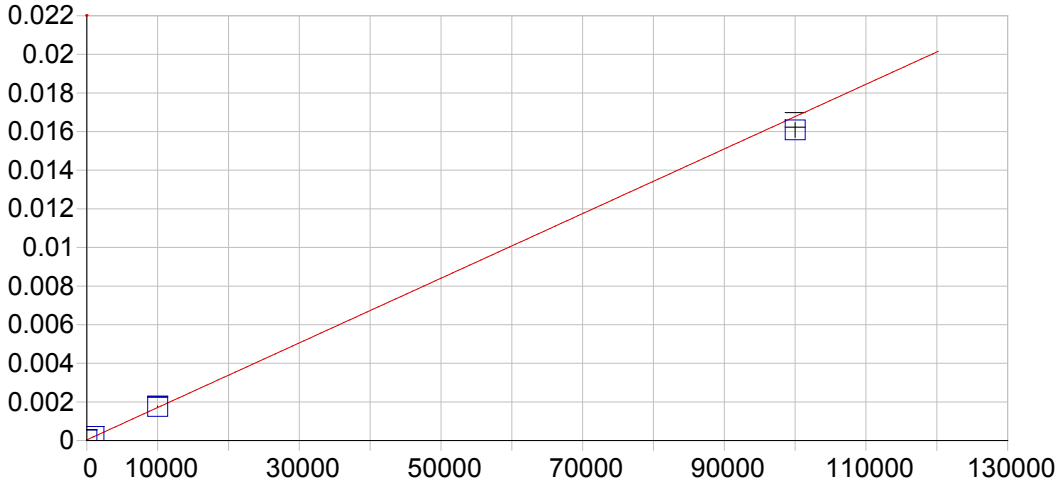



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.766921 | | |
| Predicted MQL: | 2.556402 | | |

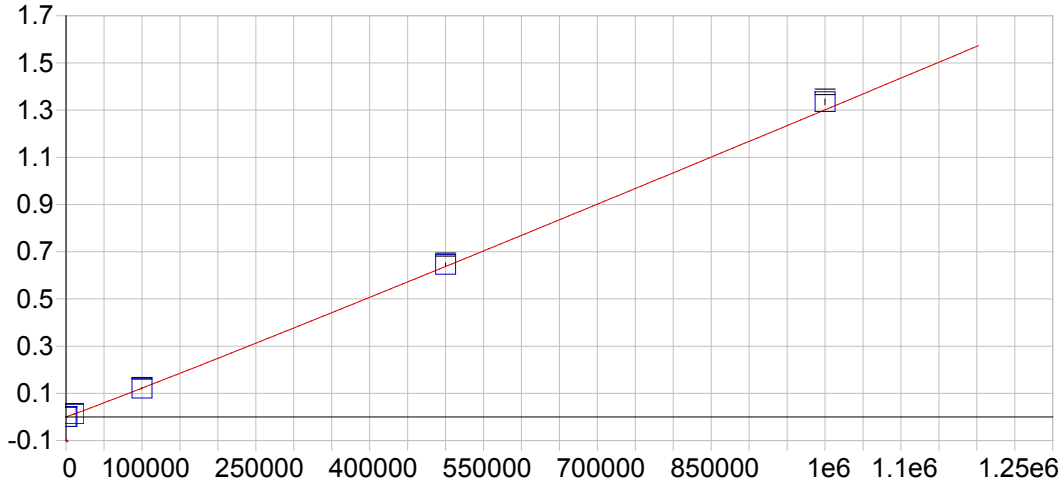
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.46798 | -.468 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.91 | -.085 | -.009 | .00350 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6661 | -.334 | -3.34 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.89 | .887 | .887 | .00037 | .000 | 1 |




**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000035 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999448 | | Status: | OK. | |
| Std Error of Est: | 0.000013 | | | | |
| Predicted MDL: | 58.178649 | | | | |
| Predicted MQL: | 193.928829 | | | | |

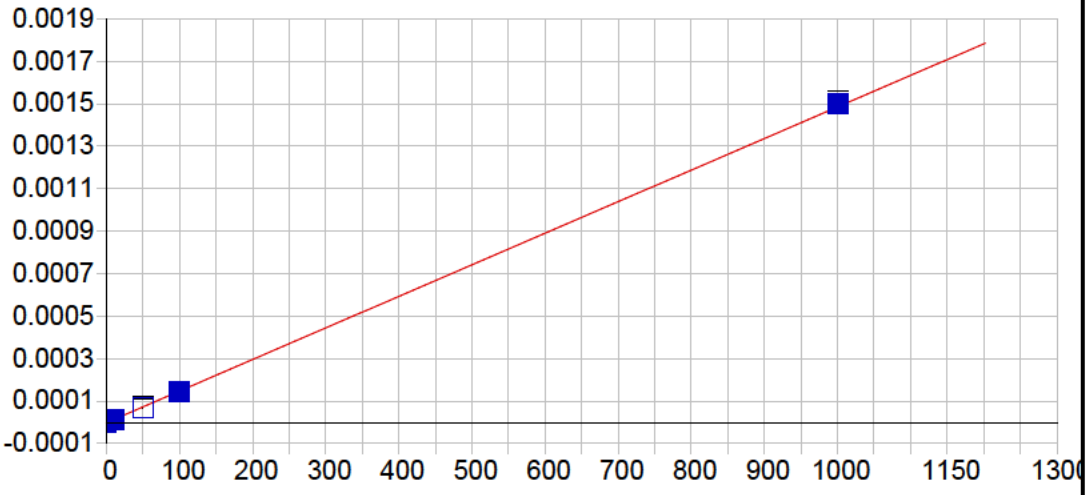
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -5.3753 | -5.38 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 10272. | 272. | 2.72 | .00175 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.7 | 1.68 | .168 | .00020 | .000 | 1 |
| CalStd13=10 | 100000. | 95872. | -4130. | -4.13 | .01609 | .000 | 1 |




**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Full Fit | Weighting: | None |
| A0 (Offset): | 0.000441 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.030000 | | | | |
| Correlation: | 0.999999 | | Status: | OK. | |
| Std Error of Est: | 0.000964 | | | | |
| Predicted MDL: | 18.990877 | | | | |
| Predicted MQL: | 63.302922 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 506270. | 6270. | 1.25 | .64581 | .007 | 1 |
| CalStd13=10 | 100000. | 99774. | -226. | -.226 | .12158 | .003 | 1 |
| CalStd10=10 | 10000. | 10958. | 958. | 9.58 | .01289 | .000 | 1 |
| CalStd9=100 | 1000.0 | 808.72 | -191. | -19.1 | .00129 | .000 | 1 |
| CalibStd15= | 1000000. | 1025100. | 25100. | 2.51 | 1.3351 | .012 | 1 |

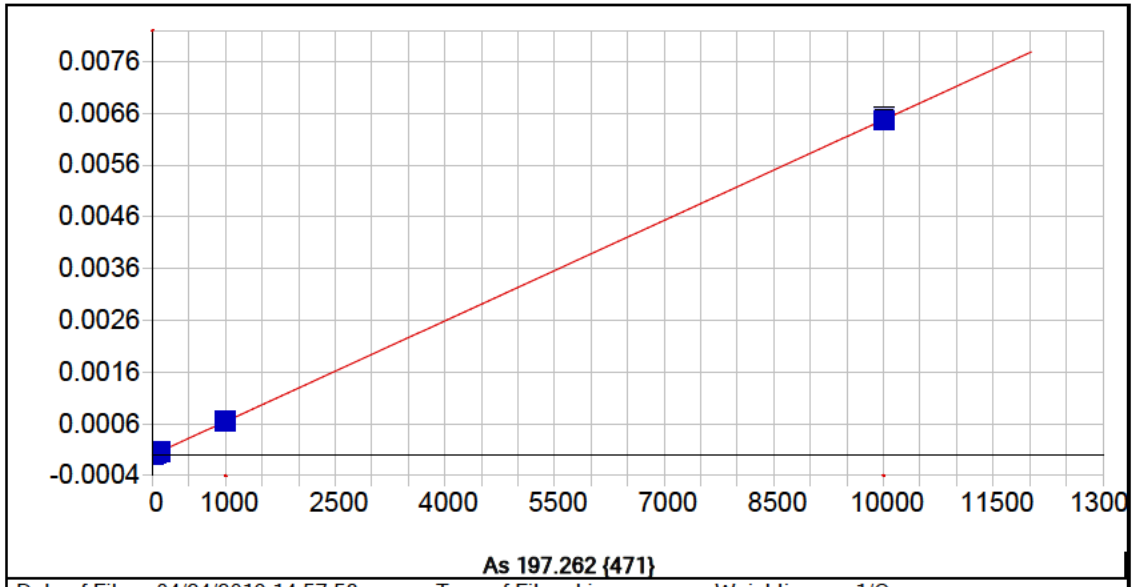



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999678 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 3.513645 | | |
| Predicted MQL: | 11.712150 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.7773 | 1.78 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.9 | 8.87 | .887 | .00150 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.018 | -2.98 | -5.96 | .00007 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9262 | -2.07 | -20.7 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.865 | -3.14 | -3.14 | .00014 | .000 | 1 |

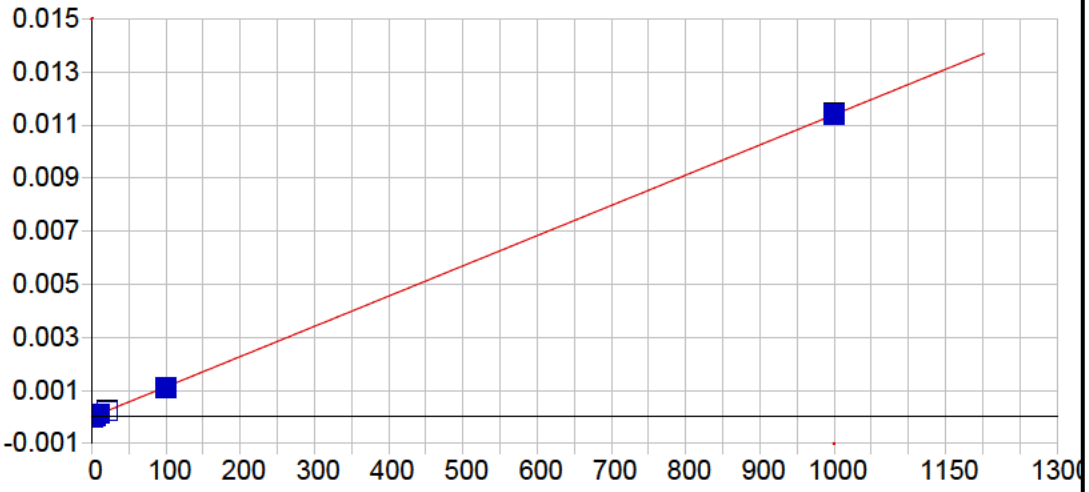



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999890 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.672823 | | |
| Predicted MQL: | 22.242744 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00529 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.5 | 8.52 | .852 | .00065 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.435 | 1.44 | 2.87 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.820 | 4.82 | 48.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.12 | 1.12 | 1.12 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.1 | -15.9 | -.159 | .00651 | .000 | 1 |

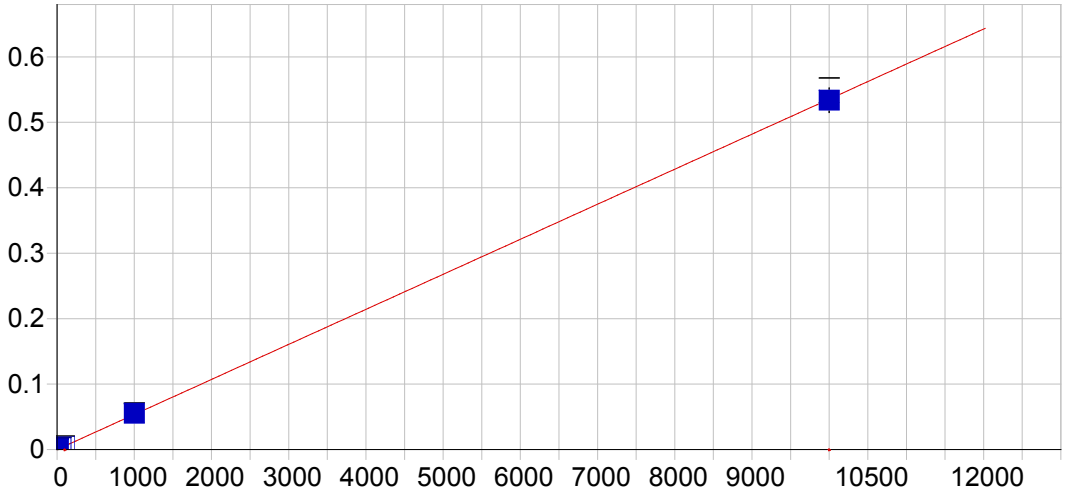



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.380671 | | |
| Predicted MQL: | 1.268902 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00015 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.672 | .672 | 6.72 | .00012 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.852 | -.148 | -.742 | .00022 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.713 | -2.29 | -2.29 | .00111 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7621 | -.238 | -4.76 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.84 | .184 | .01141 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1571 | .157 | 15.7 | .00001 | .000 | 1 |

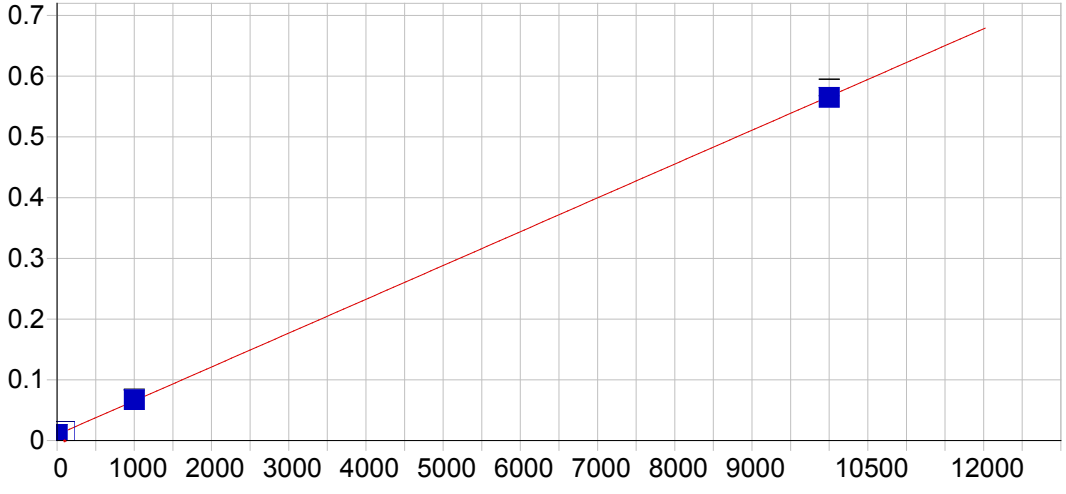



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999944 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.331578 | | |
| Predicted MQL: | 1.105259 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00033 | .000 | .000 | .00005 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.489 | .489 | .977 | .00276 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.556 | .556 | 5.56 | .00062 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.354 | .354 | 1.77 | .00114 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.72 | .719 | .719 | .00545 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0339 | .034 | .679 | .00032 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.0 | 30.0 | 3.00 | .05520 | .001 | 1 |
| CalStd3=1 | 1.0000 | .54994 | -.450 | -45.0 | .00008 | .000 | 1 |
| CalStd10=10 | 10000. | 9968.3 | -31.7 | -.317 | .53377 | .019 | 1 |

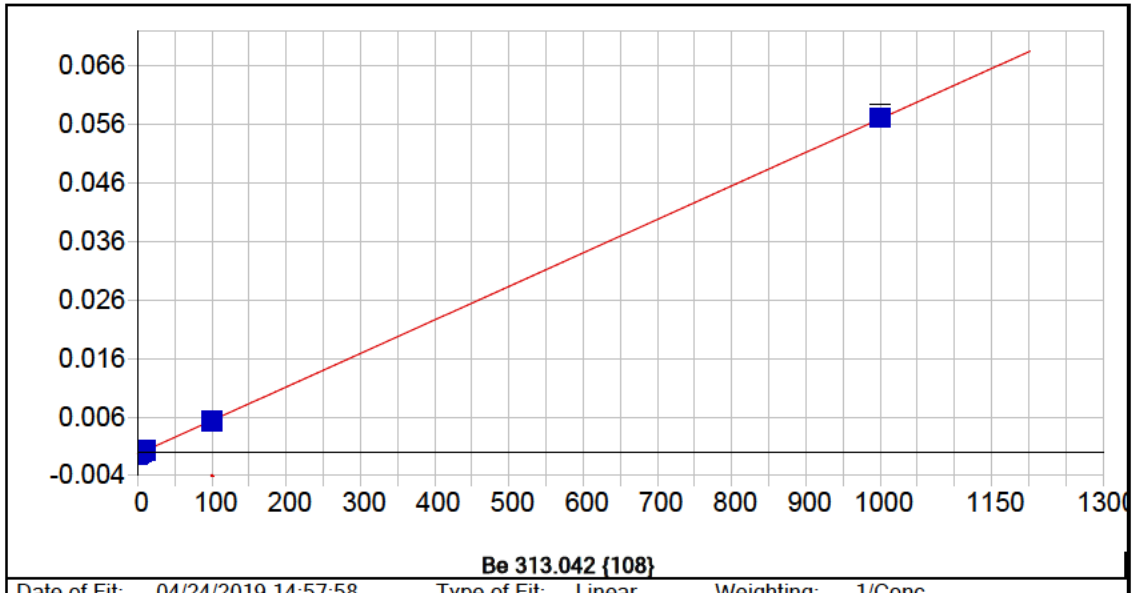



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.009738 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999951 | Status: | OK. |
| Std Error of Est: | 0.000026 | | |
| Predicted MDL: | 0.801562 | | |
| Predicted MQL: | 2.671875 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00390 | -.004 | .000 | .00974 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.1 | 31.1 | 3.11 | .06718 | .001 | 1 |
| CalStd8=100 | 100.00 | 101.11 | 1.11 | 1.11 | .01537 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.8 | -32.2 | -.322 | .56498 | .014 | 1 |

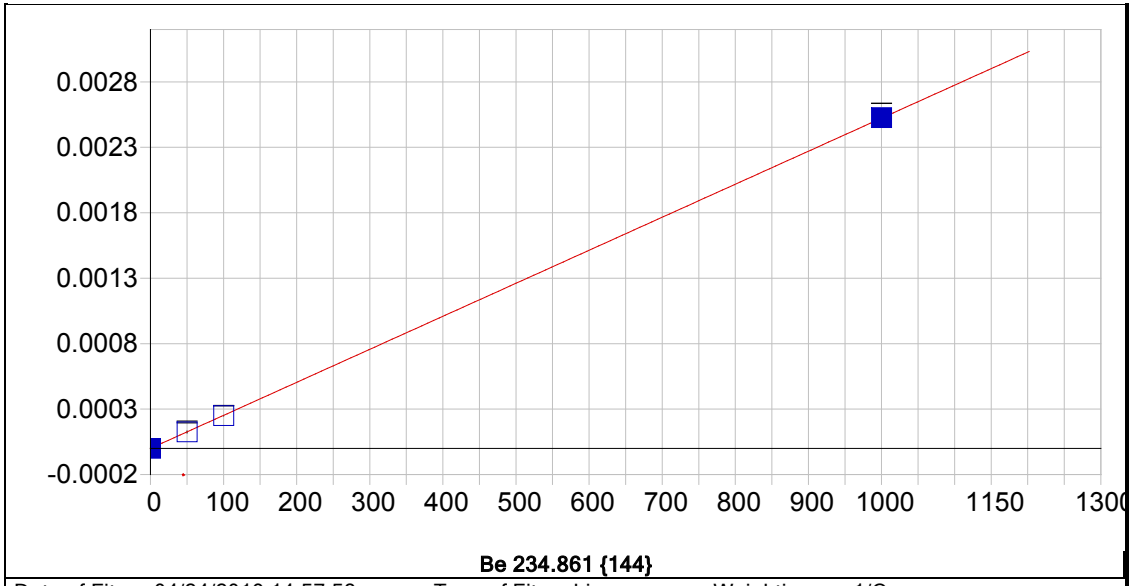



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000322 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000057 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999931 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.061299 | | |
| Predicted MQL: | 0.204331 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00020 | .000 | .000 | -.00032 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.225 | .225 | 2.25 | .00026 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.986 | -3.01 | -3.01 | .00523 | .000 | 1 |
| CalStd2=0.5 | .50000 | .36619 | -.134 | -26.8 | -.00030 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9190 | -.081 | -1.62 | -.00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.1 | 3.11 | .311 | .05709 | .001 | 1 |
| CalStd3=1 | 1.0000 | .89061 | -.109 | -10.9 | -.00027 | .000 | 1 |

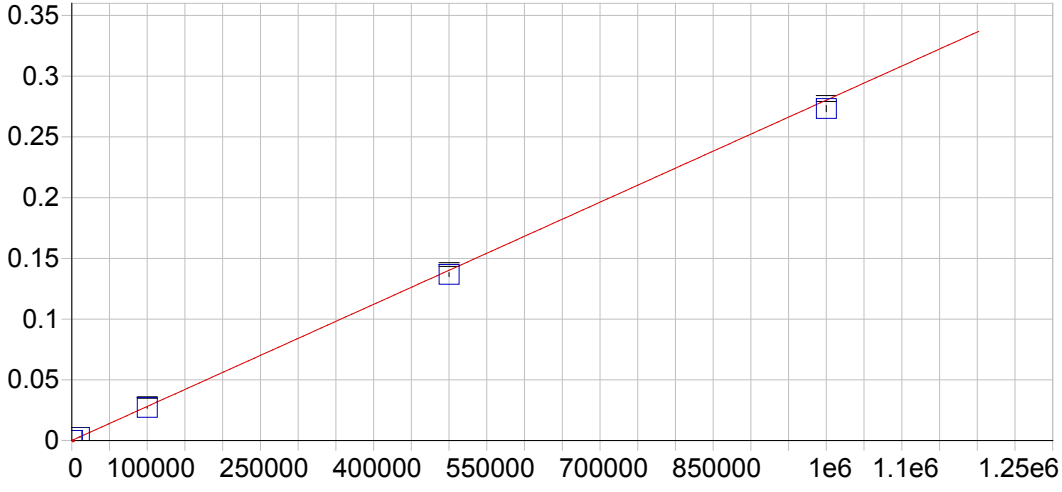



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999994 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.202506 | | |
| Predicted MQL: | 4.008353 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00070 | .001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.28 | .128 | .00253 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.983 | -1.02 | -1.02 | .00025 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.741 | -.259 | -.519 | .00013 | .000 | 1 |

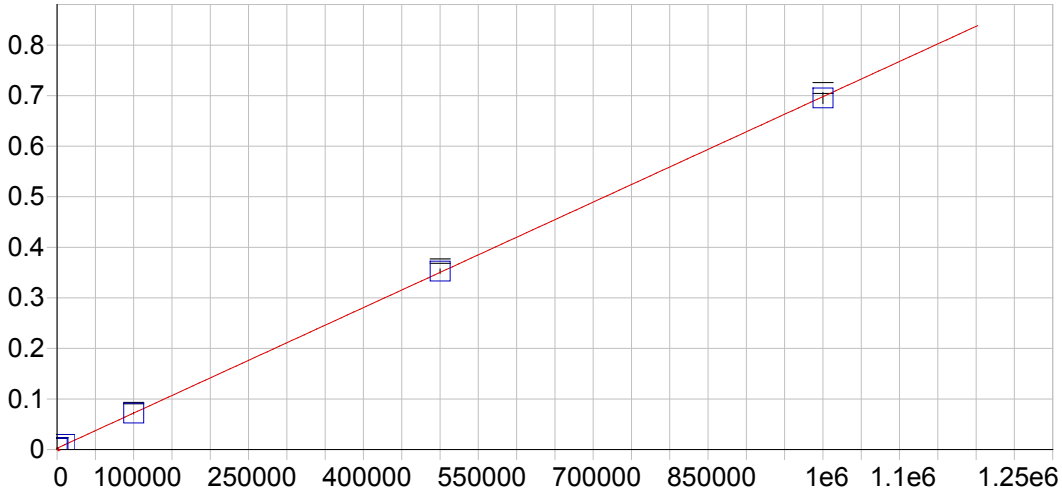



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000040 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999766 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 14.154868 | | |
| Predicted MQL: | 47.182892 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.4354 | -1.44 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 10185. | 185. | 1.85 | .00289 | .000 | 1 |
| CalStd13=10 | 100000. | 96737. | -3260. | -3.26 | .02715 | .001 | 1 |
| CalStd14=50 | 500000. | 487410. | -12600. | -2.52 | .13665 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1006.9 | 6.90 | .690 | .00032 | .000 | 1 |
| CalibStd15= | 1000000. | 975090. | -24900. | -2.49 | .27333 | .002 | 1 |

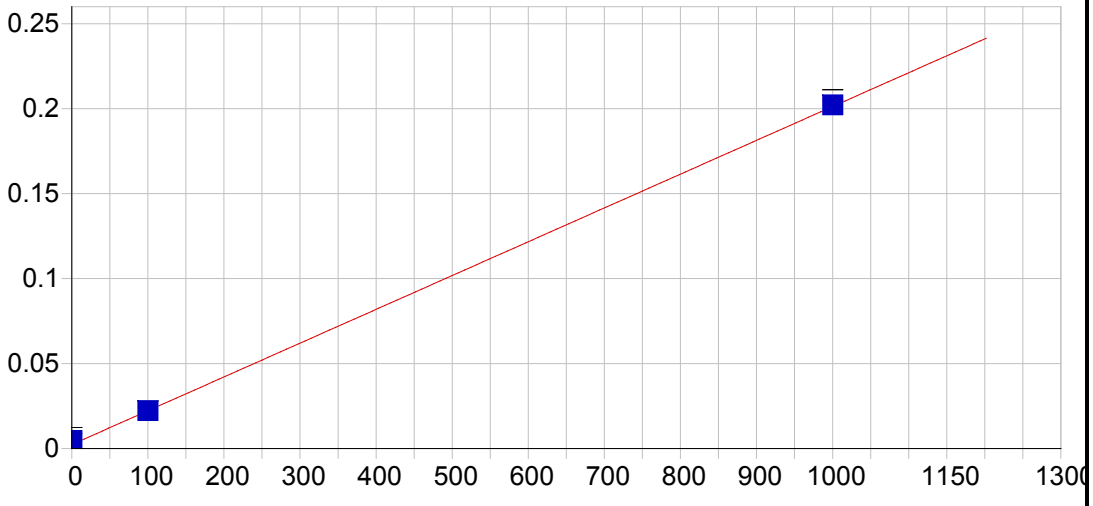



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002590 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999975 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 7.249121 | | |
| Predicted MQL: | 24.163738 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.13622 | -.136 | .000 | .00259 | .000 | 1 |
| CalStd10=10 | 10000. | 10580. | 580. | 5.80 | .00995 | .000 | 1 |
| CalStd13=10 | 100000. | 99742. | -258. | -.258 | .07195 | .001 | 1 |
| CalStd14=50 | 500000. | 503560. | 3560. | .712 | .35277 | .004 | 1 |
| CalStd9=100 | 1000.0 | 1077.6 | 77.6 | 7.76 | .00334 | .000 | 1 |
| CalibStd15= | 1000000. | 996040. | -3960. | -.396 | .69525 | .011 | 1 |

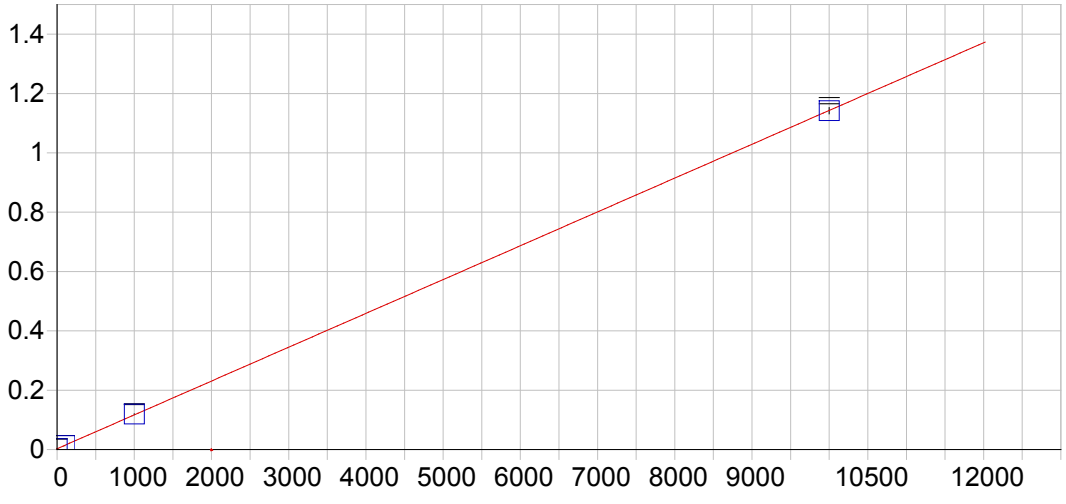



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002337 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000199 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999660 | Status: | OK. |
| Std Error of Est: | 0.000407 | | |
| Predicted MDL: | 0.062715 | | |
| Predicted MQL: | 0.209051 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 12.707 | 12.7 | .000 | .00486 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1004.8 | 4.77 | .477 | .20220 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.883 | -.117 | -.117 | .02220 | .000 | 1 |

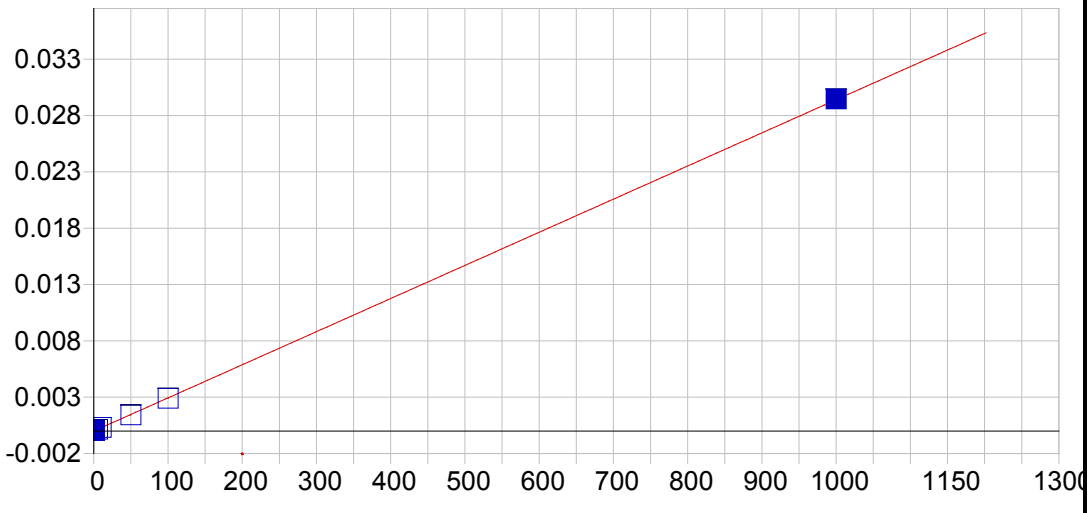



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002824 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000114 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999944 | Status: | OK. |
| Std Error of Est: | 0.000057 | | |
| Predicted MDL: | 0.103931 | | |
| Predicted MQL: | 0.346437 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00765 | .008 | .000 | .00282 | .001 | 1 |
| CalStd10=10 | 10000. | 9990.7 | -9.30 | -.093 | 1.1420 | .010 | 1 |
| CalStd8=100 | 100.00 | 90.571 | -9.43 | -9.43 | .01315 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.7 | 18.7 | 1.87 | .11898 | .001 | 1 |

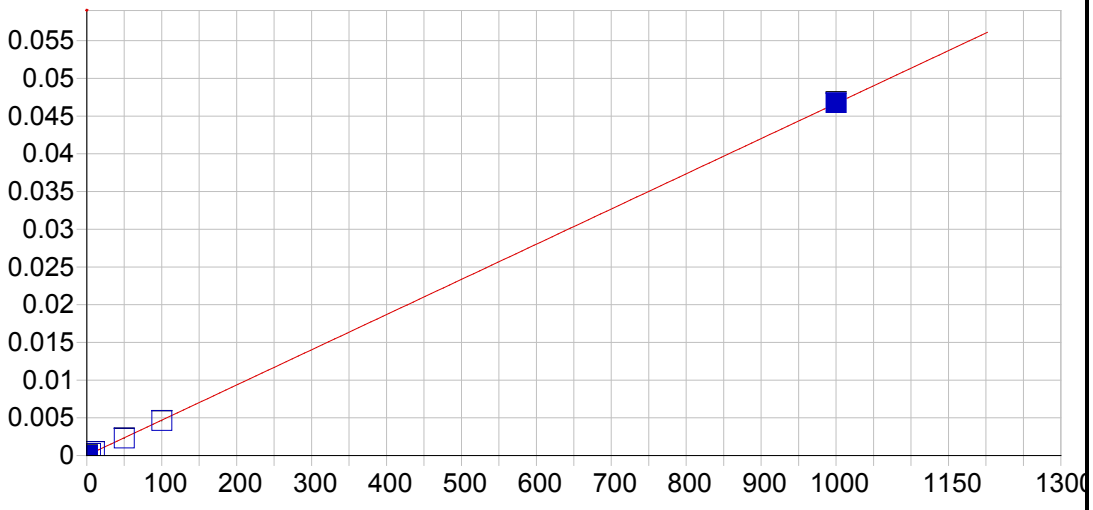



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000029 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999955 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.214093 | | |
| Predicted MQL: | 0.713645 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00012 | -.000 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.623 | -1.38 | -2.75 | .00143 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0347 | .035 | 3.47 | .00003 | .000 | 1 |
| CalStd2=0.5 | .50000 | .59551 | .096 | 19.1 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0486 | .049 | .971 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.556 | -1.44 | -1.44 | .00290 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.473 | .473 | 4.73 | .00031 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.17 | .217 | .02947 | .000 | 1 |

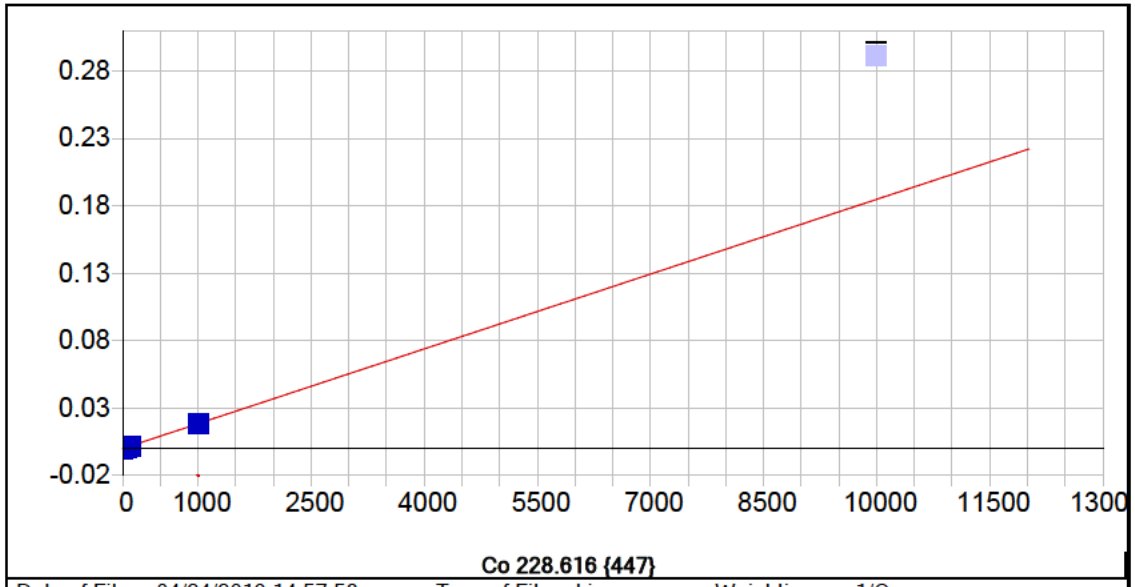



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000047 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.170749 | | |
| Predicted MQL: | 0.569162 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00011 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.755 | -1.25 | -2.49 | .00230 | .000 | 1 |
| CalStd3=1 | 1.0000 | .98294 | -.017 | -1.71 | .00007 | .000 | 1 |
| CalStd2=0.5 | .50000 | .59780 | .098 | 19.6 | .00005 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1608 | .161 | 3.22 | .00026 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.610 | -1.39 | -1.39 | .00462 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.408 | .408 | 4.08 | .00051 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.0 | 1.99 | .199 | .04678 | .000 | 1 |

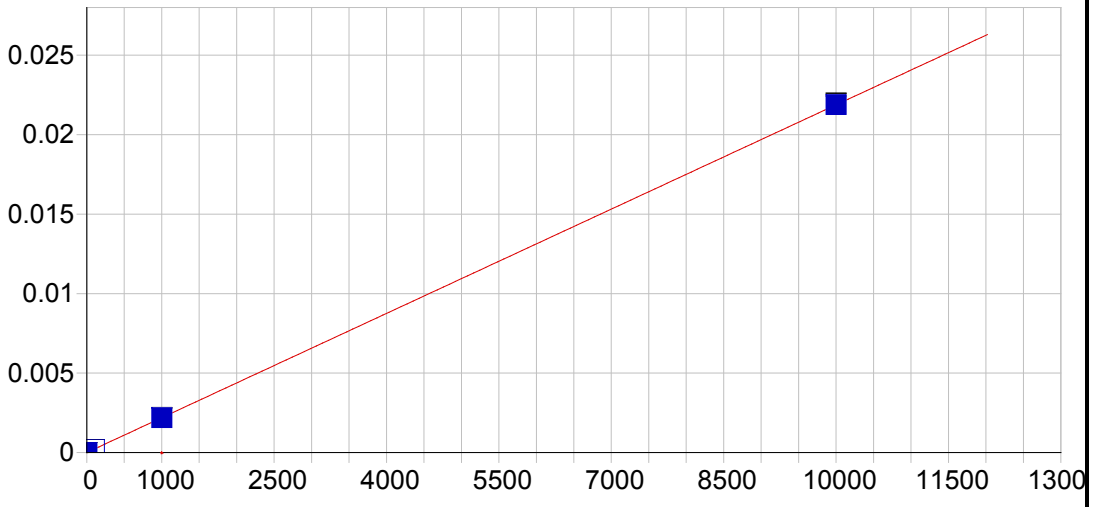



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999951 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.382292 | | |
| Predicted MQL: | 1.274307 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00015 | .000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.905 | -1.10 | -2.19 | .00091 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.357 | .357 | 3.57 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7361 | -.264 | -5.28 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.841 | -2.16 | -2.16 | .00181 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.3 | 3.25 | .325 | .01856 | .000 | 1 |
| CalStd3=1 | 1.0000 | .91166 | -.088 | -8.83 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 15747. | 5750. | 57.5 | .29138 | .003 | 0 |

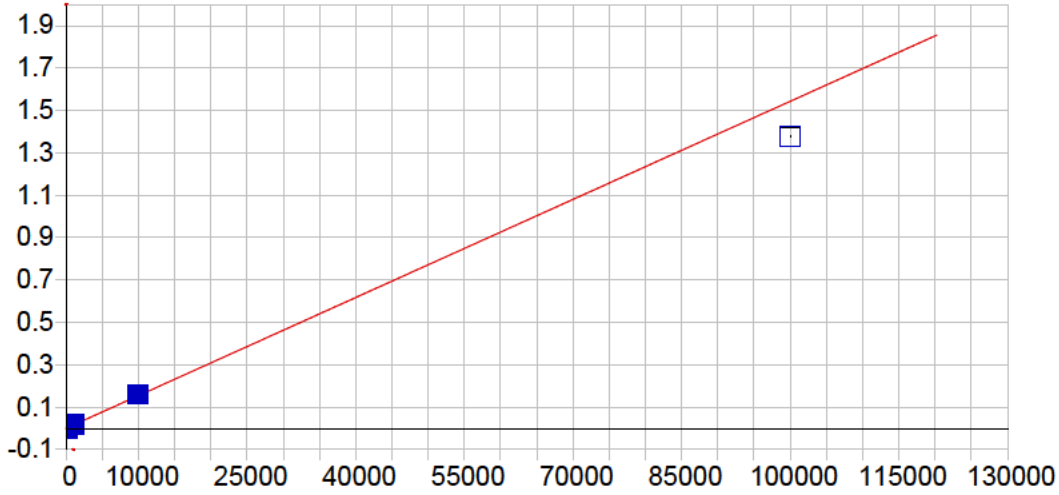



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.837205 | | |
| Predicted MQL: | 2.790683 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00308 | .003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.14 | -2.86 | -.286 | .00218 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.71 | .057 | .02189 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.148 | -2.85 | -2.85 | .00022 | .000 | 1 |

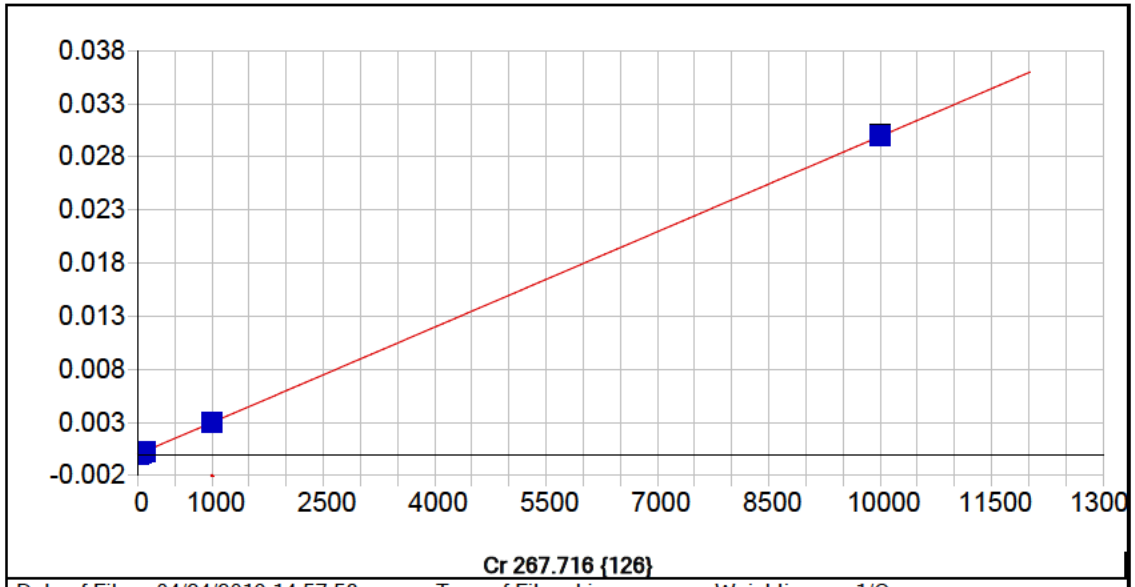



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997527 | Status: | OK. |
| Std Error of Est: | 0.000058 | | |
| Predicted MDL: | 0.322375 | | |
| Predicted MQL: | 1.074584 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.15391 | -.154 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.107 | 1.11 | 11.1 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.422 | 1.42 | 2.84 | .00079 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1059.0 | 59.0 | 5.90 | .01634 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.71 | 2.71 | 2.71 | .00158 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4669 | .467 | 9.34 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1098 | .110 | 11.0 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10342. | 342. | 3.42 | .15963 | .000 | 1 |
| CalStd12=10 | 100000. | 89097. | -10900. | -10.9 | 1.3752 | .003 | 1 |

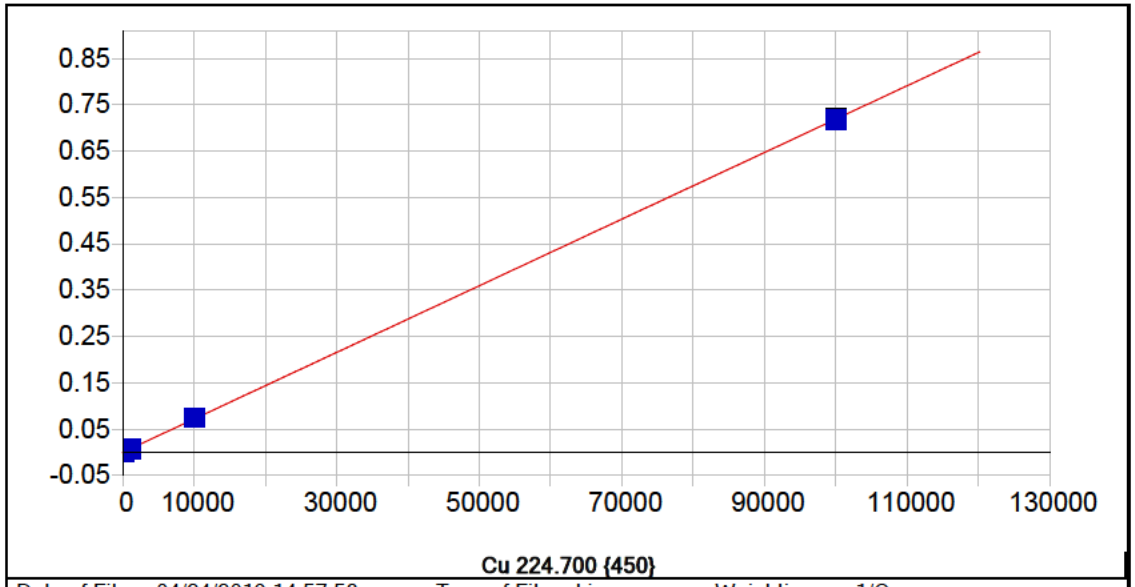



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999970 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.789458 | | |
| Predicted MQL: | 2.631525 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00061 | .001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.4754 | -.525 | -5.25 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.826 | -3.17 | -6.35 | .00014 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.57 | -12.4 | -1.24 | .00296 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.118 | -4.88 | -4.88 | .00028 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.2649 | .265 | 5.30 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10021. | 20.7 | .207 | .03001 | .000 | 1 |

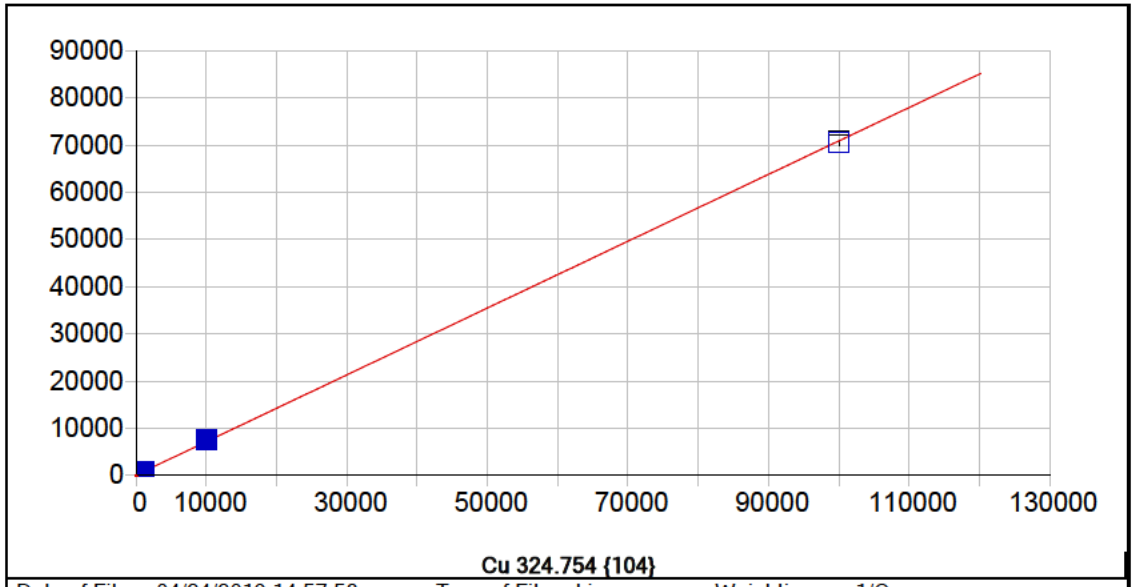



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999722 | Status: | OK. |
| Std Error of Est: | 0.000009 | | |
| Predicted MDL: | 0.399921 | | |
| Predicted MQL: | 1.333068 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03515 | .035 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.5 | 27.5 | 2.75 | .00738 | .000 | 1 |
| CalStd7=50 | 50.000 | 19.329 | -30.7 | -61.3 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 60.757 | -39.2 | -39.2 | .00043 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.7605 | -16.2 | -81.2 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 99702. | -298. | -.298 | .71662 | .003 | 1 |
| CalStd10=10 | 10000. | 10357. | 357. | 3.57 | .07444 | .000 | 1 |

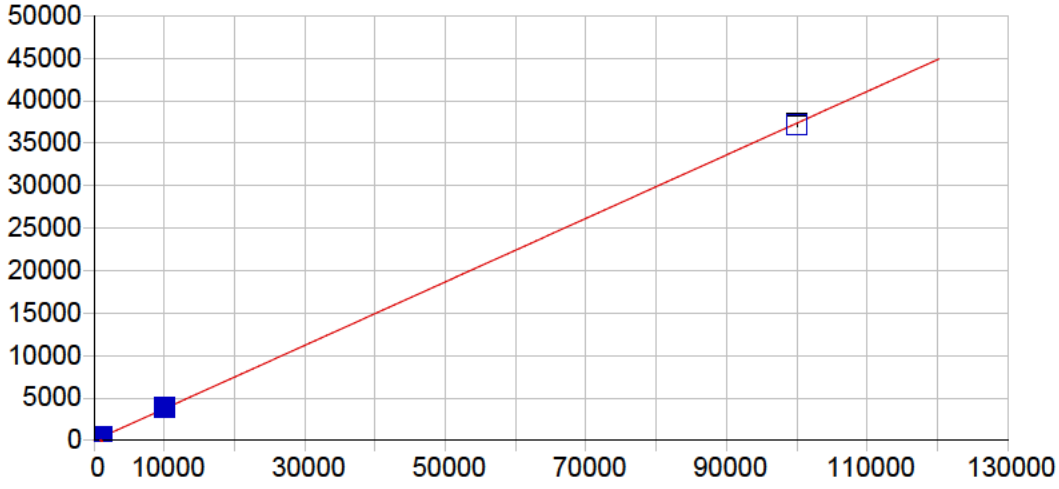



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 103.597624 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.707866 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999846 | Status: | OK. |
| Std Error of Est: | 0.477539 | | |
| Predicted MDL: | 3.450032 | | |
| Predicted MQL: | 11.500108 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00515 | -.005 | .000 | 103.59 | 2.69 | 1 |
| CalStd9=100 | 1000.0 | 1071.3 | 71.3 | 7.13 | 861.91 | 10.2 | 1 |
| CalStd8=100 | 100.00 | 107.04 | 7.04 | 7.04 | 179.36 | 1.36 | 1 |
| CalStd10=10 | 10000. | 10492. | 492. | 4.92 | 7529.7 | 34.9 | 1 |
| CalStd12=10 | 100000. | 99423. | -577. | -.577 | 70482. | 521. | 1 |
| CalStd5=10 | 10.000 | 12.574 | 2.57 | 25.7 | 112.50 | 1.35 | 1 |
| CalStd6=20 | 20.000 | 19.573 | -.427 | -2.13 | 117.45 | 1.36 | 1 |
| CalStd7=50 | 50.000 | 54.669 | 4.67 | 9.34 | 142.30 | 2.34 | 1 |

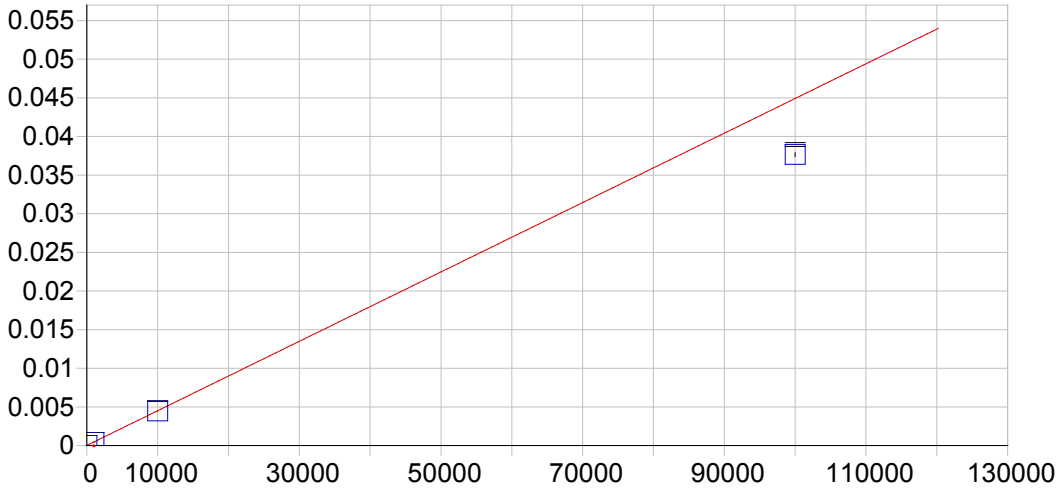



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.767836 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.373453 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999890 | Status: | OK. |
| Std Error of Est: | 0.148162 | | |
| Predicted MDL: | 8.488538 | | |
| Predicted MQL: | 28.295127 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00257 | .003 | .000 | 9.7688 | 1.78 | 1 |
| CalStd6=20 | 20.000 | 17.425 | -2.58 | -12.9 | 16.271 | 2.37 | 1 |
| CalStd7=50 | 50.000 | 48.452 | -1.55 | -3.10 | 27.851 | 4.50 | 1 |
| CalStd8=100 | 100.00 | 107.38 | 7.38 | 7.38 | 49.848 | 1.86 | 1 |
| CalStd9=100 | 1000.0 | 1060.8 | 60.8 | 6.08 | 405.71 | 4.24 | 1 |
| CalStd10=10 | 10000. | 10403. | 403. | 4.03 | 3894.7 | 9.78 | 1 |
| CalStd12=10 | 100000. | 99536. | -464. | -.464 | 37182. | 217. | 1 |
| CalStd4=5 | 5.0000 | 2.2281 | -2.77 | -55.4 | 10.599 | 2.91 | 1 |
| CalStd5=10 | 10.000 | 10.297 | .297 | 2.97 | 13.611 | 3.81 | 1 |

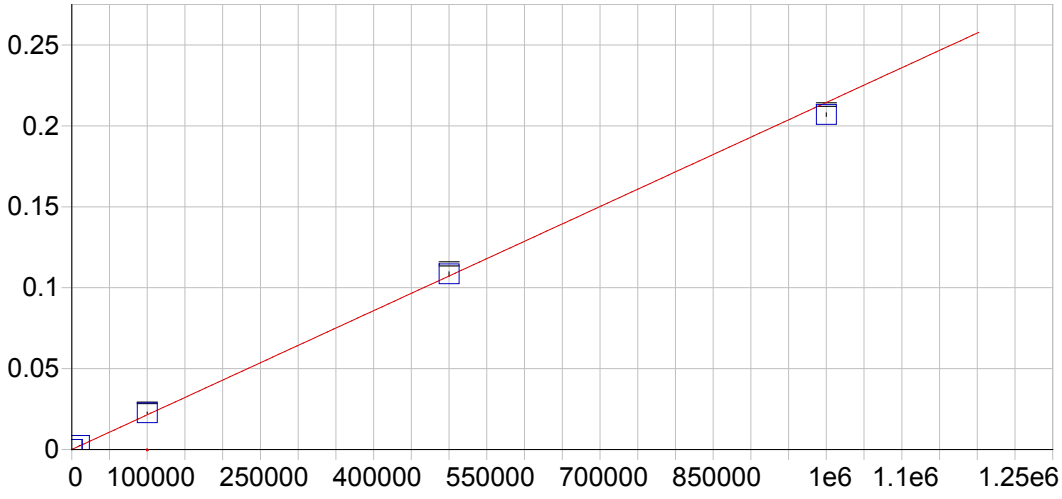



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999954 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.905590 | | |
| Predicted MQL: | 6.351967 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .30227 | .302 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9894.7 | -105. | -1.05 | .00446 | .000 | 1 |
| CalStd13=10 | 100000. | 83841. | -16200. | -16.2 | .03766 | .000 | 1 |
| CalStd9=100 | 1000.0 | 972.91 | -27.1 | -2.71 | .00045 | .000 | 1 |

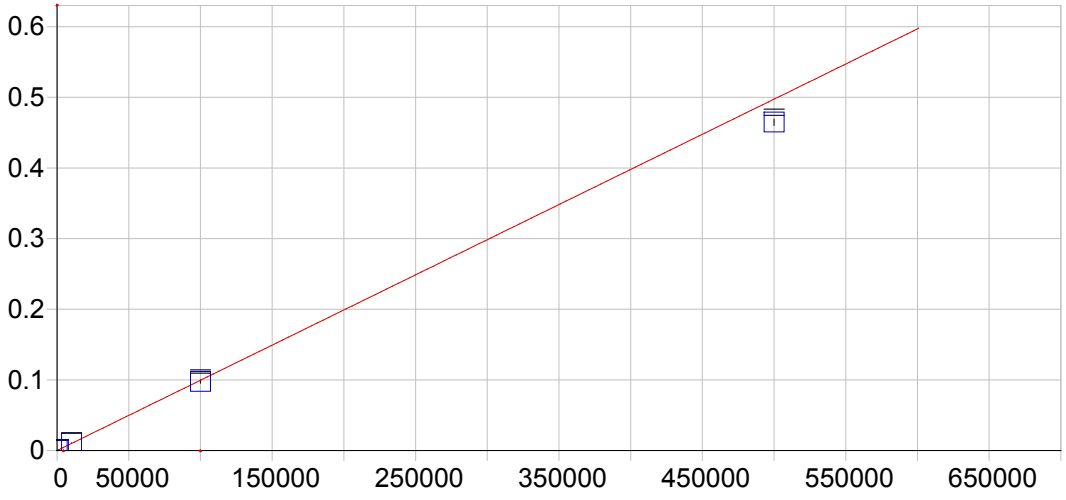



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998022 | Status: | OK. |
| Std Error of Est: | 0.000041 | | |
| Predicted MDL: | 15.498248 | | |
| Predicted MQL: | 51.660826 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -29.785 | -29.8 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 11435. | 1430. | 14.3 | .00246 | .000 | 1 |
| CalStd13=10 | 100000. | 105550. | 5550. | 5.55 | .02265 | .001 | 1 |
| CalStd14=50 | 500000. | 505930. | 5930. | 1.19 | .10851 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1111.5 | 112. | 11.2 | .00025 | .000 | 1 |
| CalibStd15= | 1000000. | 964970. | -35000. | -3.50 | .20696 | .001 | 1 |

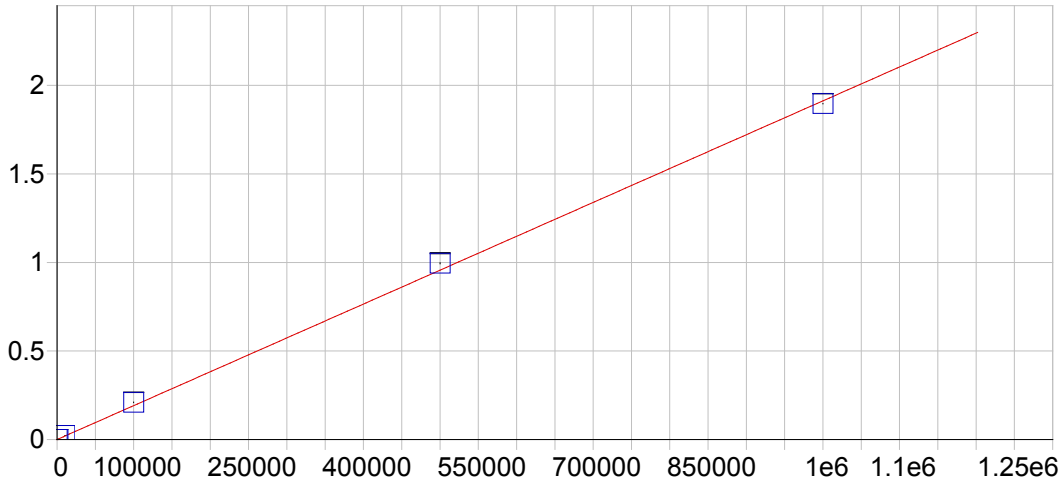



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997765 | Status: | OK. |
| Std Error of Est: | 0.000053 | | |
| Predicted MDL: | 4.548391 | | |
| Predicted MQL: | 15.161303 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -4.8417 | -4.84 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 10714. | 714. | 7.14 | .01068 | .000 | 1 |
| CalStd13=10 | 100000. | 98154. | -1850. | -1.85 | .09767 | .002 | 1 |
| CalStd14=50 | 500000. | 467210. | -32800. | -6.56 | .46481 | .004 | 1 |
| CalStd9=100 | 1000.0 | 1071.5 | 71.5 | 7.15 | .00109 | .000 | 1 |

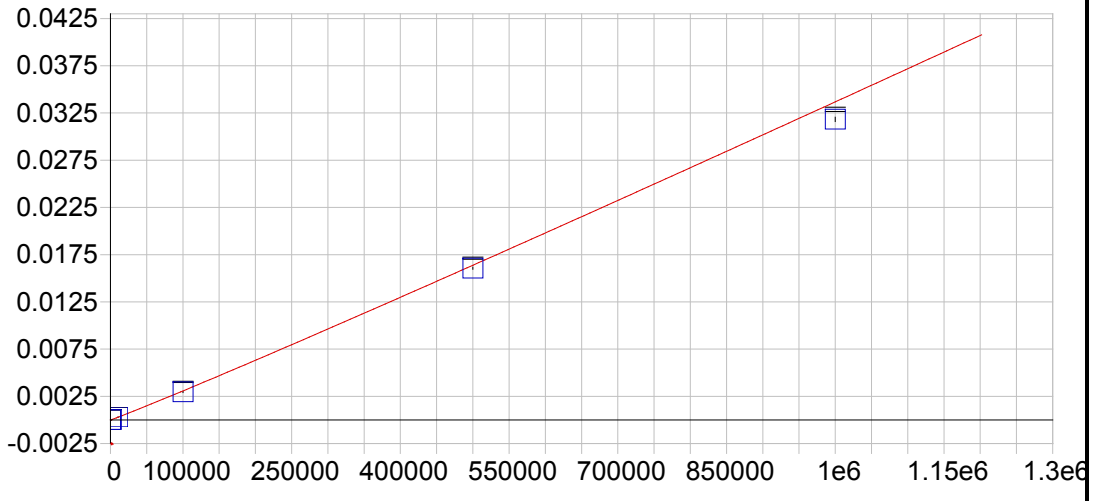



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000290 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999168 | Status: | OK. |
| Std Error of Est: | 0.000367 | | |
| Predicted MDL: | 2.785559 | | |
| Predicted MQL: | 9.285197 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -147.64 | -148. | .000 | .00001 | .000 | 1 |
| CalStd13=10 | 100000. | 109600. | 9600. | 9.60 | .20987 | .002 | 1 |
| CalStd10=10 | 10000. | 11713. | 1710. | 17.1 | .02269 | .000 | 1 |
| CalStd14=50 | 500000. | 520420. | 20400. | 4.08 | .99541 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1123.8 | 124. | 12.4 | .00244 | .000 | 1 |
| CalibStd15= | 1000000. | 991670. | -8330. | -.833 | 1.8965 | .001 | 1 |

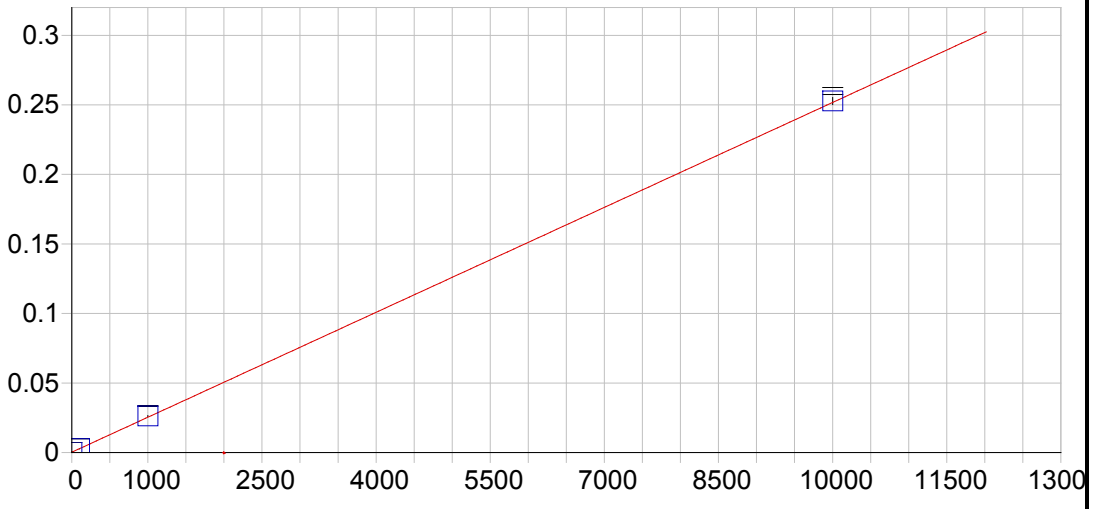



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.040000 | | |
| Correlation: | 0.999950 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 118.928328 | | |
| Predicted MQL: | 396.427759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 96734. | -3270. | -3.27 | .00297 | .000 | 1 |
| CalStd10=10 | 10000. | 10716. | 716. | 7.16 | .00030 | .000 | 1 |
| CalStd14=50 | 500000. | 490620. | -9380. | -1.88 | .01606 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1136.8 | 137. | 13.7 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 947140. | -52900. | -5.29 | .03183 | .000 | 1 |

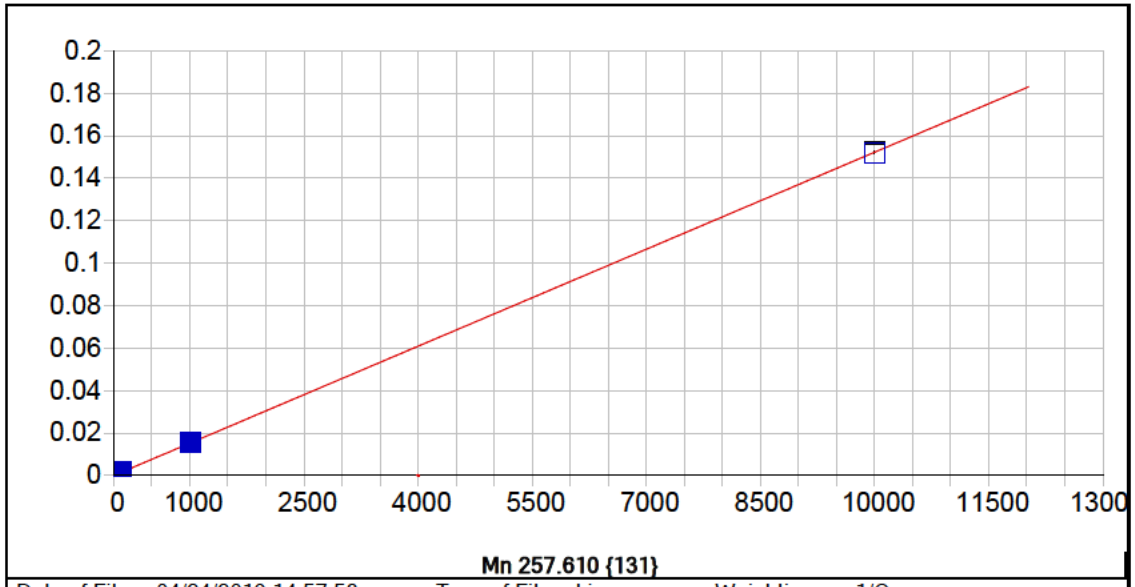



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000235 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000025 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999487 | Status: | OK. |
| Std Error of Est: | 0.000107 | | |
| Predicted MDL: | 0.052961 | | |
| Predicted MQL: | 0.176537 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 3.6227 | 3.62 | .000 | .00033 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.8 | 35.8 | 3.58 | .02628 | .000 | 1 |
| CalStd10=10 | 10000. | 10041. | 41.0 | .410 | .25276 | .003 | 1 |
| CalStd8=100 | 100.00 | 98.386 | -1.61 | -1.61 | .00271 | .000 | 1 |

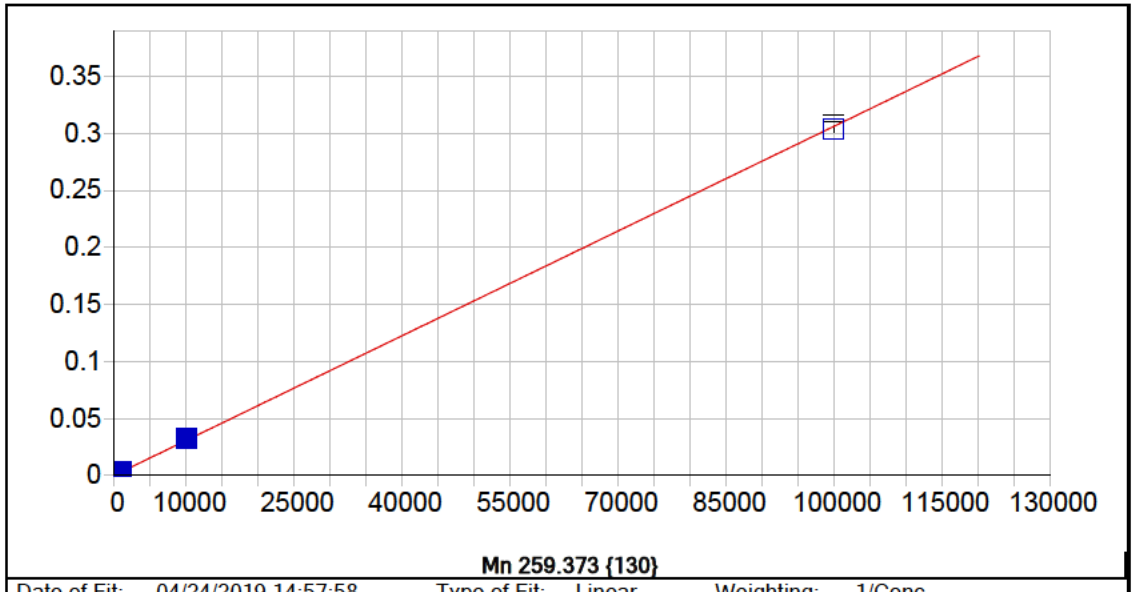



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.103921 | | |
| Predicted MQL: | 0.346402 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00005 | .000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.317 | .317 | 3.17 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.409 | -.591 | -1.18 | .00076 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.947 | -.053 | -.267 | .00031 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.907 | -.093 | -.093 | .00153 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7963 | -.204 | -4.07 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.7 | 16.7 | 1.67 | .01548 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.0 | -16.0 | -.160 | .15197 | .001 | 1 |

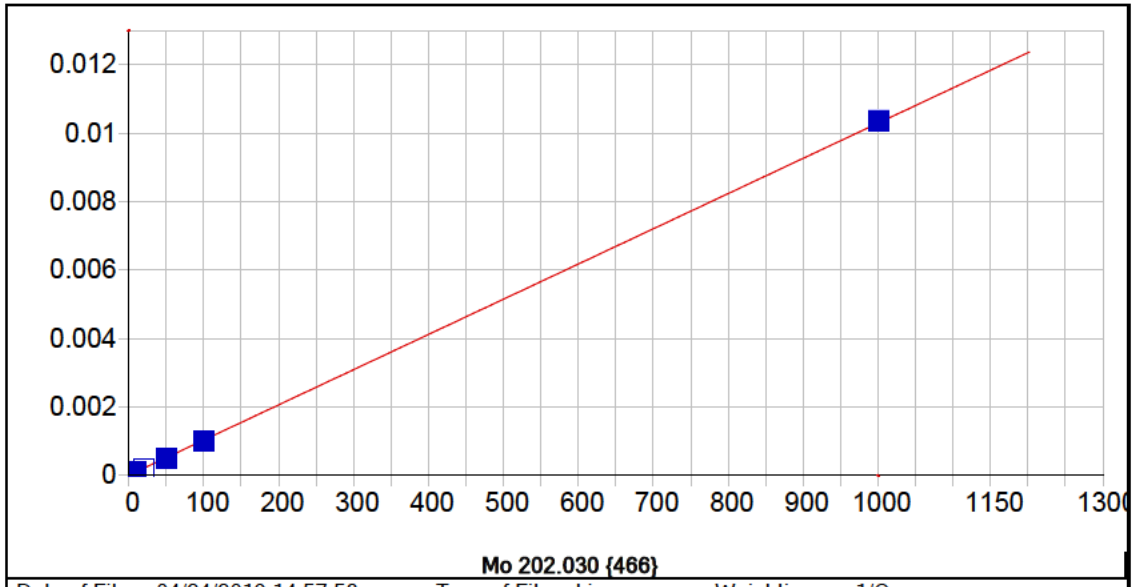



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999825 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 1.407308 | | |
| Predicted MQL: | 4.691027 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11452 | -.115 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10554. | 554. | 5.54 | .03233 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1065.4 | 65.4 | 6.54 | .00327 | .000 | 1 |
| CalStd12=10 | 100000. | 99380. | -620. | -.620 | .30402 | .003 | 1 |

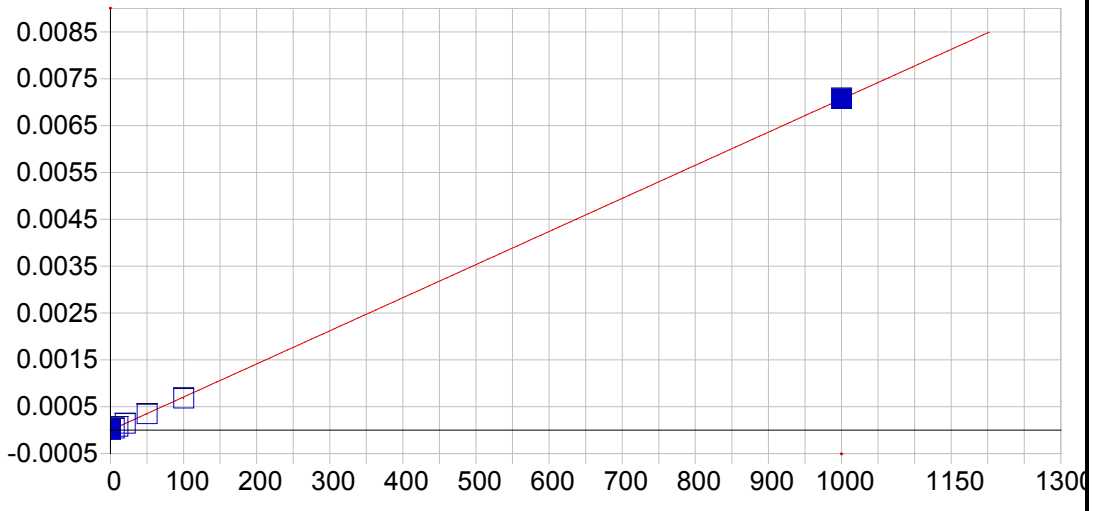



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999793 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.413177 | | |
| Predicted MQL: | 1.377258 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00176 | .002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.738 | -2.26 | -4.52 | .00050 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.061 | -.939 | -4.69 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6845 | -.316 | -3.16 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.457 | -2.54 | -2.54 | .00101 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.9491 | -1.05 | -21.0 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.1 | 7.11 | .711 | .01040 | .000 | 1 |

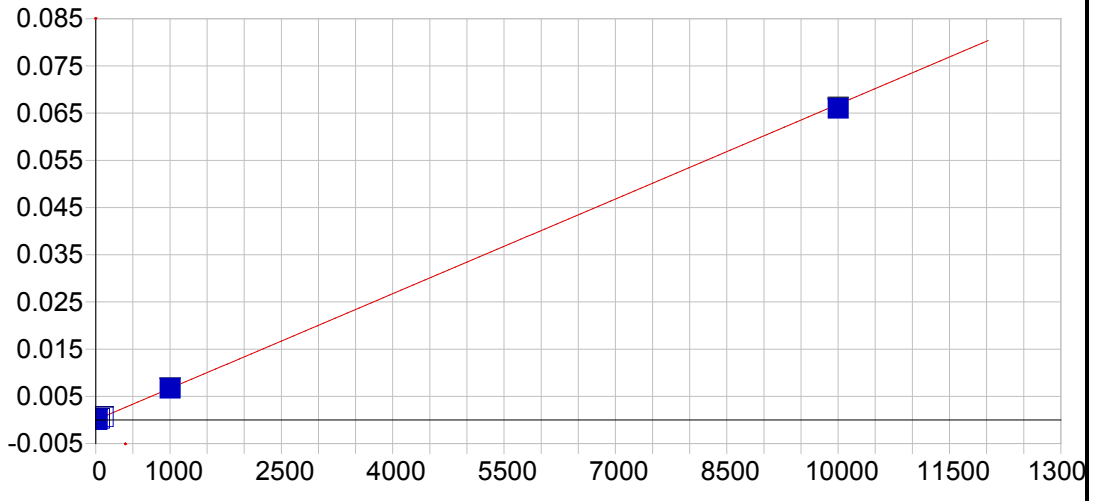



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.764132 | | |
| Predicted MQL: | 2.547106 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.5253 | 1.53 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.002 | -.998 | -2.00 | .00035 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.211 | .211 | 1.06 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.217 | 1.22 | 12.2 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.299 | -3.70 | -3.70 | .00068 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6113 | .611 | 12.2 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.1 | 1.14 | .114 | .00708 | .000 | 1 |

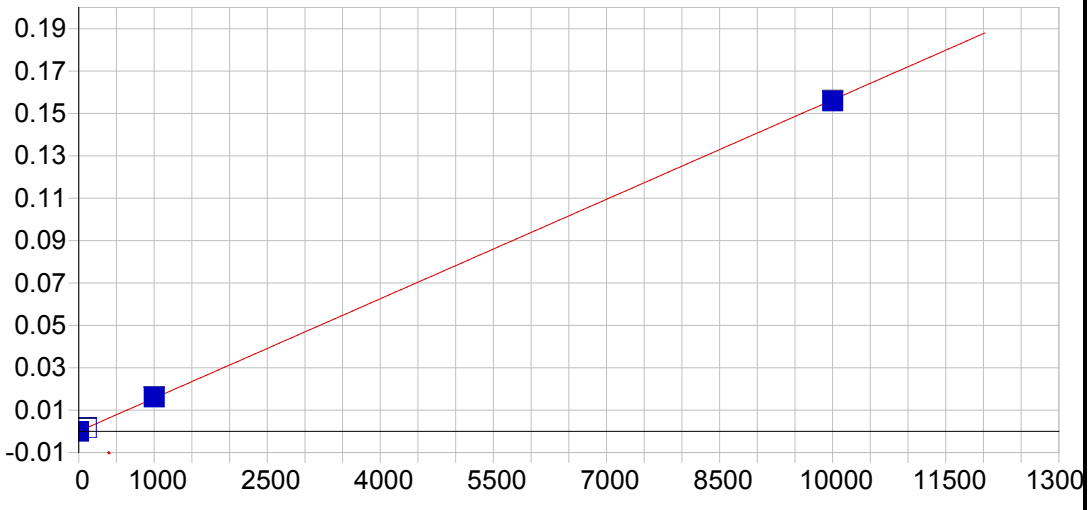



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.756995 | | |
| Predicted MQL: | 2.523317 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .45796 | .458 | .000 | -.00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.815 | -1.18 | -2.37 | .00032 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.661 | -.339 | -1.70 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.632 | .632 | 6.32 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.861 | -2.14 | -2.14 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.1524 | .152 | 3.05 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.4 | 4.41 | .441 | .00671 | .000 | 1 |
| CalStd10=10 | 10000. | 9874.1 | -126. | -1.26 | .06603 | .000 | 1 |

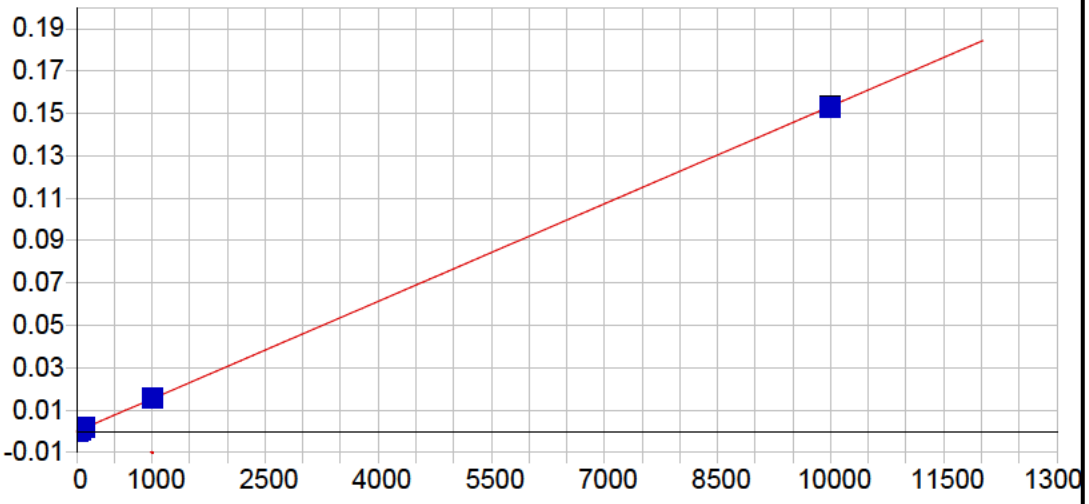



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.522557 | | |
| Predicted MQL: | 1.741857 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00401 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9964.3 | -35.7 | -.357 | .15586 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.89 | .891 | .891 | .00158 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1034.8 | 34.8 | 3.48 | .01619 | .000 | 1 |

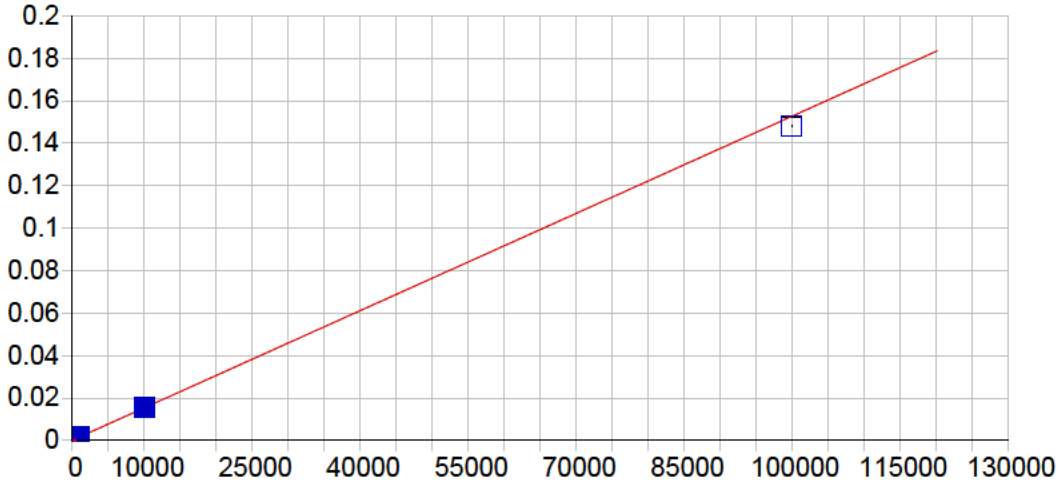



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999935 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.534709 | | |
| Predicted MQL: | 1.782365 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00040 | .000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.756 | -.244 | -.488 | .00075 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.000 | .000 | .003 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.35 | 1.35 | 1.35 | .00155 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3989 | -.601 | -12.0 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.8 | 33.8 | 3.38 | .01585 | .000 | 1 |
| CalStd3=1 | 1.0000 | .68529 | -.315 | -31.5 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9966.1 | -33.9 | -.339 | .15318 | .000 | 1 |

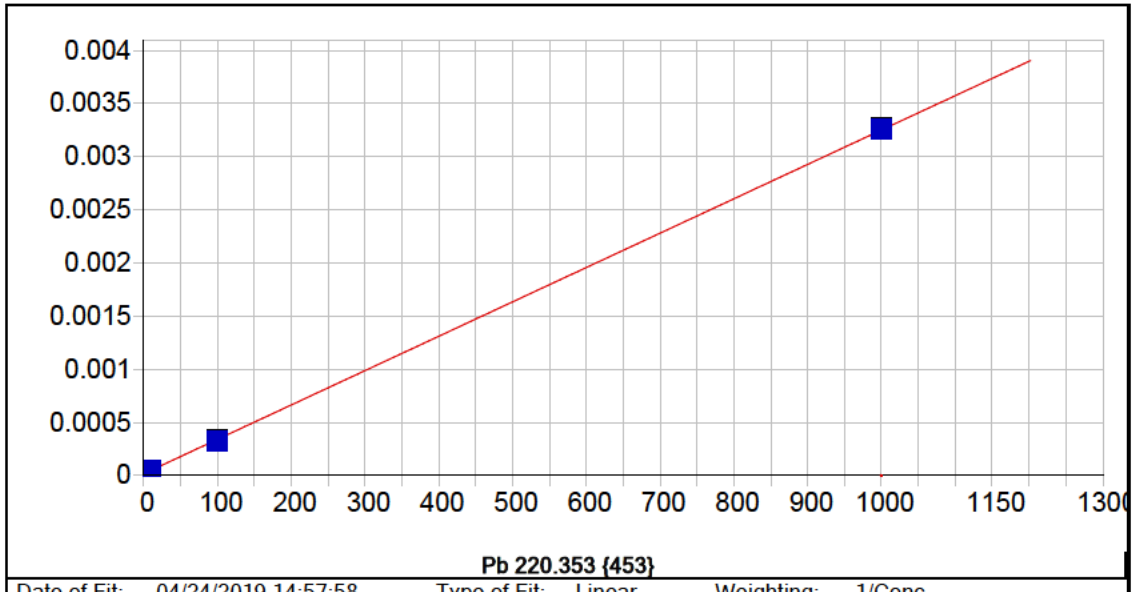



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000032 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999259 | Status: | OK. |
| Std Error of Est: | 0.000059 | | |
| Predicted MDL: | 4.245553 | | |
| Predicted MQL: | 14.151845 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -16.978 | -17.0 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1038.2 | 38.2 | 3.82 | .00162 | .000 | 1 |
| CalStd10=10 | 10000. | 10090. | 90.0 | .900 | .01543 | .000 | 1 |
| CalStd8=100 | 100.00 | 85.709 | -14.3 | -14.3 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | -5.6798 | -15.7 | -157. | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 96978. | -3020. | -3.02 | .14801 | .000 | 1 |

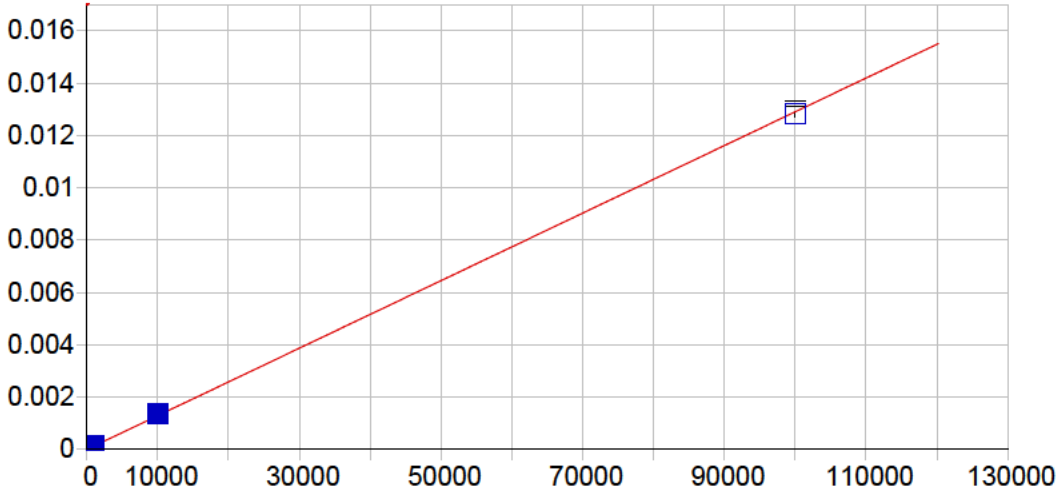



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999922 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.556179 | | |
| Predicted MQL: | 8.520597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00057 | .001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9829 | -.017 | -.171 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.455 | -3.54 | -3.54 | .00033 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6000 | -.400 | -8.00 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.0 | 3.96 | .396 | .00326 | .000 | 1 |

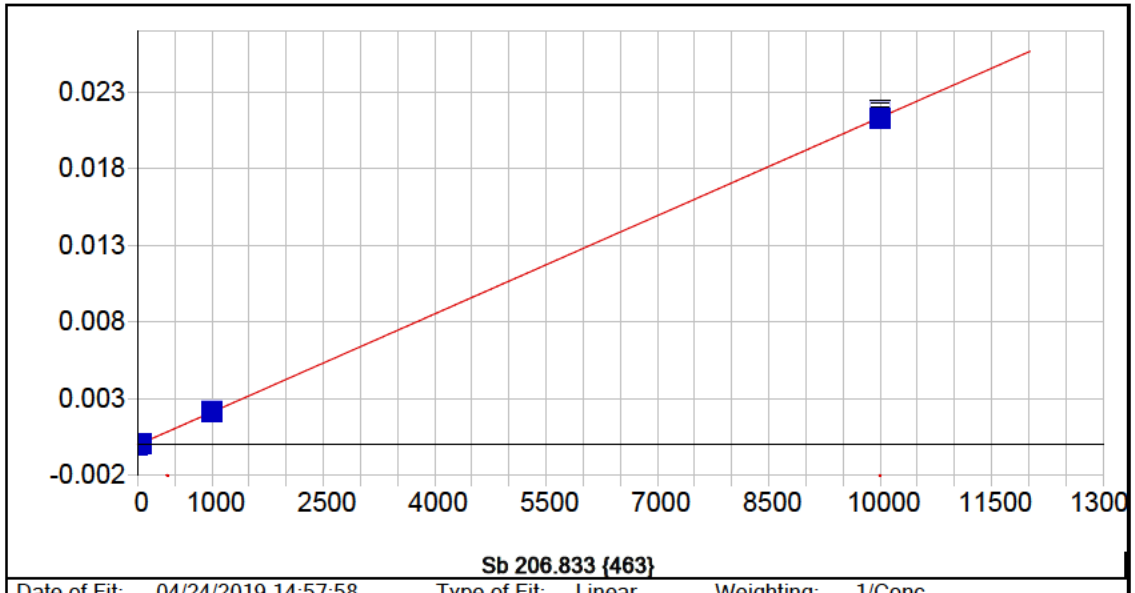



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999803 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.304185 | | |
| Predicted MQL: | 27.680617 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01399 | -.014 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1076.9 | 76.9 | 7.69 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 10578. | 578. | 5.78 | .00137 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.17 | 1.17 | 1.17 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99344. | -656. | -.656 | .01281 | .000 | 1 |

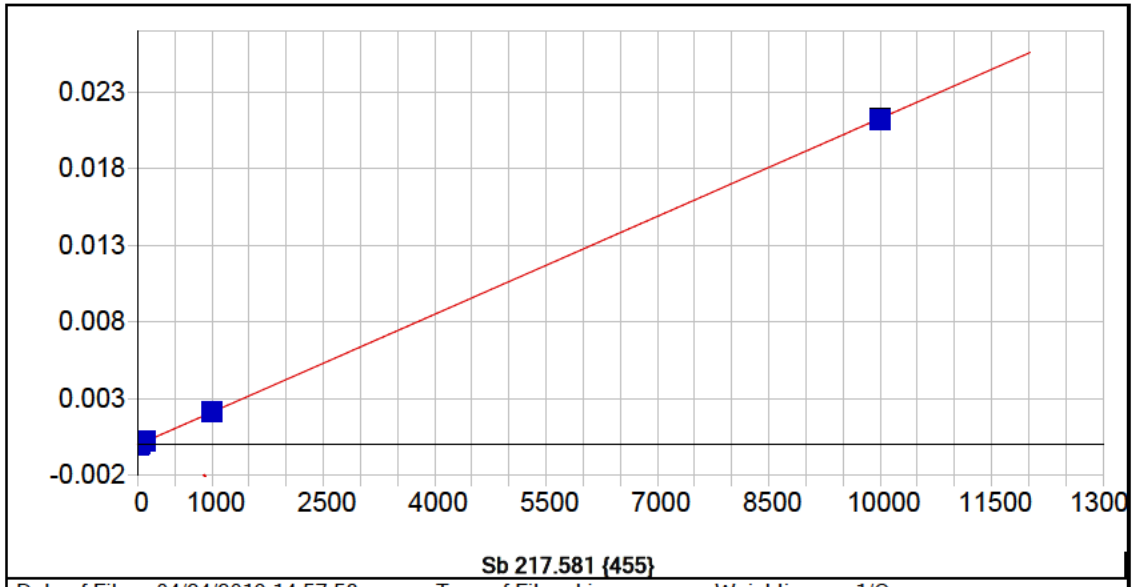



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.381043 | | |
| Predicted MQL: | 7.936811 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00080 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.8 | 19.8 | 1.98 | .00221 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.219 | 1.22 | 12.2 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.012 | -2.99 | -5.98 | .00010 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.0 | -18.0 | -.180 | .02169 | .000 | 1 |

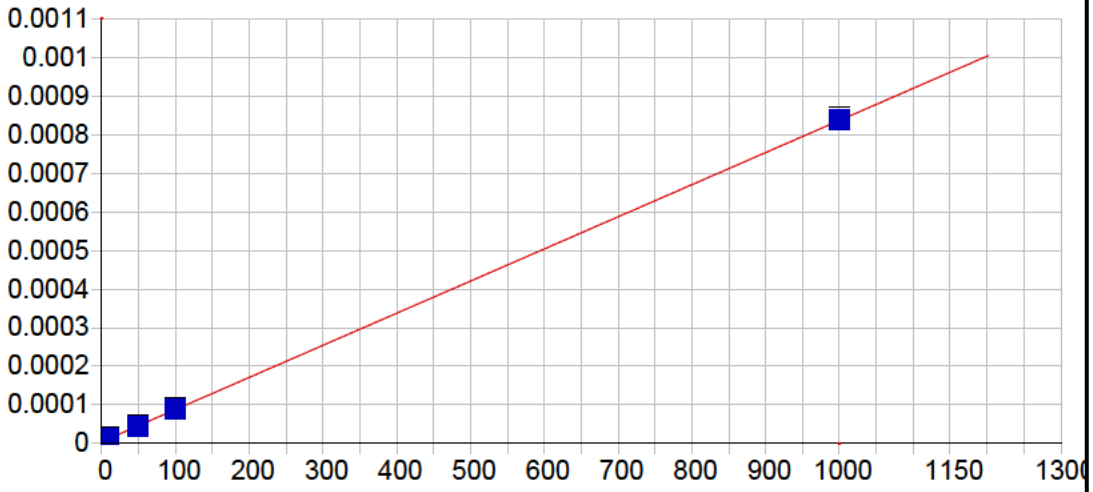



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999937 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.662513 | | |
| Predicted MQL: | 8.875043 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00261 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.8 | 23.8 | 2.38 | .00218 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.176 | 1.18 | 5.88 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.006 | 2.01 | 20.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.76 | .757 | .757 | .00021 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.1728 | 1.17 | 23.5 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9971.1 | -28.9 | -.289 | .02121 | .000 | 1 |

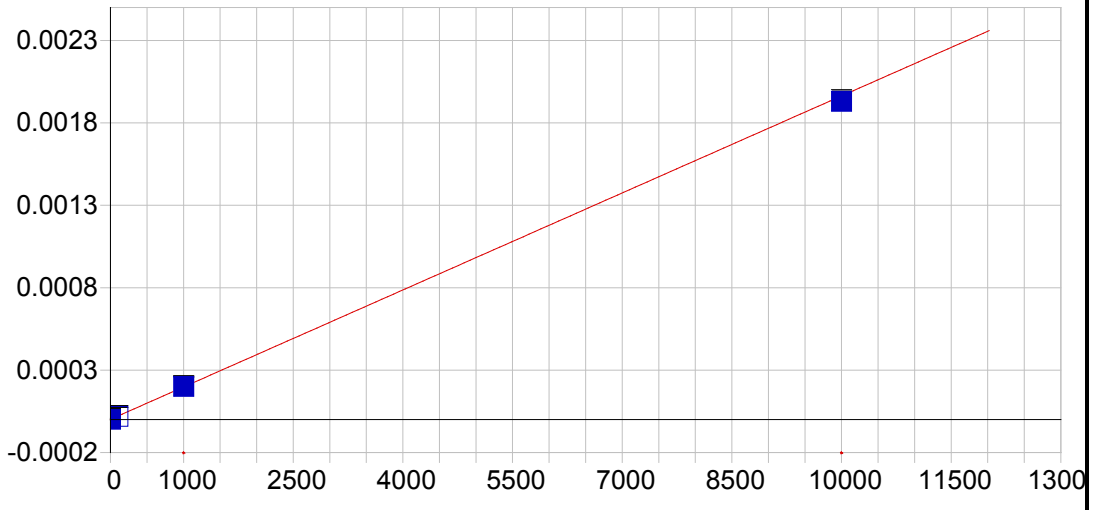



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999903 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.971823 | | |
| Predicted MQL: | 16.572742 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00039 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.368 | -2.63 | -5.26 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.85 | .185 | .00084 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.911 | .911 | 9.11 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.875 | -.125 | -.125 | .00009 | .000 | 1 |

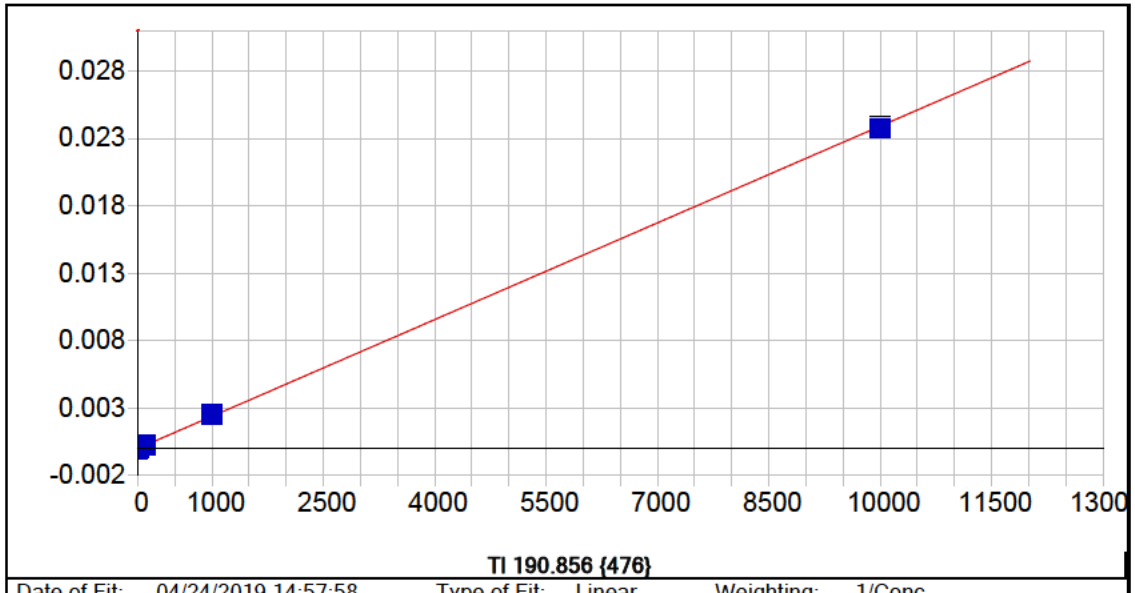



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999905 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.249775 | | |
| Predicted MQL: | 94.165917 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01203 | .012 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.1 | 13.1 | 1.31 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9825.0 | -175. | -1.75 | .00193 | .000 | 1 |
| CalStd8=100 | 100.00 | 86.482 | -13.5 | -13.5 | .00002 | .000 | 1 |

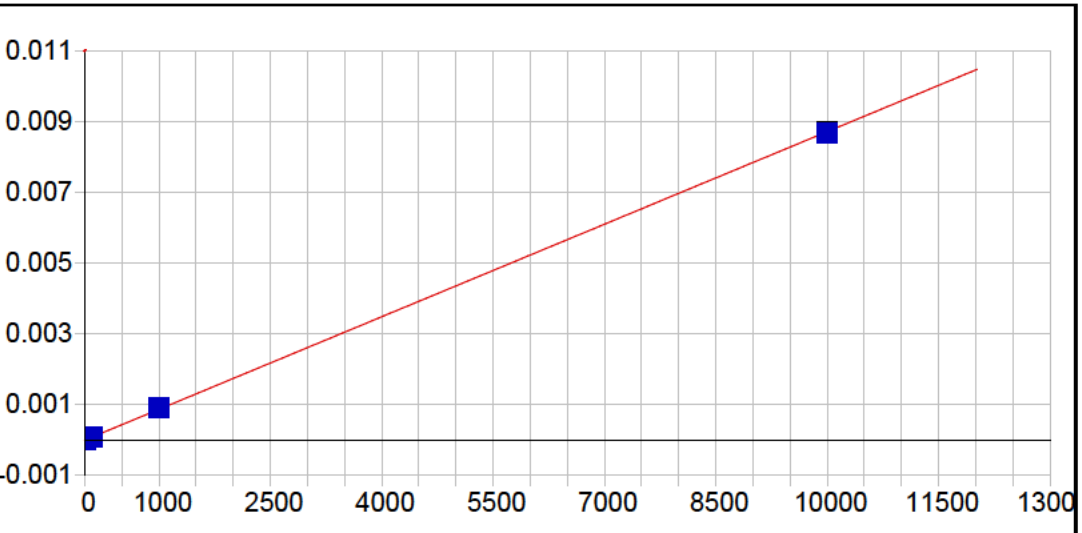



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999760 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.192165 | | |
| Predicted MQL: | 7.307215 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00219 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1065.0 | 65.0 | 6.50 | .00256 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.28 | 7.28 | 7.28 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.885 | .885 | 8.85 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9926.8 | -73.2 | -.732 | .02383 | .000 | 1 |

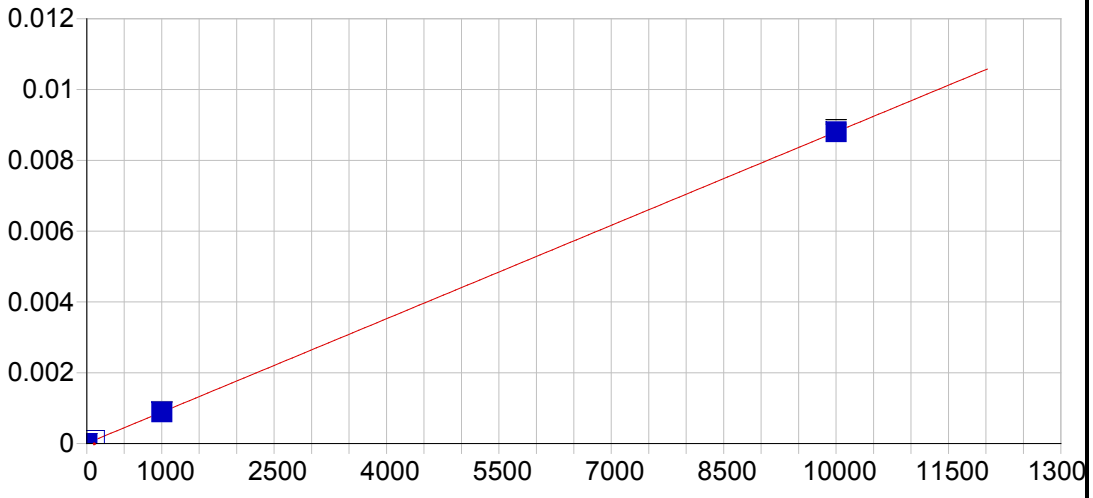



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.846494 | | |
| Predicted MQL: | 16.154979 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00015 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1049.9 | 49.9 | 4.99 | .00092 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.18 | 2.18 | 2.18 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1794 | -.821 | -8.21 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9948.7 | -51.3 | -.513 | .00867 | .000 | 1 |

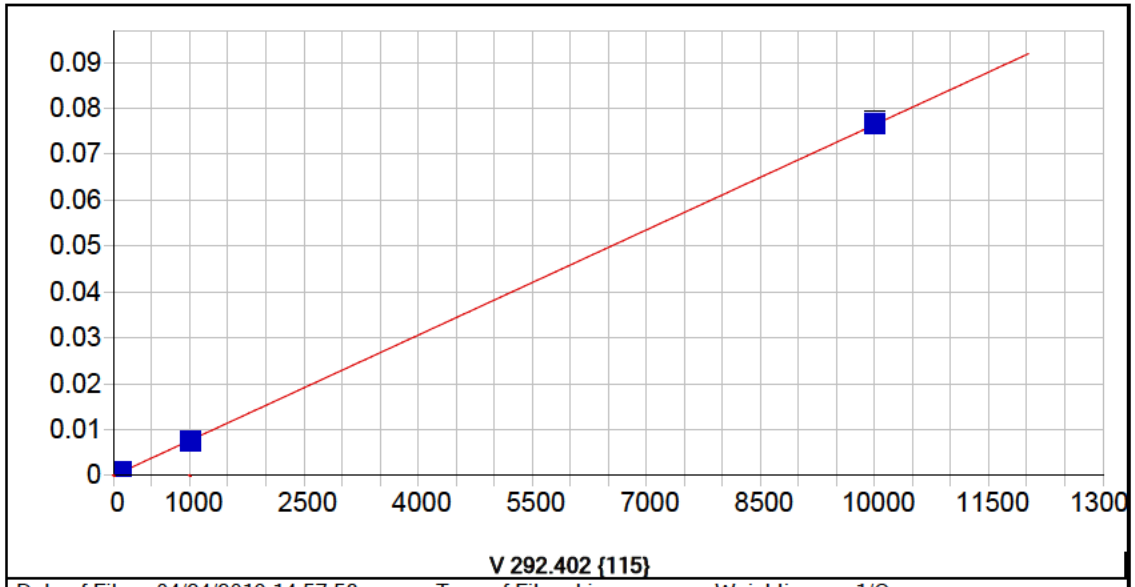



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999992 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.369193 | | |
| Predicted MQL: | 21.230643 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00355 | .004 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.8 | 3.84 | .384 | .00089 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .100 | .001 | .00880 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.060 | -3.94 | -3.94 | .00009 | .000 | 1 |

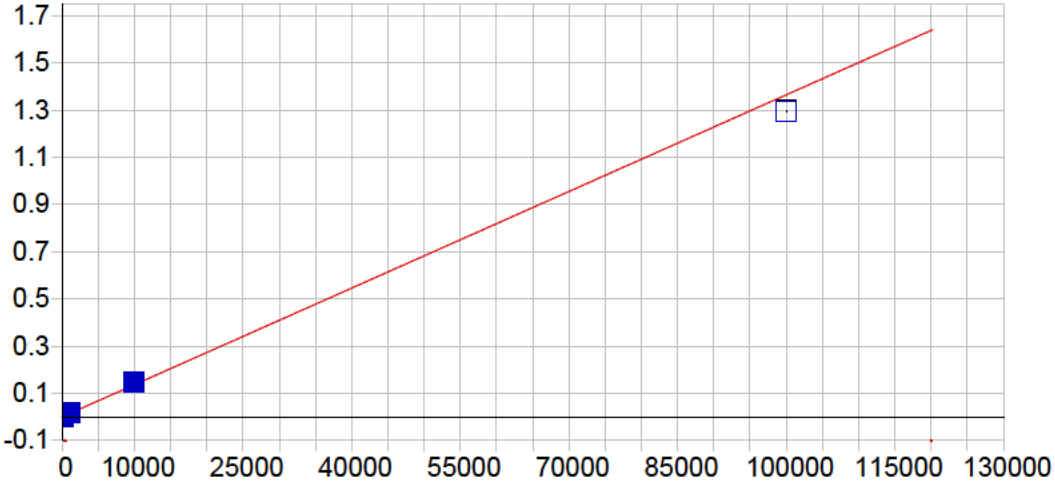



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.572351 | | |
| Predicted MQL: | 1.907838 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00240 | .002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.759 | -3.24 | -6.48 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.26 | -14.7 | -1.47 | .00754 | .000 | 1 |
| CalStd6=20 | 20.000 | 18.882 | -1.12 | -5.59 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5003 | -.500 | -5.00 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 94.317 | -5.68 | -5.68 | .00073 | .000 | 1 |
| CalStd10=10 | 10000. | 10025. | 25.2 | .252 | .07693 | .000 | 1 |

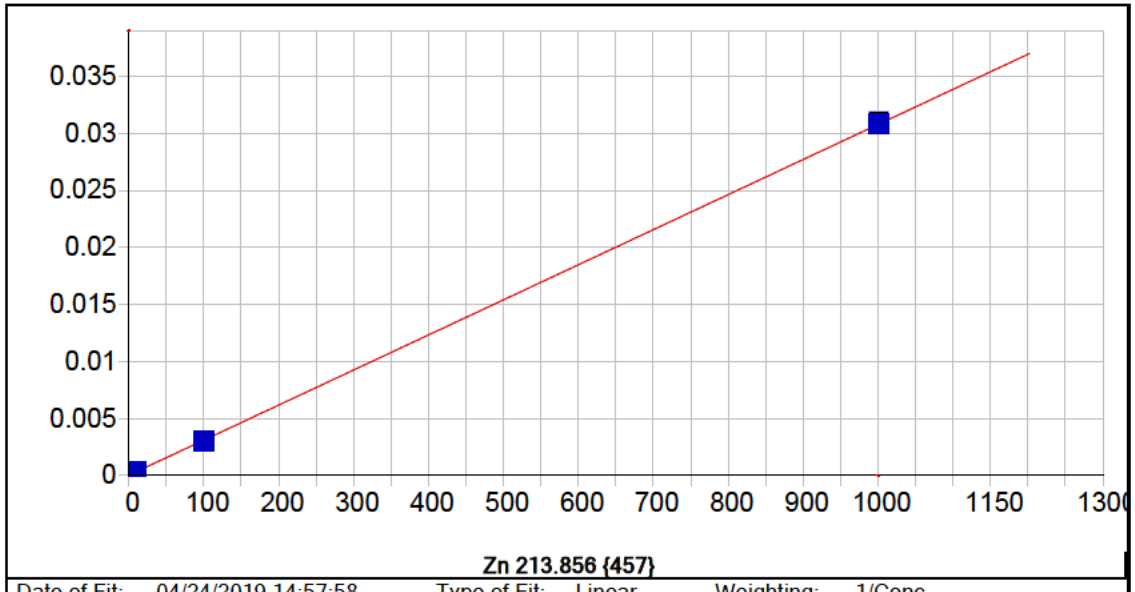



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000034 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996901 | Status: | OK. |
| Std Error of Est: | 0.000139 | | |
| Predicted MDL: | 0.501904 | | |
| Predicted MQL: | 1.673013 | | |

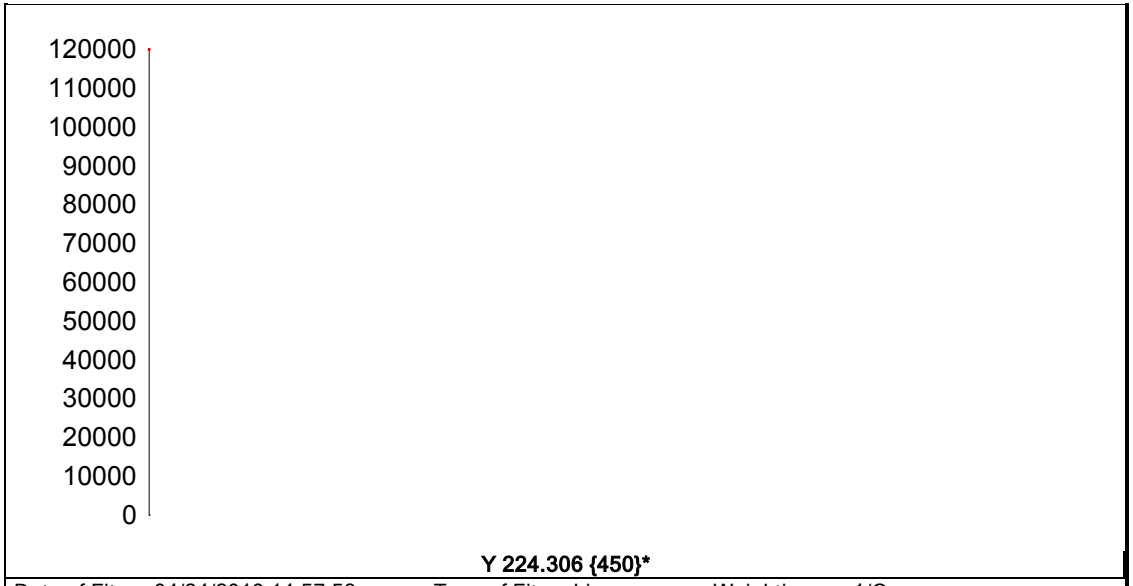
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10768. | 768. | 7.68 | .14697 | .001 | 1 |
| Blank | .00000 | -2.3766 | -2.38 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.3 | 131. | 13.1 | .01547 | .000 | 1 |
| CalStd12=10 | 100000. | 94973. | -5030. | -5.03 | 1.2960 | .003 | 1 |
| CalStd5=10 | 10.000 | 9.2192 | -.781 | -7.81 | .00016 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.11 | 10.1 | 10.1 | .00154 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

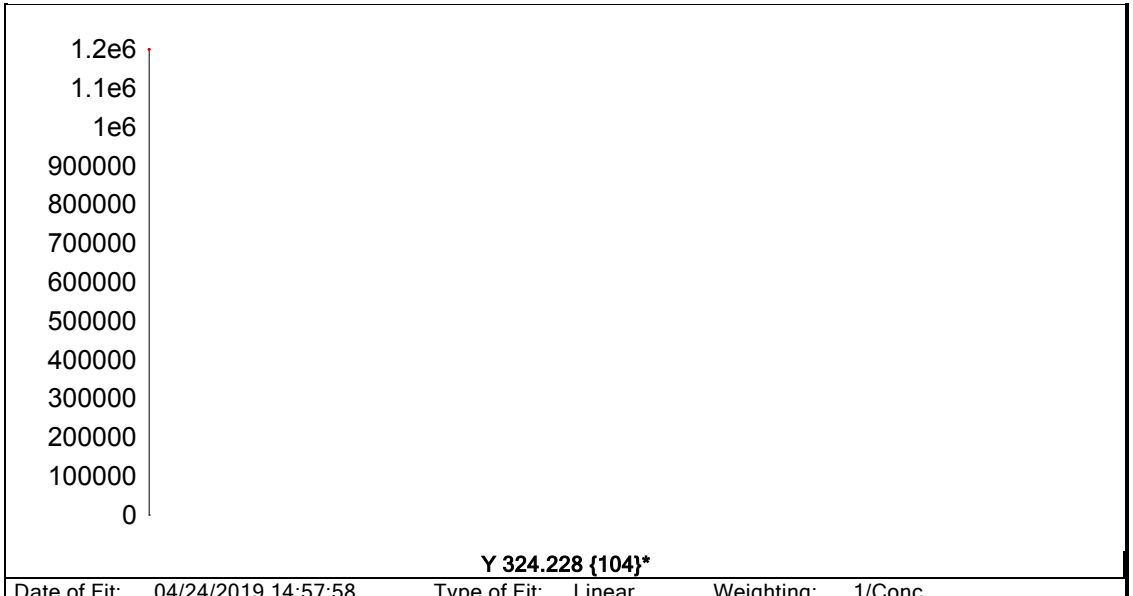
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000031 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999972 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.194607 | | |
| Predicted MQL: | 0.648692 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00035 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.3 | 1.30 | .130 | .03102 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.520 | .520 | 5.20 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.179 | -1.82 | -1.82 | .00306 | .000 | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

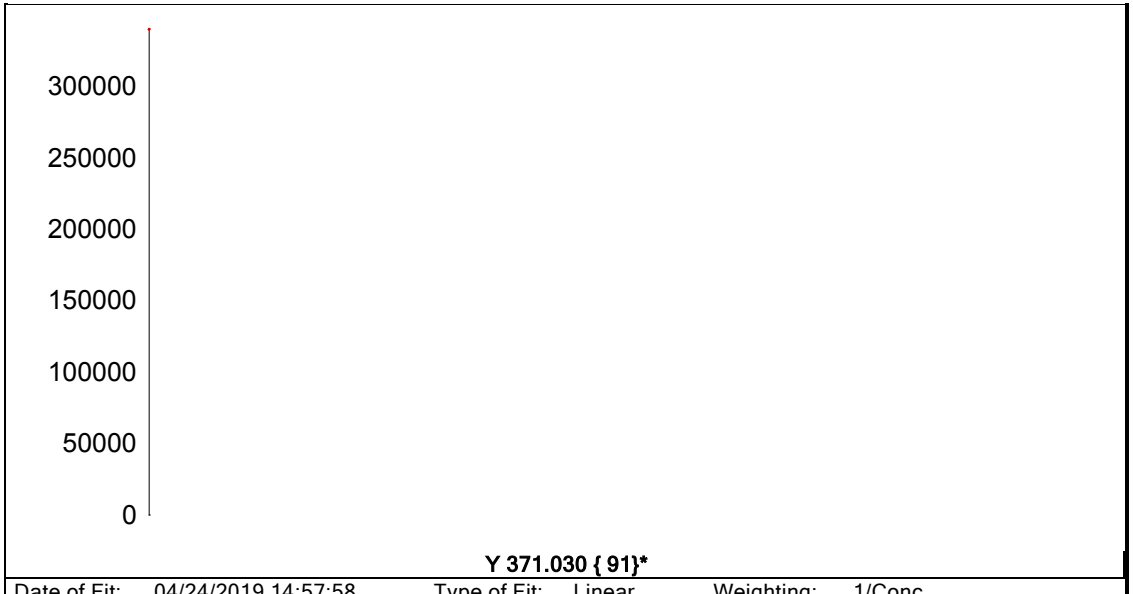
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 110570. | 371. | 1 |




**Y 324.228 {104}***

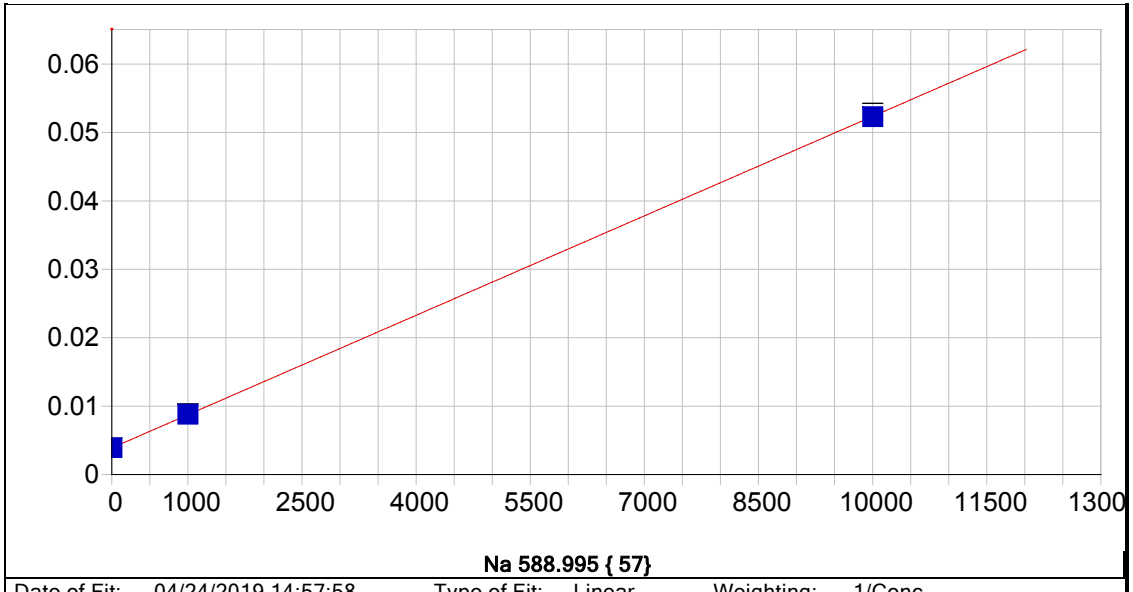
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1112000. | 3000. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 313790. | 1340. | 1 |

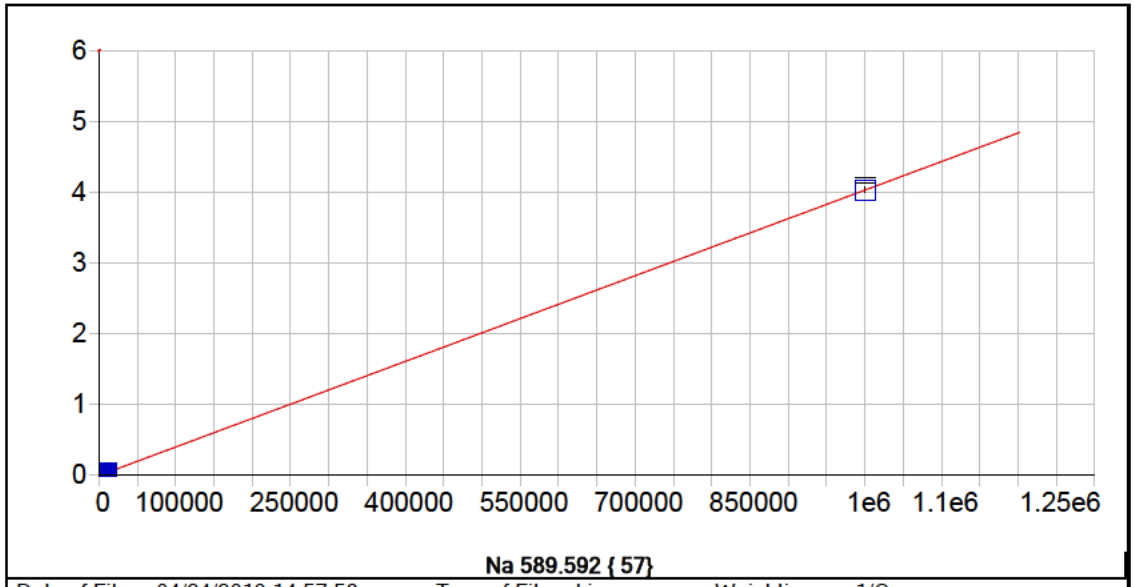



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003891 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 9.462005 | | |
| Predicted MQL: | 31.540015 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01049 | -.010 | .000 | .00389 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1011.7 | 11.7 | 1.17 | .00879 | .000 | 1 |
| CalStd10=10 | 10000. | 9988.3 | -11.7 | -.117 | .05230 | .001 | 1 |

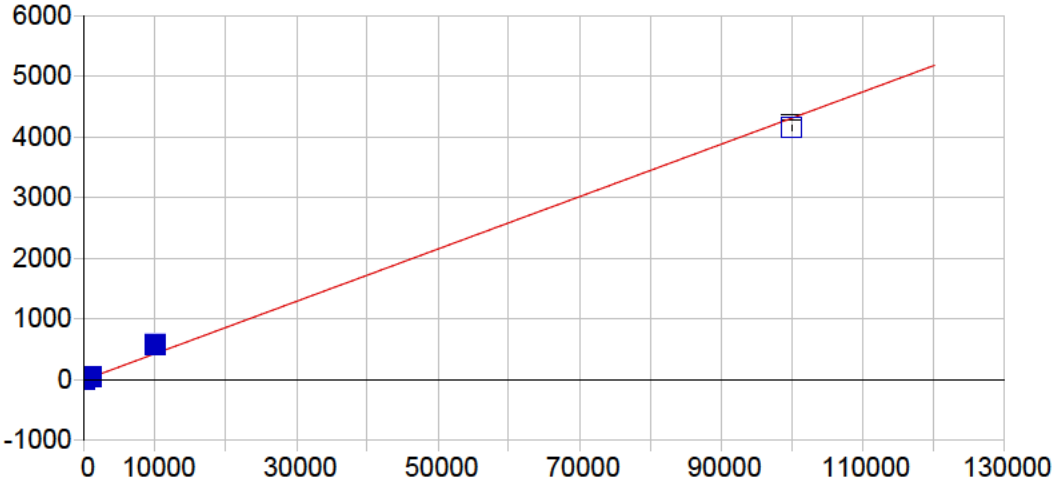



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000062 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 7.503540 | | |
| Predicted MQL: | 25.011799 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02331 | .023 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.83 | -10.2 | -1.02 | .00405 | .000 | 1 |
| CalStd10=10 | 10000. | 9867.3 | -133. | -1.33 | .03984 | .000 | 1 |
| CalibStd15= | 1000000. | 1000100. | 143. | .014 | 4.0325 | .037 | 1 |

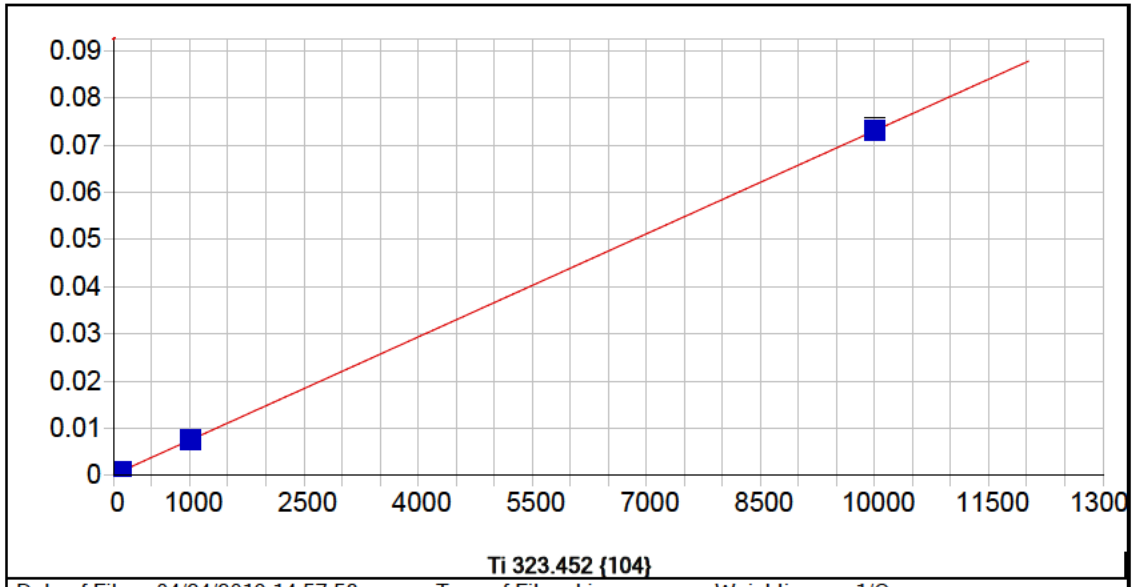



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.433857 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.043107 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994628 | Status: | OK. |
| Std Error of Est: | 2.123873 | | |
| Predicted MDL: | 29.357599 | | |
| Predicted MQL: | 97.858664 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.48330 | -.483 | .000 | .41302 | 1.22 | 1 |
| CalStd9=100 | 1000.0 | 1195.9 | 196. | 19.6 | 55.387 | 2.01 | 1 |
| CalStd10=10 | 10000. | 13235. | 3230. | 32.3 | 592.54 | 5.32 | 1 |
| CalibStd15= | 100000. | 96392. | -3610. | -3.61 | 4155.6 | 39.7 | 1 |

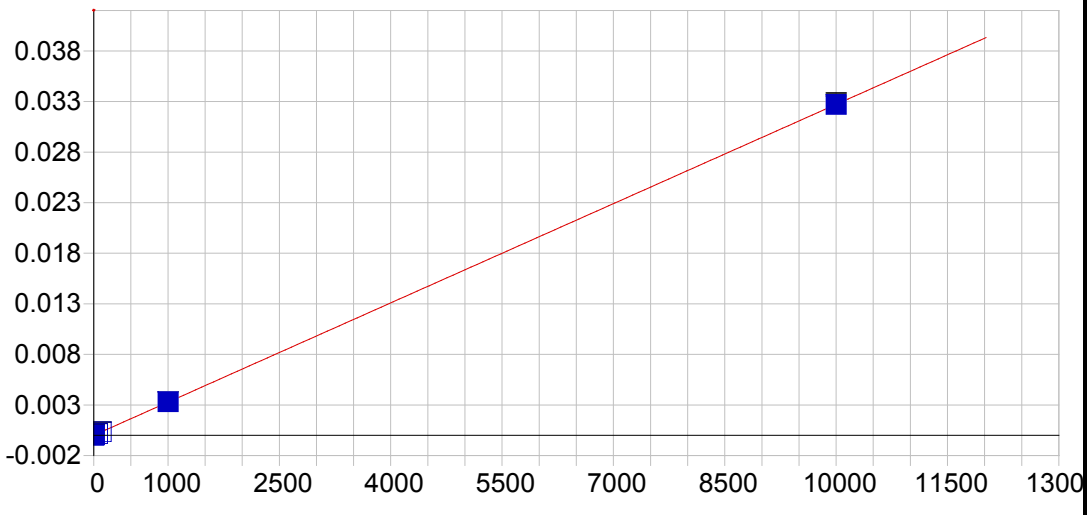



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000210 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.371559 | | |
| Predicted MQL: | 4.571865 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00045 | .000 | .000 | .00021 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.8736 | -.126 | -1.26 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.112 | -1.89 | -1.89 | .00093 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.4 | .380 | .038 | .00750 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.18 | .032 | .07312 | .001 | 1 |
| CalStd7=50 | 50.000 | 48.605 | -1.39 | -2.79 | .00056 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8444 | -.156 | -3.11 | .00025 | .000 | 1 |

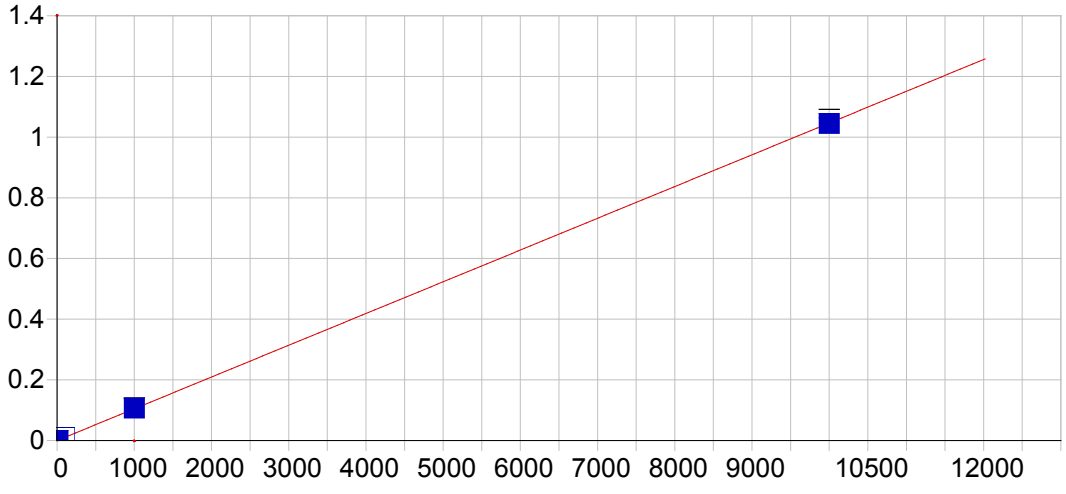



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999986 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.100267 | | |
| Predicted MQL: | 7.000889 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00066 | .001 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.512 | .512 | 5.12 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.069 | -1.93 | -1.93 | .00033 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.4 | 9.36 | .936 | .00331 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.6 | -5.41 | -.054 | .03271 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.153 | -1.85 | -3.69 | .00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3169 | -.683 | -13.7 | .00002 | .000 | 1 |

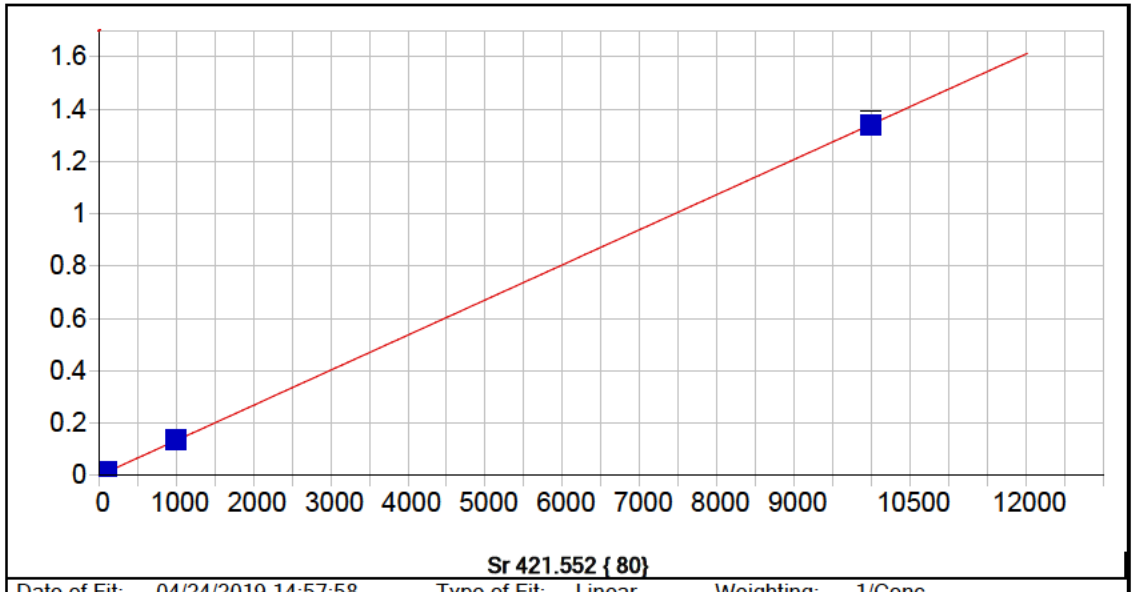



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000067 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000105 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.148440 | | |
| Predicted MQL: | 0.494802 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00016 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .76693 | -.233 | -23.3 | .00015 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0226 | .023 | .453 | .00059 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.522 | .522 | 5.22 | .00117 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.753 | -.247 | -.247 | .01050 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.4 | 19.4 | 1.94 | .10676 | .001 | 1 |
| CalStd10=10 | 10000. | 9980.6 | -19.4 | -.194 | 1.0447 | .014 | 1 |

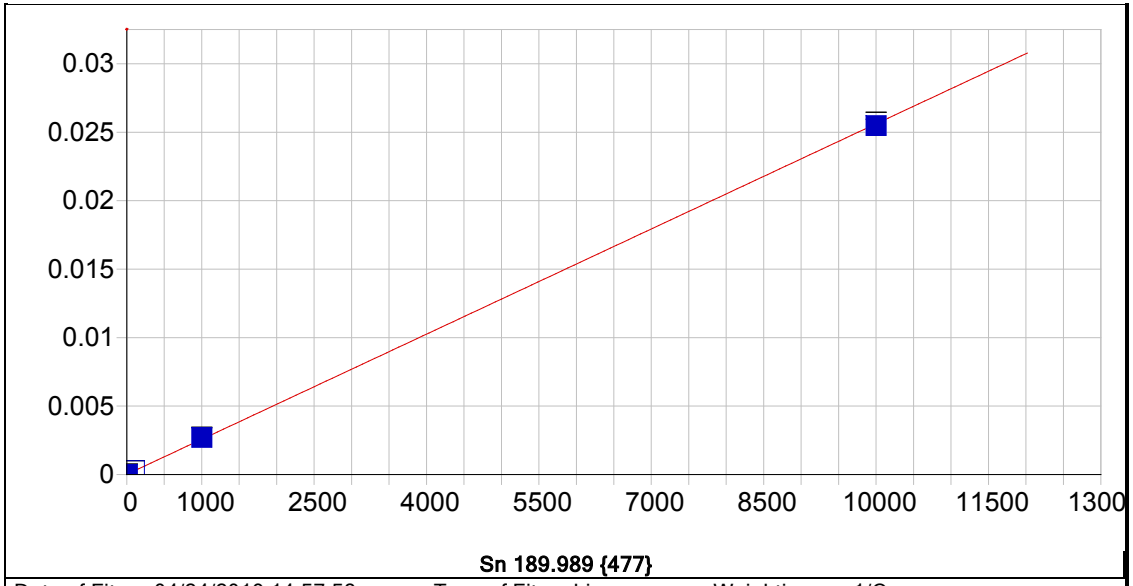



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.116329 | | |
| Predicted MQL: | 0.387765 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00027 | .000 | .000 | .00003 | .000 | 1 |
| CalStd3=1 | 1.0000 | .71987 | -.280 | -28.0 | .00012 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8931 | -.107 | -2.14 | .00068 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.386 | .386 | 3.86 | .00142 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.110 | -.890 | -.890 | .01332 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.3 | 7.30 | .730 | .13514 | .001 | 1 |
| CalStd10=10 | 10000. | 9993.6 | -6.41 | -.064 | 1.3405 | .016 | 1 |

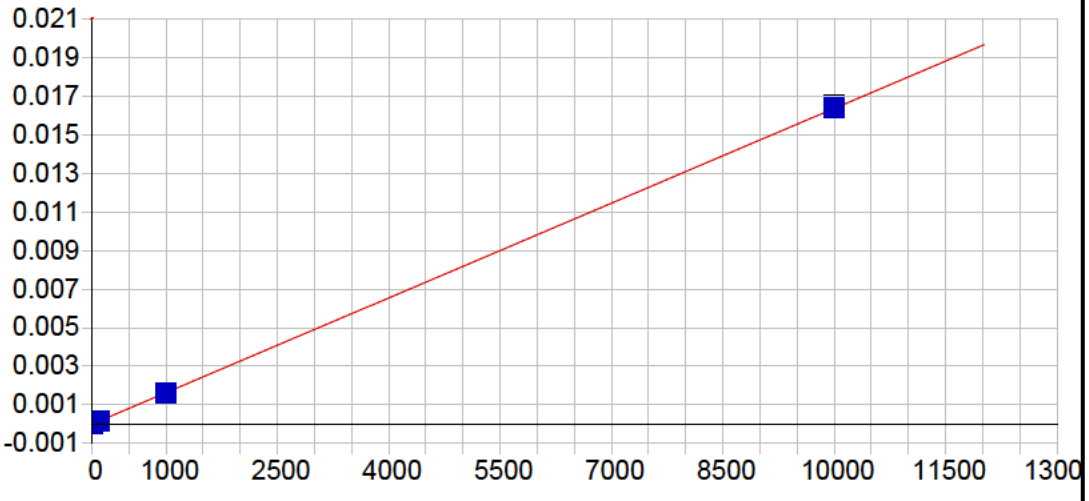



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999865 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.044113 | | |
| Predicted MQL: | 6.813710 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00147 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9945.5 | -54.5 | -.545 | .02547 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1050.4 | 50.4 | 5.04 | .00270 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.49 | 3.49 | 3.49 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.676 | .676 | 6.76 | .00004 | .000 | 1 |

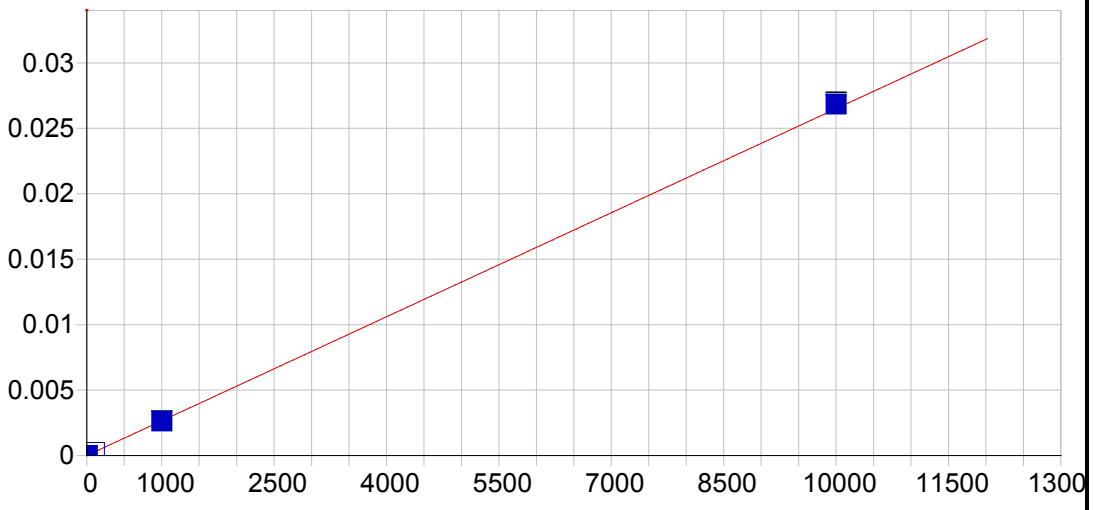



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999948 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.301276 | | |
| Predicted MQL: | 4.337586 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00156 | .002 | .000 | -.00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 93.544 | -6.46 | -6.46 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.2981 | -.702 | -7.02 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 975.54 | -24.5 | -2.45 | .00160 | .000 | 1 |
| CalStd10=10 | 10000. | 10032. | 31.6 | .316 | .01647 | .000 | 1 |

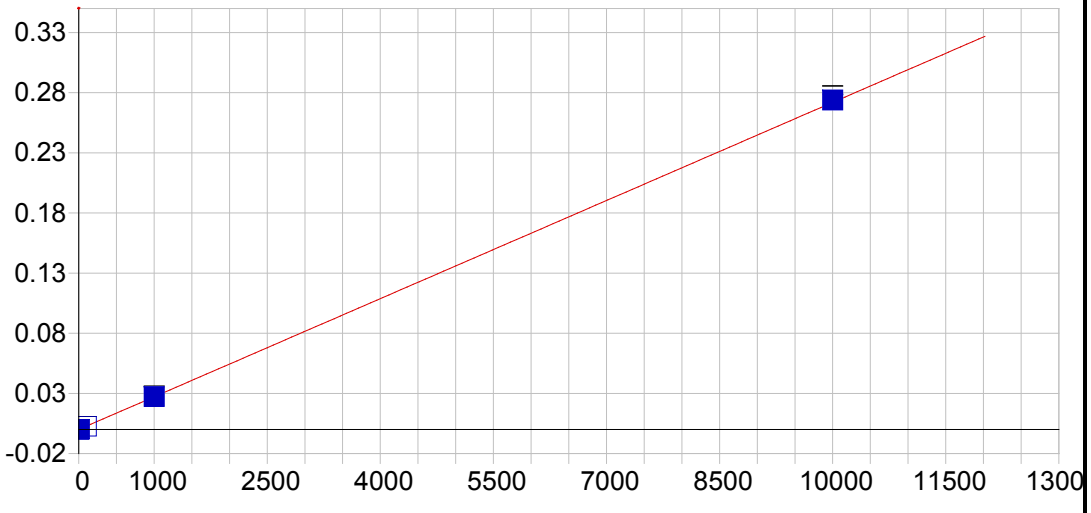



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999803 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.789229 | | |
| Predicted MQL: | 2.630764 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .21033 | .210 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.608 | -4.39 | -4.39 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.202 | .202 | 2.02 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 992.53 | -7.47 | -.747 | .00263 | .000 | 1 |
| CalStd10=10 | 10000. | 10131. | 131. | 1.31 | .02686 | .000 | 1 |

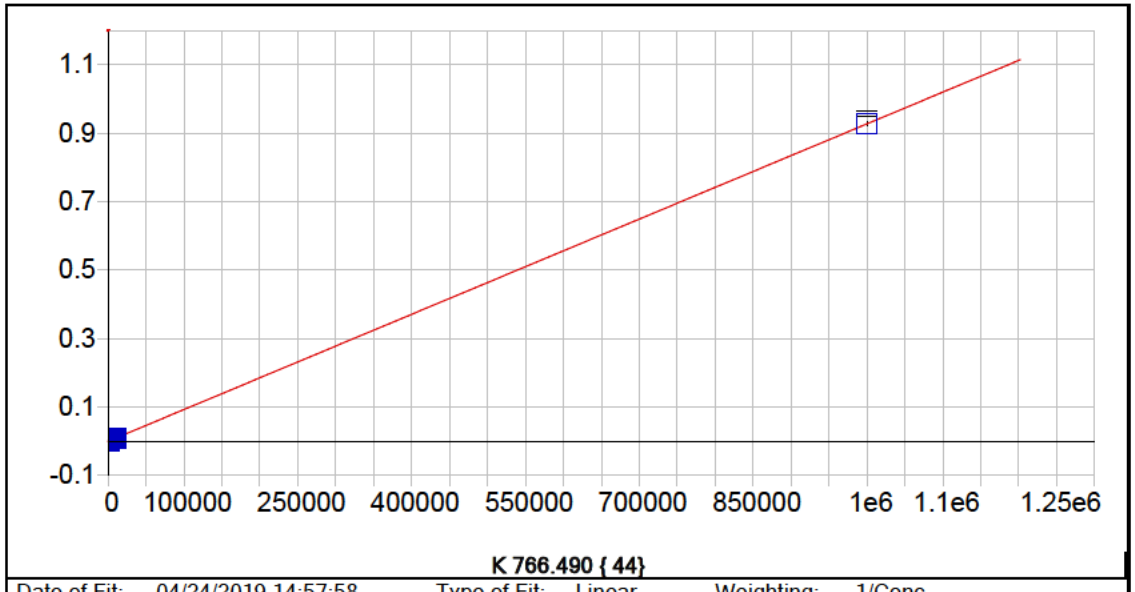



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999901 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 1.356925 | | |
| Predicted MQL: | 4.523082 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .07529 | .075 | .000 | -.00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.830 | .830 | 8.30 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.025 | -1.98 | -1.98 | .00265 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.2 | 6.19 | .619 | .02735 | .000 | 1 |
| CalStd10=10 | 10000. | 10069. | 69.3 | .693 | .27384 | .003 | 1 |

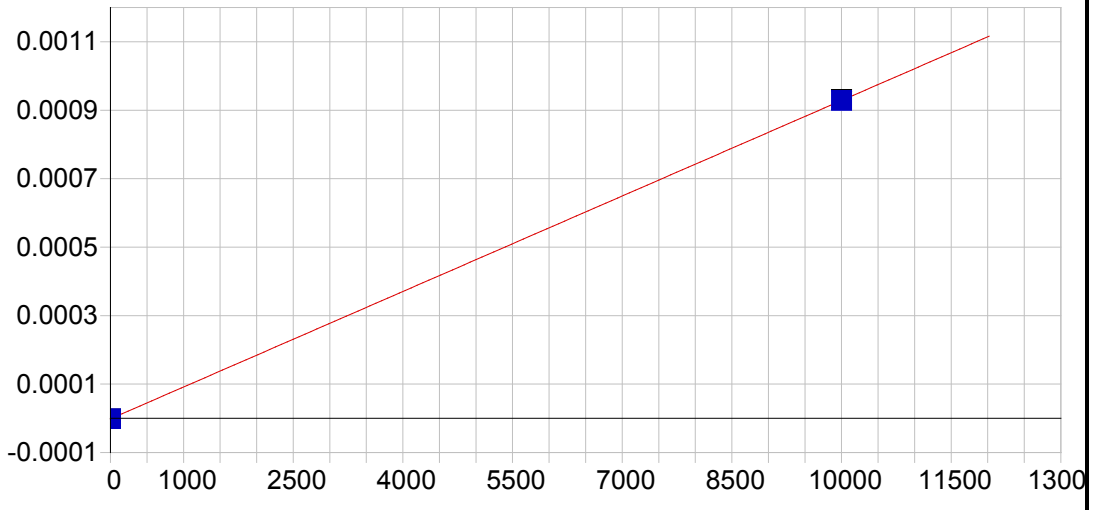



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999988 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 49.698240 | | |
| Predicted MQL: | 165.660799 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .11297 | .113 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 930.71 | -69.3 | -6.93 | .00085 | .000 | 1 |
| CalStd10=10 | 10000. | 9558.1 | -442. | -4.42 | .00885 | .000 | 1 |
| CalibStd15= | 1000000. | 1000500. | 511. | .051 | .92784 | .006 | 1 |

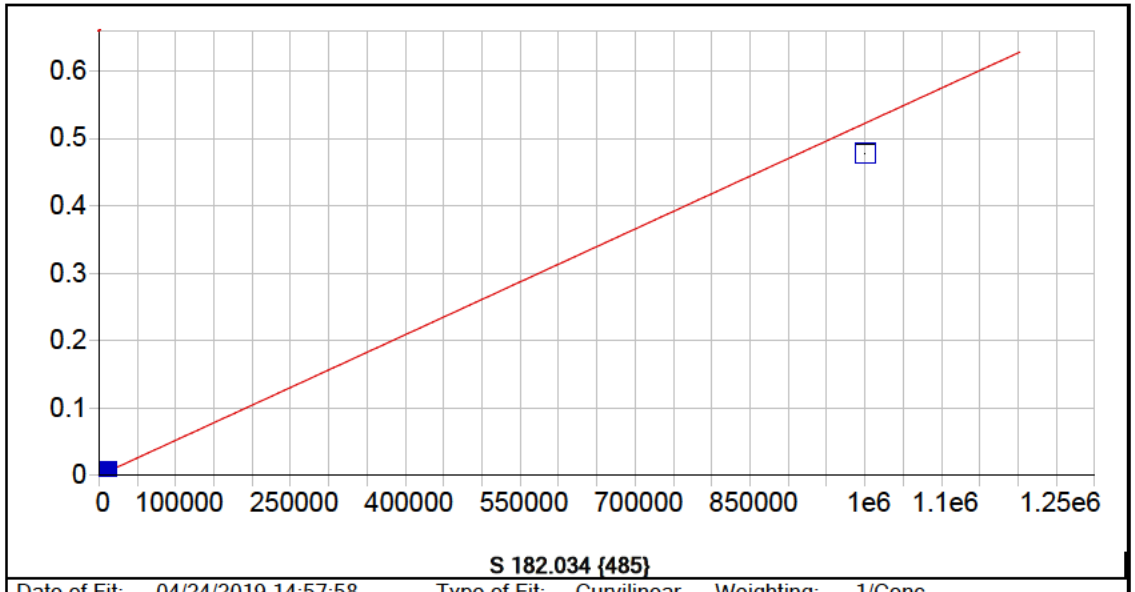



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.085080 | | |
| Predicted MQL: | 20.283599 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00093 | .000 | 1 |

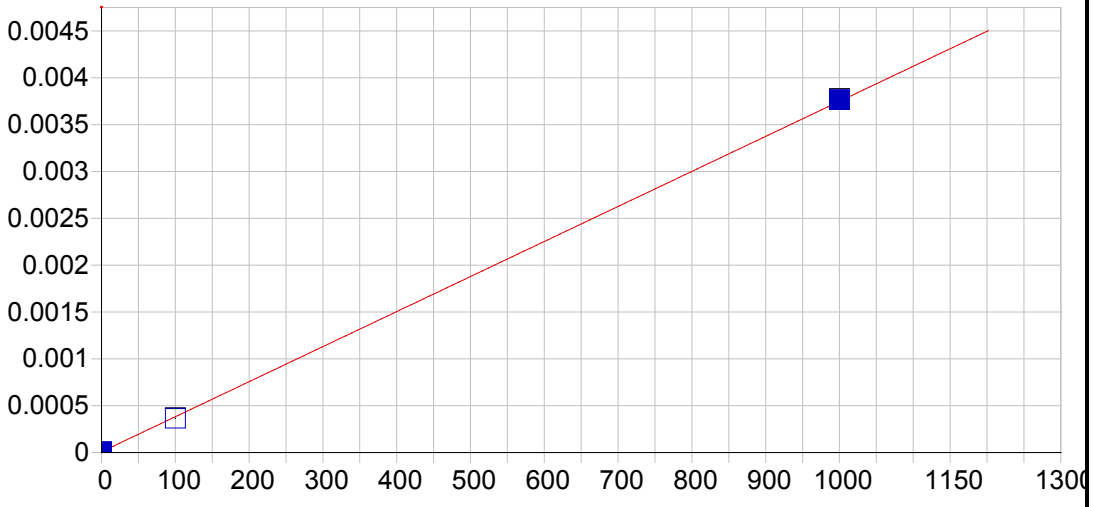



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.556417 | | |
| Predicted MQL: | 21.854722 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00479 | .005 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 994.59 | -5.41 | -.541 | .00052 | .000 | 1 |
| CalStd10=10 | 10000. | 9996.7 | -3.25 | -.033 | .00524 | .000 | 1 |
| CalibStd15= | 1000000. | 913730. | -86300. | -8.63 | .47731 | .001 | 1 |

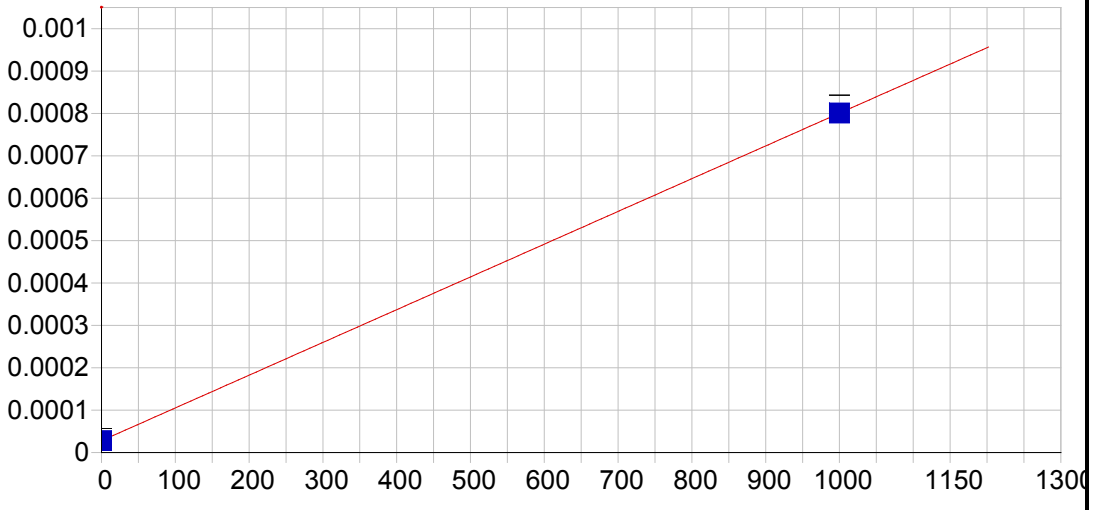



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999904 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.092822 | | |
| Predicted MQL: | 3.642741 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00395 | .004 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.612 | -4.39 | -4.39 | .00037 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.4 | 4.39 | .439 | .00377 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 14:57:58 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 20.028422 | | |
| Predicted MQL: | 66.761407 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00080 | .000 | 1 |

Sample Name: Blank Acquired: 04/18/2019 14:26:00 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **-.000** | **-.000** | **.010** | **-.000** | **-.000** | **.000** | **.003** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | 31.4 | 8.12 | 89.1 | 168. | 62.4 | 201. | .327 | .723 | 1480. | 3.11 | 35.1 | 115. |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **104.** | **9.77** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 3. | 1.78 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 18.4 | 748. | 24.0 | 10.6 | 113. | 2.60 | 18.2 | 3.51 | 62.2 | 19.8 | 199. | 9.83 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.3 | 57.6 | 57.4 | 106. | 149. | 124. | 56.1 | 25.1 | 82.0 | 499. | 63.6 | 432. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 439. | 65.6 | 76.9 | 308. | 14.5 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110570.** | **1112000.** | **313790.** |
| Stddev | 371. | 2997. | 1340. |
| %RSD | .33520 | .26951 | .42716 |

Sample Name: CalStd2=0.5 Acquired: 04/18/2019 14:32:16 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.90 | 30.1 | 13.7 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **110760.** | **1106400.** |
| Stddev | 565. | 9069. |
| %RSD | .51034 | .81973 |

Sample Name: CalStd3=1 Acquired: 04/18/2019 14:38:46 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 8.55 | 7.94 | 1.29 | 4.03 | 13.8 | 5.88 | 32.9 | 957. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110810.** | **1108500.** | **312870.** |
| Stddev | 152. | 2964. | 2245. |
| %RSD | .13721 | .26741 | .71765 |

Sample Name: CalStd4=5 Acquired: 04/18/2019 14:45:04 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **10.6** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.9 | .000 | .000 | .000 | .000 |
| %RSD | 5.16 | 18.0 | 3.33 | 3.14 | 7.57 | 5.04 | 10.1 | 27.5 | 1.43 | 6.08 | 12.7 | 7.39 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 24.0 | 21.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110760.** | **1117400.** | **308730.** |
| Stddev | 315. | 3914. | 3224. |
| %RSD | .28399 | .35024 | 1.0443 |

Sample Name: CalStd5=10 Acquired: 04/18/2019 14:51:21 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **112.** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1. |
| %RSD | 6.14 | 5.78 | 44.7 | 86.6 | 1.95 | 2.16 | .809 | 1.91 | 1.21 | 1.90 | 7.59 | 1.20 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **13.6** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 3.8 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 28.0 | .855 | 2.25 | 8.16 | 4.52 | 26.5 | 10.3 | 10.6 | 15.5 | 23.6 | 7.57 | 2.58 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 2.29 | 1.39 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111020.** | **1113400.** | **310380.** |
| Stddev | 173. | 6783. | 1514. |
| %RSD | .15545 | .60920 | .48771 |

Sample Name: CalStd6=20 Acquired: 04/18/2019 14:58:28 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **117.** | **16.3** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 1. | 2.4 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.25 | 1.16 | 14.6 | 1.87 | 1.71 | 2.76 | 10.6 | 3.33 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111170.** | **1113200.** | **313780.** |
| Stddev | 256. | 4863. | 3947. |
| %RSD | .23026 | .43682 | 1.2580 |

Sample Name: CalStd7=50 Acquired: 04/18/2019 15:04:39 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **142.** | **27.9** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2. | 4.5 | .000 | .000 |
| %RSD | 6.23 | 10.6 | 5.77 | .303 | .313 | 1.25 | .852 | .739 | 1.65 | 16.1 | .315 | .913 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.47 | .976 | 3.38 | 6.04 | .503 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111210.** | **1121800.** | **311980.** |
| Stddev | 136. | 3416. | 1445. |
| %RSD | .12250 | .30448 | .46304 |

Sample Name: CalStd8=100 Acquired: 04/18/2019 15:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.001** | **.015** | **.005** | **.000** | **.013** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .605 | 1.26 | 2.83 | 5.24 | .523 | .924 | .868 | .844 | .868 | .176 | .379 | .921 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **179.** | **49.8** | **.003** | **.002** | **.001** | **.001** | **.002** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 1. | 1.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.65 | .636 | 1.28 | .760 | 3.73 | .754 | .712 | .211 | 1.57 | .592 | .371 | 3.14 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.51 | 1.54 | 5.26 | 33.6 | 2.35 | 7.10 | 1.13 | .548 | .279 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111290.** | **1122200.** | **313510.** |
| Stddev | 255. | 6834. | 2539. |
| %RSD | .22935 | .60900 | .80991 |

Sample Name: CalStd9=1000 Acquired: 04/18/2019 15:18:00 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.001** | **.001** | **.001** | **.011** | **.067** | **.057** | **.003** | **.000** | **.119** | **.029** | **.047** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .001 | .001 | .000 | .000 | .001 | .000 | .000 |
| %RSD | .111 | 1.03 | 1.18 | .336 | .328 | 1.07 | 1.04 | 1.35 | 1.69 | 1.11 | .106 | .227 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.019** | **.002** | **.016** | **.003** | **862.** | **406.** | **.000** | **.000** | **.001** | **.000** | **.026** | **.015** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 4. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .177 | 1.11 | .165 | .795 | 1.19 | 1.05 | 1.14 | 2.54 | 1.48 | 3.55 | 1.27 | 1.06 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.010** | **.007** | **.016** | **.016** | **.002** | **.003** | **.002** | **.002** | **.001** | **.000** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.20 | .063 | .155 | .088 | .165 | .235 | .230 | .166 | .536 | .687 | 1.80 | .290 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.008** | **.015** | **.031** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.72 | 1.10 | .396 | .300 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **111220.** | **1117800.** | **314080.** |
| Stddev | 179. | 8770. | 2572. |
| %RSD | .16063 | .78456 | .81901 |

Sample Name: CalStd10=10000 Acquired: 04/18/2019 15:23:40 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.013** | **.007** | **.565** | **.003** | **1.14** | ***** | **.022** | **.160** | **.030** | **7530.** | **3890.** | **.004** |
| Stddev | .000 | .000 | .014 | .000 | .01 | ----- | .000 | .000 | .000 | 35. | 10. | .000 |
| %RSD | 1.08 | .305 | 2.42 | .547 | .914 | ----- | .415 | .146 | .597 | .464 | .251 | .515 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.011** | **.000** | **.253** | **.152** | **.032** | **.066** | **.156** | **.153** | **.015** | **.022** | **.021** |
| Stddev | .000 | .000 | .000 | .003 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.07 | 1.01 | 1.25 | 1.00 | .400 | .706 | .284 | .189 | .241 | .490 | .309 | .389 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.024** | **.009** | **.077** | **.147** |
| Stddev | .000 | .000 | .000 | .000 | .001 |
| %RSD | .385 | .312 | .702 | .618 | .772 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109270.** | **1057800.** | **312780.** |
| Stddev | 241. | 3701. | 1880. |
| %RSD | .22063 | .34992 | .60106 |

Sample Name: CalStd12=100K  Acquired: 04/18/2019 15:30:11  Type: Cal
Method: DOD Calibration Updated 060614(v3313)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.38** | **70500.** | **37200.** | **.304** | **.148** | **1.30** |
| Stddev | .00 | 521. | 217. | .003 | .000 | .00 |
| %RSD | .197 | .739 | .583 | .894 | .224 | .234 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109930.** | **1096500.** | **310400.** |
| Stddev | 225. | 6038. | 3070. |
| %RSD | .20492 | .55067 | .98918 |

Sample Name: CalStd13=100000 Acquired: 04/18/2019 15:36:29 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.122** | **.027** | **.038** | **.023** | **.098** | **.003** |
| Stddev | .003 | .001 | .000 | .001 | .002 | .000 |
| %RSD | 2.77 | 2.14 | .663 | 2.24 | 2.29 | 2.26 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107990.** | **1076100.** | **312840.** |
| Stddev | 627. | 3930. | 6865. |
| %RSD | .58073 | .36519 | 2.1945 |

Sample Name: CalStd14=500000 Acquired: 04/18/2019 15:42:58 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.646** | **.137** | **.109** | **.465** | **.016** |
| Stddev | .007 | .002 | .001 | .004 | .000 |
| %RSD | 1.01 | 1.14 | 1.16 | .942 | .679 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100240.** | **296480.** |
| Stddev | 319. | 2532. |
| %RSD | .31789 | .85395 |

Sample Name: CalibStd15=1000k Acquired: 04/18/2019 15:49:37 Type: Cal
Method: DOD Calibration Updated 060614(v3313) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.34** | **.273** | **.207** | **.032** |
| Stddev | .01 | .002 | .001 | .000 |
| %RSD | .871 | .904 | .546 | .717 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **89865.** | **276540.** |
| Stddev | 153. | 925. |
| %RSD | .16988 | .33448 |

Sample Name: icv Acquired: 04/18/2019 16:02:52 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **46.1** | **11400.** | **1810.** | **1810.** | **1800.** | **45.5** | **8950.** | **44.2** | **47.8** | **460.** | **184.** | **230.** |
| Stddev | 2.2 | 137. | 6. | 7. | 18. | 1.5 | 102. | .1 | .1 | 1. | 8. | 2. |
| %RSD | 4.73 | 1.20 | .354 | .406 | 1.02 | 3.31 | 1.14 | .299 | .140 | .282 | 4.59 | .737 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **234.** | **4730.** | **9730.** | **464.** | **475.** | **456.** | **456.** | **458.** | **458.** | **427.** | **444.** | **452.** |
| Stddev | 6. | 54. | 46. | 20. | 7. | 2. | 1. | 1. | . | 3. | 2. | 3. |
| %RSD | 2.76 | 1.14 | .477 | 4.21 | 1.44 | .378 | .298 | .174 | .098 | .589 | .422 | .640 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **448.** | **1840.** | **1850.** | **440.** | **451.** | **478.** | **459.** |
| Stddev | 4. | 32. | 6. | 3. | 17. | 3. | 1. |
| %RSD | .784 | 1.75 | .334 | .646 | 3.80 | .605 | .235 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/18/2019 16:02:52 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111880.** | **1084600.** | **314370.** |
| Stddev | 152. | 49796. | 1889. |
| %RSD | .13620 | 4.5911 | .60090 |

Sample Name: ICVLL Acquired: 04/18/2019 16:15:30 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **31.9** | **1120.** | **1000.** | **57.9** | **28.6** | **11.4** | **1420.** | **14.4** | **14.6** | **28.5** | **28.8** | **27.4** |
| Stddev | .6 | 5. | 9. | 2.9 | .3 | .1 | 11. | .1 | .1 | .4 | .7 | 3.4 |
| %RSD | 1.83 | .475 | .885 | 5.08 | 1.14 | .997 | .807 | .999 | .934 | 1.32 | 2.39 | 12.3 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.6** | **866.** | **1460.** | **31.0** | **32.5** | **30.2** | **29.0** | **28.0** | **63.9** | **59.3** | **59.9** | **28.2** |
| Stddev | 1.0 | 6. | 12. | .3 | 1.2 | .7 | .3 | 3.0 | 2.4 | 3.3 | 2.3 | .3 |
| %RSD | 2.76 | .693 | .794 | .843 | 3.69 | 2.45 | 1.06 | 10.7 | 3.76 | 5.60 | 3.79 | 1.07 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.0** |
| Stddev | .3 |
| %RSD | .886 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/18/2019 16:15:30 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111570.** | **1097900.** | **312490.** |
| Stddev | 191. | 2854. | 1487. |
| %RSD | .17146 | .25997 | .47590 |

Sample Name: icb Acquired: 04/18/2019 16:21:36 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.600** | **-2.57** | **-2.54** | **-.066** | **-.506** | **-22.6** | **.008** | **.085** | **.085** | **-.388** | **2.48** | **-2.68** |
| Stddev | 1.49 | .08 | 2.40 | .304 | .033 | 1.5 | .072 | .161 | .170 | .740 | 6.40 | 2.47 |
| %RSD | 248. | 3.18 | 94.5 | 462. | 6.46 | 6.44 | 943. | 190. | 200. | 191. | 258. | 91.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-8.74** | **-.626** | **-.588** | **.060** | **-.642** | **-.615** | **2.29** | **2.80** | **1.83** | **-.581** | **-.361** |
| Stddev | .05 | .075 | 1.18 | .222 | .277 | 2.30 | 1.53 | 5.30 | 2.66 | .090 | .077 |
| %RSD | .537 | 12.0 | 200. | 372. | 43.2 | 374. | 66.6 | 189. | 145. | 15.5 | 21.4 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112430.** | **1095400.** | **313460.** |
| Stddev | 192. | 1969. | 2730. |
| %RSD | .17073 | .17973 | .87092 |

Sample Name: MRL/LLOQ  Acquired: 04/18/2019 16:34:05  Type: QC
Method: DOD Calibration Updated 060614(v3313)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **11.2** | **372.** | **16.9** | **8.99** | **3.45** | **442.** | **4.82** | **4.80** | **9.34** | **9.86** | **9.32** | **268.** |
| Stddev | 1.1 | 2. | 5.0 | .29 | .10 | 10. | .09 | .12 | .14 | .29 | 3.48 | 3. |
| %RSD | 9.86 | .494 | 29.3 | 3.27 | 2.99 | 2.18 | 1.78 | 2.54 | 1.54 | 2.92 | 37.3 | .930 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **464.** | **9.29** | **9.95** | **9.51** | **9.16** | **9.91** | **20.2** | **16.8** | **18.4** | **8.52** | **10.9** |
| Stddev | 8. | .19 | 1.09 | .39 | .17 | 1.42 | 1.0 | 4.0 | .3 | .54 | .1 |
| %RSD | 1.76 | 2.02 | 10.9 | 4.10 | 1.82 | 14.3 | 4.77 | 23.6 | 1.88 | 6.36 | .646 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **111850.** | **1110100.** | **312600.** |
| Stddev | 215. | 21517. | 544. |
| %RSD | .19214 | 1.9383 | .17409 |

Sample Name: ICSA Acquired: 04/18/2019 16:40:16 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.691** | **523000.** | **.045** | **-1.31** | **-.498** | **493000.** | **.007** | **-.866** | **-.176** | **-.993** | **.003** |
| Stddev | 1.33 | 7600. | 4.69 | .67 | .145 | 9210. | 1.54 | .106 | .291 | .741 | 5.99 |
| %RSD | 192. | 1.45 | 10400. | 50.8 | 29.2 | 1.87 | 21700. | 12.3 | 166. | 74.7 | 171000. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **506000.** | **500000.** | **-2.68** | **.011** | **1.48** | **-.525** | **1.07** | **7.70** | **-11.8** | **-.060** | **9930.** |
| Stddev | 8880. | 7300. | .06 | 6.76 | 1.47 | 1.57 | 2.03 | 3.56 | 7.3 | 6.15 | 135. |
| %RSD | 1.75 | 1.46 | 2.33 | 60900. | 99.6 | 299. | 190. | 46.3 | 62.0 | 10300. | 1.36 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **-2.10** |
| Stddev | 2.41 |
| %RSD | 115. |
| Check ? | Chk Pass |
| High Limit | |
| Low Limit | |

Sample Name: ICSA Acquired: 04/18/2019 16:40:16 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **100490.** | **994660.** | **297200.** |
| Stddev | 75. | 12219. | 2604. |
| %RSD | .07431 | 1.2285 | .87629 |

Sample Name: ICSAB Acquired: 04/18/2019 16:46:48 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **529.** | **592000.** | **512.** | **540.** | **526.** | **530.** | **556000.** | **566.** | **520.** | **549.** | **548.** |
| Stddev | 2. | 4850. | 5. | 2. | 9. | 4. | 8850. | 2. | 2. | 3. | 13. |
| %RSD | .464 | .818 | 1.02 | .303 | 1.75 | .675 | 1.59 | .437 | .476 | .458 | 2.32 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **567.** | **577000.** | **563000.** | **552.** | **548.** | **547.** | **502.** | **511.** | **486.** | **513.** | **571.** |
| Stddev | 15. | 8320. | 9630. | 2. | 2. | 3. | 2. | 3. | 5. | 5. | 10. |
| %RSD | 2.57 | 1.44 | 1.71 | .366 | .276 | .543 | .480 | .546 | 1.04 | 1.07 | 1.82 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Avg | **501.** | **546.** | **556.** | **558.** | **547.** | **573.** |
| Stddev | 11. | 3. | 13. | . | 3. | 5. |
| %RSD | 2.14 | .561 | 2.28 | .059 | .629 | .880 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

Sample Name: ICSAB Acquired: 04/18/2019 16:46:48 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **99315.** | **975280.** | **298260.** |
| Stddev | 186. | 1832. | 2165. |
| %RSD | .18694 | .18780 | .72584 |

Sample Name: ICVLL ag  Acquired: 04/18/2019 16:58:56  Type: Unk
Method: DOD Calibration Updated 060614(v3313)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **9.28** | **.969** | **.380** | **-.147** | **-.538** | **-16.9** | **.051** | **-.053** | **-.249** | **.144** | **-.872** | **10.9** |
| Stddev | .65 | 1.02 | .698 | .104 | .029 | 1.4 | .222 | .162 | .327 | .625 | 8.67 | 2.2 |
| %RSD | 6.95 | 105. | 183. | 70.8 | 5.32 | 8.19 | 436. | 309. | 131. | 434. | 994. | 20.4 |

| Elem | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-5.77** | **-.277** | **-.431** | **-.540** | **-.658** | **-1.50** | **1.58** | **.471** | **.250** | **-.838** | **-.048** |
| Stddev | .16 | .059 | 1.54 | .266 | .342 | .38 | 2.38 | 1.67 | .689 | .195 | .085 |
| %RSD | 2.76 | 21.4 | 357. | 49.2 | 52.0 | 25.2 | 150. | 355. | 276. | 23.3 | 179. |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **112190.** | **1098800.** | **315350.** |
| Stddev | 324. | 6977. | 1345. |
| %RSD | .28909 | .63491 | .42656 |

Sample Name: ccv1 Acquired: 04/19/2019 06:27:52 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **520.** | F **5590.** | **4620.** | **4530.** | **483.** | **4860.** | **458.** | **4900.** | **5150.** | **4760.** | **5040.** | **5280.** |
| Stddev | 1. | 72. | 20. | 42. | 7. | 82. | . | 14. | 8. | 52. | 39. | 130. |
| %RSD | .285 | 1.30 | .438 | .921 | 1.40 | 1.68 | .022 | .275 | .153 | 1.09 | .774 | 2.46 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | | | | | | | |
| Range | | 10.4% | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5450.** | **4700.** | **4760.** | **4710.** | **4590.** | **4940.** | **4530.** | **4990.** | **4580.** |
| Stddev | 57. | 7. | 6. | 9. | 5. | 29. | 15. | 46. | 7. |
| %RSD | 1.05 | .145 | .123 | .191 | .104 | .595 | .326 | .930 | .160 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112940.** | **1004800.** | **312470.** |
| Stddev | 94. | 3335. | 1167. |
| %RSD | .08350 | .33186 | .37335 |

Sample Name: ccv2 Acquired: 04/19/2019 06:33:28 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3933 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **53.8** | **456.** | **453.** | **487.** | **460.** | F **56.0** | **50.4** | **503.** | **50.7** | **49.2** | **503.** | **546.** |
| Stddev | .5 | 2. | 4. | 2. | 4. | .4 | 1.4 | 4. | .1 | .3 | 1. | 4. |
| %RSD | .944 | .533 | .966 | .442 | .918 | .750 | 2.80 | .795 | .218 | .539 | .122 | .689 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | 50.0 | | | | | | |
| Range | | | | | | 10.4% | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **482.** | **530.** | **466.** | **462.** | **473.** | **549.** | **472.** | **472.** | **485.** | **488.** | **474.** | **485.** |
| Stddev | 6. | 8. | 6. | 4. | 5. | 6. | 1. | 2. | 2. | 2. | 4. | 3. |
| %RSD | 1.31 | 1.44 | 1.28 | .804 | 1.03 | 1.09 | .149 | .511 | .422 | .358 | .903 | .612 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **462.** | **455.** | F **446.** | **478.** | **494.** | **485.** | **463.** | **541.** |
| Stddev | 2. | 4. | 2. | 2. | 6. | 4. | 3. | 2. |
| %RSD | .479 | .795 | .407 | .469 | 1.23 | .792 | .601 | .300 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 500. | | | | | |
| Range | | | -10.4% | | | | | |

Sample Name: ccv2 Acquired: 04/19/2019 06:33:28 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **116030.** | **1048300.** | **316900.** |
| Stddev | 235. | 9161. | 1263. |
| %RSD | .20280 | .87391 | .39867 |

Sample Name: ccb Acquired: 04/19/2019 06:39:09 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.525** | **-2.94** | **.916** | **.594** | **-1.51** | **-20.9** | **.082** | **.135** | **.507** | **-.236** | **.311** | **-5.05** |
| Stddev | 1.44 | .35 | 2.18 | .308 | .02 | 1.0 | .174 | .058 | .301 | .510 | .273 | .81 |
| %RSD | 273. | 12.1 | 239. | 51.8 | 1.36 | 4.86 | 212. | 42.8 | 59.4 | 216. | 87.7 | 16.0 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-7.52** | **-.112** | **-.416** | **1.40** | **.451** | **-.805** | **2.58** | **1.60** | **1.55** | **-.484** | **.299** |
| Stddev | .04 | .096 | 2.00 | .52 | .362 | .773 | 4.08 | 4.24 | 1.12 | .308 | .103 |
| %RSD | .585 | 85.3 | 480. | 37.2 | 80.3 | 96.1 | 158. | 264. | 72.6 | 63.7 | 34.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **115930.** | **1055600.** | **316350.** |
| Stddev | 441. | 3972. | 1180. |
| %RSD | .38036 | .37627 | .37290 |

Sample Name: lcss71469 Acquired: 04/19/2019 07:42:19 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **97.8** | **677.** | **1900.** | **1860.** | **150.** | **173.** | **1.72** | **19700.** | **.281** | **6.77** | **1.49** | **112.** |
| Stddev | .2 | 1. | 8. | 7. | 1. | 5. | .10 | 185. | .102 | .12 | .12 | 2. |
| %RSD | .245 | .204 | .431 | .398 | .501 | 2.79 | 5.60 | .936 | 36.4 | 1.76 | 7.96 | 1.37 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **98.0** | **77.2** | **10900.** | **6920.** | **1980.** | **1950.** | **2.41** | **31.3** | **13.3** | **1.78** | **12.8** | **2.20** |
| Stddev | 3.3 | 3.0 | 33. | 104. | 6. | 12. | .29 | .1 | 1.9 | 1.76 | 3.7 | 1.32 |
| %RSD | 3.35 | 3.94 | .302 | 1.49 | .302 | .603 | 12.1 | .287 | 14.5 | 99.0 | 29.3 | 59.9 |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.349** | **87.0** |
| Stddev | .318 | .3 |
| %RSD | 91.2 | .326 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110780.** | **1187600.** | **303230.** |
| Stddev | 231. | 4372. | 3856. |
| %RSD | .20853 | .36813 | 1.2716 |

Sample Name: ccv1 Acquired: 04/19/2019 07:48:58 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **472.** | **4490.** | **4780.** | **4980.** | **459.** | **5020.** | **492.** | **4550.** | **4580.** | **5000.** | **5220.** | **5300.** |
| Stddev | 2. | 90. | 29. | 43. | 4. | 41. | 1. | 13. | 11. | 73. | 19. | 57. |
| %RSD | .435 | 2.00 | .610 | .855 | .939 | .819 | .195 | .278 | .247 | 1.47 | .370 | 1.07 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4640.** | **4570.** | **4720.** | **4600.** | **4790.** | F **4360.** | **4860.** | **4530.** | F **6230.** |
| Stddev | 10. | 11. | 8. | 35. | 21. | 40. | 15. | 12. | 33. |
| %RSD | .208 | .236 | .159 | .764 | .429 | .926 | .301 | .268 | .529 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | 5000. | | | 5000. |
| Range | | | | | | -10.4% | | | 10.4% |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **110480.** | **1167400.** | **308070.** |
| Stddev | 294. | 2079. | 2054. |
| %RSD | .26580 | .17806 | .66677 |

Sample Name: ccv2 Acquired: 04/19/2019 07:54:40 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **494.** | **478.** | **515.** | **44.9** | **50.2** | **506.** | **48.2** | **52.7** | F **426.** | F **394.** | **528.** |
| Stddev | .8 | 2. | 4. | 6. | .2 | 2.4 | 5. | .2 | .1 | 1. | 2. | 6. |
| %RSD | 1.71 | .319 | .741 | 1.10 | .376 | 4.79 | 1.05 | .321 | .258 | .163 | .610 | 1.23 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | | | | | | | | | 500. | 500. | |
| Range | | | | | | | | | | -10.4% | -10.4% | |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **464.** | **473.** | **521.** | **485.** | **472.** | **459.** | **460.** | **481.** | **473.** | **462.** | **536.** | **481.** |
| Stddev | 9. | 3. | 2. | 2. | 2. | 2. | 1. | 2. | 2. | 5. | 11. | 2. |
| %RSD | 1.95 | .666 | .315 | .477 | .504 | .506 | .183 | .437 | .405 | 1.13 | 2.00 | .401 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **491.** | **506.** | **517.** | **450.** | F **442.** | F **627.** | F **411.** |
| Stddev | 4. | 4. | 1. | 7. | 2. | 4. | 2. |
| %RSD | .765 | .754 | .187 | 1.62 | .449 | .626 | .431 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Fail |
| Value | | | | | 500. | 500. | 500. |
| Range | | | | | -10.4% | 10.4% | -10.4% |

Sample Name: ccv2 Acquired: 04/19/2019 07:54:40 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112620.** | **1218500.** | **305330.** |
| Stddev | 324. | 2567. | 1643. |
| %RSD | .28808 | .21064 | .53822 |

Sample Name: ccb Acquired: 04/19/2019 08:00:27 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.979** | **-2.41** | **2.06** | **.595** | **1.85** | **-19.9** | **.137** | **.023** | **.273** | **.152** | **.308** | **-.664** |
| Stddev | .578 | .53 | 2.88 | .336 | .08 | .8 | .123 | .166 | .180 | .219 | .338 | 1.18 |
| %RSD | 59.1 | 21.9 | 139. | 56.4 | 4.09 | 4.11 | 89.7 | 730. | 65.9 | 144. | 110. | 177. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-6.56** | **.108** | **-1.04** | **1.67** | **.038** | **-.976** | **4.49** | **6.14** | **2.87** | **.353** | **.267** |
| Stddev | .03 | .028 | 2.21 | .25 | .404 | 1.51 | 2.48 | 2.17 | 1.29 | .411 | .168 |
| %RSD | .491 | 25.6 | 212. | 15.1 | 1050. | 155. | 55.3 | 35.3 | 45.0 | 116. | 62.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112680.** | **1211900.** | **300290.** |
| Stddev | 55. | 1624. | 1951. |
| %RSD | .04859 | .13404 | .64977 |

Sample Name: mbs71469 Acquired: 04/19/2019 08:06:46 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **81.9** | **2540.** | **11.8** | **434.** | **499.** | **1.58** | **33700.** | **.432** | **.479** | **2.96** | **75.7** | **96.4** |
| Stddev | .5 | 33. | 3.3 | 1. | 7. | .10 | 290. | .087 | .224 | .15 | .5 | 3.1 |
| %RSD | .551 | 1.31 | 27.6 | .343 | 1.30 | 6.08 | .862 | 20.1 | 46.8 | 5.12 | .725 | 3.19 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **66.2** | **26000.** | **8030.** | **312.** | **330.** | **.860** | **20.7** | **17.6** | **-.360** | **10.9** | **2.36** | **4.45** |
| Stddev | 5.5 | 143. | 71. | 1. | 1. | .311 | .7 | 3.8 | 1.75 | 5.4 | 2.24 | .43 |
| %RSD | 8.33 | .550 | .885 | .189 | .431 | 36.1 | 3.24 | 21.4 | 485. | 49.5 | 95.2 | 9.72 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **124.** |
| Stddev | 1. |
| %RSD | .671 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108600.** | **1150600.** | **297330.** |
| Stddev | 451. | 3993. | 3260. |
| %RSD | .41555 | .34704 | 1.0962 |

Sample Name: 255921 Acquired: 04/19/2019 08:13:17 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.50** | **166000.** | **583.** | **1180.** | **11.7** | **134000.** | **6.69** | **1.10** | **62.0** | **251.** | **510.** |
| Stddev | .84 | 1220. | 6. | 13. | .1 | 553. | 1.11 | .41 | .3 | 3. | 10. |
| %RSD | 56.1 | .732 | 1.03 | 1.09 | .888 | .414 | 16.5 | 37.3 | .548 | 1.32 | 1.99 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **470.** | **513000.** | **24300.** | **3610.** | **4240.** | **33.8** | **307.** | **526.** | **615.** | **-9.03** | **8.02** |
| Stddev | 14. | 3510. | 197. | 20. | 18. | .3 | 2. | 8. | 4. | 3.27 | 7.74 |
| %RSD | 3.05 | .684 | .814 | .550 | .426 | .753 | .564 | 1.53 | .615 | 36.2 | 96.5 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **78.7** | **544.** | **542.** | **1100.** | **753.** |
| Stddev | 3.4 | 10. | 3. | 3. | 2. |
| %RSD | 4.28 | 1.88 | .558 | .316 | .262 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107090.** | **1123500.** | **294810.** |
| Stddev | 452. | 4918. | 3218. |
| %RSD | .42178 | .43773 | 1.0914 |

Sample Name: 256767 Acquired: 04/19/2019 08:19:31 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.76** | **393000.** | **1970.** | **1990.** | **5740.** | **15.3** | **44.2** | **31.2** | **895.** | **715.** | **1380.** |
| Stddev | .83 | 4090. | 15. | 10. | 32. | .1 | 1.4 | .3 | 3. | 7. | 11. |
| %RSD | 12.3 | 1.04 | .749 | .514 | .557 | .923 | 3.24 | .836 | .303 | .925 | .801 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **583000.** | **589000.** | **531000.** | **399.** | **442.** | **1630.** | **427.** | **27.7** | **50.2** | **255.** | **1620.** |
| Stddev | 3940. | 4570. | 4950. | 2. | 1. | 3. | 4. | 4.9 | 5.2 | 5. | 21. |
| %RSD | .677 | .777 | .932 | .481 | .317 | .214 | .840 | 17.8 | 10.3 | 1.88 | 1.31 |

| Elem | Zn2062 |
|---|---|
| Units | ug/L |
| Avg | **3740.** |
| Stddev | 13. |
| %RSD | .345 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **91521.** | **942450.** | **271320.** |
| Stddev | 235. | 2915. | 1674. |
| %RSD | .25652 | .30926 | .61706 |

Sample Name: 256794 Acquired: 04/19/2019 08:26:04 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.33** | **182000.** | **278.** | **1120.** | **11.2** | **38100.** | **.782** | **1.27** | **82.0** | **248.** | **292.** |
| Stddev | .98 | 675. | 3. | 7. | .1 | 364. | .602 | .16 | .7 | 2. | 3. |
| %RSD | 73.8 | .370 | 1.01 | .609 | .524 | .955 | 77.0 | 12.9 | .867 | .761 | .984 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **259.** | **273000.** | **29100.** | **6150.** | **3.53** | **269.** | **396.** | **.962** | **3.03** | **40.8** | **542.** |
| Stddev | 8. | 1250. | 193. | 38. | .45 | 1. | 3. | 1.79 | 4.83 | 3.7 | 11. |
| %RSD | 3.04 | .459 | .664 | .621 | 12.8 | .366 | .730 | 186. | 159. | 9.01 | 2.05 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **530.** | **708.** | **502.** |
| Stddev | 3. | 5. | 1. |
| %RSD | .531 | .654 | .268 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **110290.** | **1139100.** | **300700.** |
| Stddev | 125. | 4811. | 1464. |
| %RSD | .11289 | .42235 | .48678 |

Sample Name: 256796 Acquired: 04/19/2019 08:32:21 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.65** | **332000.** | **1110.** | **1060.** | **2030.** | **17.5** | **50900.** | **7.05** | **7.28** | **153.** | **734.** |
| Stddev | .80 | 4750. | 7. | 6. | 27. | .2 | 993. | 1.96 | .11 | 1. | 4. |
| %RSD | 30.1 | 1.43 | .645 | .589 | 1.34 | .862 | 1.95 | 27.8 | 1.46 | .341 | .601 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **468.** | **439.** | **501000.** | **38200.** | **16400.** | **17.6** | **371.** | **631.** | **-2.61** | **2.19** | **72.9** |
| Stddev | 4. | 6. | 9350. | 699. | 259. | .5 | 2. | 5. | 3.94 | 8.68 | 2.7 |
| %RSD | .894 | 1.34 | 1.87 | 1.83 | 1.57 | 2.66 | .416 | .863 | 151. | 397. | 3.76 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **903.** | **880.** | **2090.** |
| Stddev | 16. | 5. | 10. |
| %RSD | 1.76 | .586 | .467 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **109490.** | **1119800.** | **298680.** |
| Stddev | 76. | 4680. | 2167. |
| %RSD | .06937 | .41791 | .72555 |

Sample Name: 256797 Acquired: 04/19/2019 08:38:56 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.11** | **349000.** | **1700.** | **1730.** | **4910.** | **14.5** | **36.5** | **29.0** | **768.** | **621.** | **1110.** |
| Stddev | 1.75 | 2130. | 3. | 14. | 13. | .1 | .4 | .3 | 2. | 7. | 14. |
| %RSD | 83.1 | .609 | .149 | .795 | .256 | .619 | 1.12 | .986 | .198 | 1.05 | 1.29 |

| Elem | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **506000.** | **565000.** | **469000.** | **335.** | **1270.** | **370.** | **33.4** | **46.0** | **228.** | **1470.** | **3370.** |
| Stddev | 3160. | 3760. | 5910. | 2. | 1. | 1. | 1.4 | 14.8 | 3. | 22. | 12. |
| %RSD | .625 | .665 | 1.26 | .473 | .067 | .158 | 4.32 | 32.1 | 1.17 | 1.50 | .357 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **92887.** | **939180.** | **274300.** |
| Stddev | 188. | 4260. | 875. |
| %RSD | .20195 | .45363 | .31887 |

Sample Name: 256798 Acquired: 04/19/2019 08:45:29 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.963** | **308000.** | **303.** | **1460.** | **21.7** | **90300.** | **7.43** | **.566** | **180.** | **546.** | **338.** |
| Stddev | .543 | 2910. | 15. | 12. | .1 | 1090. | 1.45 | .344 | 1. | 4. | 5. |
| %RSD | 56.4 | .945 | 5.00 | .818 | .472 | 1.20 | 19.5 | 60.8 | .527 | .705 | 1.56 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **327.** | **734000.** | **51800.** | **45400.** | **39.8** | **277.** | **387.** | **-9.31** | **-11.7** | **116.** | **976.** |
| Stddev | 4. | 8710. | 457. | 446. | 1.0 | 1. | 4. | 4.04 | 11.5 | 2. | 10. |
| %RSD | 1.31 | 1.19 | .883 | .982 | 2.51 | .357 | .931 | 43.4 | 98.9 | 1.42 | 1.06 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **951.** | **1150.** | **855.** |
| Stddev | 4. | . | 4. |
| %RSD | .416 | .032 | .437 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107890.** | **1106300.** | **295820.** |
| Stddev | 205. | 4130. | 1894. |
| %RSD | .19040 | .37326 | .64013 |

Sample Name: I256798 Acquired: 04/19/2019 08:52:05 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.957** | **96000.** | **81.0** | **316.** | **440.** | **6.57** | **27400.** | **-11.7** | **.398** | **43.2** | **144.** |
| Stddev | .888 | 4840. | 5.1 | 10. | 24. | .25 | 1400. | 1.5 | .144 | 1.6 | 7. |
| %RSD | 92.8 | 5.04 | 6.35 | 3.28 | 5.47 | 3.83 | 5.11 | 12.9 | 36.0 | 3.68 | 4.70 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **122.** | **101.** | **241000.** | **16700.** | **14100.** | **9.74** | **68.4** | **97.2** | **1.56** | **.839** | **40.1** |
| Stddev | 7. | 14. | 12900. | 720. | 673. | .36 | 2.4 | 6.6 | 2.18 | 2.13 | .5 |
| %RSD | 5.39 | 13.3 | 5.35 | 4.32 | 4.77 | 3.75 | 3.45 | 6.78 | 140. | 254. | 1.31 |

| Elem | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **305.** | **247.** | **193.** |
| Stddev | 16. | 11. | 5. |
| %RSD | 5.22 | 4.60 | 2.82 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **114560.** | **1166800.** | **308270.** |
| Stddev | 127. | 6097. | 1928. |
| %RSD | .11114 | .52251 | .62534 |

Sample Name: 1dup256798 Acquired: 04/19/2019 08:58:35 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.280** | **302000.** | **308.** | **1450.** | **20.8** | **88200.** | **5.98** | **.444** | **181.** | **532.** | **327.** |
| Stddev | .739 | 4030. | 16. | 15. | .0 | 1680. | 1.93 | .119 | 1. | 3. | 7. |
| %RSD | 264. | 1.34 | 5.24 | 1.02 | .234 | 1.91 | 32.2 | 26.8 | .569 | .509 | 2.25 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **322.** | **703000.** | **49000.** | **43400.** | **38.8** | **276.** | **355.** | **-13.9** | **-9.42** | **114.** | **975.** |
| Stddev | 11. | 12000. | 809. | 737. | .3 | 1. | 6. | 4.0 | 9.97 | 3. | 23. |
| %RSD | 3.39 | 1.70 | 1.65 | 1.70 | .834 | .328 | 1.69 | 28.5 | 106. | 3.02 | 2.35 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **940.** | **987.** | **756.** |
| Stddev | 2. | 3. | 5. |
| %RSD | .265 | .324 | .686 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **107820.** | **1095700.** | **295800.** |
| Stddev | 236. | 4859. | 1239. |
| %RSD | .21864 | .44351 | .41897 |

Sample Name: 2dup256798 Acquired: 04/19/2019 09:05:13 Type: Unk
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.627** | **312000.** | **305.** | **1440.** | **21.5** | **79700.** | **4.61** | **-.071** | **182.** | **565.** | **357.** |
| Stddev | .454 | 2380. | 11. | 12. | .0 | 683. | 1.16 | .181 | 1. | 3. | 6. |
| %RSD | 72.3 | .761 | 3.62 | .841 | .154 | .856 | 25.1 | 254. | .381 | .497 | 1.63 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **338.** | **725000.** | **50000.** | **44100.** | **42.2** | **292.** | **358.** | **-9.84** | **-2.67** | **113.** | **995.** |
| Stddev | 11. | 5140. | 188. | 288. | .7 | 1. | 4. | 4.15 | 4.52 | 4. | 18. |
| %RSD | 3.19 | .709 | .375 | .654 | 1.61 | .485 | 1.25 | 42.2 | 169. | 3.61 | 1.79 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **955.** | **1030.** | **778.** |
| Stddev | 5. | 3. | 2. |
| %RSD | .488 | .309 | .275 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **108460.** | **1099400.** | **296530.** |
| Stddev | 268. | 5486. | 2273. |
| %RSD | .24722 | .49896 | .76643 |

Sample Name: ccv1 Acquired: 04/19/2019 09:11:47 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **488.** | **5100.** | **4710.** | **4880.** | **479.** | **5070.** | **483.** | **4700.** | **4810.** | **4980.** | **5500.** | **5400.** |
| Stddev | 2. | 92. | 8. | 45. | 5. | 11. | 1. | 12. | 9. | 21. | 289. | 129. |
| %RSD | .385 | 1.80 | .164 | .915 | .952 | .211 | .149 | .259 | .191 | .430 | 5.25 | 2.38 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5090.** | **4620.** | **4750.** | **4650.** | **4720.** | **4560.** | **4710.** | **4860.** | F **5650.** |
| Stddev | 45. | 3. | 5. | 8. | 6. | 8. | 2. | 42. | 15. |
| %RSD | .888 | .075 | .112 | .164 | .117 | .174 | .042 | .861 | .267 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | 5000. |
| Range | | | | | | | | | 10.4% |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113750.** | **1134200.** | **309130.** |
| Stddev | 47. | 2495. | 2288. |
| %RSD | .04128 | .21999 | .74019 |

Sample Name: ccv2 Acquired: 04/19/2019 09:17:30 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **51.5** | **482.** | **468.** | **461.** | **503.** | **48.6** | **52.8** | **490.** | **49.4** | **51.9** | **450.** | **449.** |
| Stddev | .5 | 3. | 5. | 2. | 6. | .1 | 1.1 | 5. | .1 | .2 | 2. | 1. |
| %RSD | .911 | .651 | 1.17 | .413 | 1.19 | .235 | 2.14 | 1.09 | .288 | .450 | .389 | .204 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **521.** | **494.** | **477.** | **504.** | **488.** | **512.** | **463.** | **465.** | **485.** | **482.** | **475.** | **461.** |
| Stddev | 8. | 9. | 3. | 1. | 2. | 6. | 3. | 2. | 2. | 2. | 1. | 3. |
| %RSD | 1.58 | 1.80 | .587 | .295 | .311 | 1.22 | .642 | .394 | .326 | .509 | .272 | .549 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **479.** | **483.** | **494.** | **505.** | **487.** | **459.** | F **573.** | **453.** |
| Stddev | 4. | 3. | 5. | 1. | 10. | 2. | 1. | 1. |
| %RSD | .862 | .577 | 1.04 | .267 | 2.03 | .466 | .158 | .110 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | | | | | | 500. | |
| Range | | | | | | | 10.4% | |

Sample Name: ccv2 Acquired: 04/19/2019 09:17:30 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **115430.** | **1175400.** | **308860.** |
| Stddev | 198. | 2861. | 3131. |
| %RSD | .17194 | .24339 | 1.0136 |

Sample Name: ccb Acquired: 04/19/2019 09:23:17 Type: QC
Method: DOD Calibration Updated 060614(v3313) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.827** | **-2.42** | **.765** | **.562** | **.835** | **-18.9** | **.154** | **.033** | **.530** | **.907** | **21.4** | **.508** |
| Stddev | .647 | .86 | .984 | .291 | .022 | .8 | .126 | .136 | .393 | .774 | 2.2 | 8.89 |
| %RSD | 78.2 | 35.7 | 129. | 51.7 | 2.66 | 4.46 | 82.0 | 413. | 74.2 | 85.4 | 10.3 | 1750. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.56** | **-6.06** | **.275** | **.782** | **1.68** | **.361** | **-1.18** | **1.80** | **-.025** | **.254** | **.025** | **.346** |
| Stddev | 2.80 | .06 | .038 | 1.66 | .24 | .487 | 1.11 | 4.05 | 1.82 | 1.67 | .097 | .176 |
| %RSD | 179. | .946 | 13.7 | 213. | 14.2 | 135. | 94.1 | 226. | 7340. | 656. | 388. | 50.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

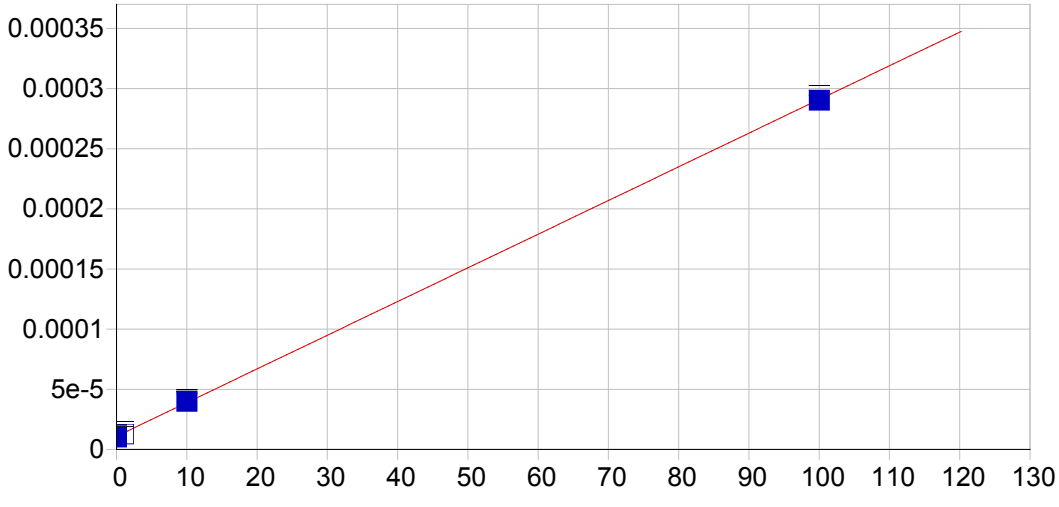
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **115590.** | **1174100.** | **308220.** |
| Stddev | 122. | 5514. | 5965. |
| %RSD | .10586 | .46965 | 1.9353 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/25/2019 06:55:17 | 04/19/2019 11:48:51 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.999897 | 0.000001 | 0.874199 | 2.913998 |
| Ag 338.289 {100} | 04/25/2019 06:55:17 | 04/19/2019 11:54:32 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.986414 | 0.000001 | 16.142505 | 53.808350 |
| Al 167.079 {501} | 04/25/2019 06:55:17 | 04/19/2019 11:54:32 | Linear | None | 0.000054 | 0.000007 | 0.000000 | 1.000000 | 0.999988 | 0.000020 | 0.687835 | 2.292782 |
| Al 308.215 {109} | 04/25/2019 06:55:17 | 04/19/2019 12:14:09 | Linear | 1/Var | 0.000057 | 0.000000 | 0.000000 | 1.000000 | 0.999579 | 0.000031 | 67.122834 | 223.74278 |
| Al 396.152 { 85} | 04/25/2019 06:55:17 | 04/19/2019 12:27:56 | Curvili | 1/Conc | 0.000095 | 0.000001 | 0.000000 | 1.000000 | 0.999991 | 0.000010 | 14.439666 | 48.132219 |
| As 193.759 {474} | 04/25/2019 06:55:17 | 04/19/2019 11:54:33 | Linear | 1/Var | -0.400547 | 0.174632 | 0.000000 | 1.000000 | 0.999987 | 0.267397 | 3.376950 | 11.256499 |
| As 197.262 {471} | 04/25/2019 06:55:17 | 04/19/2019 12:01:14 | Linear | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 0.999196 | 0.000000 | 13.180652 | 43.935507 |
| Ba 233.527 {445} | 04/25/2019 06:55:17 | 04/19/2019 11:54:33 | Linear | 1/Conc | 0.000006 | 0.000020 | 0.000000 | 1.000000 | 0.999813 | 0.000000 | 0.397438 | 1.324795 |
| Ba 455.403 { 74} | 04/25/2019 06:55:17 | 04/19/2019 12:01:14 | Linear | 1/Conc | 0.000070 | 0.000054 | 0.000000 | 1.000000 | 0.999962 | 0.000002 | 0.352795 | 1.175984 |
| Ba 493.409 { 68} | 04/25/2019 06:55:17 | 04/19/2019 12:01:14 | Linear | 1/Conc | 0.010343 | 0.000060 | 0.000000 | 1.000000 | 0.999969 | 0.000022 | 0.788461 | 2.628203 |
| Be 313.042 {108} | 04/25/2019 06:55:17 | 04/19/2019 11:54:34 | Linear | 1/Conc | -0.000203 | 0.000056 | 0.000000 | 1.000000 | 0.999944 | 0.000001 | 0.055718 | 0.185727 |
| Be 234.861 {144} | 04/25/2019 06:55:17 | 04/19/2019 11:54:34 | Linear | 1/Conc | 0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999981 | 0.000000 | 1.218925 | 4.063084 |
| Ca 315.887 {107} | 04/25/2019 06:55:17 | 04/19/2019 12:27:56 | Linear | 1/Var | 0.000046 | 0.000000 | 0.000000 | 1.000000 | 0.999934 | 0.000010 | 14.108658 | 47.028860 |
| Ca 317.933 {106} | 04/25/2019 06:55:17 | 04/19/2019 12:27:57 | Linear | 1/Conc | 0.002924 | 0.000001 | 0.000000 | 1.000000 | 0.999970 | 0.000008 | 7.610226 | 25.367419 |
| Ca 393.366 { 86} | 04/25/2019 06:55:17 | 04/19/2019 11:54:34 | Linear | 1/Var | 0.001997 | 0.000194 | 0.000000 | 1.000000 | 0.999907 | 0.000061 | 0.069118 | 0.230393 |
| Ca 396.847 { 85} | 04/25/2019 06:55:17 | 04/19/2019 12:01:14 | Linear | 1/Conc | 0.005127 | 0.000124 | 0.000000 | 1.000000 | 0.999649 | 0.000155 | 0.101996 | 0.339988 |
| Cd 226.502 {449} | 04/25/2019 06:55:17 | 04/19/2019 11:54:35 | Linear | 1/Conc | -0.000009 | 0.000047 | 0.000000 | 1.000000 | 0.999884 | 0.000001 | 0.241232 | 0.804107 |
| Cd 228.802 {447} | 04/25/2019 06:55:17 | 04/19/2019 11:54:35 | Linear | 1/Conc | 0.000050 | 0.000092 | 0.000000 | 1.000000 | 0.999931 | 0.000001 | 0.156158 | 0.520528 |
| Co 228.616 {447} | 04/25/2019 06:55:17 | 04/19/2019 12:01:15 | Linear | 1/Conc | 0.000033 | 0.000039 | 0.000000 | 1.000000 | 0.999961 | 0.000001 | 0.401567 | 1.338556 |
| Co 238.892 {141} | 04/25/2019 06:55:17 | 04/19/2019 12:01:15 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999993 | 0.000000 | 0.798111 | 2.660369 |
| Cr 205.560 {464} | 04/25/2019 06:55:17 | 04/19/2019 12:07:39 | Linear | 1/Var | 0.000025 | 0.000028 | 0.000000 | 1.000000 | 0.997129 | 0.000099 | 0.322500 | 1.075000 |
| Cr 267.716 {126} | 04/25/2019 06:55:17 | 04/19/2019 12:01:15 | Linear | 1/Conc | -0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999969 | 0.000000 | 0.857186 | 2.857286 |
| Cu 224.700 {450} | 04/25/2019 06:55:17 | 04/19/2019 12:07:39 | Linear | 1/Conc | -0.000001 | 0.000013 | 0.000000 | 1.000000 | 0.999779 | 0.000015 | 0.408924 | 1.363080 |
| Cu 324.754 {104} | 04/25/2019 06:55:17 | 04/19/2019 12:07:39 | Linear | 1/Conc | 119.76784 | 0.721166 | 0.000000 | 1.000000 | 0.999845 | 0.488127 | 3.432032 | 11.440107 |
| Cu 327.396 {103} | 04/25/2019 06:55:17 | 04/19/2019 12:07:39 | Linear | 1/Conc | 9.041906 | 0.371236 | 0.000000 | 1.000000 | 0.999860 | 0.165798 | 8.639391 | 28.797970 |
| Fe 234.349 {144} | 04/25/2019 06:55:17 | 04/19/2019 12:14:09 | Curvili | 1/Var | 0.000015 | 0.000000 | 0.000000 | 1.000000 | 0.999789 | 0.000027 | 1.796366 | 5.987887 |
| Fe 239.562 {140} | 04/25/2019 06:55:17 | 04/19/2019 12:27:57 | Linear | 1/Var | 0.000043 | 0.000000 | 0.000000 | 1.000000 | 0.998236 | 0.000069 | 15.864753 | 52.882510 |
| Fe 259.940 {129} | 04/25/2019 06:55:17 | 04/19/2019 12:20:48 | Curvili | 1/Var | 0.000020 | 0.000001 | 0.000000 | 1.000000 | 0.999600 | 0.000066 | 9.462326 | 31.541087 |
| Mg 202.582 {466} | 04/25/2019 06:55:17 | 04/19/2019 12:27:57 | Linear | 1/Var | 0.000056 | 0.000004 | 0.000000 | 1.000000 | 0.998728 | 0.000186 | 2.330380 | 7.767932 |
| Mg 279.079 {121} | 04/25/2019 06:55:17 | 04/19/2019 12:27:57 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.040000 | 0.999966 | 0.000001 | 118.71107 | 395.70358 |
| Mg 280.270 {120} | 04/25/2019 06:55:17 | 04/19/2019 12:01:17 | Linear | 1/Var | 0.000259 | 0.000028 | 0.000000 | 1.000000 | 0.999871 | 0.000018 | 0.047001 | 0.156671 |
| Mn 257.610 {131} | 04/25/2019 06:55:17 | 04/19/2019 12:01:17 | Linear | 1/Conc | 0.000008 | 0.000010 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.127776 | 0.425921 |
| Mn 259.373 {130} | 04/25/2019 06:55:17 | 04/19/2019 12:07:39 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.999822 | 0.000030 | 1.373048 | 4.576828 |
| Mo 202.030 {466} | 04/25/2019 06:55:17 | 04/19/2019 11:54:38 | Linear | 1/Conc | 0.000012 | 0.000016 | 0.000000 | 1.000000 | 0.999797 | 0.000001 | 0.485319 | 1.617729 |
| Mo 203.844 {465} | 04/25/2019 06:55:17 | 04/19/2019 11:54:38 | Linear | 1/Var | 0.000004 | 0.000013 | 0.000000 | 1.000000 | 0.999973 | 0.000020 | 0.755627 | 2.518756 |
| Mo 204.598 {464} | 04/25/2019 06:55:17 | 04/19/2019 12:01:17 | Linear | 1/Var | -0.000009 | 0.000010 | 0.000000 | 1.000000 | 0.999934 | 0.000007 | 0.911201 | 3.037336 |
| Ni 221.647 {452} | 04/25/2019 06:55:17 | 04/19/2019 12:01:17 | Linear | 1/Conc | 0.000014 | 0.000030 | 0.000000 | 1.000000 | 0.999932 | 0.000017 | 0.486775 | 1.622585 |
| Ni 231.604 {445} | 04/25/2019 06:55:17 | 04/19/2019 12:01:17 | Linear | 1/Conc | -0.000023 | 0.000023 | 0.000000 | 1.000000 | 0.999932 | 0.000001 | 0.654771 | 2.182569 |
| Pb 216.999 {455} | 04/25/2019 06:55:17 | 04/19/2019 12:07:40 | Linear | 1/Var | 0.000026 | 0.000003 | 0.000000 | 1.000000 | 0.999342 | 0.000058 | 3.919164 | 13.063880 |
| Pb 220.353 {453} | 04/25/2019 06:55:17 | 04/19/2019 11:54:39 | Linear | 1/Conc | 0.000038 | 0.000006 | 0.000000 | 1.000000 | 0.999684 | 0.000000 | 2.576862 | 8.589540 |
| Pb 220.353 {153} | 04/25/2019 06:55:17 | 04/19/2019 12:07:40 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999786 | 0.000000 | 7.471446 | 24.904821 |
| Sb 206.833 {463} | 04/25/2019 06:55:17 | 04/19/2019 12:01:18 | Linear | 1/Conc | -0.000005 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000000 | 2.207256 | 7.357519 |
| Sb 217.581 {455} | 04/25/2019 06:55:17 | 04/19/2019 12:01:18 | Linear | 1/Conc | 0.000009 | 0.000004 | 0.000000 | 1.000000 | 0.999971 | 0.000000 | 2.419293 | 8.064311 |
| Se 196.090 {472} | 04/25/2019 06:55:17 | 04/19/2019 11:54:40 | Linear | 1/Conc | 0.000009 | 0.000002 | 0.000000 | 1.000000 | 0.999974 | 0.000000 | 4.424447 | 14.748157 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/25/2019 06:55:17 | 04/19/2019 12:01:18 | Curvili | 1/Conc | 0.000007 | 0.000000 | -0.000000 | 1.000000 | 0.999937 | 0.000000 | 27.648916 | 92.163053 |
| Tl 190.856 {476} | 04/25/2019 06:55:17 | 04/19/2019 12:01:18 | Linear | 1/Conc | -0.000002 | 0.000004 | 0.000000 | 1.000000 | 0.999752 | 0.000001 | 2.455122 | 8.183741 |
| Tl 190.856 {477} | 04/25/2019 06:55:17 | 04/19/2019 12:01:19 | Linear | 1/Conc | -0.000010 | 0.000002 | 0.000000 | 1.000000 | 0.999535 | 0.000001 | 4.939221 | 16.464070 |
| V 290.882 {116} | 04/25/2019 06:55:17 | 04/19/2019 12:01:19 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999989 | 0.000000 | 6.628128 | 22.093759 |
| V 292.402 {115} | 04/25/2019 06:55:17 | 04/19/2019 12:01:19 | Linear | 1/Conc | 0.000003 | 0.000008 | 0.000000 | 1.000000 | 0.999973 | 0.000001 | 0.558109 | 1.860363 |
| Zn 206.200 {463} | 04/25/2019 06:55:17 | 04/19/2019 12:07:40 | Linear | 1/Var | 0.000050 | 0.000031 | 0.000000 | 1.000000 | 0.997202 | 0.000192 | 0.395211 | 1.317370 |
| Zn 213.856 {457} | 04/25/2019 06:55:17 | 04/19/2019 11:54:41 | Linear | 1/Conc | 0.000057 | 0.000054 | 0.000000 | 1.000000 | 0.999975 | 0.000002 | 0.201023 | 0.670078 |
| Y 224.306 {450}* | 04/25/2019 06:55:17 | 04/19/2019 11:05:04 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/25/2019 06:55:17 | 04/19/2019 11:05:04 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/25/2019 06:55:17 | 04/19/2019 11:05:04 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/25/2019 06:55:17 | 04/19/2019 12:01:19 | Linear | 1/Conc | 0.004193 | 0.000005 | 0.000000 | 1.000000 | 0.999998 | 0.000002 | 9.658184 | 32.193946 |
| Na 589.592 { 57} | 04/25/2019 06:55:17 | 04/19/2019 12:27:57 | Linear | 1/Conc | 0.000068 | 0.000004 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 8.310782 | 27.702607 |
| Si 251.611 {134} | 04/25/2019 06:55:17 | 04/19/2019 12:27:57 | Linear | 1/Conc | 5.107038 | 0.052002 | 0.000000 | 1.000000 | 0.992592 | 3.013333 | 24.713566 | 82.378553 |
| Ti 323.452 {104} | 04/25/2019 06:55:17 | 04/19/2019 12:01:20 | Linear | 1/Conc | 0.000266 | 0.000008 | 0.000000 | 1.000000 | 0.999502 | 0.000002 | 1.398283 | 4.660944 |
| Ti 334.941 {101} | 04/25/2019 06:55:17 | 04/19/2019 12:01:20 | Linear | 1/Conc | 0.000015 | 0.000004 | 0.000000 | 1.000000 | 0.999804 | 0.000001 | 1.907399 | 6.357997 |
| Sr 407.771 { 83} | 04/25/2019 06:55:17 | 04/19/2019 12:01:20 | Linear | 1/Conc | 0.000104 | 0.000104 | 0.000000 | 1.000000 | 0.999983 | 0.000002 | 0.158411 | 0.528037 |
| Sr 421.552 { 80} | 04/25/2019 06:55:17 | 04/19/2019 12:01:20 | Linear | 1/Conc | 0.000073 | 0.000148 | 0.000000 | 1.000000 | 0.999987 | 0.000003 | 0.112288 | 0.374295 |
| Sn 189.989 {477} | 04/25/2019 06:55:17 | 04/19/2019 12:01:20 | Linear | 1/Conc | 0.000011 | 0.000006 | 0.000000 | 1.000000 | 0.999938 | 0.000001 | 1.569803 | 5.232676 |
| B 249.678 {135} | 04/25/2019 06:55:17 | 04/19/2019 12:01:21 | Linear | 1/Conc | 0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999921 | 0.000000 | 1.265815 | 4.219385 |
| B 249.773 {135} | 04/25/2019 06:55:17 | 04/19/2019 12:01:21 | Linear | 1/Var | 0.000005 | 0.000003 | 0.000000 | 1.000000 | 0.999778 | 0.000005 | 0.736179 | 2.453929 |
| Li 670.784 { 50} | 04/25/2019 06:55:17 | 04/19/2019 12:01:21 | Linear | 1/Var | -0.000053 | 0.000027 | 0.000000 | 1.000000 | 0.999748 | 0.000069 | 1.460000 | 4.866666 |
| K 766.490 { 44} | 04/25/2019 06:55:17 | 04/19/2019 12:27:58 | Linear | 1/Conc | -0.000044 | 0.000001 | 0.000000 | 1.000000 | 0.999995 | 0.000004 | 60.436712 | 201.45570 |
| P 213.618 {457} | 04/25/2019 06:55:17 | 04/19/2019 12:01:21 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.656792 | 22.189308 |
| S 182.034 {485} | 04/25/2019 06:55:17 | 04/19/2019 12:27:58 | Curvili | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 5.932057 | 19.773525 |
| Hg 184.950 {482} | 04/25/2019 06:55:17 | 04/19/2019 11:54:43 | Linear | 1/Conc | 0.000009 | 0.000007 | 0.000000 | 1.000000 | 0.999974 | 0.000001 | 1.020318 | 3.401060 |
| Ce 404.076 { 83} | 04/25/2019 06:55:17 | 04/19/2019 11:54:43 | Linear | 1/Conc | 0.000041 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 20.788833 | 69.296109 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

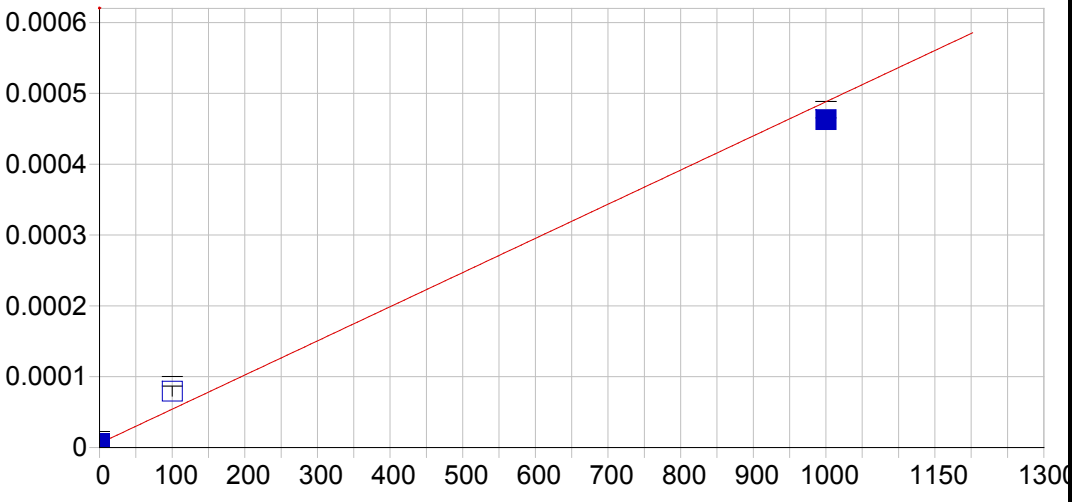



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999897 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.874199 | | |
| Predicted MQL: | 2.913998 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.24426 | -.244 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.347 | .347 | 3.47 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.733 | -.267 | -.267 | .00029 | .000 | 1 |
| CalStd3=1 | 1.0000 | .63094 | -.369 | -36.9 | .00001 | .000 | 1 |

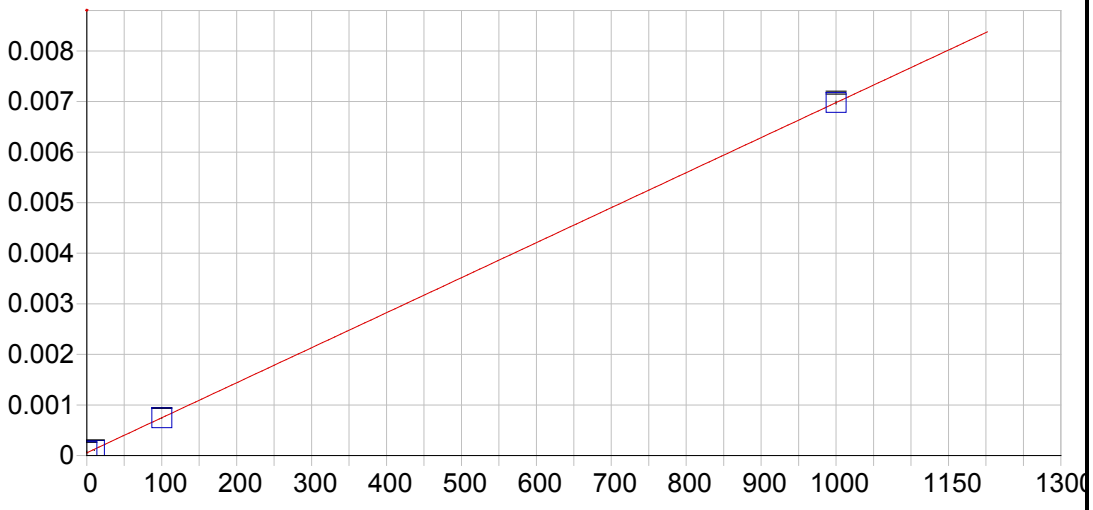



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.986414 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 16.142505 | | |
| Predicted MQL: | 53.808350 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04738 | -.047 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 152.64 | 52.6 | 52.6 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 947.36 | -52.6 | -5.26 | .00046 | .000 | 1 |

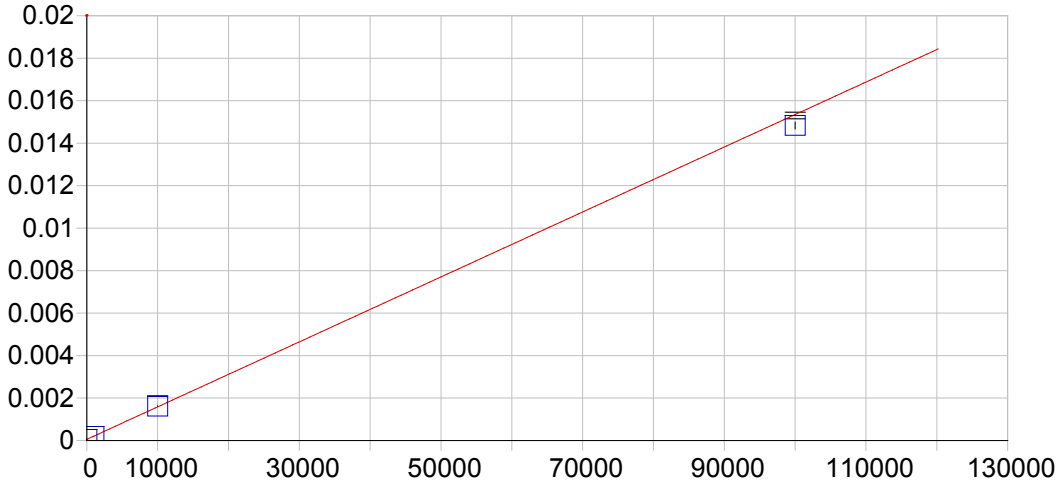



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999988 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 0.687835 | | |
| Predicted MQL: | 2.292782 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 3.0430 | 3.04 | .000 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .082 | .008 | .00698 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.4354 | -2.56 | -25.6 | .00011 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.440 | -.560 | -.560 | .00074 | .000 | 1 |

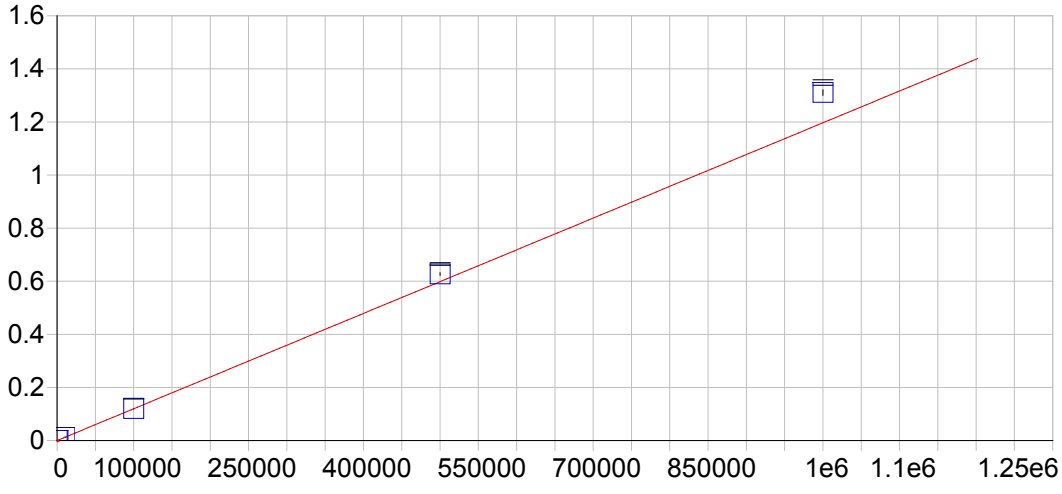



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000057 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999579 | Status: | OK. |
| Std Error of Est: | 0.000031 | | |
| Predicted MDL: | 67.122834 | | |
| Predicted MQL: | 223.742781 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.7516 | -1.75 | .000 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10180. | 180. | 1.80 | .00161 | .000 | 1 |
| CalStd9=100 | 1000.0 | 918.68 | -81.3 | -8.13 | .00020 | .000 | 1 |
| CalStd13=10 | 100000. | 96621. | -3380. | -3.38 | .01483 | .000 | 1 |

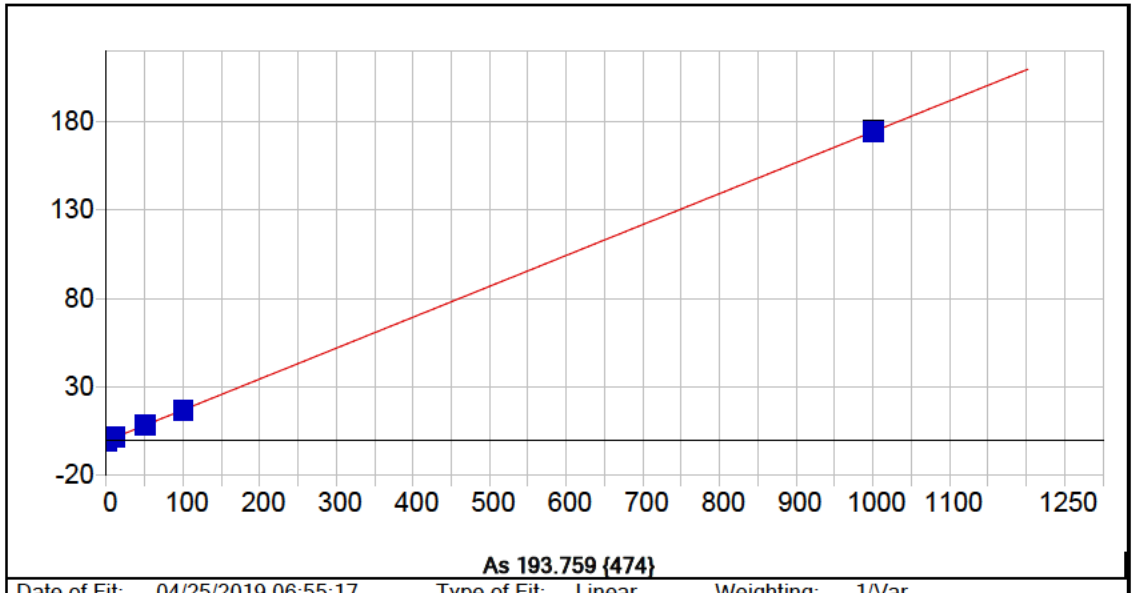



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000095 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999991 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 14.439666 | | |
| Predicted MQL: | 48.132219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04316 | -.043 | .000 | .00009 | .000 | 1 |
| CalStd14=50 | 500000. | 524120. | 24100. | 4.82 | .62732 | .005 | 1 |
| CalStd13=10 | 100000. | 100230. | 226. | .226 | .12004 | .001 | 1 |
| CalStd10=10 | 10000. | 10536. | 536. | 5.36 | .01270 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.38 | -2.62 | -.262 | .00129 | .000 | 1 |
| CalibStd15= | 1000000. | 1095300. | 95300. | 9.53 | 1.3109 | .010 | 1 |

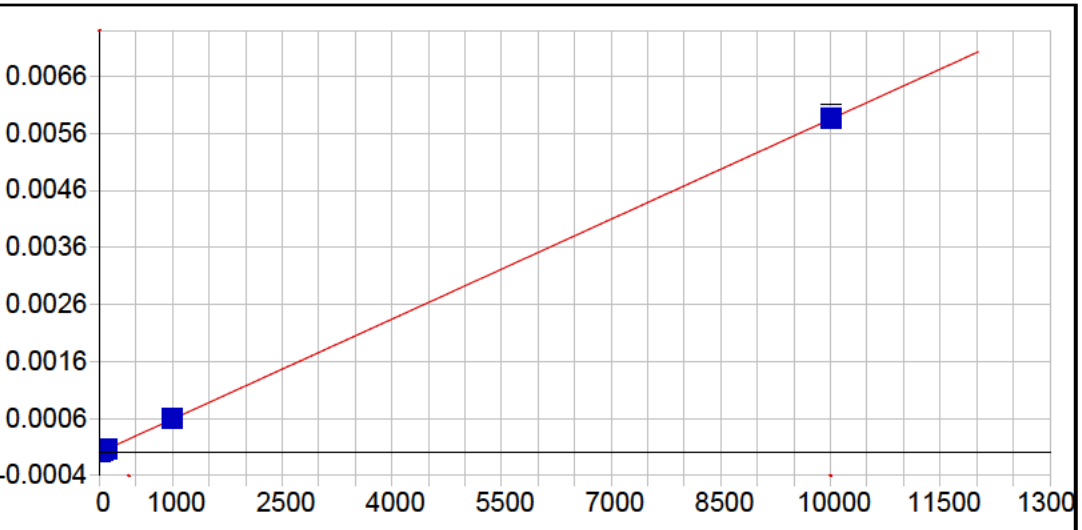



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.400547 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.174632 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.267397 | | |
| Predicted MDL: | 3.376950 | | |
| Predicted MQL: | 11.256499 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .45685 | .457 | .000 | -.32077 | .442 | 1 |
| CalStd9=100 | 1000.0 | 1000.7 | .691 | .069 | 173.78 | .656 | 1 |
| CalStd7=50 | 50.000 | 49.504 | -.496 | -.992 | 8.2246 | .350 | 1 |
| CalStd5=10 | 10.000 | 11.060 | 1.06 | 10.6 | 1.5265 | .260 | 1 |
| CalStd8=100 | 100.00 | 97.919 | -2.08 | -2.08 | 16.642 | .365 | 1 |

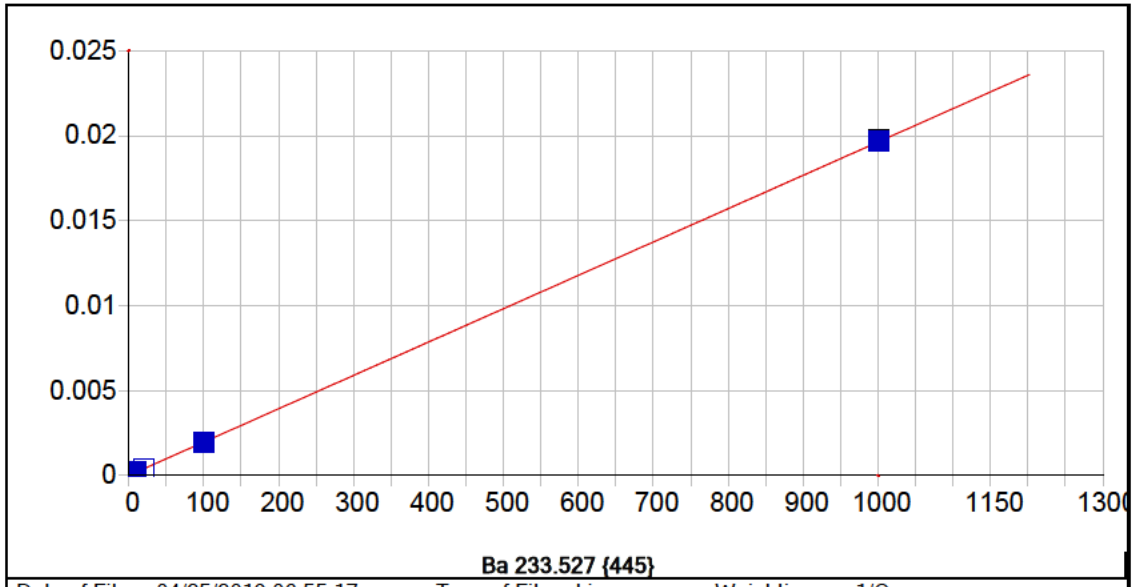



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999196 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 13.180652 | | |
| Predicted MQL: | 43.935507 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01389 | .014 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.3 | 13.3 | 1.33 | .00060 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.295 | -.705 | -1.41 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | -3.2629 | -13.3 | -133. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 93.757 | -6.24 | -6.24 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 10007. | 6.81 | .068 | .00589 | .000 | 1 |

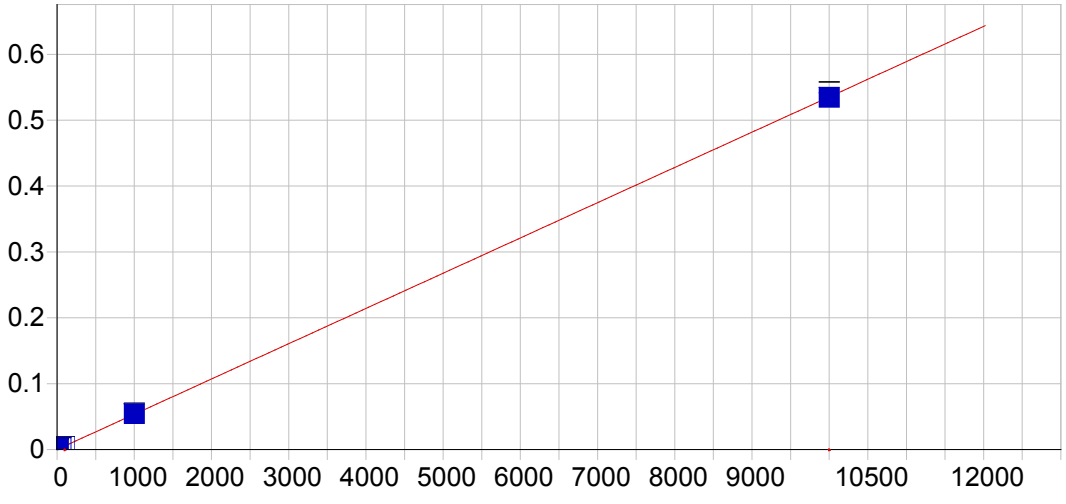



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000020 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999813 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.397438 | | |
| Predicted MQL: | 1.324795 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00072 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9624 | -.038 | -.376 | .00020 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.245 | -.755 | -3.78 | .00038 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.164 | -.836 | -.836 | .00195 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.4266 | -.573 | -11.5 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.8 | 2.76 | .276 | .01969 | .000 | 1 |
| CalStd3=1 | 1.0000 | .43808 | -.562 | -56.2 | .00001 | .000 | 1 |

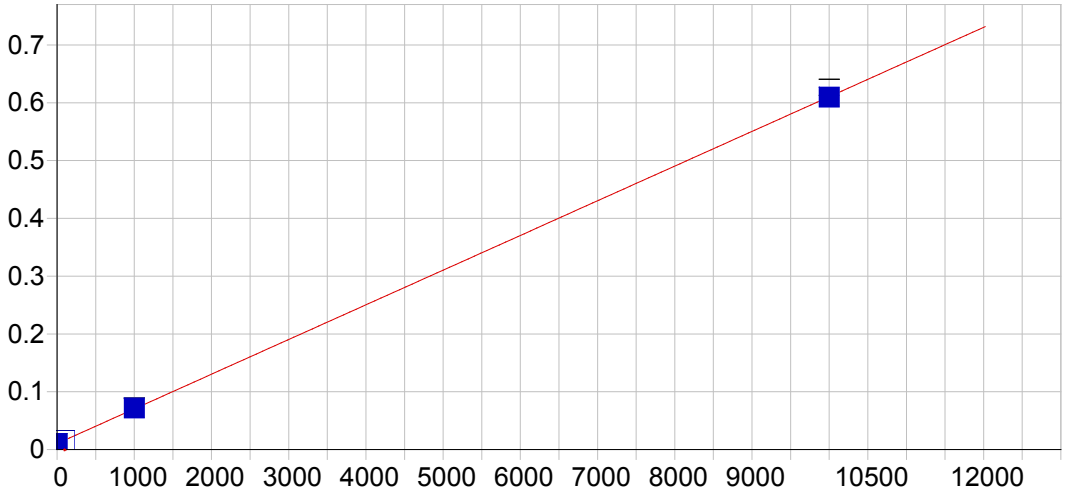



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000070 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999962 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.352795 | | |
| Predicted MQL: | 1.175984 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00007 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.521 | -.479 | -.958 | .00272 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.252 | .252 | 2.52 | .00062 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.774 | -.226 | -1.13 | .00113 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.324 | -1.68 | -1.68 | .00533 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6753 | -.325 | -6.49 | .00032 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.6 | 17.6 | 1.76 | .05454 | .001 | 1 |
| CalStd3=1 | 1.0000 | .32512 | -.675 | -67.5 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 9985.5 | -14.5 | -.145 | .53457 | .008 | 1 |

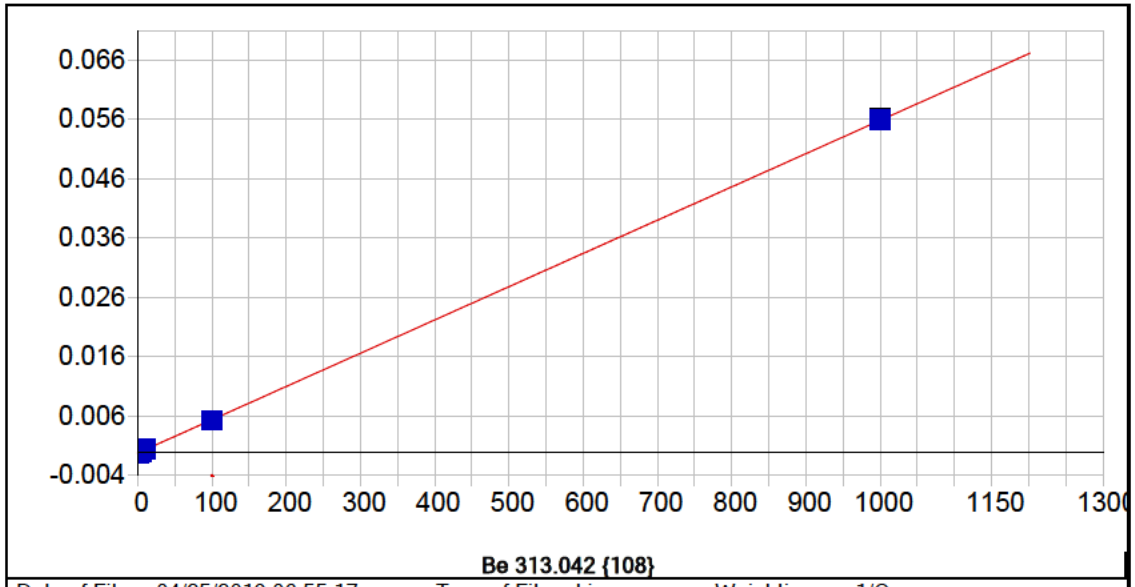



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010343 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000060 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000022 | | |
| Predicted MDL: | 0.788461 | | |
| Predicted MQL: | 2.628203 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00233 | .002 | .000 | .01034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1021.6 | 21.6 | 2.16 | .07166 | .001 | 1 |
| CalStd8=100 | 100.00 | 95.684 | -4.32 | -4.32 | .01609 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.7 | -17.3 | -.173 | .60949 | .014 | 1 |

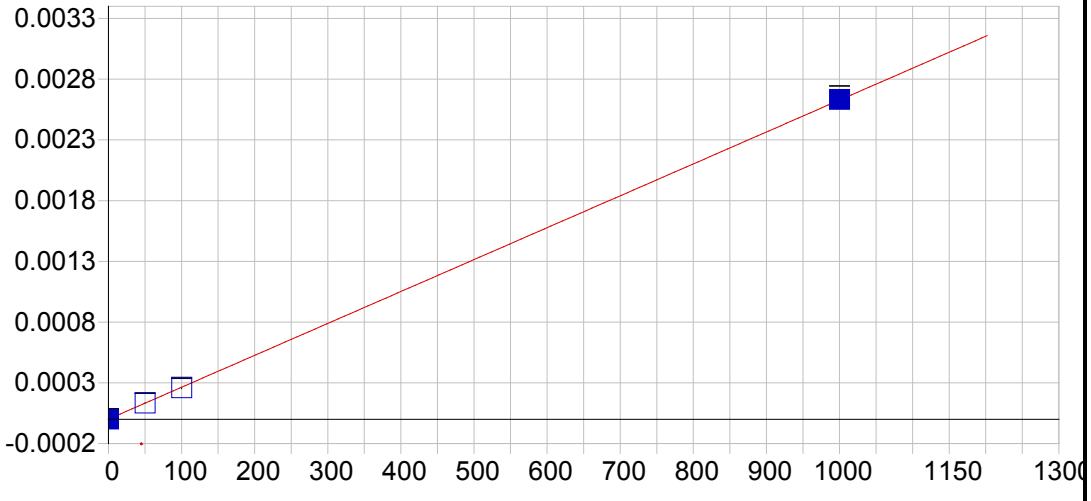



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000203 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999944 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.055718 | | |
| Predicted MQL: | 0.185727 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00015 | -.000 | .000 | -.00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.476 | .476 | 4.76 | .00038 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.302 | -2.70 | -2.70 | .00525 | .000 | 1 |
| CalStd2=0.5 | .50000 | .56390 | .064 | 12.8 | -.00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0662 | .066 | 1.32 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.0 | 1.97 | .197 | .05597 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1272 | .127 | 12.7 | -.00014 | .000 | 1 |

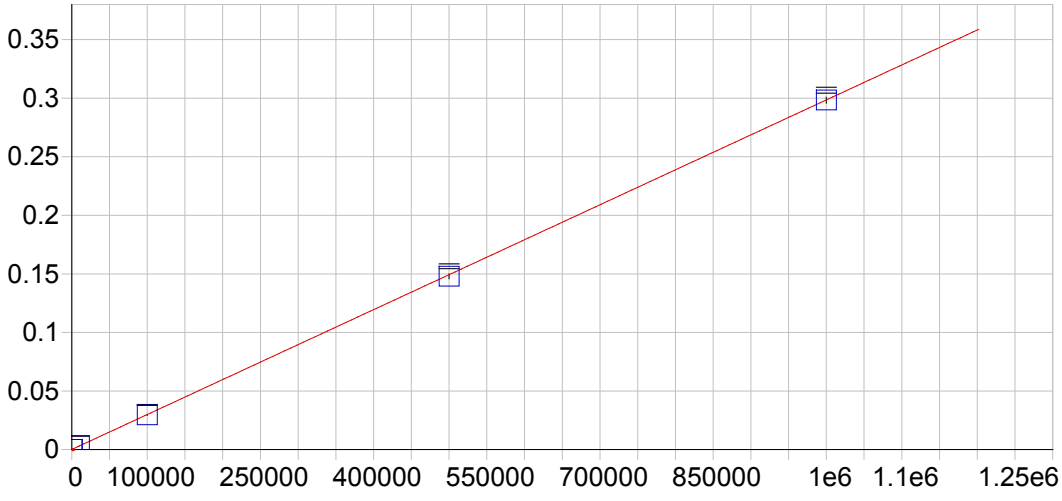



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.218925 | | |
| Predicted MQL: | 4.063084 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00090 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.0 | 1.99 | .199 | .00263 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.005 | -1.99 | -1.99 | .00026 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.002 | .002 | .003 | .00013 | .000 | 1 |

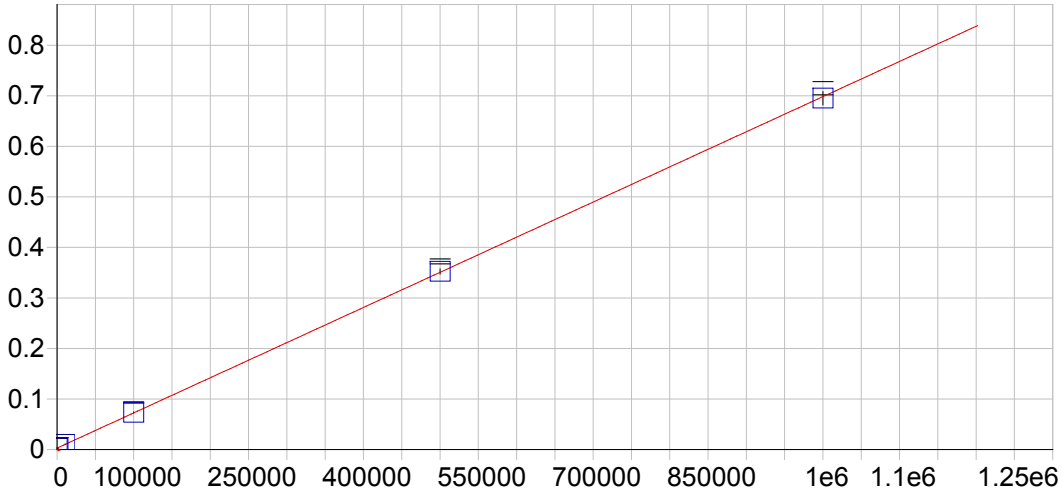



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000046 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.000010 | | |
| Predicted MDL: | 14.108658 | | |
| Predicted MQL: | 47.028860 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 5.7343 | 5.73 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 10196. | 196. | 1.96 | .00309 | .000 | 1 |
| CalStd13=10 | 100000. | 98834. | -1170. | -1.17 | .02955 | .000 | 1 |
| CalStd14=50 | 500000. | 495450. | -4550. | -.911 | .14793 | .002 | 1 |
| CalStd9=100 | 1000.0 | 996.29 | -3.71 | -.371 | .00034 | .000 | 1 |
| CalibStd15= | 1000000. | 999230. | -771. | -.077 | .29831 | .003 | 1 |

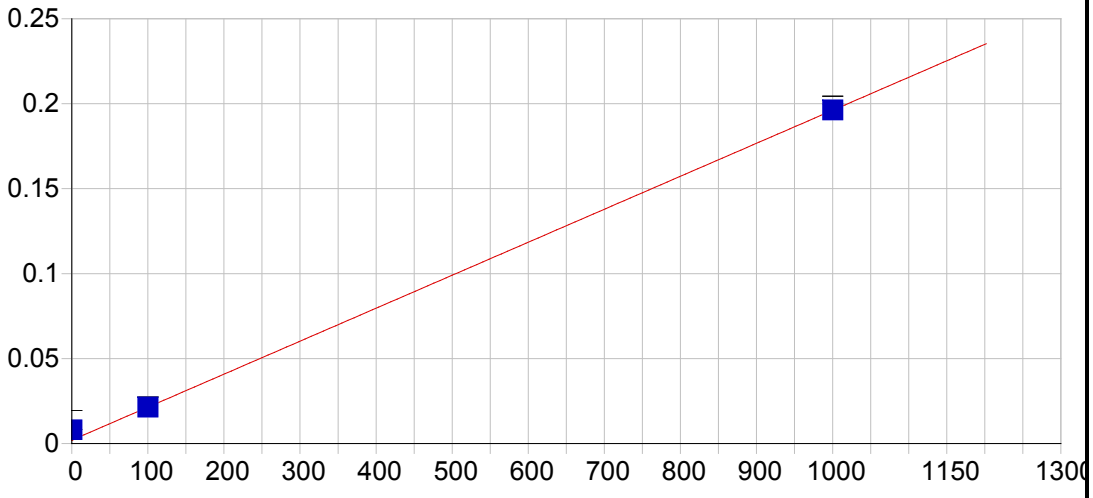



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002924 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999970 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 7.610226 | | |
| Predicted MQL: | 25.367419 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.12452 | -.125 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 10652. | 652. | 6.52 | .01033 | .000 | 1 |
| CalStd13=10 | 100000. | 101250. | 1250. | 1.25 | .07335 | .001 | 1 |
| CalStd14=50 | 500000. | 502630. | 2630. | .527 | .35252 | .005 | 1 |
| CalStd9=100 | 1000.0 | 1046.2 | 46.2 | 4.62 | .00365 | .000 | 1 |
| CalibStd15= | 1000000. | 995420. | -4580. | -.458 | .69526 | .013 | 1 |

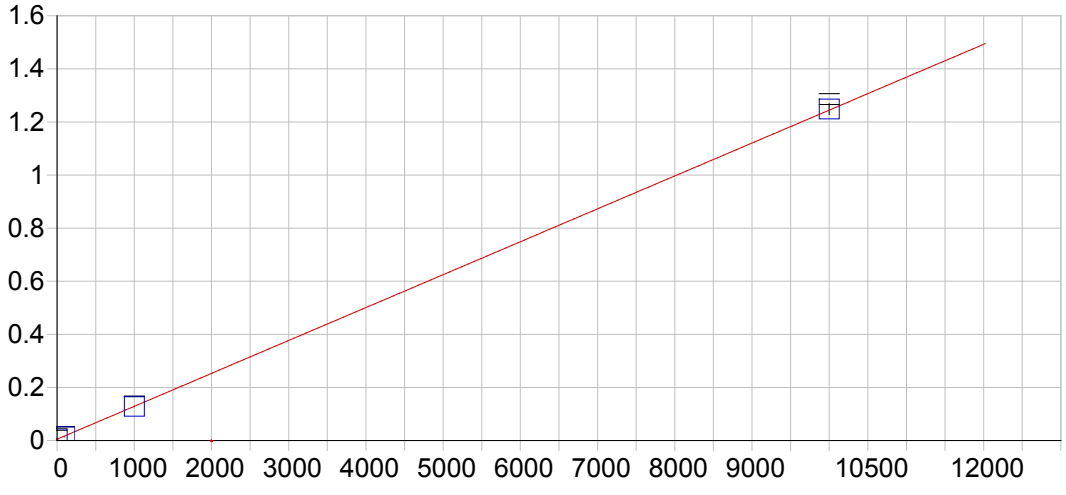



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001997 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000194 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999907 | Status: | OK. |
| Std Error of Est: | 0.000061 | | |
| Predicted MDL: | 0.069118 | | |
| Predicted MQL: | 0.230393 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 30.900 | 30.9 | .000 | .00800 | .006 | 1 |
| CalStd9=100 | 1000.0 | 1000.5 | .539 | .054 | .19623 | .002 | 1 |
| CalStd8=100 | 100.00 | 99.999 | -.001 | -.001 | .02141 | .000 | 1 |

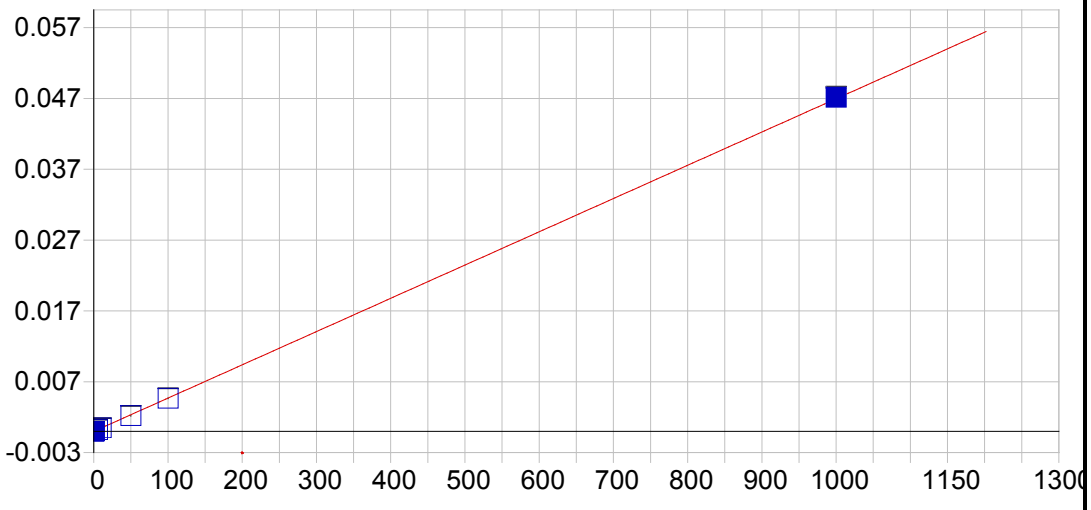



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005127 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000124 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999649 | Status: | OK. |
| Std Error of Est: | 0.000155 | | |
| Predicted MDL: | 0.101996 | | |
| Predicted MQL: | 0.339988 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02780 | .028 | .000 | .00513 | .004 | 1 |
| CalStd10=10 | 10000. | 10032. | 32.1 | .321 | 1.2485 | .020 | 1 |
| CalStd8=100 | 100.00 | 72.322 | -27.7 | -27.7 | .01409 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.54 | -4.46 | -.446 | .12852 | .001 | 1 |

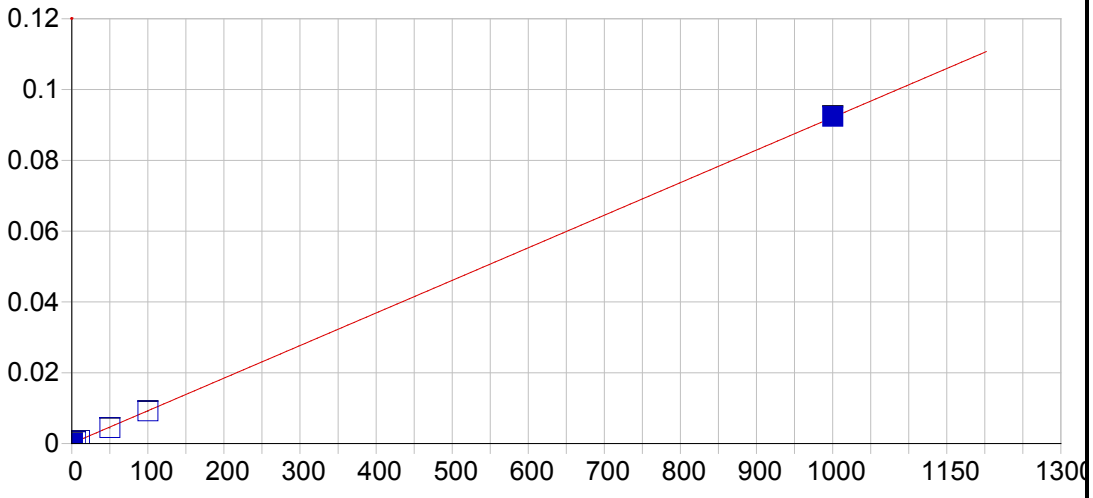



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000047 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.241232 | | |
| Predicted MQL: | 0.804107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00019 | .000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.901 | -3.10 | -6.20 | .00219 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0089 | .009 | .885 | .00004 | .000 | 1 |
| CalStd2=0.5 | .50000 | .37339 | -.127 | -25.3 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6725 | -.327 | -6.55 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.195 | -.805 | -.805 | .00465 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.038 | .038 | .384 | .00046 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.3 | 4.31 | .431 | .04716 | .000 | 1 |

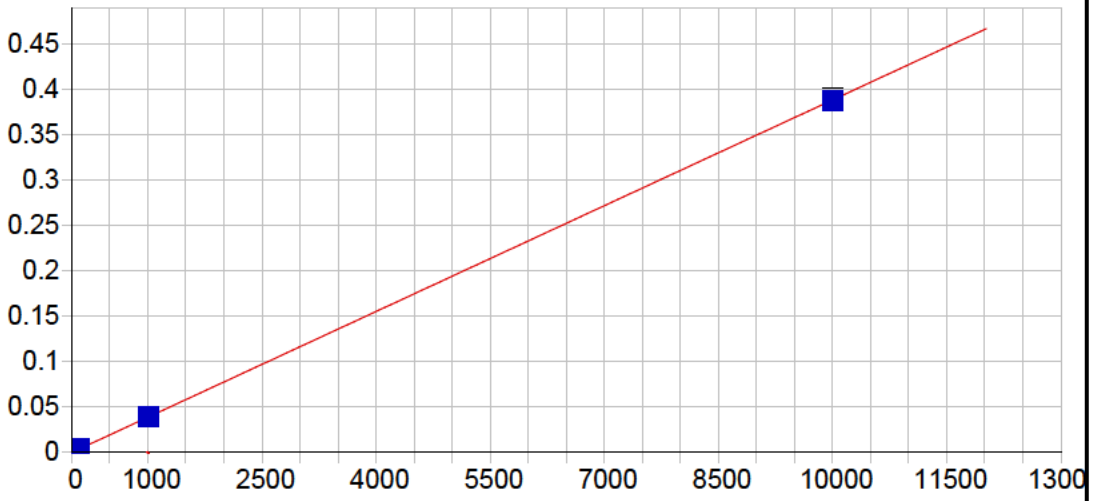



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000050 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000092 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999931 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.156158 | | |
| Predicted MQL: | 0.520528 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00016 | .000 | .000 | .00005 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.645 | -2.36 | -4.71 | .00444 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95955 | -.040 | -4.05 | .00014 | .000 | 1 |
| CalStd2=0.5 | .50000 | .38095 | -.119 | -23.8 | .00009 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9544 | -.046 | -.912 | .00051 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.204 | -.796 | -.796 | .00918 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.194 | .194 | 1.94 | .00099 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.2 | 3.16 | .316 | .09241 | .000 | 1 |

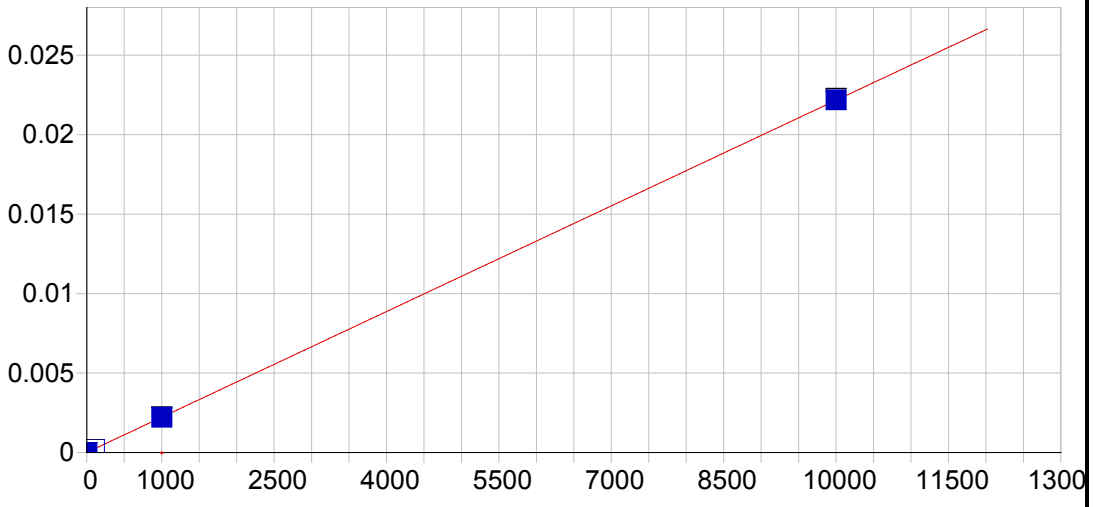



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000039 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999961 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.401567 | | |
| Predicted MQL: | 1.338556 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00011 | .000 | .000 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.111 | -1.89 | -3.78 | .00190 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.148 | .148 | 1.48 | .00043 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9973 | -.003 | -.054 | .00023 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.53 | 1.53 | 1.53 | .00398 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.3 | 26.3 | 2.63 | .03993 | .000 | 1 |
| CalStd3=1 | 1.0000 | .87607 | -.124 | -12.4 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9974.0 | -26.0 | -.260 | .38821 | .003 | 1 |

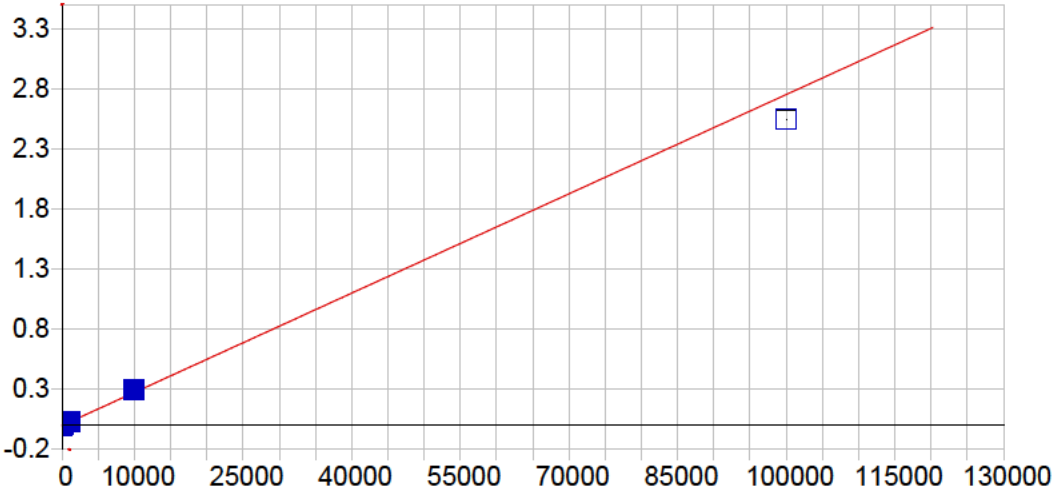



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.798111 | | |
| Predicted MQL: | 2.660369 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00387 | .004 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.24 | -2.76 | -.276 | .00222 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 6.42 | .064 | .02219 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.339 | -3.66 | -3.66 | .00022 | .000 | 1 |

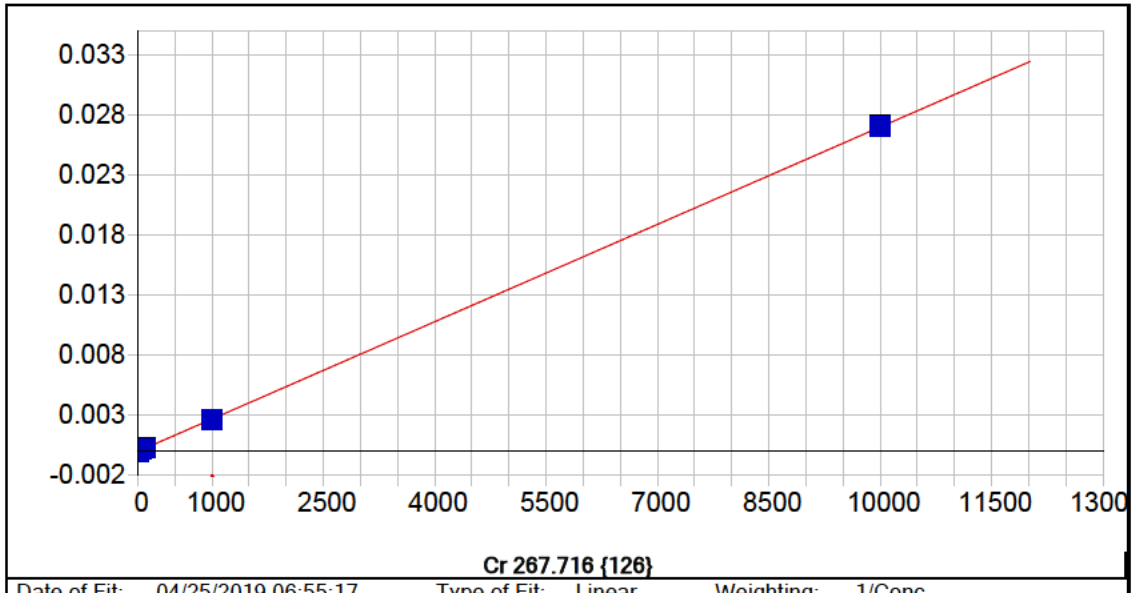



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000028 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997129 | Status: | OK. |
| Std Error of Est: | 0.000099 | | |
| Predicted MDL: | 0.322500 | | |
| Predicted MQL: | 1.075000 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.56653 | -.567 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.332 | .332 | 3.32 | .00031 | .000 | 1 |
| CalStd7=50 | 50.000 | 51.813 | 1.81 | 3.63 | .00145 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1101.3 | 101. | 10.1 | .03033 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.48 | 6.48 | 6.48 | .00295 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5974 | -.403 | -8.05 | .00015 | .000 | 1 |
| CalStd3=1 | 1.0000 | .51884 | -.481 | -48.1 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 10687. | 687. | 6.87 | .29411 | .001 | 1 |
| CalStd12=10 | 100000. | 92408. | -7590. | -7.59 | 2.5429 | .004 | 1 |

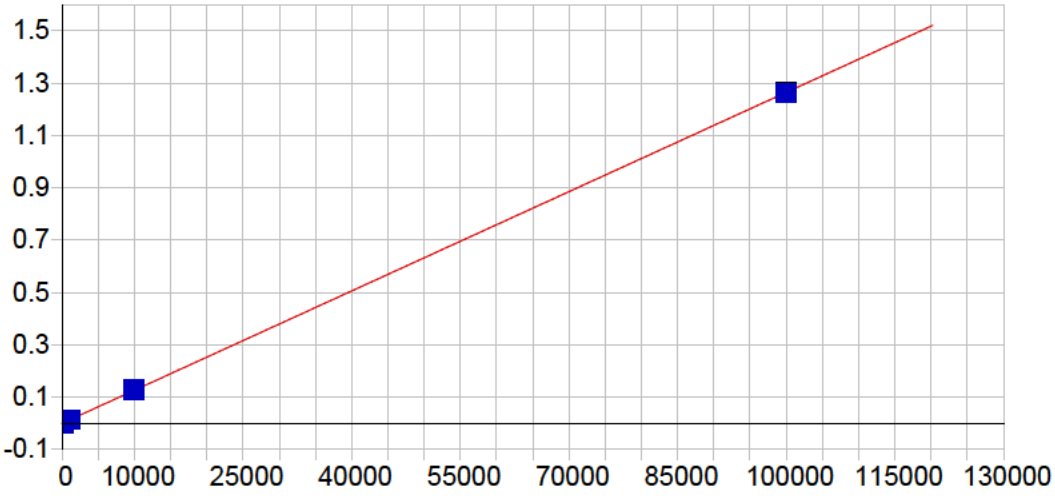



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999969 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.857186 | | |
| Predicted MQL: | 2.857286 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00082 | .001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6607 | -.339 | -3.39 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.327 | -2.67 | -5.35 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 984.07 | -15.9 | -1.59 | .00265 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.147 | -4.85 | -4.85 | .00026 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9233 | -.077 | -1.53 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10024. | 23.9 | .239 | .02704 | .000 | 1 |

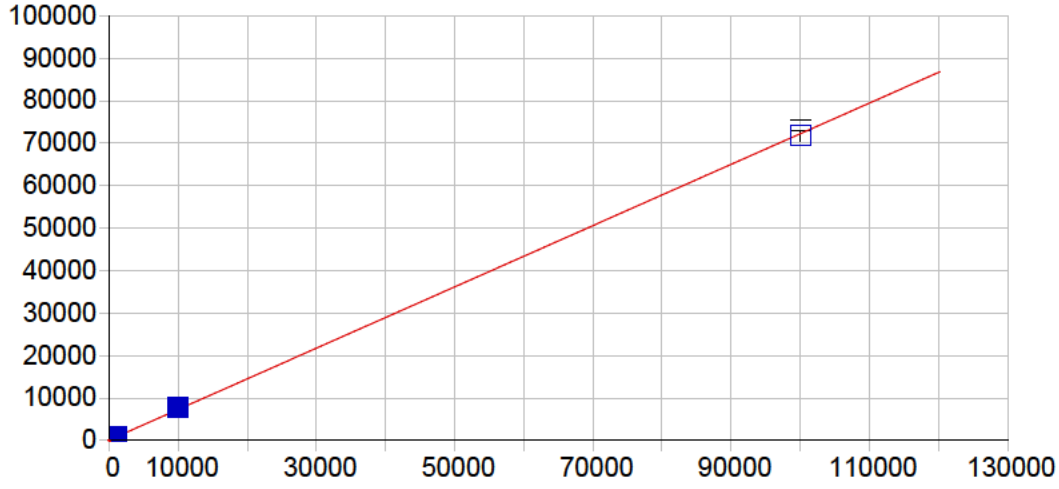



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000013 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999779 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.408924 | | |
| Predicted MQL: | 1.363080 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03246 | .032 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1045.3 | 45.3 | 4.53 | .01322 | .000 | 1 |
| CalStd7=50 | 50.000 | 22.121 | -27.9 | -55.8 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 67.879 | -32.1 | -32.1 | .00086 | .000 | 1 |
| CalStd6=20 | 20.000 | 3.7145 | -16.3 | -81.4 | .00005 | .000 | 1 |
| CalStd12=10 | 100000. | 99761. | -239. | -.239 | 1.2616 | .002 | 1 |
| CalStd10=10 | 10000. | 10270. | 270. | 2.70 | .12989 | .000 | 1 |

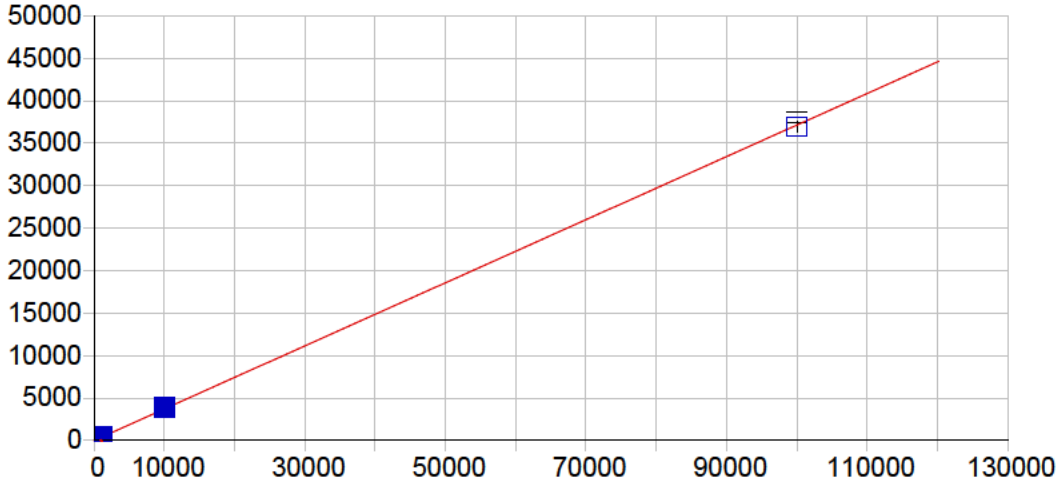



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 119.767842 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.721166 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999845 | Status: | OK. |
| Std Error of Est: | 0.488127 | | |
| Predicted MDL: | 3.432032 | | |
| Predicted MQL: | 11.440107 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00710 | -.007 | .000 | 119.76 | 2.36 | 1 |
| CalStd9=100 | 1000.0 | 1072.1 | 72.1 | 7.21 | 892.85 | 8.71 | 1 |
| CalStd8=100 | 100.00 | 108.72 | 8.72 | 8.72 | 198.17 | 2.35 | 1 |
| CalStd10=10 | 10000. | 10484. | 484. | 4.84 | 7680.2 | 80.0 | 1 |
| CalStd12=10 | 100000. | 99428. | -572. | -.572 | 71824. | 1210. | 1 |
| CalStd5=10 | 10.000 | 13.162 | 3.16 | 31.6 | 129.26 | 2.31 | 1 |
| CalStd6=20 | 20.000 | 23.794 | 3.79 | 19.0 | 136.93 | 2.10 | 1 |
| CalStd7=50 | 50.000 | 50.090 | .090 | .179 | 155.89 | 2.55 | 1 |

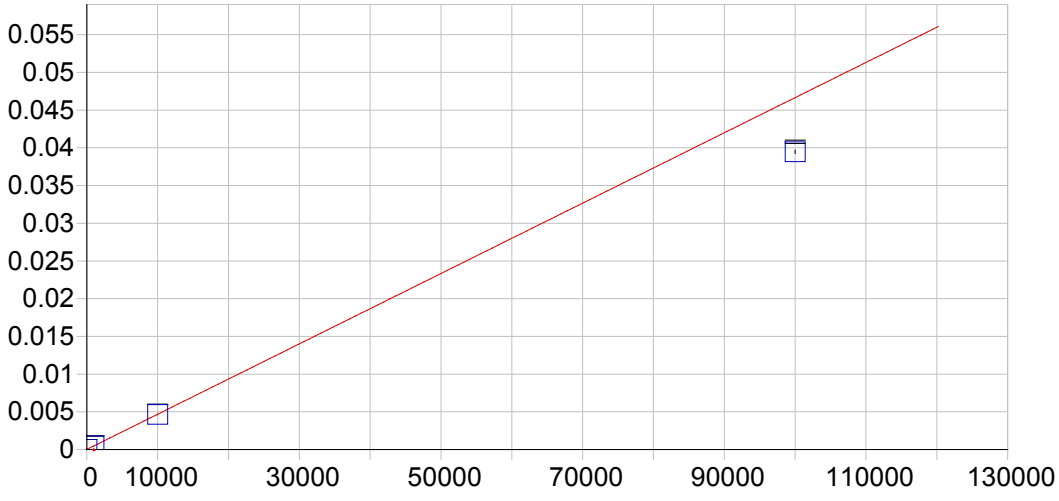



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.041906 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.371236 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999860 | Status: | OK. |
| Std Error of Est: | 0.165798 | | |
| Predicted MDL: | 8.639391 | | |
| Predicted MQL: | 28.797970 | | |

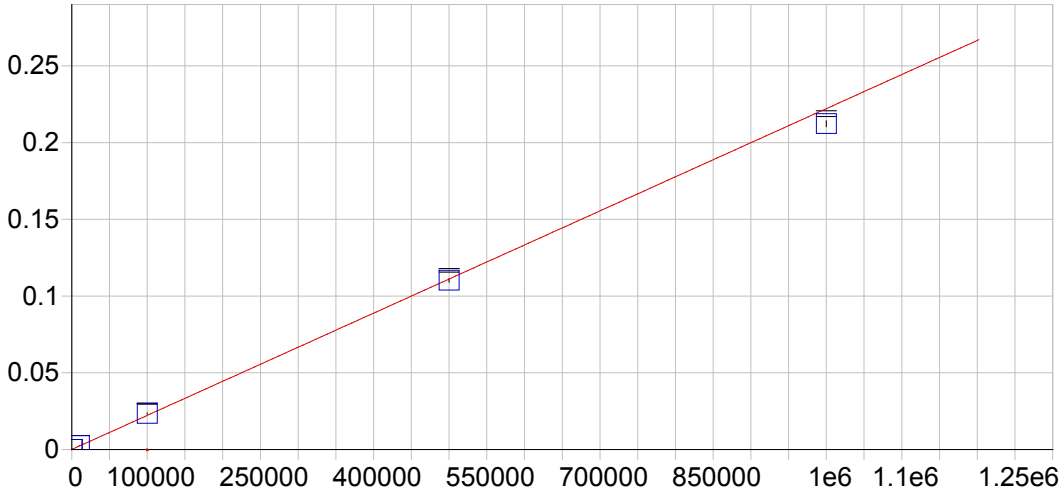
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00026 | .000 | .000 | 9.0420 | 1.64 | 1 |
| CalStd6=20 | 20.000 | 22.438 | 2.44 | 12.2 | 17.367 | 2.61 | 1 |
| CalStd7=50 | 50.000 | 46.415 | -3.59 | -7.17 | 26.262 | 2.02 | 1 |
| CalStd8=100 | 100.00 | 98.716 | -1.28 | -1.28 | 45.667 | 1.03 | 1 |
| CalStd9=100 | 1000.0 | 1080.7 | 80.7 | 8.07 | 410.01 | 4.99 | 1 |
| CalStd10=10 | 10000. | 10458. | 458. | 4.58 | 3891.4 | 9.34 | 1 |
| CalStd12=10 | 100000. | 99465. | -535. | -.535 | 36934. | 633. | 1 |
| CalStd4=5 | 5.0000 | 4.1304 | -.870 | -17.4 | 10.574 | 2.48 | 1 |
| CalStd5=10 | 10.000 | 9.6404 | -.360 | -3.60 | 12.619 | 4.69 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000015 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999789 | | Status: | OK. | |
| Std Error of Est: | 0.000027 | | | | |
| Predicted MDL: | 1.796366 | | | | |
| Predicted MQL: | 5.987887 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 67.043 | 67.0 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9950.8 | -49.2 | -.492 | .00466 | .000 | 1 |
| CalStd13=10 | 100000. | 84583. | -15400. | -15.4 | .03947 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.74 | -13.3 | -1.33 | .00048 | .000 | 1 |

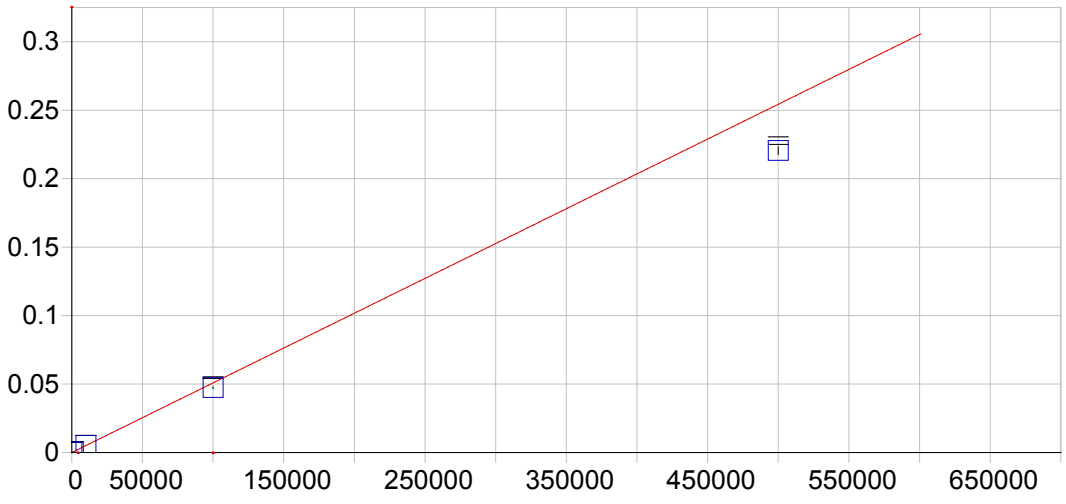



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000043 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998236 | Status: | OK. |
| Std Error of Est: | 0.000069 | | |
| Predicted MDL: | 15.864753 | | |
| Predicted MQL: | 52.882510 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 199.97 | 200. | .000 | .00009 | .000 | 1 |
| CalStd10=10 | 10000. | 11157. | 1160. | 11.6 | .00252 | .000 | 1 |
| CalStd13=10 | 100000. | 105310. | 5310. | 5.31 | .02343 | .000 | 1 |
| CalStd14=50 | 500000. | 496280. | -3720. | -.743 | .11027 | .001 | 1 |
| CalStd9=100 | 1000.0 | 960.50 | -39.5 | -3.95 | .00026 | .000 | 1 |
| CalibStd15= | 1000000. | 955790. | -44200. | -4.42 | .21234 | .002 | 1 |

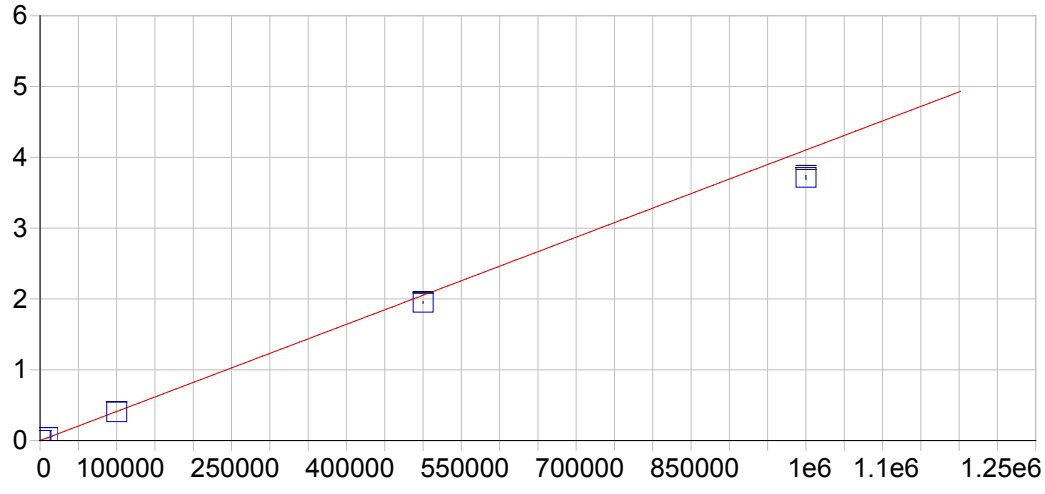



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999600 | Status: | OK. |
| Std Error of Est: | 0.000066 | | |
| Predicted MDL: | 9.462326 | | |
| Predicted MQL: | 31.541087 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 316.17 | 316. | .000 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10148. | 148. | 1.48 | .00518 | .000 | 1 |
| CalStd13=10 | 100000. | 93077. | -6920. | -6.92 | .04737 | .001 | 1 |
| CalStd14=50 | 500000. | 433370. | -66600. | -13.3 | .22047 | .003 | 1 |
| CalStd9=100 | 1000.0 | 988.36 | -11.6 | -1.16 | .00052 | .000 | 1 |

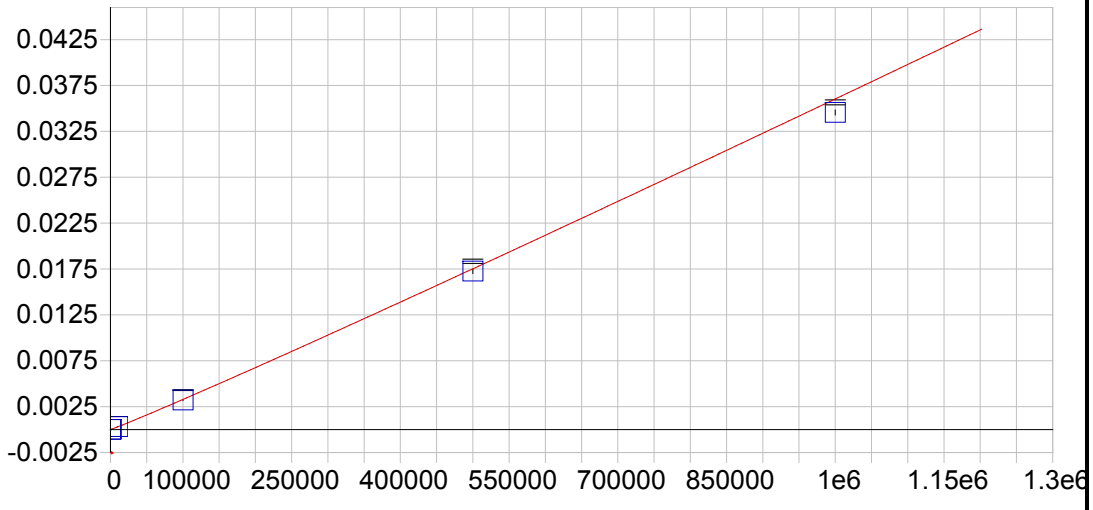



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000056 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998728 | Status: | OK. |
| Std Error of Est: | 0.000186 | | |
| Predicted MDL: | 2.330380 | | |
| Predicted MQL: | 7.767932 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -9.9196 | -9.92 | .000 | .00002 | .000 | 1 |
| CalStd13=10 | 100000. | 98872. | -1130. | -1.13 | .40579 | .001 | 1 |
| CalStd10=10 | 10000. | 10063. | 62.7 | .627 | .04135 | .000 | 1 |
| CalStd14=50 | 500000. | 475560. | -24400. | -4.89 | 1.9516 | .012 | 1 |
| CalStd9=100 | 1000.0 | 1077.1 | 77.1 | 7.71 | .00448 | .000 | 1 |
| CalibStd15= | 1000000. | 905620. | -94400. | -9.44 | 3.7164 | .027 | 1 |

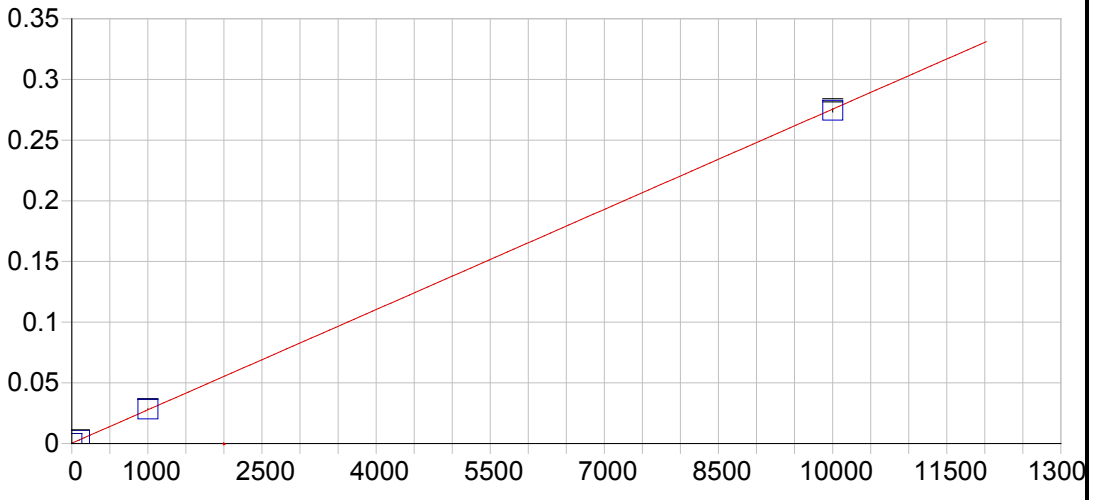



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.040000 | | |
| Correlation: | 0.999966 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 118.711076 | | |
| Predicted MQL: | 395.703587 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 97640. | -2360. | -2.36 | .00320 | .000 | 1 |
| CalStd10=10 | 10000. | 10696. | 696. | 6.96 | .00032 | .000 | 1 |
| CalStd14=50 | 500000. | 492560. | -7440. | -1.49 | .01725 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1169.1 | 169. | 16.9 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 960700. | -39300. | -3.93 | .03456 | .000 | 1 |

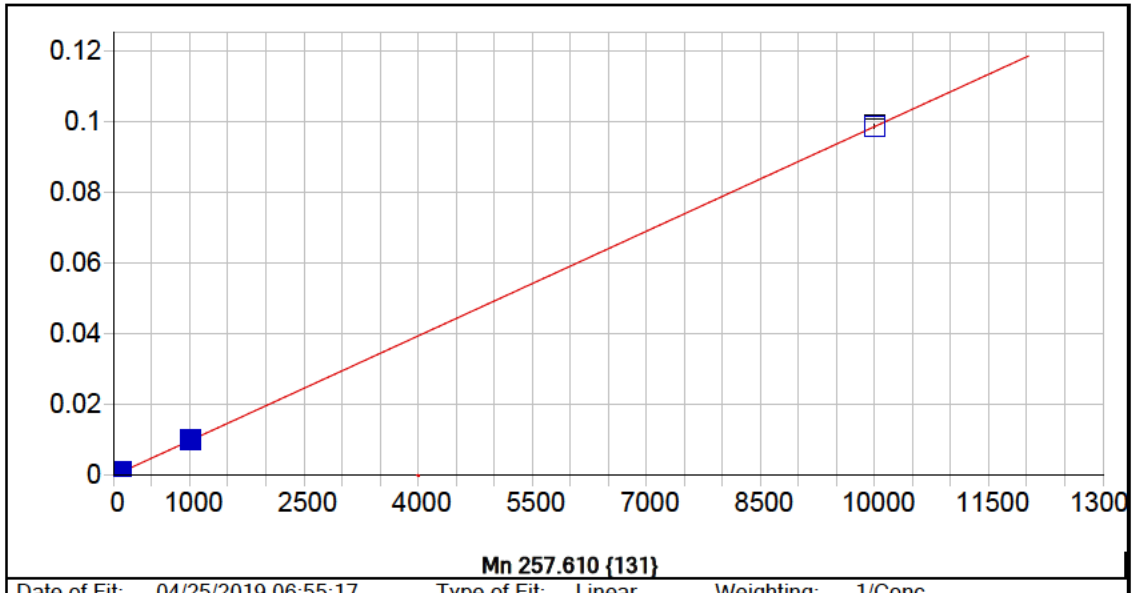



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000259 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000028 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.047001 | | |
| Predicted MQL: | 0.156671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .02584 | .026 | .000 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.9 | 22.9 | 2.29 | .02841 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.8 | -36.2 | -.362 | .27452 | .001 | 1 |
| CalStd8=100 | 100.00 | 97.097 | -2.90 | -2.90 | .00293 | .000 | 1 |

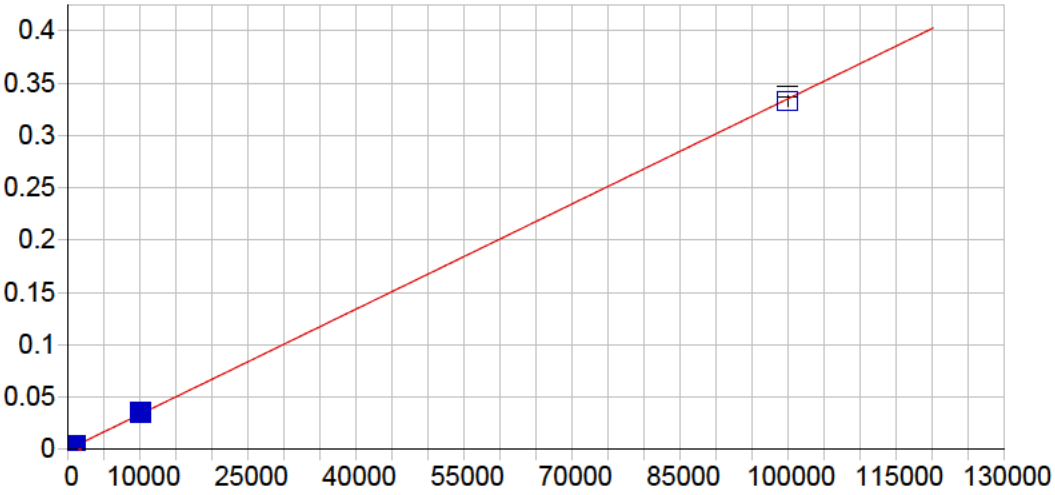



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.127776 | | |
| Predicted MQL: | 0.425921 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00025 | .000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.150 | .150 | 1.50 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.175 | -.825 | -1.65 | .00049 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.909 | -.091 | -.455 | .00020 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.112 | -.888 | -.888 | .00098 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.7909 | -.209 | -4.18 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.6 | 7.56 | .756 | .00994 | .000 | 1 |
| CalStd10=10 | 10000. | 9994.3 | -5.69 | -.057 | .09849 | .001 | 1 |

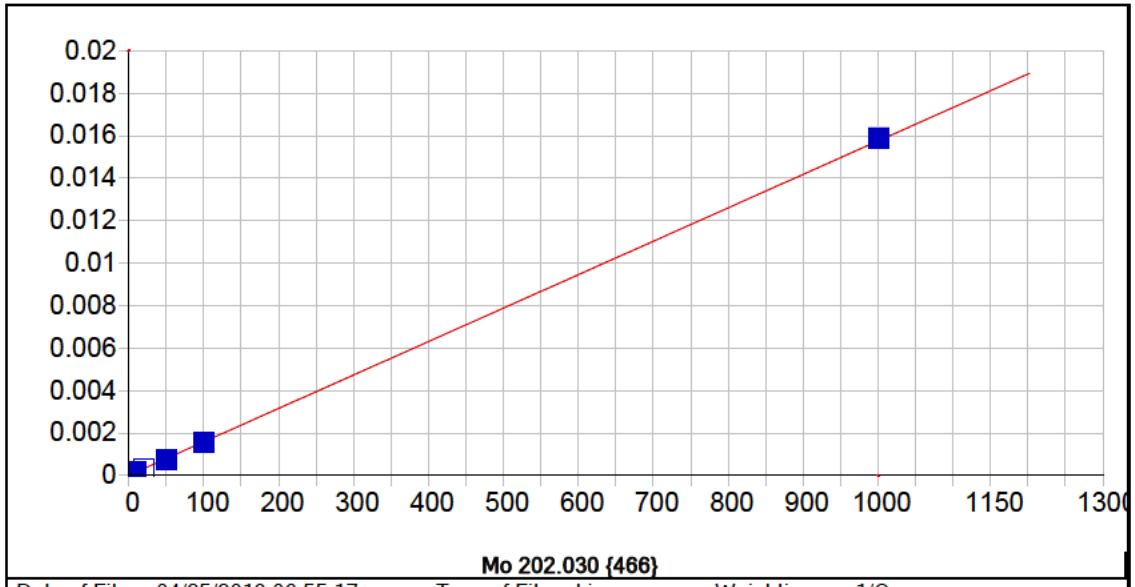



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999822 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 1.373048 | | |
| Predicted MQL: | 4.576828 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11430 | -.114 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10562. | 562. | 5.62 | .03542 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1064.4 | 64.4 | 6.44 | .00358 | .000 | 1 |
| CalStd12=10 | 100000. | 99373. | -627. | -.627 | .33271 | .005 | 1 |

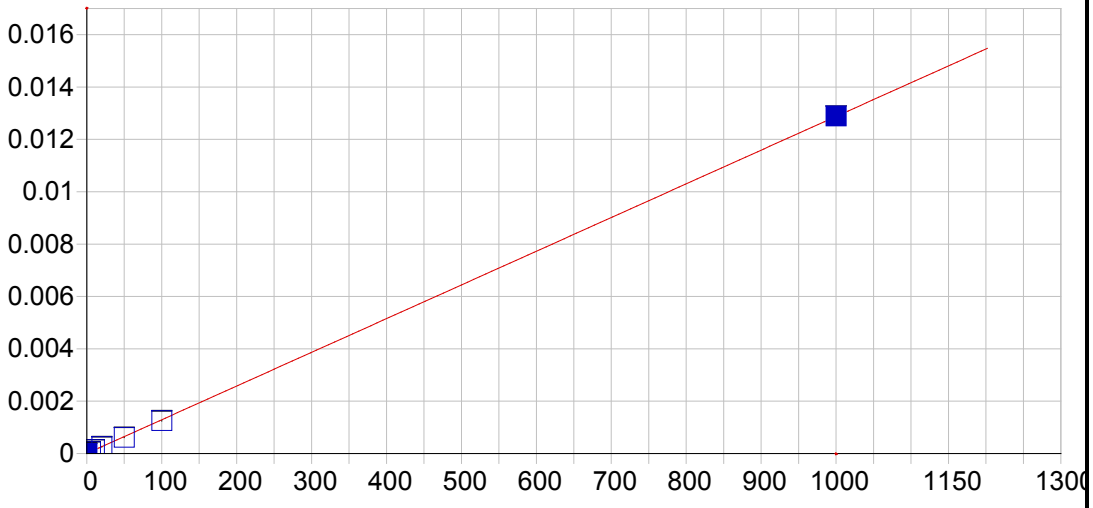



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000016 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999797 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.485319 | | |
| Predicted MQL: | 1.617729 | | |

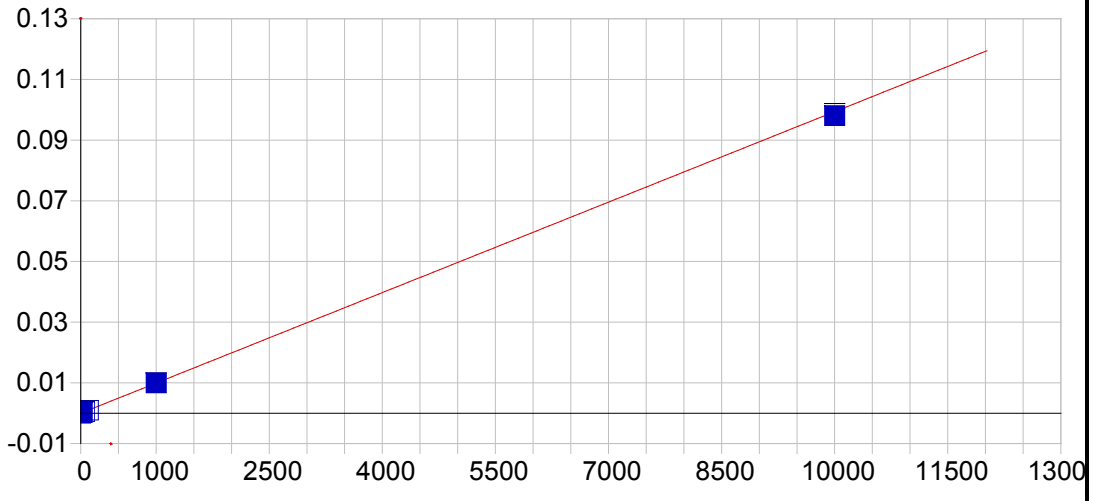
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00139 | .001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.176 | -3.82 | -7.65 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.429 | -.571 | -2.85 | .00032 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7696 | -.230 | -2.30 | .00017 | .000 | 1 |
| CalStd8=100 | 100.00 | 98.510 | -1.49 | -1.49 | .00157 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2905 | -.709 | -14.2 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.8 | 6.82 | .682 | .01591 | .000 | 1 |




**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000004 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000013 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999973 | | Status: | OK. | |
| Std Error of Est: | 0.000020 | | | | |
| Predicted MDL: | 0.755627 | | | | |
| Predicted MQL: | 2.518756 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .75451 | .755 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.642 | -2.36 | -4.72 | .00062 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.023 | .023 | .116 | .00026 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.995 | .995 | 9.95 | .00015 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.123 | -2.88 | -2.88 | .00125 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8535 | -.146 | -2.93 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.0 | .973 | .097 | .01289 | .000 | 1 |

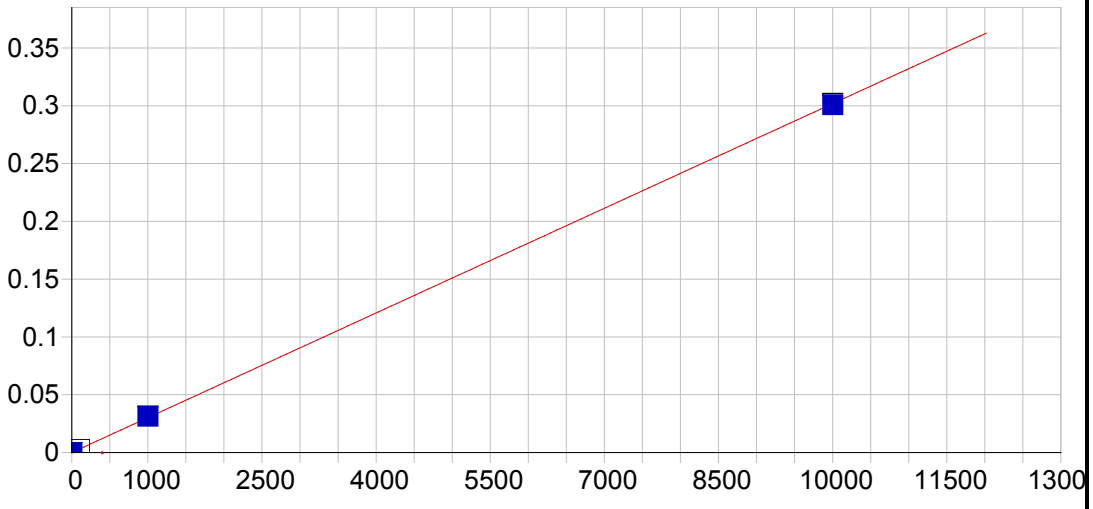



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999934 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.911201 | | |
| Predicted MQL: | 3.037336 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.1018 | 1.10 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.616 | -2.38 | -4.77 | .00046 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.949 | -.051 | -.254 | .00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.879 | .879 | 8.79 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.090 | -.910 | -.910 | .00098 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.9516 | -.048 | -.969 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.6 | 4.55 | .455 | .00997 | .000 | 1 |
| CalStd10=10 | 10000. | 9862.0 | -138. | -1.38 | .09801 | .001 | 1 |

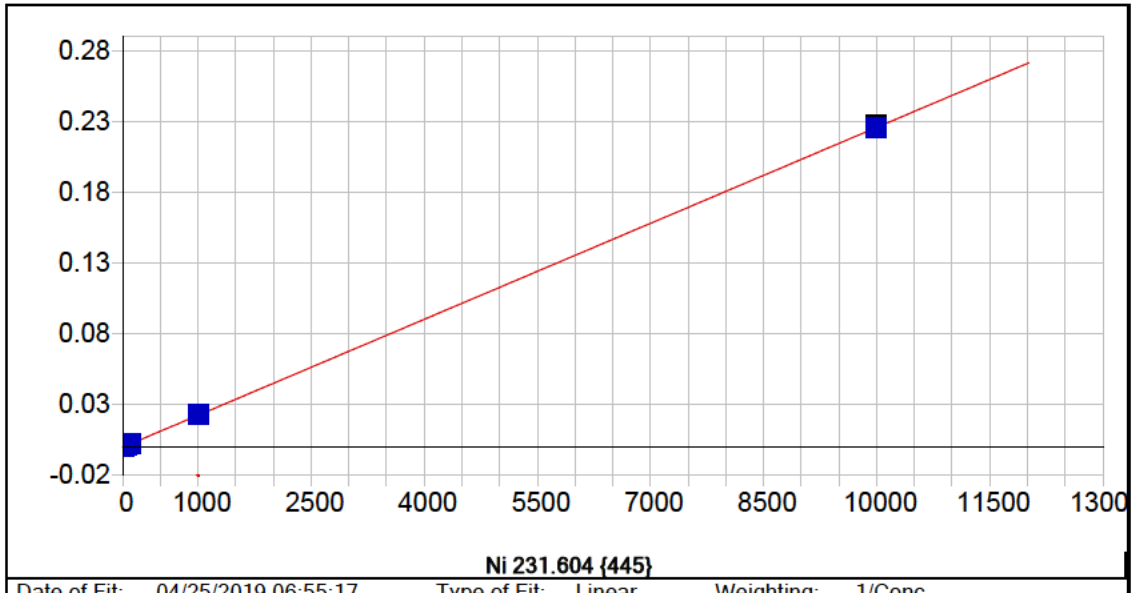



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000014 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000030 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999932 | Status: | OK. |
| Std Error of Est: | 0.000017 | | |
| Predicted MDL: | 0.486775 | | |
| Predicted MQL: | 1.622585 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00474 | -.005 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9961.8 | -38.2 | -.382 | .30072 | .001 | 1 |
| CalStd8=100 | 100.00 | 101.44 | 1.44 | 1.44 | .00308 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.8 | 36.8 | 3.68 | .03131 | .000 | 1 |

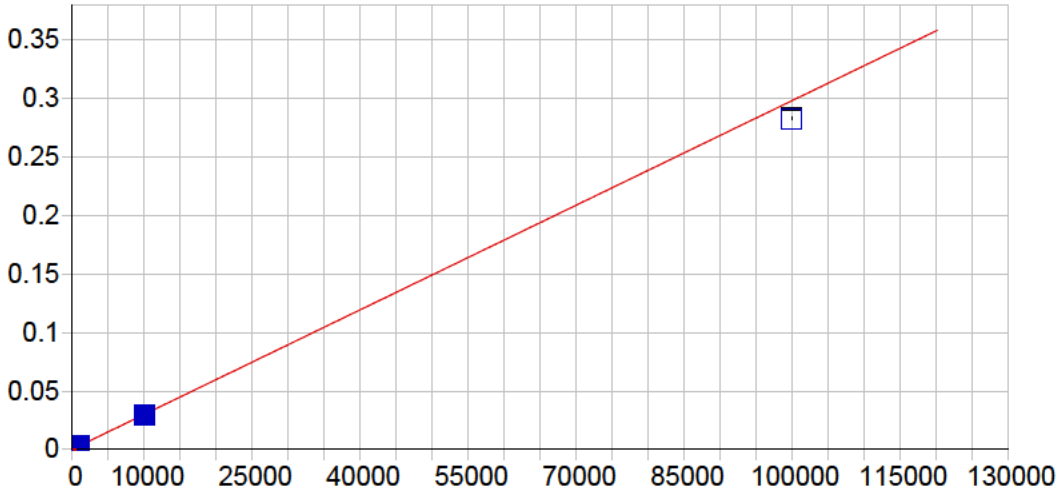



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000023 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999932 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.654771 | | |
| Predicted MQL: | 2.182569 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00056 | .001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.340 | -2.66 | -5.32 | .00105 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.164 | .164 | 1.64 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.24 | 1.24 | 1.24 | .00226 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.4168 | -.583 | -11.7 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1031.9 | 31.9 | 3.19 | .02328 | .000 | 1 |
| CalStd3=1 | 1.0000 | .55708 | -.443 | -44.3 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9970.4 | -29.6 | -.296 | .22551 | .002 | 1 |

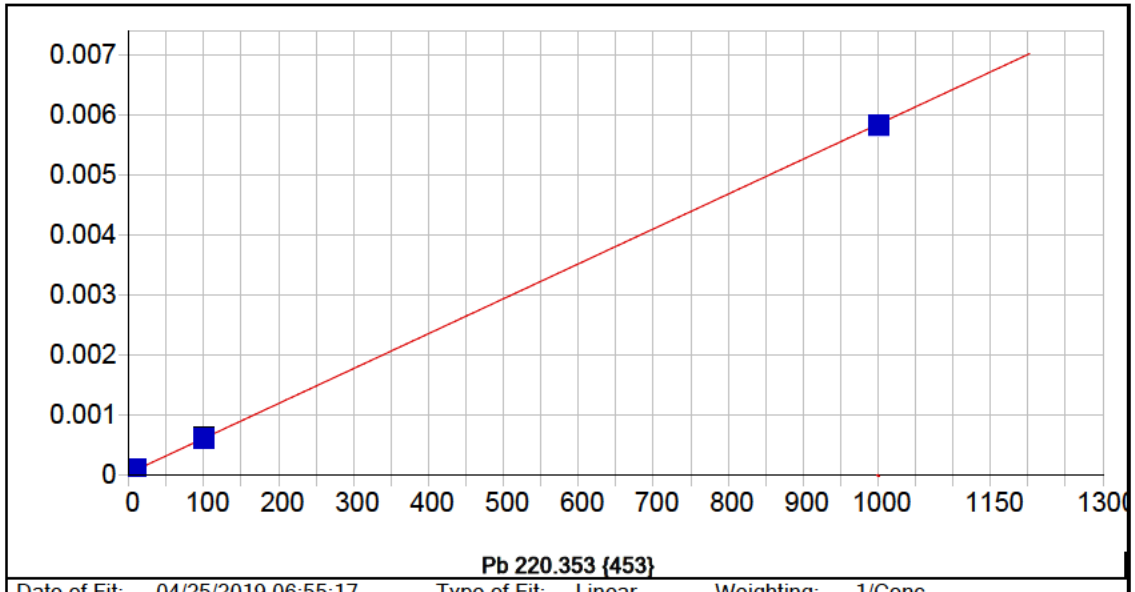



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999342 | Status: | OK. |
| Std Error of Est: | 0.000058 | | |
| Predicted MDL: | 3.919164 | | |
| Predicted MQL: | 13.063880 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.9250 | -2.93 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1023.8 | 23.8 | 2.38 | .00308 | .000 | 1 |
| CalStd10=10 | 10000. | 9801.4 | -199. | -1.99 | .02921 | .000 | 1 |
| CalStd8=100 | 100.00 | 93.505 | -6.50 | -6.50 | .00031 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.2208 | -3.78 | -37.8 | .00004 | .000 | 1 |
| CalStd12=10 | 100000. | 94851. | -5150. | -5.15 | .28243 | .001 | 1 |

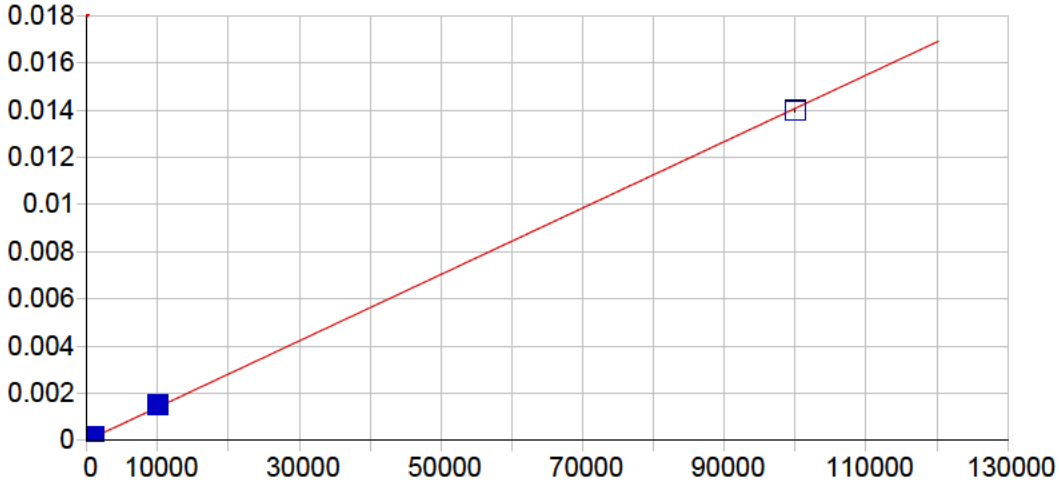



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999684 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.576862 | | |
| Predicted MQL: | 8.589540 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00226 | -.002 | .000 | .00004 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.147 | 1.15 | 11.5 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.91 | .914 | .914 | .00062 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.6562 | 1.66 | 33.1 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.28 | -3.72 | -.372 | .00581 | .000 | 1 |

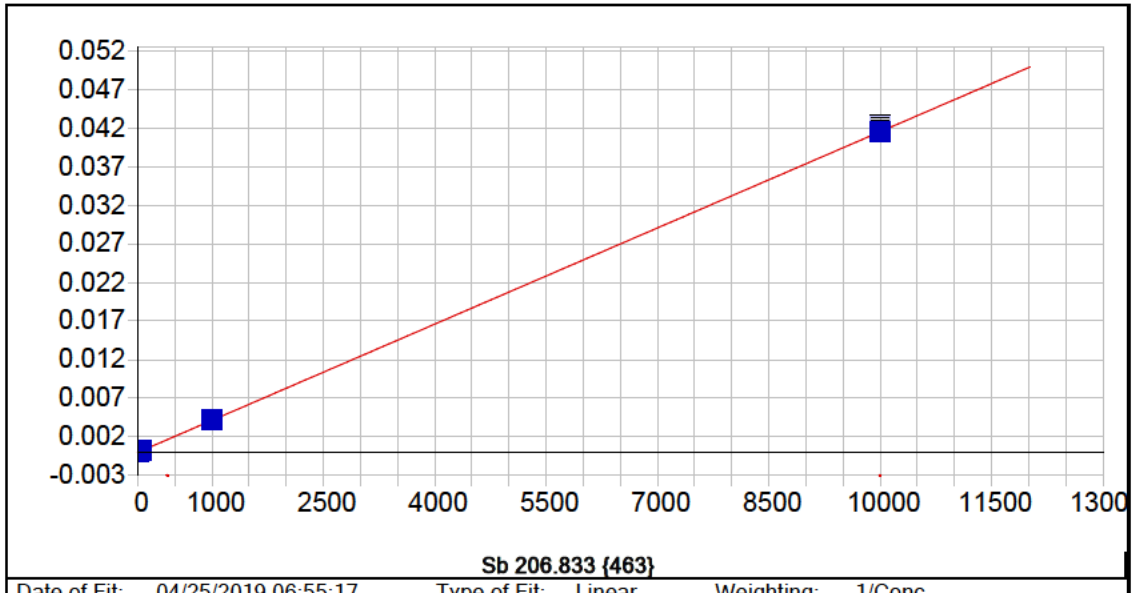



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999786 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.471446 | | |
| Predicted MQL: | 24.904821 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01777 | -.018 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1068.4 | 68.4 | 6.84 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 10614. | 614. | 6.14 | .00150 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.48 | 5.48 | 5.48 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99312. | -688. | -.688 | .01398 | .000 | 1 |

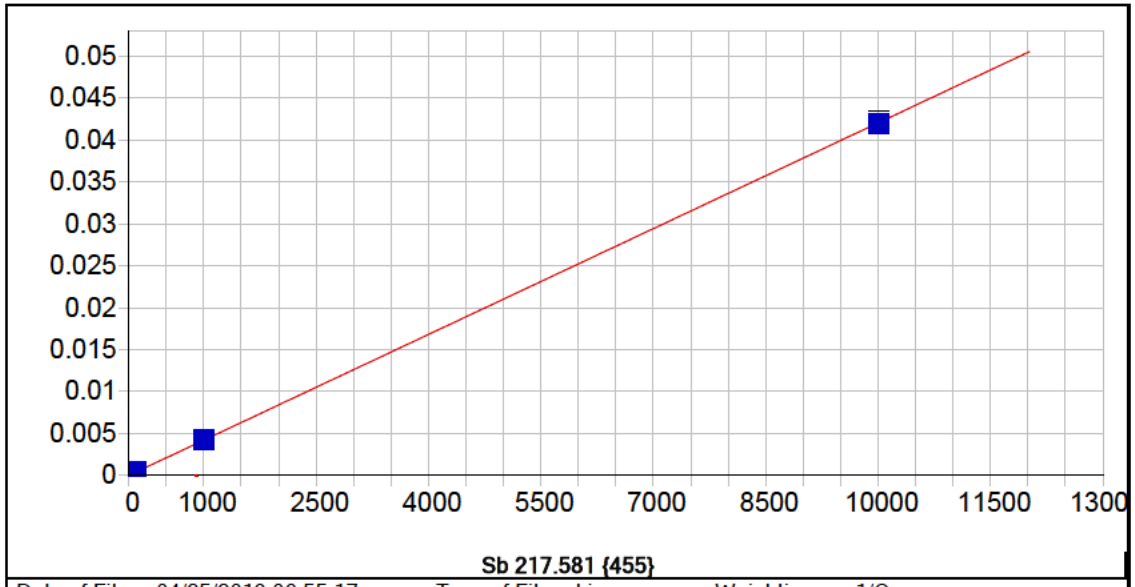



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.207256 | | |
| Predicted MQL: | 7.357519 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00150 | -.001 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1014.0 | 14.0 | 1.40 | .00428 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.602 | 1.60 | 16.0 | .00004 | .000 | 1 |
| CalStd7=50 | 50.000 | 48.857 | -1.14 | -2.29 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9985.6 | -14.4 | -.144 | .04221 | .000 | 1 |

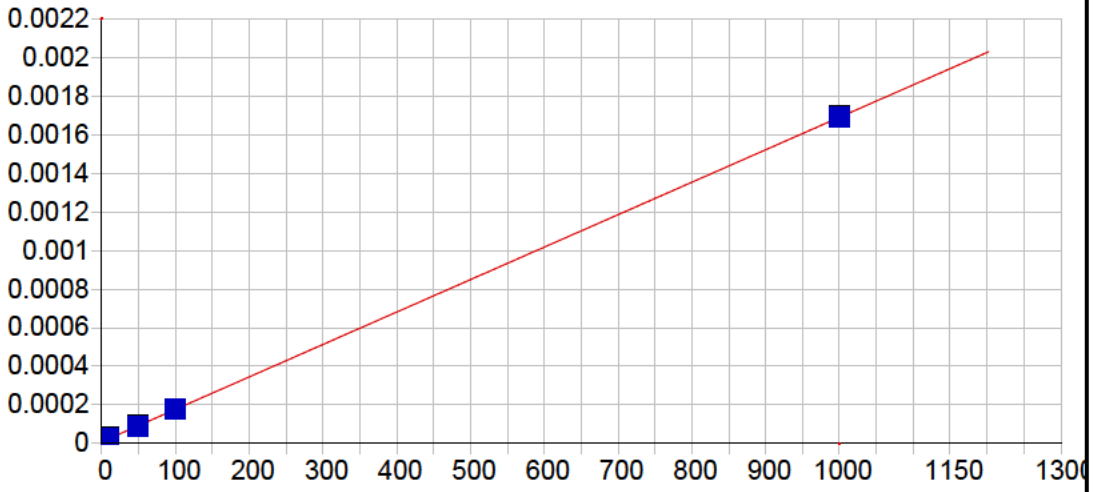



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999971 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.419293 | | |
| Predicted MQL: | 8.064311 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00092 | .001 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1019.3 | 19.3 | 1.93 | .00429 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.441 | .441 | 2.20 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8271 | -1.17 | -11.7 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.450 | -2.55 | -2.55 | .00042 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.5929 | -.407 | -8.14 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9984.4 | -15.6 | -.156 | .04197 | .000 | 1 |

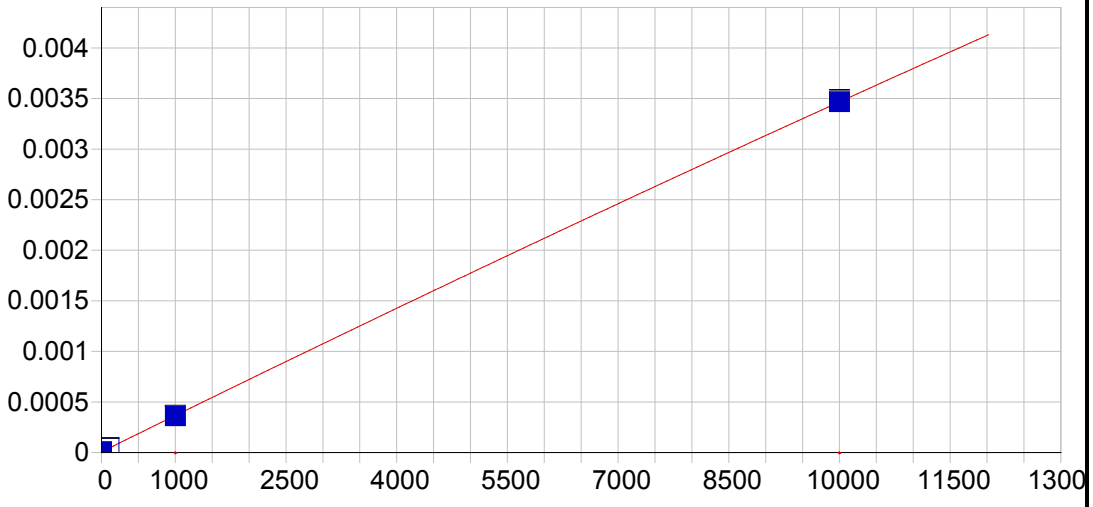



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.424447 | | |
| Predicted MQL: | 14.748157 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00081 | .001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 49.009 | -.991 | -1.98 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.82 | .182 | .00169 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.3937 | -.606 | -6.06 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.781 | -.219 | -.219 | .00018 | .000 | 1 |

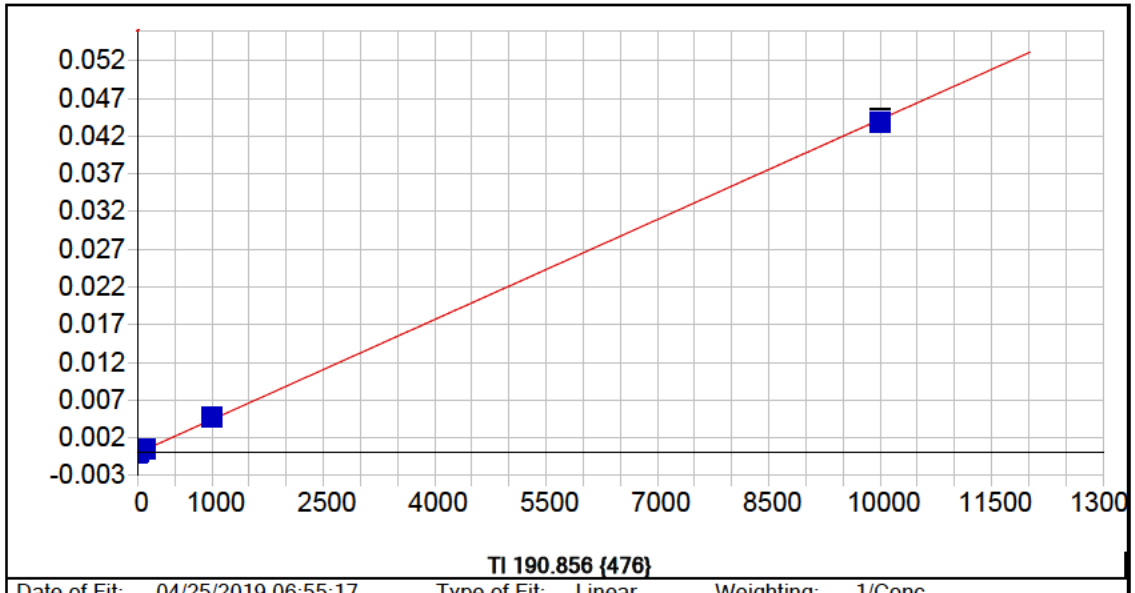



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999937 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 27.648916 | | |
| Predicted MQL: | 92.163053 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00964 | -.010 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.03 | -12.0 | -1.20 | .00036 | .000 | 1 |
| CalStd10=10 | 10000. | 10001. | 1.17 | .012 | .00347 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.82 | 10.8 | 10.8 | .00005 | .000 | 1 |

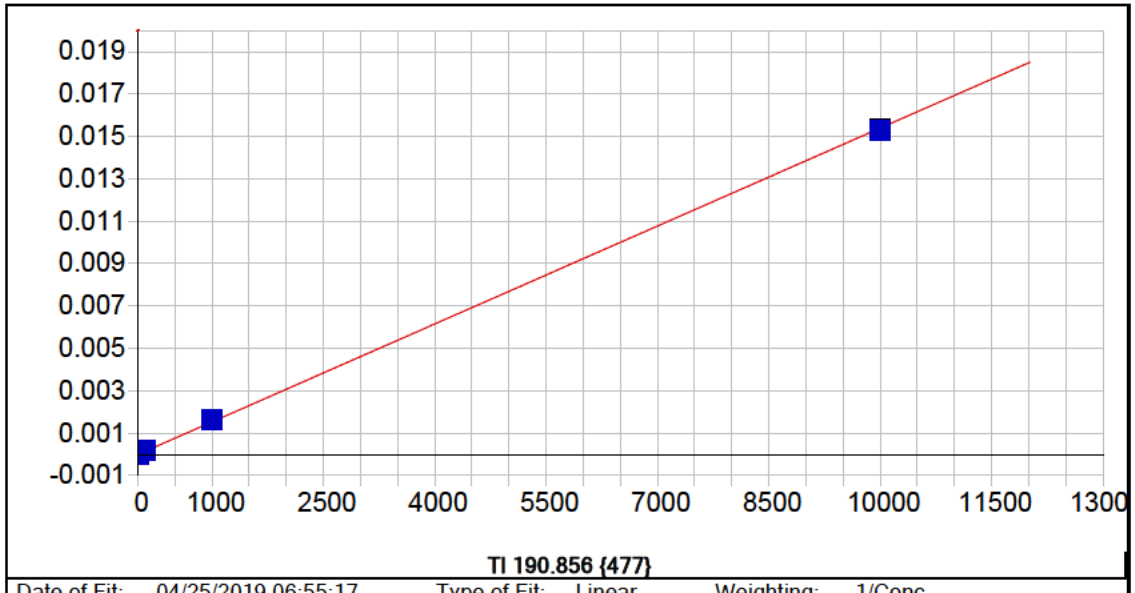



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999752 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.455122 | | |
| Predicted MQL: | 8.183741 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00283 | -.003 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1064.4 | 64.4 | 6.44 | .00472 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.13 | 8.13 | 8.13 | .00048 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.450 | 1.45 | 14.5 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9926.0 | -74.0 | -.740 | .04406 | .000 | 1 |

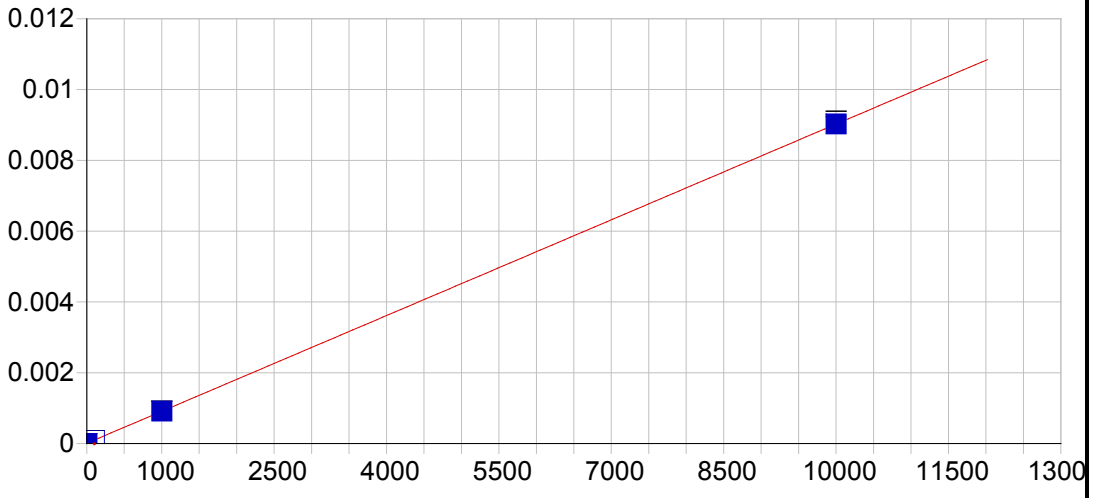



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999535 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 4.939221 | | |
| Predicted MQL: | 16.464070 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00813 | -.008 | .000 | -.00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1066.9 | 66.9 | 6.69 | .00163 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.01 | 8.01 | 8.01 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 16.744 | 6.74 | 67.4 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9918.3 | -81.7 | -.817 | .01528 | .000 | 1 |

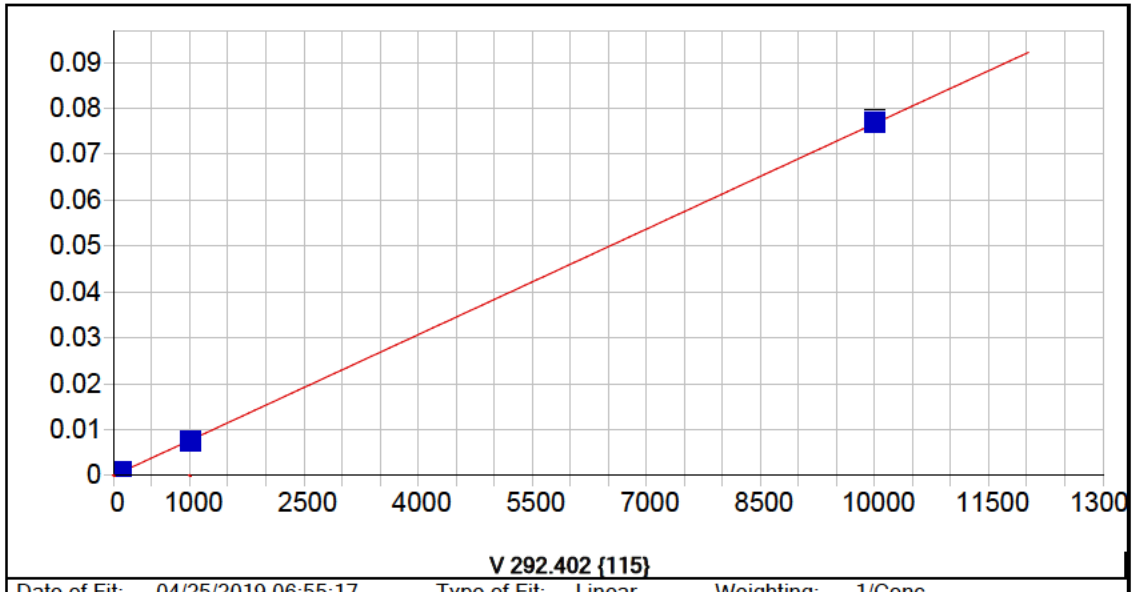



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999989 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.628128 | | |
| Predicted MQL: | 22.093759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00447 | .004 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.0 | 3.03 | .303 | .00091 | .000 | 1 |
| CalStd10=10 | 10000. | 10002. | 1.76 | .018 | .00903 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.211 | -4.79 | -4.79 | .00009 | .000 | 1 |

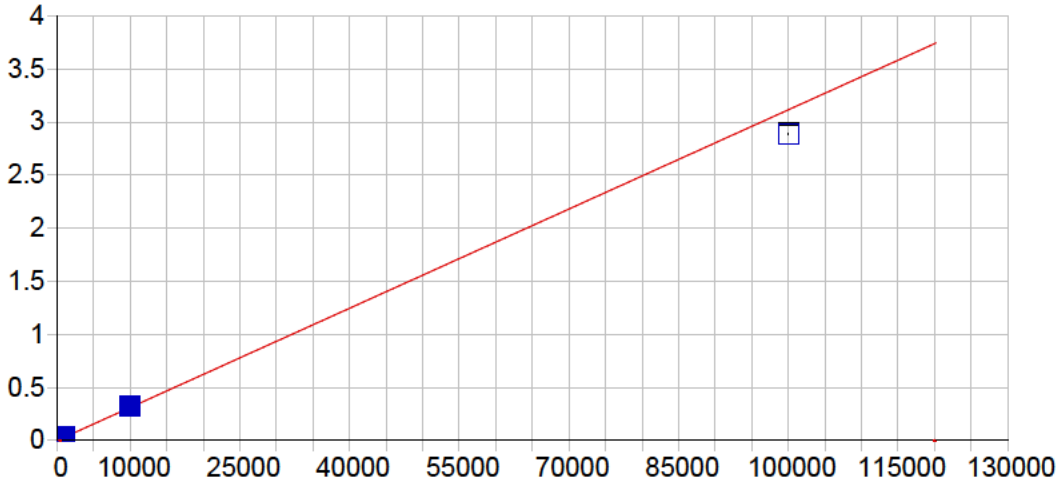



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999973 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.558109 | | |
| Predicted MQL: | 1.860363 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00092 | .001 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 47.986 | -2.01 | -4.03 | .00037 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.17 | -12.8 | -1.28 | .00758 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.619 | -.381 | -1.91 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.318 | .318 | 3.18 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 94.595 | -5.41 | -5.41 | .00073 | .000 | 1 |
| CalStd10=10 | 10000. | 10020. | 20.2 | .202 | .07715 | .000 | 1 |

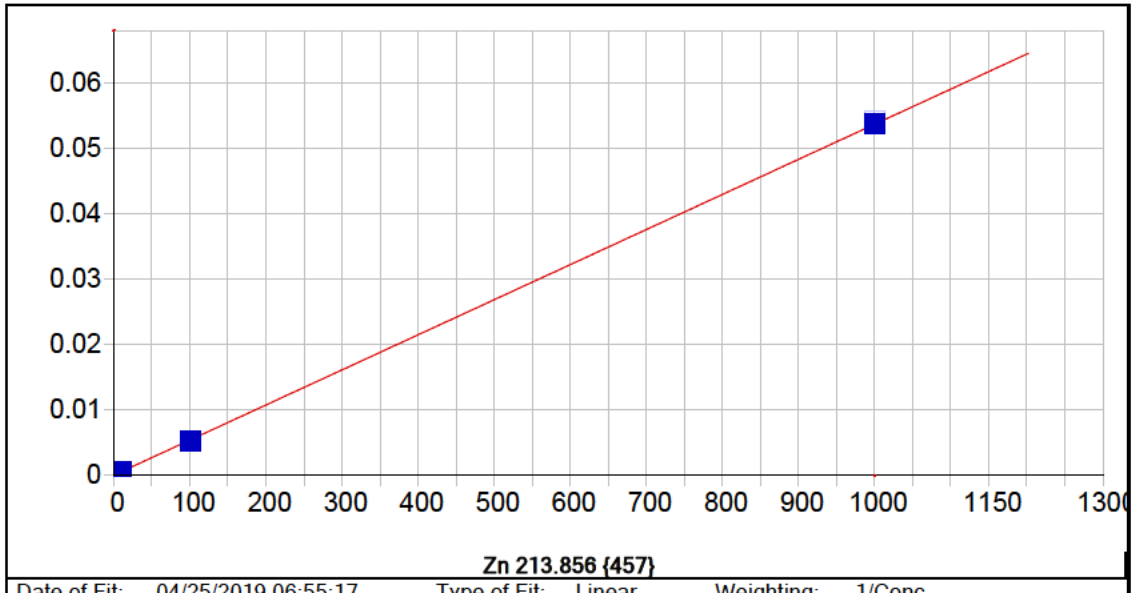



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000050 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000031 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997202 | Status: | OK. |
| Std Error of Est: | 0.000192 | | |
| Predicted MDL: | 0.395211 | | |
| Predicted MQL: | 1.317370 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 10510. | 510. | 5.10 | .32734 | .002 | 1 |
| Blank | .00000 | -1.0928 | -1.09 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .03385 | .000 | 1 |
| CalStd12=10 | 100000. | 92710. | -7290. | -7.29 | 2.8871 | .012 | 1 |
| CalStd5=10 | 10.000 | 9.7744 | -.226 | -2.26 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.24 | 6.24 | 6.24 | .00336 | .000 | 1 |

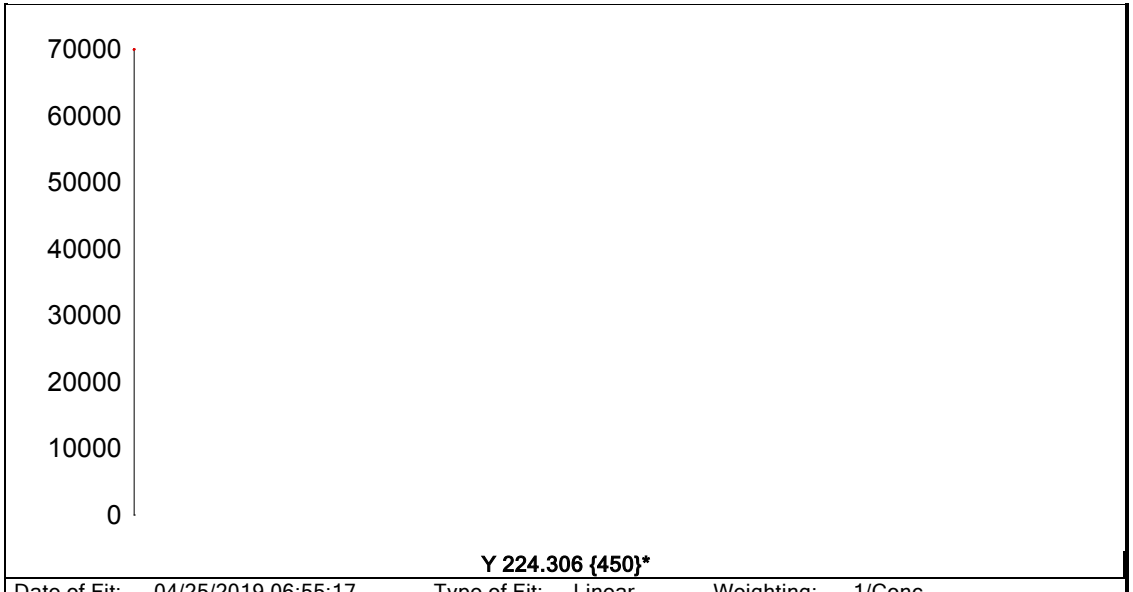



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

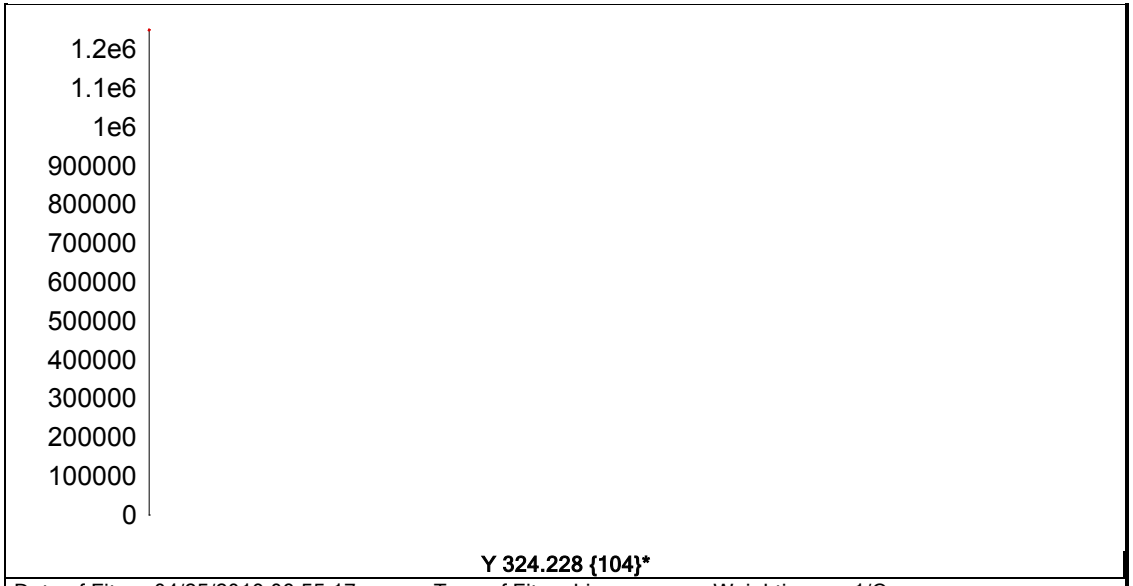
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000057 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000054 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999975 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.201023 | | |
| Predicted MQL: | 0.670078 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00013 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1001.8 | 1.76 | .176 | .05413 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.318 | .318 | 3.18 | .00061 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.926 | -2.07 | -2.07 | .00534 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

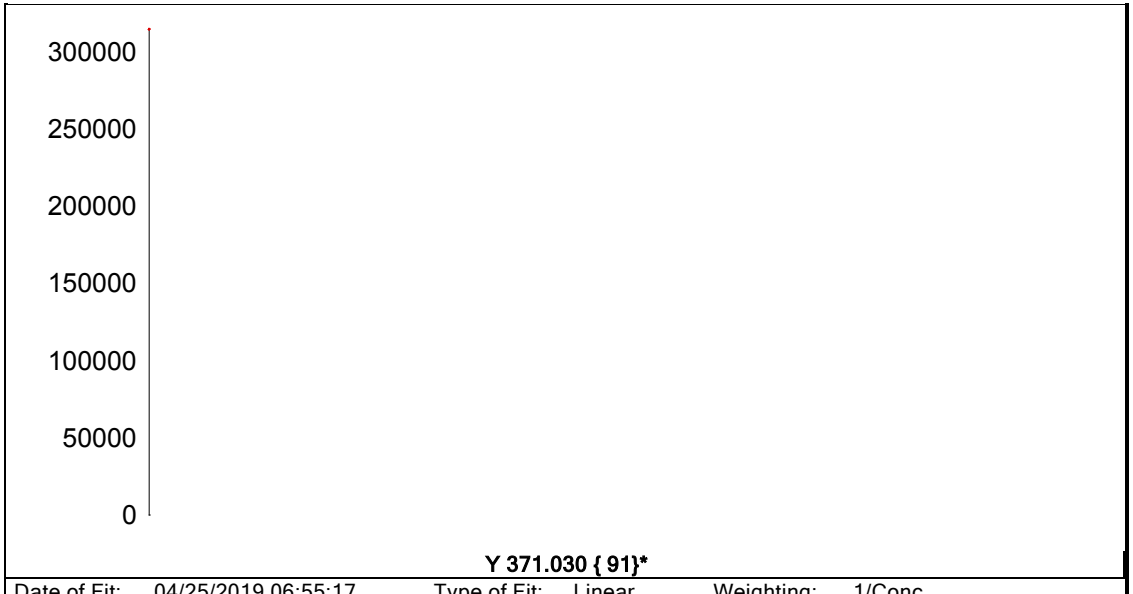
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 62307. | 69.1 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

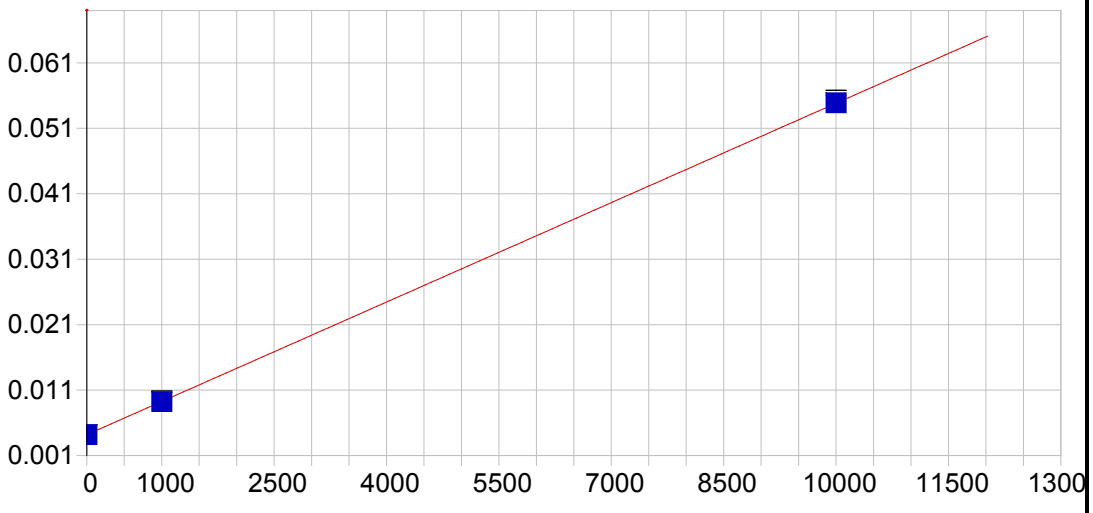
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1157700. | 2340. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 298320. | 1030. | 1 |

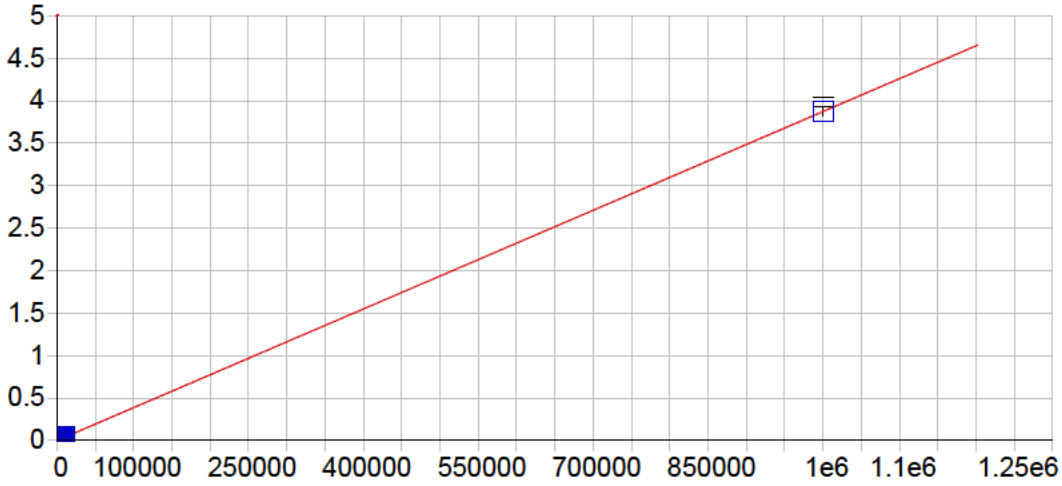



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004193 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 9.658184 | | |
| Predicted MQL: | 32.193946 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00632 | .006 | .000 | .00419 | .000 | 1 |
| CalStd9=100 | 1000.0 | 992.98 | -7.02 | -.702 | .00922 | .000 | 1 |
| CalStd10=10 | 10000. | 10007. | 7.02 | .070 | .05488 | .000 | 1 |

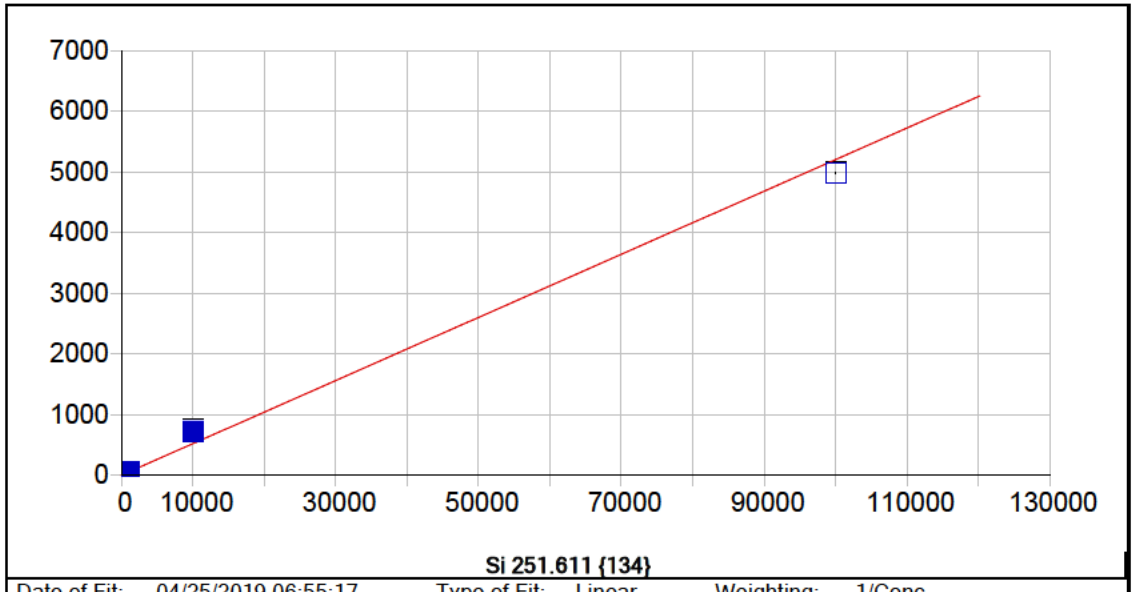



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000068 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 8.310782 | | |
| Predicted MQL: | 27.702607 | | |

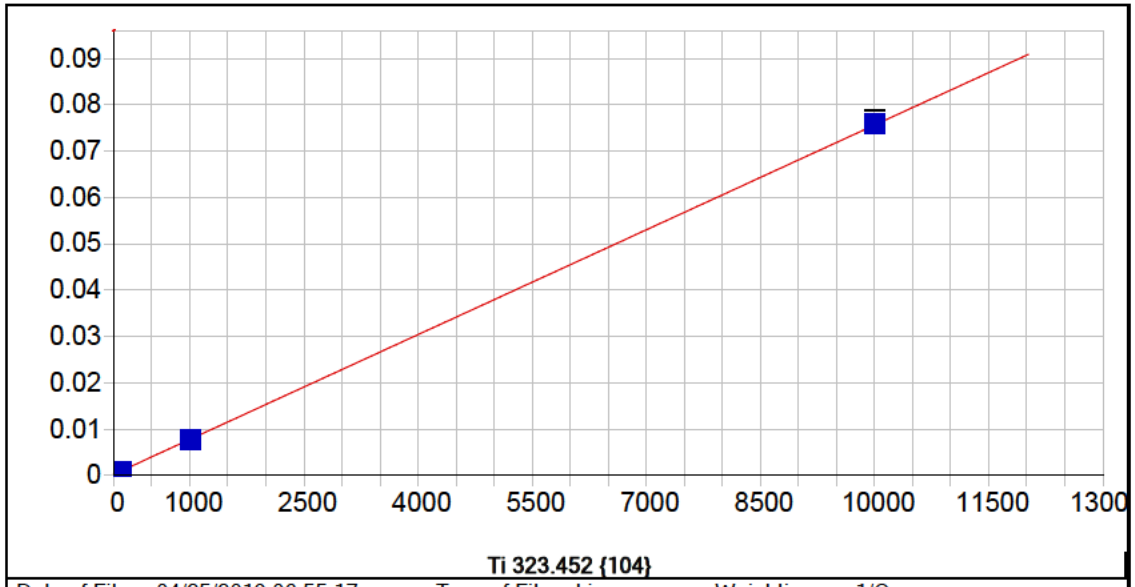
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00064 | -.001 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.1 | .064 | .006 | .00394 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.82 | .058 | .03881 | .000 | 1 |
| CalibStd15= | 1000000. | 999990. | -5.88 | -.001 | 3.8719 | .053 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.107038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.052002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992592 | Status: | OK. |
| Std Error of Est: | 3.013333 | | |
| Predicted MDL: | 24.713566 | | |
| Predicted MQL: | 82.378553 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.45567 | -.456 | .000 | 5.0833 | 2.57 | 1 |
| CalStd9=100 | 1000.0 | 1111.0 | 111. | 11.1 | 66.981 | .929 | 1 |
| CalStd10=10 | 10000. | 13865. | 3860. | 38.6 | 752.15 | 5.47 | 1 |
| CalibStd15= | 100000. | 95822. | -4180. | -4.18 | 4988.0 | 12.0 | 1 |

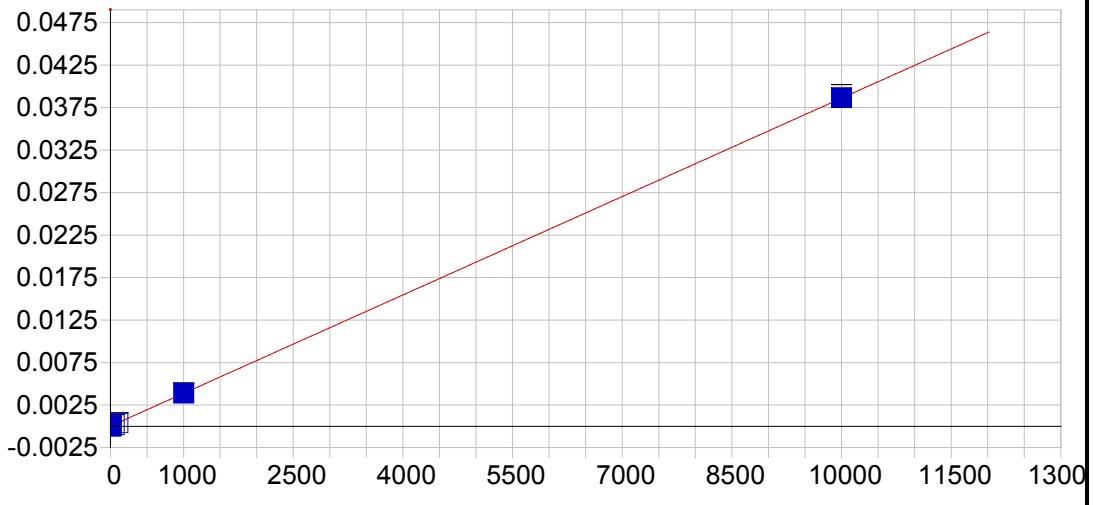



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000266 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999502 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.398283 | | |
| Predicted MQL: | 4.660944 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00944 | .009 | .000 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.3358 | -4.66 | -46.6 | .00031 | .000 | 1 |
| CalStd8=100 | 100.00 | 92.145 | -7.85 | -7.85 | .00096 | .000 | 1 |
| CalStd9=100 | 1000.0 | 996.30 | -3.70 | -.370 | .00777 | .000 | 1 |
| CalStd10=10 | 10000. | 10030. | 29.6 | .296 | .07591 | .001 | 1 |
| CalStd7=50 | 50.000 | 42.571 | -7.43 | -14.9 | .00059 | .000 | 1 |
| CalStd4=5 | 5.0000 | -.97221 | -5.97 | -119. | .00026 | .000 | 1 |

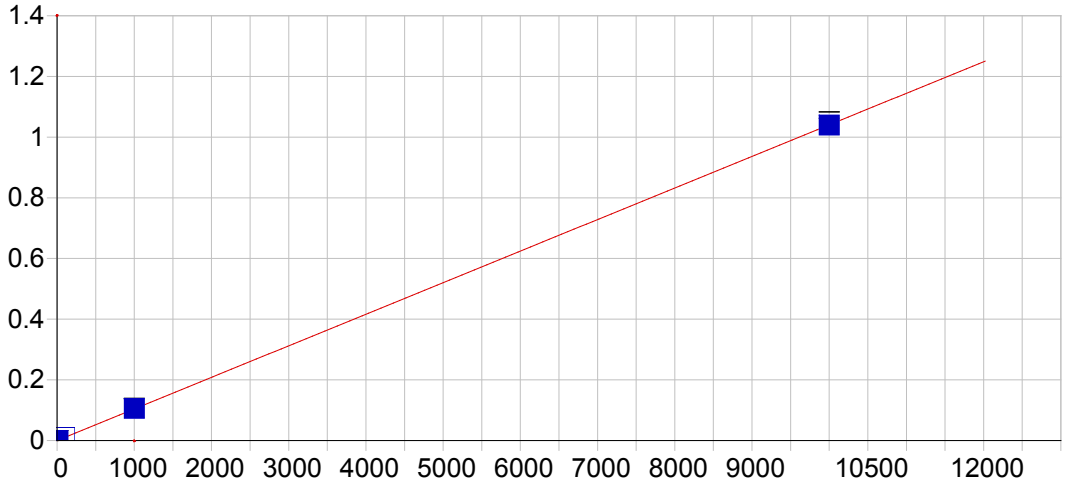



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999804 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.907399 | | |
| Predicted MQL: | 6.357997 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00578 | .006 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.0742 | -2.93 | -29.3 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.780 | -3.22 | -3.22 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1006.4 | 6.44 | .644 | .00390 | .000 | 1 |
| CalStd10=10 | 10000. | 10010. | 9.83 | .098 | .03866 | .000 | 1 |
| CalStd7=50 | 50.000 | 43.402 | -6.60 | -13.2 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 1.4685 | -3.53 | -70.6 | .00002 | .000 | 1 |

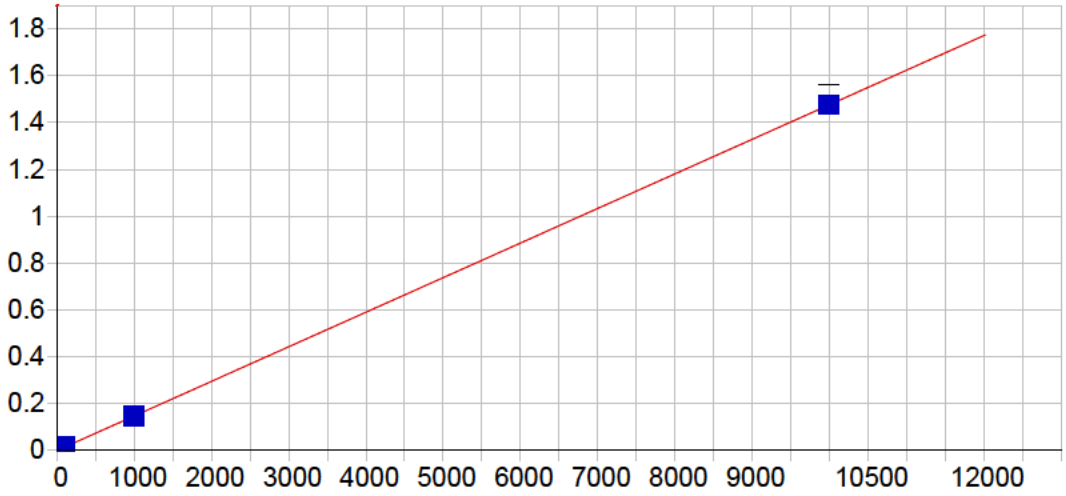



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000104 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000104 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.158411 | | |
| Predicted MQL: | 0.528037 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00035 | .000 | .000 | .00010 | .000 | 1 |
| CalStd3=1 | 1.0000 | .67249 | -.328 | -32.8 | .00017 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.8054 | -.195 | -3.89 | .00060 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.332 | .332 | 3.32 | .00118 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.239 | -2.76 | -2.76 | .01022 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.7 | 12.7 | 1.27 | .10548 | .001 | 1 |
| CalStd10=10 | 10000. | 9990.3 | -9.72 | -.097 | 1.0397 | .010 | 1 |

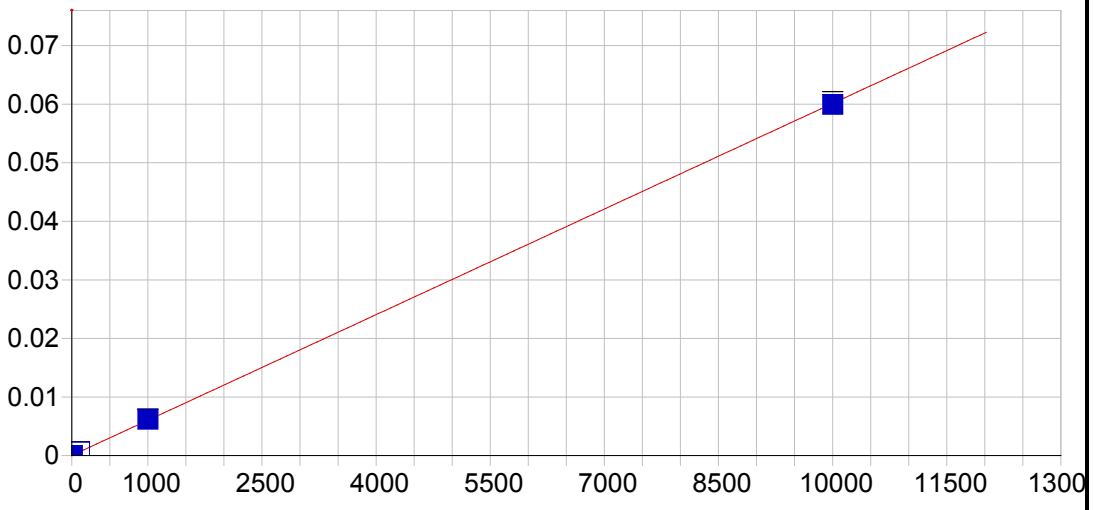



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000073 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000148 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.112288 | | |
| Predicted MQL: | 0.374295 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00048 | .000 | .000 | .00007 | .000 | 1 |
| CalStd3=1 | 1.0000 | .60016 | -.400 | -40.0 | .00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.6394 | -.361 | -7.21 | .00076 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.223 | .223 | 2.23 | .00158 | .000 | 1 |
| CalStd8=100 | 100.00 | 96.995 | -3.00 | -3.00 | .01439 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.7 | 2.74 | .274 | .14805 | .001 | 1 |
| CalStd10=10 | 10000. | 10001. | .806 | .008 | 1.4760 | .041 | 1 |

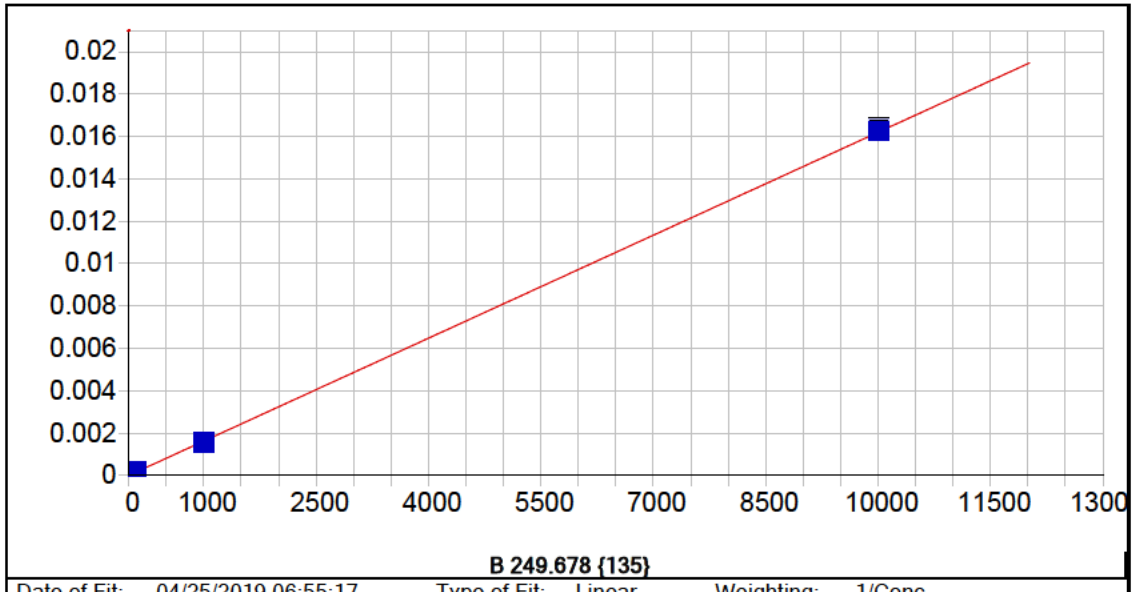



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999938 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.569803 | | |
| Predicted MQL: | 5.232676 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00260 | -.003 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9967.7 | -32.3 | -.323 | .05994 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1027.7 | 27.7 | 2.77 | .00619 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.49 | 2.49 | 2.49 | .00063 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.108 | 2.11 | 21.1 | .00008 | .000 | 1 |

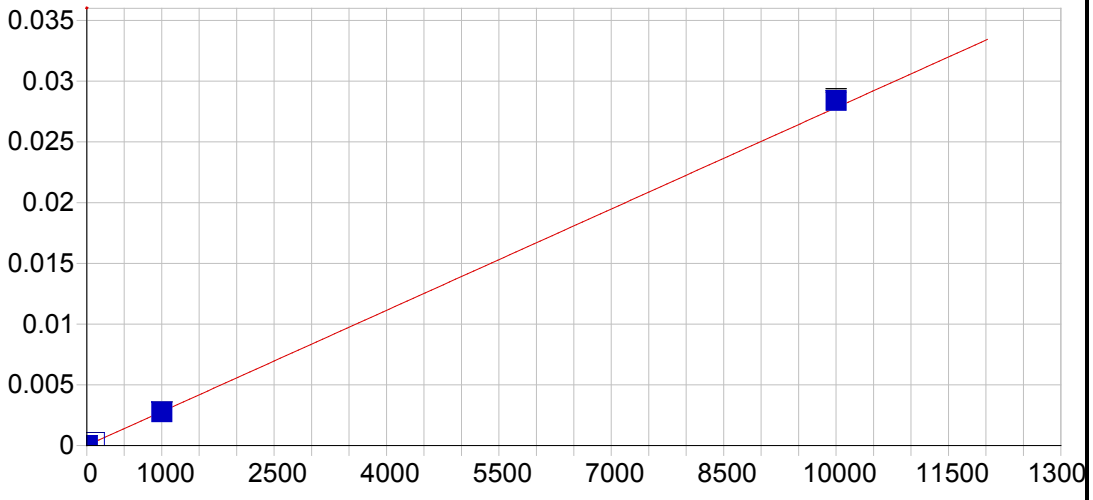



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999921 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.265815 | | |
| Predicted MQL: | 4.219385 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00219 | .002 | .000 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 91.703 | -8.30 | -8.30 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8882 | -1.11 | -11.1 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 971.48 | -28.5 | -2.85 | .00158 | .000 | 1 |
| CalStd10=10 | 10000. | 10038. | 37.9 | .379 | .01632 | .000 | 1 |

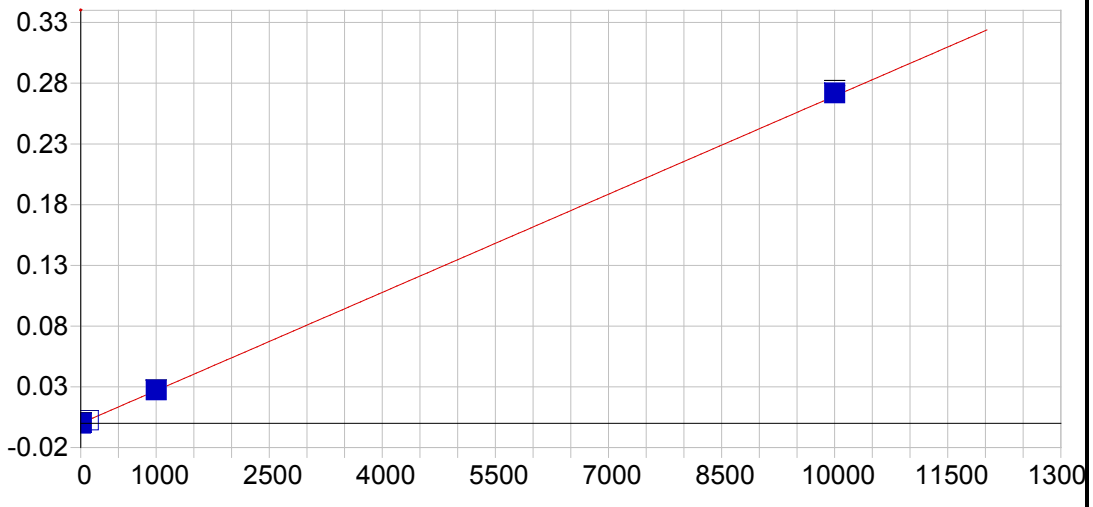



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999778 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.736179 | | |
| Predicted MQL: | 2.453929 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33055 | .331 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 95.985 | -4.02 | -4.02 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.020 | .020 | .201 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.54 | -8.46 | -.846 | .00276 | .000 | 1 |
| CalStd10=10 | 10000. | 10212. | 212. | 2.12 | .02842 | .000 | 1 |

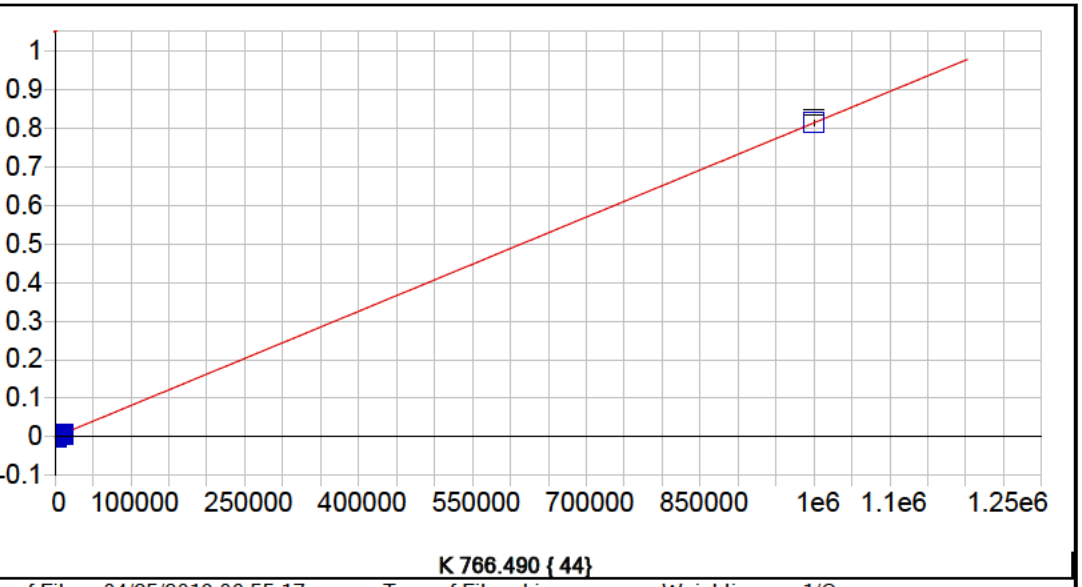



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000053 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999748 | Status: | OK. |
| Std Error of Est: | 0.000069 | | |
| Predicted MDL: | 1.460000 | | |
| Predicted MQL: | 4.866666 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .76663 | .767 | .000 | -.00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.734 | 1.73 | 17.3 | .00026 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.705 | -2.30 | -2.30 | .00258 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1016.6 | 16.6 | 1.66 | .02734 | .000 | 1 |
| CalStd10=10 | 10000. | 10091. | 91.4 | .914 | .27188 | .002 | 1 |

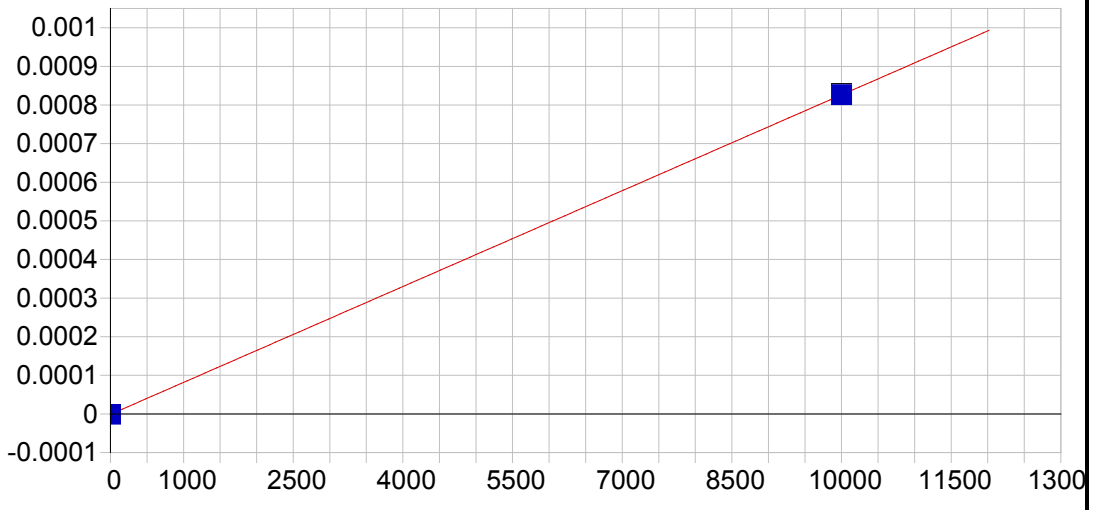



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000044 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 60.436712 | | |
| Predicted MQL: | 201.455707 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .04004 | .040 | .000 | -.00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.21 | -9.79 | -.979 | .00076 | .000 | 1 |
| CalStd10=10 | 10000. | 9694.3 | -306. | -3.06 | .00784 | .000 | 1 |
| CalibStd15= | 1000000. | 1000300. | 315. | .032 | .81357 | .006 | 1 |

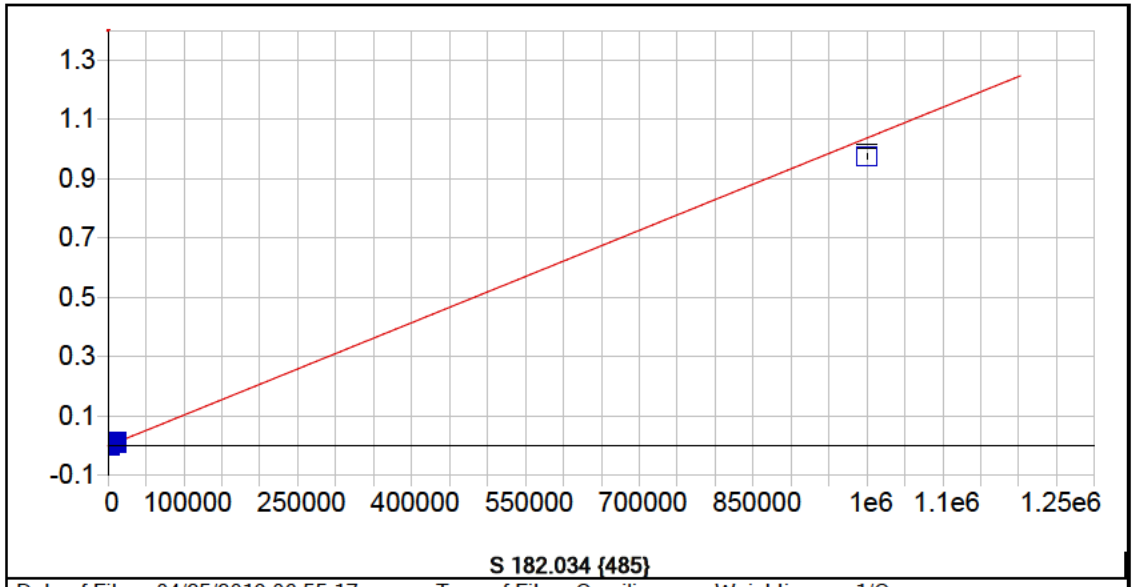



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.656792 | | |
| Predicted MQL: | 22.189308 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00083 | .000 | 1 |

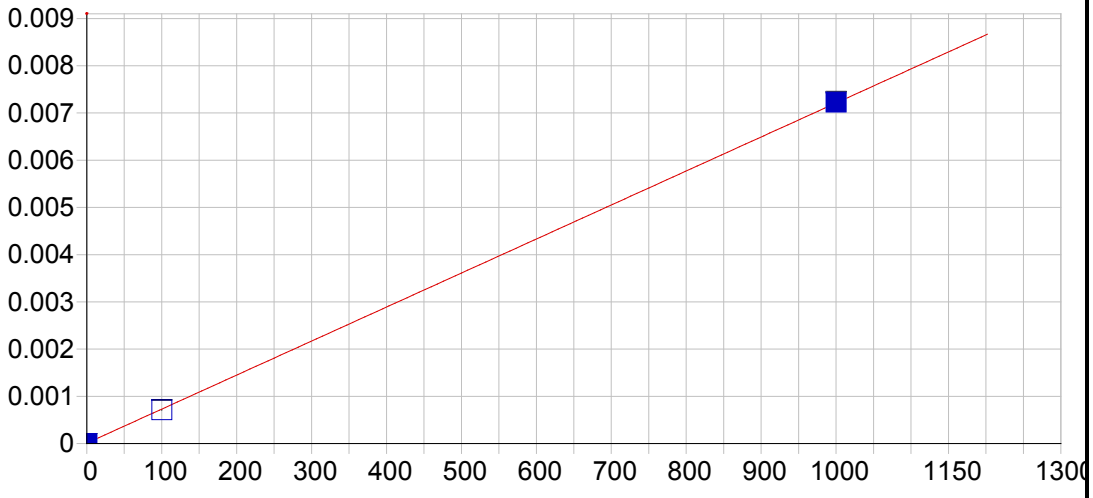



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.932057 | | |
| Predicted MQL: | 19.773525 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00102 | .001 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.81 | -1.19 | -.119 | .00104 | .000 | 1 |
| CalStd10=10 | 10000. | 9995.2 | -4.81 | -.048 | .01040 | .000 | 1 |
| CalibStd15= | 1000000. | 940500. | -59500. | -5.95 | .97592 | .008 | 1 |

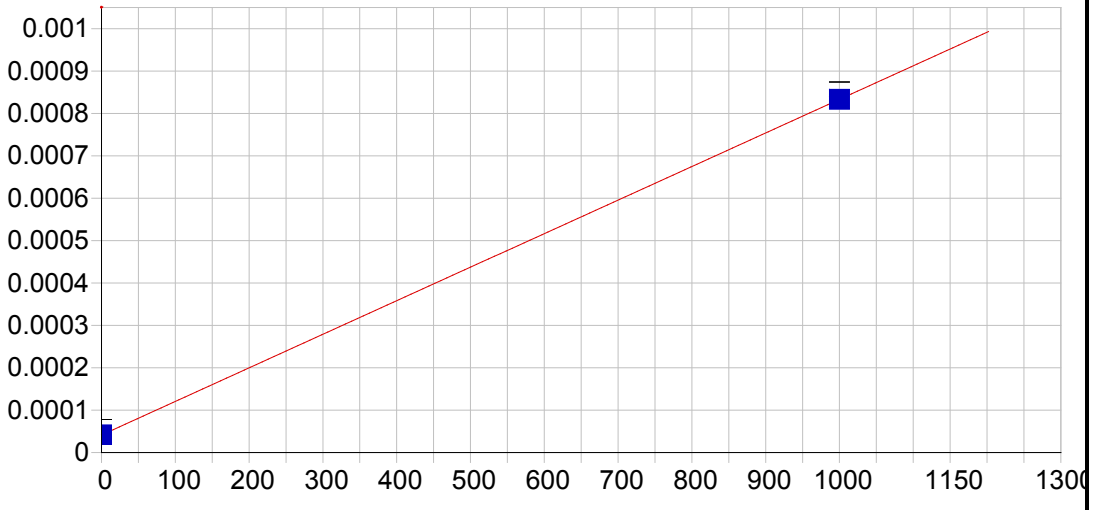



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999974 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.020318 | | |
| Predicted MQL: | 3.401060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00205 | .002 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 97.718 | -2.28 | -2.28 | .00071 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.3 | 2.28 | .228 | .00723 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/25/2019 06:55:17 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000041 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 20.788833 | | |
| Predicted MQL: | 69.296109 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00083 | .000 | 1 |

Sample Name: Blank Acquired: 04/19/2019 10:57:37 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.321** | **.000** | **.000** | **.010** | **-.000** | **.000** | **.000** | **.005** | **-.000** |
| Stddev | .000 | .000 | .000 | .442 | .000 | .000 | .000 | .000 | .000 | .000 | .004 | .000 |
| %RSD | 17.7 | 17.7 | 78.0 | 138. | 88.9 | 78.1 | .539 | .950 | 269. | 22.1 | 72.5 | 72.6 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **120.** | **9.04** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 2. | 1.64 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 17.6 | 53.4 | 13.7 | 107. | 192. | 1.97 | 18.2 | 15.6 | 58.8 | 60.3 | 114. | 1.08 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.31 | 98.7 | 59.4 | 349. | 59.7 | 21.9 | 81.5 | 22.5 | 134. | 88.8 | 76.3 | 51.5 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 214. | 37.3 | 52.6 | 78.6 | 11.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **62307.** | **1157700.** | **298320.** |
| Stddev | 69. | 2339. | 1034. |
| %RSD | .11086 | .20204 | .34645 |

Sample Name: CalStd2=0.5 Acquired: 04/19/2019 11:05:08 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .394 | 82.3 | 13.8 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **62094.** | **1177900.** |
| Stddev | 238. | 2490. |
| %RSD | .38314 | .21142 |

Sample Name: CalStd3=1 Acquired: 04/19/2019 11:11:41 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 16.7 | 62.1 | .950 | 20.9 | 14.3 | 13.0 | 3.95 | 19.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **61200.** | **1181400.** | **299920.** |
| Stddev | 152. | 3127. | 4721. |
| %RSD | .24776 | .26470 | 1.5740 |

Sample Name: CalStd4=5 Acquired: 04/19/2019 11:17:57 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **10.6** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.5 | .000 | .000 | .000 | .000 |
| %RSD | 8.07 | 3.44 | 4.17 | 2.70 | 5.55 | 1.74 | 9.76 | 23.5 | 2.17 | 9.17 | 3.91 | 11.4 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.40 | 32.3 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **61406.** | **1181600.** | **302650.** |
| Stddev | 299. | 2446. | 2467. |
| %RSD | .48620 | .20701 | .81524 |

Sample Name: CalStd5=10 Acquired: 04/19/2019 11:24:14 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.53** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **129.** |
| Stddev | .000 | .000 | .26 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2. |
| %RSD | 3.54 | 3.49 | 17.0 | 390. | 3.27 | .694 | 2.50 | .834 | 1.25 | 2.92 | 7.49 | 1.78 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.6** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 4.7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 37.1 | 1.18 | 4.19 | 7.85 | 7.57 | 5.86 | 6.92 | 21.0 | 19.1 | 25.3 | 17.2 | 1.92 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.001** |
| Stddev | .000 | .000 |
| %RSD | 1.80 | .474 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **61111.** | **1183400.** | **300780.** |
| Stddev | 323. | 3326. | 2721. |
| %RSD | .52812 | .28106 | .90469 |

Sample Name: CalStd6=20 Acquired: 04/19/2019 11:30:32 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **137.** | **17.4** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 2. | 2.6 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .218 | 1.53 | 15.0 | 1.16 | 2.53 | 4.96 | 8.58 | 3.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **60736.** | **1181400.** | **301320.** |
| Stddev | 147. | 9582. | 1855. |
| %RSD | .24128 | .81108 | .61570 |

Sample Name: CalStd7=50 Acquired: 04/19/2019 11:36:43 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **8.22** | **.000** | **.000** | **.002** | **.004** | **.002** | **.001** | **.000** | **156.** | **26.3** | **.000** | **.001** |
| Stddev | .35 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3. | 2.0 | .000 | .000 |
| %RSD | 4.26 | 14.8 | 2.66 | 1.42 | .900 | 1.16 | .312 | 1.75 | 1.63 | 7.70 | .783 | 3.04 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.15 | 1.59 | 4.45 | 3.11 | .404 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **61392.** | **1177300.** | **305170.** |
| Stddev | 382. | 4577. | 2788. |
| %RSD | .62197 | .38872 | .91367 |

Sample Name: CalStd8=100 Acquired: 04/19/2019 11:42:53 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **16.6** | **.000** | **.002** | **.016** | **.005** | **.000** | **.014** | **.005** | **.009** | **.004** |
| Stddev | .000 | .000 | .4 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.38 | 1.01 | 2.19 | 20.1 | .766 | .426 | .641 | 2.13 | .601 | .756 | .769 | .898 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.003** | **.000** | **198.** | **45.7** | **.003** | **.001** | **.002** | **.001** | **.003** | **.002** | **.000** |
| Stddev | .000 | .000 | .000 | 2. | 1.0 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .354 | .214 | 1.25 | 1.19 | 2.26 | .936 | .494 | .722 | .960 | .589 | .624 | 3.44 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.003** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.14 | 3.12 | 1.90 | 12.3 | 1.33 | 4.23 | .810 | .794 | .093 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **59529.** | **1194200.** | **302740.** |
| Stddev | 432. | 7202. | 1041. |
| %RSD | .72559 | .60307 | .34393 |

Sample Name: CalStd9=1000 Acquired: 04/19/2019 11:49:03 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.007** | **.001** | **174.** | **.001** | **.020** | **.072** | **.056** | **.003** | **.000** | **.129** | **.047** | **.092** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .000 | .000 | .000 | .001 | .000 | .000 |
| %RSD | .401 | .770 | .377 | .532 | .518 | .985 | .568 | 1.08 | 1.25 | 1.000 | .265 | .204 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.040** | **.002** | **.030** | **.003** | **893.** | **410.** | **.000** | **.000** | **.001** | **.000** | **.028** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 9. | 5. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .163 | .802 | .278 | .593 | .976 | 1.22 | .602 | 2.17 | 1.85 | 8.04 | .683 | .669 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.016** | **.010** | **.031** | **.023** | **.003** | **.006** | **.004** | **.004** | **.002** | **.000** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.33 | .284 | .311 | .147 | .370 | .198 | .052 | .375 | .151 | .245 | 1.22 | .405 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.008** | **.034** | **.054** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | .797 | .547 | .450 | .117 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **60008.** | **1183700.** | **305540.** |
| Stddev | 69. | 6440. | 4162. |
| %RSD | .11556 | .54409 | 1.3622 |

Sample Name: CalStd10=10000 Acquired: 04/19/2019 11:54:47 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.013** | **.006** | **.609** | **.003** | **1.25** | **.388** | **.022** | **.294** | **.027** | **7680.** | **3890.** | **.005** |
| Stddev | .000 | .000 | .014 | .000 | .02 | .003 | .000 | .001 | .000 | 80. | 9. | .000 |
| %RSD | .506 | .580 | 2.28 | 1.14 | 1.63 | .788 | .445 | .291 | .571 | 1.04 | .240 | .553 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.005** | **.000** | **.275** | **.098** | **.035** | **.098** | **.301** | **.226** | **.029** | **.042** | **.042** |
| Stddev | .000 | .000 | .000 | .001 | .001 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | 1.24 | .786 | .924 | .465 | .570 | .727 | .751 | .445 | .738 | .617 | .514 | .605 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.044** | **.009** | **.077** | **.327** |
| Stddev | .000 | .000 | .000 | .000 | .002 |
| %RSD | .446 | .777 | .865 | .407 | .728 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **58721.** | **1122000.** | **302910.** |
| Stddev | 289. | 4047. | 1385. |
| %RSD | .49235 | .36066 | .45732 |

Sample Name: CalStd12=100K  Acquired: 04/19/2019 12:01:25  Type: Cal
Method: DOD Calibration Updated 060614(v3314)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2.54** | **71800.** | **36900.** | **.333** | **.282** | **2.89** |
| Stddev | .00 | 1210. | 633. | .005 | .001 | .01 |
| %RSD | .164 | 1.69 | 1.71 | 1.51 | .337 | .402 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **58557.** | **1176600.** | **301150.** |
| Stddev | 175. | 4218. | 823. |
| %RSD | .29929 | .35846 | .27342 |

Sample Name: CalStd13=100000 Acquired: 04/19/2019 12:07:44 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.120** | **.030** | **.039** | **.023** | **.047** | **.003** |
| Stddev | .001 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .911 | 1.36 | .558 | 1.62 | 1.27 | 1.54 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **57387.** | **1151200.** | **299230.** |
| Stddev | 140. | 8138. | 2733. |
| %RSD | .24456 | .70688 | .91334 |

Sample Name: CalStd14=500000 Acquired: 04/19/2019 12:14:14 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.627** | **.148** | **.110** | **.220** | **.017** |
| Stddev | .005 | .002 | .001 | .003 | .000 |
| %RSD | .766 | 1.38 | 1.05 | 1.24 | 1.37 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **52431.** | **285500.** |
| Stddev | 311. | 1824. |
| %RSD | .59237 | .63880 |

Sample Name: CalibStd15=1000k Acquired: 04/19/2019 12:20:53 Type: Cal
Method: DOD Calibration Updated 060614(v3314) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.31** | **.298** | **.212** | **.035** |
| Stddev | .01 | .003 | .002 | .000 |
| %RSD | .769 | .863 | .874 | .797 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **46921.** | **263690.** |
| Stddev | 365. | 2116. |
| %RSD | .77733 | .80255 |

Sample Name: icv Acquired: 04/19/2019 12:34:24 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.6** | **10700.** | **1810.** | **1840.** | **1860.** | **44.3** | **9090.** | **47.8** | **53.0** | **506.** | **172.** | **243.** |
| Stddev | .6 | 315. | 16. | 37. | 52. | .3 | 268. | .7 | .4 | 7. | 2. | 3. |
| %RSD | 1.37 | 2.95 | .869 | 1.99 | 2.79 | .785 | 2.95 | 1.41 | .798 | 1.47 | .907 | 1.42 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **226.** | **4260.** | **9860.** | **458.** | **500.** | **498.** | **481.** | **499.** | **442.** | **472.** | **483.** | **479.** |
| Stddev | 2. | 110. | 161. | 4. | 7. | 6. | 6. | 7. | 7. | 8. | 7. | 9. |
| %RSD | .946 | 2.59 | 1.63 | .848 | 1.46 | 1.16 | 1.29 | 1.36 | 1.55 | 1.63 | 1.54 | 1.92 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Avg | **1840.** | **2050.** | **440.** | **427.** | **526.** | **447.** |
| Stddev | 34. | 27. | 12. | 4. | 8. | 5. |
| %RSD | 1.86 | 1.29 | 2.68 | .963 | 1.46 | 1.20 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

Sample Name: icv Acquired: 04/19/2019 12:34:24 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **56432.** | **1200400.** | **300570.** |
| Stddev | 348. | 10124. | 5338. |
| %RSD | .61699 | .84341 | 1.7761 |

Sample Name: ICVLL Acquired: 04/19/2019 12:47:03 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.9** | **1230.** | **1090.** | **61.3** | **31.7** | **11.7** | **1480.** | **16.1** | **15.8** | **32.3** | **27.6** | F **41.6** |
| Stddev | .7 | 3. | 11. | 1.8 | .5 | .1 | 15. | .2 | .2 | .3 | 1.0 | 2.8 |
| %RSD | 2.22 | .225 | 1.03 | 2.89 | 1.69 | .818 | 1.00 | .940 | 1.02 | .830 | 3.62 | 6.63 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | 60.0 | | | | | | | | | | | 30.0 |
| Range | -30.0% | | | | | | | | | | | 20.0% |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **31.7** | **875.** | **1490.** | **31.6** | **33.6** | **31.9** | **33.6** | **66.9** | **67.4** | **70.3** | **28.1** | **29.8** |
| Stddev | 5.2 | 4. | 11. | .3 | .2 | .6 | 1.2 | 2.7 | 4.9 | 3.6 | .3 | .1 |
| %RSD | 16.5 | .460 | .744 | .809 | .676 | 1.88 | 3.60 | 4.09 | 7.23 | 5.15 | 1.16 | .345 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **54982.** | **1205100.** | **294410.** |
| Stddev | 138. | 5388. | 1840. |
| %RSD | .25034 | .44712 | .62494 |

Sample Name: icb Acquired: 04/19/2019 12:59:26 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.607** | **-3.61** | **2.30** | **-.057** | **.433** | **-38.0** | **-.366** | **.090** | **.299** | **-.461** | **12.7** | **-4.06** |
| Stddev | .846 | .53 | 1.19 | .119 | .028 | .3 | .244 | .152 | .368 | .594 | 1.3 | 3.84 |
| %RSD | 139. | 14.6 | 51.6 | 209. | 6.37 | .792 | 66.7 | 168. | 123. | 129. | 10.1 | 94.5 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **6.70** | **-6.93** | **-.445** | **-.223** | **-.420** | **1.21** | **.436** | **6.22** | **1.56** | **.058** | **-.043** |
| Stddev | 1.25 | .09 | .066 | .191 | .354 | 2.04 | 1.55 | .86 | 1.21 | .603 | .165 |
| %RSD | 18.7 | 1.24 | 14.8 | 85.5 | 84.3 | 168. | 355. | 13.8 | 77.2 | 1040. | 386. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **53112.** | **1220900.** | **292730.** |
| Stddev | 294. | 1981. | 2649. |
| %RSD | .55325 | .16227 | .90494 |

Sample Name: MRL/LLOQ  Acquired: 04/19/2019 13:05:42  Type: QC
Method: DOD Calibration Updated 060614(v3314)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.98** | **425.** | **16.3** | **10.3** | **4.08** | **457.** | **5.54** | **5.49** | **11.1** | **9.33** | F **20.6** | F **4.88** |
| Stddev | .53 | 1. | 2.7 | .6 | .02 | 1. | .27 | .15 | .4 | .74 | 3.3 | .69 |
| %RSD | 5.33 | .225 | 16.4 | 5.94 | .417 | .289 | 4.79 | 2.70 | 3.55 | 7.96 | 15.9 | 14.2 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail |
| Value | 20.0 | | | | | | | | | | 10.0 | 10.0 |
| Range | -30.0% | | | | | | | | | | 30.0% | -30.0% |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **281.** | **481.** | **9.64** | **11.2** | **10.4** | **12.3** | **22.2** | **23.8** | **25.7** | **8.69** | **10.4** |
| Stddev | 3. | 2. | .13 | .7 | .5 | 1.9 | 1.8 | 3.7 | 2.9 | .68 | .3 |
| %RSD | .899 | .327 | 1.39 | 6.42 | 5.15 | 15.6 | 7.91 | 15.5 | 11.1 | 7.86 | 2.88 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **52603.** | **1218900.** | **292060.** |
| Stddev | 55. | 3190. | 3076. |
| %RSD | .10366 | .26168 | 1.0533 |

Sample Name: ICSA Acquired: 04/19/2019 13:11:53 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.494** | **512000.** | **-.023** | **.001** | **-.491** | **508000.** | **.001** | **.000** | **.053** | **-1.86** | **.004** |
| Stddev | .583 | 6370. | 10.3 | .767 | .060 | 3040. | .517 | .533 | .447 | 1.43 | 2.19 |
| %RSD | 118. | 1.25 | 44100. | 123000. | 12.2 | .599 | 35000. | 2490000. | 851. | 76.9 | 56500. |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **490000.** | **516000.** | **-3.67** | **.503** | **-.489** | **1.21** | **-4.93** | **-10.2** | **-6.12** | **9810.** | **-2.14** |
| Stddev | 2670. | 4420. | .17 | .208 | .788 | 3.52 | 5.38 | 4.0 | 4.05 | 54. | 1.18 |
| %RSD | .545 | .857 | 4.55 | 41.4 | 161. | 290. | 109. | 38.9 | 66.1 | .548 | 54.9 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **46413.** | **1097300.** | **274600.** |
| Stddev | 123. | 329. | 1644. |
| %RSD | .26442 | .03000 | .59873 |

Sample Name: ICSAB  Acquired: 04/19/2019 13:18:29  Type: QC
Method: DOD Calibration Updated 060614(v3314)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **508.** | **589000.** | **592.** | **522.** | F **662.** | **581.** | **525.** | **580000.** | F **661.** | F **663.** | **531.** |
| Stddev | 3. | 5030. | 11. | 30. | 2. | 5. | 7. | 6130. | 1. | 2. | 7. |
| %RSD | .668 | .854 | 1.84 | 5.77 | .320 | .921 | 1.38 | 1.06 | .120 | .261 | 1.23 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | | | | 500. | | | | 500. | 500. | |
| Range | | | | | 20.0% | | | | 20.0% | 20.0% | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **567.** | **548.** | **563000.** | **588000.** | **576.** | F **685.** | F **699.** | **572.** | F **632.** | **569.** | F **605.** |
| Stddev | 3. | 10. | 5480. | 5310. | 6. | 1. | 4. | 2. | 1. | 8. | 4. |
| %RSD | .535 | 1.90 | .974 | .904 | .986 | .160 | .581 | .386 | .197 | 1.49 | .716 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail |
| Value | | | | | | 500. | 500. | | 500. | | 500. |
| Range | | | | | | 20.0% | 20.0% | | 20.0% | | 20.0% |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | F **656.** | F **634.** | F **660.** | **552.** | **538.** | F **687.** | **559.** |
| Stddev | 4. | 13. | 6. | 9. | 3. | 1. | 3. |
| %RSD | .567 | 1.99 | .951 | 1.56 | .593 | .111 | .512 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 500. | 500. | 500. | | | 500. | |
| Range | 20.0% | 20.0% | 20.0% | | | 20.0% | |

Sample Name: ICSAB Acquired: 04/19/2019 13:18:29 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **45197.** | **1081500.** | **273370.** |
| Stddev | 96. | 3897. | 1734. |
| %RSD | .21243 | .36030 | .63434 |

Sample Name: mss256798 Acquired: 04/19/2019 13:30:44 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 4
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.66** | **72000.** | **3160.** | **334.** | **378.** | **4.87** | **23200.** | **-5.60** | **16.1** | **48.0** | **120.** |
| Stddev | .51 | 3010. | 169. | 17. | 17. | .12 | 864. | .50 | .9 | 2.1 | 7. |
| %RSD | 30.7 | 4.17 | 5.33 | 5.04 | 4.60 | 2.36 | 3.72 | 8.93 | 5.88 | 4.32 | 5.44 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **98.7** | **79.5** | **183000.** | **13800.** | **16600.** | **10.9** | **71.7** | **93.4** | **-1.43** | **1.33** | **30.1** |
| Stddev | 5.0 | 6.9 | 7600. | 515. | 622. | 1.2 | 4.5 | 3.5 | 2.22 | 4.69 | 2.4 |
| %RSD | 5.09 | 8.69 | 4.14 | 3.73 | 3.76 | 11.2 | 6.21 | 3.78 | 156. | 352. | 8.07 |

| Elem | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **230.** | **196.** | **149.** |
| Stddev | 7. | 8. | 7. |
| %RSD | 3.21 | 4.16 | 5.03 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **50068.** | **1211800.** | **287700.** |
| Stddev | 201. | 5997. | 2306. |
| %RSD | .40157 | .49489 | .80163 |

Sample Name: pdss256798 Acquired: 04/19/2019 13:37:26 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 4
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **11.0** | **44300.** | **506.** | **496.** | **815.** | **847.** | **15.5** | **73000.** | **13.3** | **17.3** | **194.** |
| Stddev | .3 | 2970. | 6. | 18. | 17. | 64. | .2 | 4800. | .4 | .5 | 4. |
| %RSD | 2.48 | 6.71 | 1.26 | 3.66 | 2.04 | 7.54 | 1.32 | 6.57 | 3.22 | 3.07 | 2.23 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2395 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **121.** | **137.** | **105.** | **113000.** | **88000.** | **38600.** | **7390.** | **6.58** | **200.** | **207.** | **138.** |
| Stddev | 2. | 12. | 9. | 7170. | 5350. | 2500. | 519. | .57 | 5. | 5. | 3. |
| %RSD | 2.00 | 8.76 | 8.60 | 6.37 | 6.08 | 6.47 | 7.03 | 8.74 | 2.49 | 2.26 | 2.38 |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **591.** | **646.** | **279.** | **238.** | **233.** |
| Stddev | 13. | 13. | 21. | 3. | 1. |
| %RSD | 2.23 | 1.94 | 7.57 | 1.21 | .635 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **49253.** | **1207000.** | **285570.** |
| Stddev | 249. | 5738. | 507. |
| %RSD | .50455 | .47537 | .17744 |

Sample Name: 256799 Acquired: 04/19/2019 13:43:53 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 3
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.932** | **92700.** | **228.** | **880.** | **1230.** | **5.82** | **334000.** | **-3.52** | **8.69** | **56.9** | **227.** |
| Stddev | .593 | 6860. | 19. | 85. | 92. | .25 | 23100. | .76 | .65 | 5.8 | 9. |
| %RSD | 63.6 | 7.40 | 8.12 | 9.61 | 7.47 | 4.22 | 6.91 | 21.6 | 7.50 | 10.1 | 4.08 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **885.** | **832.** | **220000.** | **84500.** | **17800.** | **8.09** | **137.** | **1050.** | **7.12** | **8.96** | **36.1** |
| Stddev | 66. | 60. | 14500. | 5980. | 1270. | .69 | 12. | 108. | 4.18 | 10.4 | 3.9 |
| %RSD | 7.41 | 7.17 | 6.61 | 7.08 | 7.13 | 8.60 | 8.96 | 10.2 | 58.7 | 116. | 10.8 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **351.** | **272.** | **1770.** |
| Stddev | 30. | 13. | 160. |
| %RSD | 8.68 | 4.84 | 9.04 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **48675.** | **1157100.** | **278400.** |
| Stddev | 312. | 5650. | 827. |
| %RSD | .64025 | .48823 | .29716 |

Sample Name: 256800 Acquired: 04/19/2019 13:50:07 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 3
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.746** | **53000.** | **97.3** | **422.** | **529.** | **3.76** | **32500.** | **-4.76** | **1.89** | **38.9** | **129.** |
| Stddev | .537 | 1760. | 8.5 | 34. | 18. | .15 | 977. | .70 | .11 | 3.1 | 7. |
| %RSD | 72.0 | 3.32 | 8.69 | 8.03 | 3.46 | 3.98 | 3.01 | 14.6 | 5.74 | 8.06 | 5.64 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **412.** | **380.** | **132000.** | **10400.** | **2330.** | **3100.** | **4.27** | **64.9** | **678.** | **806.** | **8.54** |
| Stddev | 17. | 19. | 3660. | 293. | 122. | 113. | .38 | 4.9 | 59. | 61. | 1.20 |
| %RSD | 4.16 | 4.91 | 2.77 | 2.82 | 5.24 | 3.65 | 8.77 | 7.54 | 8.73 | 7.57 | 14.1 |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.30** | **21.6** | **195.** | **166.** | **502.** | **374.** |
| Stddev | 1.41 | 2.5 | 5. | 9. | 41. | 31. |
| %RSD | 42.6 | 11.6 | 2.73 | 5.13 | 8.06 | 8.31 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **51200.** | **1206600.** | **287510.** |
| Stddev | 145. | 3618. | 537. |
| %RSD | .28267 | .29982 | .18695 |

Sample Name: 256801 Acquired: 04/19/2019 13:56:35 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 5
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.09** | **60700.** | **74.4** | **971.** | **1210.** | **7.77** | **441000.** | **.462** | **3.71** | **40.4** | **2100.** |
| Stddev | .56 | 2820. | 4.9 | 19. | 60. | .42 | 17700. | .419 | .14 | .5 | 32. |
| %RSD | 51.7 | 4.64 | 6.54 | 1.91 | 4.96 | 5.47 | 4.00 | 90.7 | 3.72 | 1.24 | 1.52 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Pb2169 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **650.** | **617.** | **72600.** | **113000.** | **39800.** | **36.6** | **1110.** | **727.** | **852.** | **4.11** | **3.90** |
| Stddev | 26. | 30. | 2850. | 4700. | 1680. | .6 | 16. | 17. | 16. | 2.70 | 8.11 |
| %RSD | 4.05 | 4.93 | 3.92 | 4.17 | 4.22 | 1.58 | 1.43 | 2.40 | 1.92 | 65.6 | 208. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **24.5** | **196.** | **152.** | **654.** | **537.** |
| Stddev | 1.8 | 9. | 9. | 10. | 7. |
| %RSD | 7.19 | 4.78 | 6.13 | 1.52 | 1.33 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **50117.** | **1144400.** | **280120.** |
| Stddev | 193. | 6803. | 1764. |
| %RSD | .38469 | .59445 | .62982 |

Sample Name: 256802 Acquired: 04/19/2019 14:02:48 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.11** | **35400.** | **56.4** | **308.** | **451.** | **2.39** | **48900.** | **-4.79** | **.972** | **16.2** | **746.** |
| Stddev | .71 | 2050. | 7.3 | 38. | 30. | .10 | 3180. | .15 | .159 | 2.0 | 41. |
| %RSD | 63.9 | 5.79 | 13.0 | 12.2 | 6.64 | 4.12 | 6.51 | 3.06 | 16.4 | 12.4 | 5.48 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **221.** | **205.** | **112000.** | **93000.** | **13700.** | **2510.** | **3460.** | **7.33** | **115.** | **307.** | **1.66** |
| Stddev | 14. | 14. | 7340. | 5440. | 899. | 132. | 229. | .88 | 14. | 37. | 4.10 |
| %RSD | 6.17 | 6.66 | 6.53 | 5.85 | 6.54 | 5.25 | 6.60 | 12.0 | 11.9 | 12.1 | 247. |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.42** | **16.9** | **187.** | **145.** | **130.** |
| Stddev | 5.09 | 2.5 | 17. | 8. | 16. |
| %RSD | 210. | 14.8 | 9.27 | 5.58 | 12.4 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **53949.** | **1196900.** | **290350.** |
| Stddev | 394. | 4559. | 1573. |
| %RSD | .73115 | .38094 | .54176 |

Sample Name: 256803 Acquired: 04/19/2019 14:09:50 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.95** | **430000.** | **2220.** | **2650.** | **5110.** | **21.0** | **1690000.** | **27.8** | **44.9** | **944.** |
| Stddev | .86 | 4370. | 7. | 36. | 54. | .1 | 12800. | .4 | .3 | 3. |
| %RSD | 12.4 | 1.02 | .337 | 1.34 | 1.05 | .639 | .756 | 1.51 | .607 | .368 |

| Elem | Cr2677 | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Pb2203 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **677.** | **1260.** | **504000.** | **442000.** | **530000.** | **451.** | **507.** | **1490.** | **847.** | **28.4** |
| Stddev | 6. | 11. | 3780. | 2630. | 5950. | 1. | 2. | 2. | 7. | 5.3 |
| %RSD | .830 | .905 | .752 | .595 | 1.12 | .310 | .390 | .165 | .804 | 18.6 |

| Elem | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **48.0** | **320.** | **1620.** | **3460.** |
| Stddev | 8.3 | 5. | 8. | 12. |
| %RSD | 17.2 | 1.55 | .461 | .351 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **45300.** | **966960.** | **261950.** |
| Stddev | 187. | 4611. | 2336. |
| %RSD | .41307 | .47688 | .89194 |

Sample Name: 1dup256803 Acquired: 04/19/2019 14:16:20 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2388 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6.52** | **422000.** | **2430.** | **2940.** | **6810.** | **19.6** | **1610000.** | **29.1** | **48.3** | **1070.** |
| Stddev | .99 | 3190. | 12. | 34. | 48. | .2 | 13700. | 1.2 | .3 | 7. |
| %RSD | 15.1 | .756 | .488 | 1.16 | .700 | .880 | .848 | 4.17 | .679 | .641 |

| Elem | Cr2677 | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **667.** | **1450.** | **511000.** | **449000.** | **597000.** | **551.** | **608.** | **1980.** | **410.** | **956.** |
| Stddev | 4. | 13. | 3350. | 3460. | 7860. | 5. | 3. | 6. | 15. | 7. |
| %RSD | .635 | .893 | .656 | .769 | 1.32 | .929 | .482 | .315 | 3.62 | .716 |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **61.8** | **63.5** | **367.** | **1700.** | **3650.** |
| Stddev | 5.4 | 8.7 | 9. | 8. | 17. |
| %RSD | 8.76 | 13.7 | 2.49 | .443 | .458 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **45635.** | **969070.** | **262560.** |
| Stddev | 218. | 603. | 2001. |
| %RSD | .47664 | .06219 | .76190 |

Sample Name: 2dup256803 Acquired: 04/19/2019 14:22:48 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2388 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5.71** | **406000.** | **2430.** | **2890.** | **4930.** | **18.7** | **1530000.** | **20.7** | **40.8** | **951.** |
| Stddev | 1.47 | 2570. | 9. | 25. | 30. | .1 | 11700. | .6 | .3 | 6. |
| %RSD | 25.8 | .633 | .351 | .848 | .617 | .287 | .770 | 2.82 | .712 | .676 |

| Elem | Cr2677 | Cu3247 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **681.** | **1760.** | **524000.** | **415000.** | **568000.** | **480.** | **535.** | **1720.** | **476.** | **977.** |
| Stddev | 6. | 9. | 1920. | 2570. | 4380. | 2. | 3. | 8. | 9. | 6. |
| %RSD | .871 | .511 | .367 | .620 | .772 | .439 | .546 | .456 | 1.86 | .564 |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **41.4** | **56.7** | **366.** | **1690.** | **3560.** |
| Stddev | 8.7 | 8.1 | 8. | 13. | 28. |
| %RSD | 21.1 | 14.2 | 2.12 | .748 | .780 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **46970.** | **971770.** | **267760.** |
| Stddev | 243. | 4566. | 1480. |
| %RSD | .51824 | .46985 | .55267 |

Sample Name: 256804 Acquired: 04/19/2019 14:29:16 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-2.21** | **305000.** | **548.** | **490.** | **1540.** | **16.5** | **198000.** | **-5.99** | **6.62** | **278.** | **479.** |
| Stddev | .54 | 4410. | 7. | 28. | 20. | .1 | 3250. | .88 | .44 | 1. | 4. |
| %RSD | 24.5 | 1.45 | 1.28 | 5.82 | 1.29 | .870 | 1.64 | 14.7 | 6.57 | .481 | .934 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2203 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **361.** | **367.** | **549000.** | **63700.** | **98500.** | **101.** | **426.** | **431.** | **330.** | **-5.62** | **5.72** |
| Stddev | 5. | 5. | 8700. | 911. | 1490. | 1. | 1. | 2. | 2. | 1.18 | 11.3 |
| %RSD | 1.51 | 1.27 | 1.59 | 1.43 | 1.51 | .793 | .286 | .417 | .684 | 21.0 | 197. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **107.** | **993.** | **978.** | **858.** | **729.** |
| Stddev | 4. | 10. | 4. | 9. | 2. |
| %RSD | 4.17 | .973 | .448 | .993 | .246 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **52709.** | **1100400.** | **282990.** |
| Stddev | 187. | 2766. | 996. |
| %RSD | .35550 | .25137 | .35188 |

Sample Name: ccv1 Acquired: 04/19/2019 14:35:36 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **482.** | **4840.** | **4730.** | **4840.** | **464.** | **4900.** | **507.** | **4620.** | **5220.** | **4890.** | **4750.** | **5260.** |
| Stddev | 2. | 72. | 24. | 50. | 5. | 48. | 1. | 18. | 7. | 57. | 182. | 103. |
| %RSD | .321 | 1.49 | .498 | 1.03 | 1.01 | .979 | .154 | .395 | .140 | 1.17 | 3.83 | 1.96 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5190.** | **5110.** | **4950.** | **4790.** | **4980.** | **4830.** | **5220.** | **4710.** | F **5560.** |
| Stddev | 41. | 16. | 8. | 21. | 14. | 38. | 21. | 49. | 10. |
| %RSD | .799 | .318 | .163 | .436 | .288 | .788 | .402 | 1.05 | .180 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | 5000. |
| Range | | | | | | | | | 10.4% |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **55572.** | **1163400.** | **296650.** |
| Stddev | 141. | 2372. | 2596. |
| %RSD | .25452 | .20387 | .87516 |

Sample Name: ccv2 Acquired: 04/19/2019 14:41:13 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.3** | **494.** | **463.** | **454.** | **498.** | **481.** | **49.2** | **48.9** | **453.** | **53.2** | **53.8** | **518.** |
| Stddev | .6 | 3. | 2. | 14. | 4. | 6. | .2 | 2.2 | 3. | .7 | .4 | 4. |
| %RSD | 1.12 | .564 | .392 | 3.10 | .837 | 1.19 | .307 | 4.45 | .756 | 1.22 | .791 | .849 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **450.** | **495.** | **483.** | **466.** | **476.** | **473.** | **508.** | **506.** | **499.** | **517.** | **490.** | **496.** |
| Stddev | 3. | 3. | 6. | 1. | 1. | 1. | 3. | 4. | 3. | 3. | 7. | 4. |
| %RSD | .630 | .618 | 1.20 | .276 | .170 | .293 | .672 | .884 | .532 | .601 | 1.41 | .741 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **492.** | **496.** | **504.** | **546.** | **461.** | F **447.** | **549.** | **471.** |
| Stddev | 5. | 5. | 12. | 9. | 13. | . | 6. | 1. |
| %RSD | .987 | 1.06 | 2.42 | 1.56 | 2.81 | .072 | 1.01 | .113 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 500. | | |
| Range | | | | | | -10.4% | | |

Sample Name: ccv2 Acquired: 04/19/2019 14:41:13 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **56769.** | **1207700.** | **300100.** |
| Stddev | 258. | 2144. | 1514. |
| %RSD | .45470 | .17749 | .50451 |

Sample Name: ccb Acquired: 04/19/2019 14:46:58 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.768** | **-5.12** | **1.43** | **-.296** | **.347** | **-37.9** | **-.200** | **.164** | **.337** | **-.175** | **17.7** | **-2.38** |
| Stddev | .845 | .76 | 3.05 | .306 | .016 | .3 | .155 | .028 | .377 | .341 | 4.5 | 4.38 |
| %RSD | 110. | 14.8 | 214. | 104. | 4.73 | .892 | 77.5 | 17.3 | 112. | 195. | 25.2 | 184. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **4.57** | **-7.62** | **-.195** | **1.62** | **-.962** | **1.11** | **-2.03** | **4.71** | **.229** | **.028** | **-.041** |
| Stddev | 2.29 | .01 | .045 | .34 | .821 | 2.49 | 1.64 | 6.61 | 2.03 | .186 | .130 |
| %RSD | 50.1 | .087 | 23.1 | 21.0 | 85.3 | 224. | 81.1 | 140. | 884. | 661. | 315. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **56635.** | **1203300.** | **294990.** |
| Stddev | 121. | 2289. | 741. |
| %RSD | .21330 | .19023 | .25120 |

Sample Name: 256805 Acquired: 04/19/2019 14:53:15 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.64** | **282000.** | **1540.** | **1570.** | **2010.** | **17.0** | **129000.** | **-4.19** | **10.2** | **145.** | **449.** |
| Stddev | .68 | 3360. | 5. | 9. | 34. | .1 | 871. | .27 | .3 | 1. | 3. |
| %RSD | 41.6 | 1.19 | .294 | .545 | 1.67 | .742 | .676 | 6.48 | 2.90 | .892 | .624 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **423.** | **418.** | **331000.** | **52900.** | **19300.** | **15.4** | **316.** | **848.** | **-.004** | **8.68** | **46.0** |
| Stddev | 3. | 5. | 2760. | 298. | 102. | .7 | 1. | 5. | 1.70 | 6.98 | 3.0 |
| %RSD | .745 | 1.28 | .834 | .564 | .530 | 4.44 | .425 | .588 | 47500. | 80.4 | 6.48 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **752.** | **743.** | **1290.** |
| Stddev | 7. | 2. | 3. |
| %RSD | .946 | .277 | .203 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **54028.** | **1107200.** | **286770.** |
| Stddev | 212. | 4093. | 4510. |
| %RSD | .39177 | .36967 | 1.5727 |

Sample Name: 256806 Acquired: 04/19/2019 14:59:39 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.064** | **292000.** | **1170.** | **1160.** | **1600.** | **15.6** | **107000.** | **-6.47** | **6.82** | **141.** | **369.** |
| Stddev | .532 | 4030. | 6. | 28. | 24. | .1 | 1720. | .34 | .21 | 1. | 1. |
| %RSD | 837. | 1.38 | .525 | 2.41 | 1.52 | .811 | 1.61 | 5.24 | 3.11 | .423 | .282 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **288.** | **284.** | **360000.** | **49400.** | **11600.** | **9.74** | **335.** | **476.** | **.967** | **11.0** | **47.1** |
| Stddev | 7. | 10. | 4670. | 579. | 169. | .46 | 2. | 7. | 3.56 | 1.7 | 1.4 |
| %RSD | 2.43 | 3.45 | 1.30 | 1.17 | 1.46 | 4.70 | .673 | 1.38 | 368. | 15.0 | 2.88 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **710.** | **709.** | **978.** | **828.** |
| Stddev | 8. | 2. | 5. | 2. |
| %RSD | 1.18 | .240 | .540 | .261 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **53838.** | **1123000.** | **289350.** |
| Stddev | 84. | 5995. | 2997. |
| %RSD | .15661 | .53384 | 1.0357 |

Sample Name: 256807 Acquired: 04/19/2019 15:06:00 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.37** | **308000.** | **1120.** | **1010.** | **2170.** | **17.7** | **66200.** | **63.3** | **76.2** | **298.** | **1990.** |
| Stddev | .33 | 5460. | 6. | 27. | 37. | .1 | 1060. | .9 | .4 | 1. | 6. |
| %RSD | 13.7 | 1.78 | .516 | 2.65 | 1.70 | .410 | 1.61 | 1.46 | .486 | .502 | .300 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **914.** | **890.** | **421000.** | **41800.** | **67100.** | **31.9** | **380.** | **3260.** | **-5.63** | **18.5** | **73.7** |
| Stddev | 14. | 2. | 6300. | 677. | 1100. | .4 | 3. | 20. | 3.58 | 6.1 | 3.1 |
| %RSD | 1.52 | .277 | 1.50 | 1.62 | 1.64 | 1.14 | .740 | .606 | 63.6 | 33.0 | 4.18 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **964.** | **933.** | **55200.** |
| Stddev | 16. | 4. | 460. |
| %RSD | 1.65 | .445 | .832 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **52825.** | **1140700.** | **287550.** |
| Stddev | 182. | 5042. | 2018. |
| %RSD | .34369 | .44198 | .70189 |

Sample Name: 256808 Acquired: 04/19/2019 15:12:31 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2055 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.31** | **361000.** | **1340.** | **1240.** | **2150.** | **20.2** | **40100.** | **31.6** | **46.7** | **294.** | **1110.** |
| Stddev | 1.18 | 1830. | 8. | 25. | 8. | .1 | 591. | 1.2 | .3 | 1. | 2. |
| %RSD | 89.6 | .508 | .601 | 2.04 | .395 | .688 | 1.47 | 3.93 | .647 | .233 | .196 |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2169 | Sb2175 | Se1960 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **965.** | **513.** | **506.** | **469000.** | **34800.** | **45200.** | **21.0** | **342.** | **2100.** | **-11.6** | **16.2** |
| Stddev | 12. | 5. | 6. | 4910. | 366. | 558. | 1.1 | 1. | 17. | 4.2 | 8.2 |
| %RSD | 1.20 | .878 | 1.14 | 1.05 | 1.05 | 1.24 | 5.10 | .392 | .812 | 36.0 | 50.8 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **75.4** | **1010.** | **990.** | **26100.** |
| Stddev | 3.7 | 11. | 11. | 88. |
| %RSD | 4.92 | 1.08 | 1.14 | .338 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **53988.** | **1144600.** | **289300.** |
| Stddev | 150. | 7772. | 1853. |
| %RSD | .27711 | .67905 | .64034 |

Sample Name: 257642 Acquired: 04/19/2019 15:19:03 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.170** | **309000.** | **209.** | **1420.** | **18.2** | **8130.** | **-8.06** | **1.97** | **186.** | **505.** | **300.** |
| Stddev | .130 | 1150. | 7. | 10. | .1 | 153. | .80 | .13 | 1. | 3. | 4. |
| %RSD | 76.7 | .372 | 3.44 | .717 | .672 | 1.88 | 9.97 | 6.59 | .327 | .657 | 1.31 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **303.** | **493000.** | **37500.** | **5700.** | **16.1** | **420.** | **435.** | **477.** | **-10.7** | **-.682** | **59.4** |
| Stddev | 3. | 5620. | 303. | 72. | .8 | 1. | . | 4. | 5.1 | 3.04 | 1.1 |
| %RSD | 1.12 | 1.14 | .809 | 1.26 | 5.19 | .257 | .072 | .865 | 47.8 | 446. | 1.76 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L |
| Avg | **897.** | **884.** | **1010.** | **814.** |
| Stddev | 9. | 5. | 3. | 3. |
| %RSD | .981 | .548 | .285 | .335 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **54066.** | **1156100.** | **291230.** |
| Stddev | 88. | 8653. | 2306. |
| %RSD | .16198 | .74849 | .79174 |

Sample Name: 257643 Acquired: 04/19/2019 15:25:30 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **.804** | **315000.** | **229.** | **1490.** | **17.5** | **8570.** | **-8.57** | **2.58** | **206.** | **502.** | **382.** |
| Stddev | .449 | 5200. | 5. | 28. | .1 | 172. | .73 | .16 | . | 4. | 7. |
| %RSD | 55.8 | 1.65 | 2.29 | 1.90 | .434 | 2.01 | 8.55 | 6.25 | .009 | .812 | 1.83 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **382.** | **479000.** | **34800.** | **8980.** | **19.1** | **376.** | **686.** | **-9.70** | **.319** | **58.8** | **861.** |
| Stddev | 7. | 9180. | 555. | 142. | .6 | 3. | 3. | 3.37 | 7.28 | 4.5 | 17. |
| %RSD | 1.76 | 1.92 | 1.59 | 1.58 | 3.05 | .798 | .455 | 34.7 | 2280. | 7.58 | 1.99 |

| Elem | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **842.** | **1120.** | **914.** |
| Stddev | 2. | 7. | 3. |
| %RSD | .278 | .633 | .274 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **54279.** | **1156500.** | **289600.** |
| Stddev | 153. | 5062. | 4662. |
| %RSD | .28194 | .43770 | 1.6098 |

Sample Name: 257644 Acquired: 04/19/2019 15:31:56 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1.19** | **239000.** | **151.** | **1430.** | **15.5** | **15500.** | **-3.31** | **4.57** | **218.** | **369.** | **437.** |
| Stddev | .16 | 1130. | 5. | 8. | .1 | 206. | .15 | .31 | 2. | 2. | 6. |
| %RSD | 13.2 | .471 | 3.05 | .554 | .668 | 1.33 | 4.62 | 6.72 | 1.02 | .598 | 1.37 |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **427.** | **324000.** | **22900.** | **10400.** | **18.0** | **314.** | **816.** | **-7.13** | **9.55** | **38.4** | **655.** |
| Stddev | 13. | 2990. | 232. | 99. | .7 | 1. | 9. | 3.15 | 9.99 | 3.8 | 2. |
| %RSD | 3.03 | .925 | 1.01 | .951 | 3.72 | .397 | 1.11 | 44.2 | 105. | 9.86 | .293 |

| Elem | V_2924 | Zn2062 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **645.** | **1350.** |
| Stddev | 1. | 17. |
| %RSD | .221 | 1.28 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **54022.** | **1162900.** | **290390.** |
| Stddev | 186. | 2524. | 771. |
| %RSD | .34493 | .21705 | .26542 |

Sample Name: 257645 Acquired: 04/19/2019 15:38:18 Type: Unk
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.60** | **410000.** | **515.** | **420.** | **2560.** | **21.0** | **98800.** | **-1.67** | **8.14** | **586.** | **494.** |
| Stddev | .57 | 3770. | 10. | 30. | 21. | .2 | 1300. | .91 | .11 | 3. | 4. |
| %RSD | 22.0 | .918 | 2.03 | 7.24 | .809 | .780 | 1.32 | 54.6 | 1.34 | .499 | .713 |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2790 | Mn2593 | Mo2020 | Ni2216 | Ni2316 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **621.** | **616.** | **381000.** | **45400.** | **39600.** | **20.5** | **425.** | **438.** | **-7.26** | **15.4** | **63.7** |
| Stddev | 6. | 11. | 4890. | 470. | 354. | .3 | 1. | 4. | 3.43 | 5.0 | 1.8 |
| %RSD | .940 | 1.82 | 1.29 | 1.04 | .893 | 1.55 | .295 | .810 | 47.2 | 32.6 | 2.88 |

| Elem | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **924.** | **903.** | **2220.** |
| Stddev | 7. | 5. | 10. |
| %RSD | .757 | .573 | .471 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **53163.** | **1130200.** | **286030.** |
| Stddev | 199. | 7121. | 1635. |
| %RSD | .37488 | .63006 | .57173 |

Sample Name: ccv1 Acquired: 04/19/2019 15:57:23 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **479.** | **4500.** | **4770.** | **4850.** | **453.** | **4720.** | **522.** | **4550.** | **5280.** | **4840.** | F **4330.** | **5120.** |
| Stddev | 2. | 125. | 16. | 139. | 9. | 112. | 2. | 32. | 9. | 57. | 100. | 80. |
| %RSD | .457 | 2.77 | .328 | 2.87 | 2.07 | 2.37 | .358 | .701 | .173 | 1.18 | 2.31 | 1.56 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | | | | | | | | | | 5000. | |
| Range | | | | | | | | | | | -10.4% | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5090.** | **5310.** | **5050.** | **4920.** | **5220.** | **4930.** | **5460.** | **4550.** | F **5720.** |
| Stddev | 154. | 21. | 10. | 17. | 6. | 40. | 32. | 118. | 27. |
| %RSD | 3.03 | .402 | .199 | .352 | .117 | .810 | .579 | 2.59 | .464 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | 5000. |
| Range | | | | | | | | | 10.4% |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **53262.** | **1155500.** | **294640.** |
| Stddev | 93. | 5354. | 7018. |
| %RSD | .17499 | .46334 | 2.3819 |

Sample Name: ccv2 Acquired: 04/19/2019 16:02:52 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **49.5** | **514.** | **459.** | **456.** | **518.** | **498.** | **49.5** | **49.5** | **468.** | F **55.5** | F **55.3** | **544.** |
| Stddev | .9 | 2. | 4. | 12. | 3. | 7. | .2 | 1.4 | 6. | .1 | .3 | 3. |
| %RSD | 1.90 | .293 | .901 | 2.62 | .613 | 1.48 | .315 | 2.89 | 1.18 | .211 | .565 | .514 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | | | | | | | | | 50.0 | 50.0 | |
| Range | | | | | | | | | | 10.4% | 10.4% | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **453.** | **506.** | **478.** | **469.** | **483.** | **481.** | **529.** | **529.** | **512.** | **539.** | **503.** | **515.** |
| Stddev | 3. | 4. | 1. | 5. | 2. | 1. | 2. | 2. | . | 3. | 5. | 4. |
| %RSD | .606 | .845 | .121 | .963 | .334 | .251 | .346 | .322 | .065 | .542 | 1.04 | .832 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **511.** | **513.** | **529.** | F **572.** | **462.** | F **447.** | F **574.** | **472.** |
| Stddev | 3. | 3. | 5. | 3. | 3. | 3. | 3. | 1. |
| %RSD | .640 | .594 | .904 | .552 | .747 | .585 | .466 | .266 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| Value | | | | 500. | | 500. | 500. | |
| Range | | | | 10.4% | | -10.4% | 10.4% | |

Sample Name: ccv2 Acquired: 04/19/2019 16:02:52 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **54870.** | **1205500.** | **296200.** |
| Stddev | 156. | 3578. | 2798. |
| %RSD | .28346 | .29680 | .94467 |

Sample Name: ccb Acquired: 04/19/2019 16:08:37 Type: QC
Method: DOD Calibration Updated 060614(v3314) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.021** | **-4.08** | **1.82** | **-.134** | **.390** | **-36.5** | **-.109** | **.068** | **.286** | **.491** | **10.8** | **-4.02** |
| Stddev | .687 | .47 | 2.45 | .284 | .024 | .8 | .133 | .090 | .196 | .403 | 4.1 | 6.82 |
| %RSD | 3340. | 11.5 | 135. | 211. | 6.15 | 2.31 | 122. | 133. | 68.7 | 82.1 | 38.2 | 170. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **5.38** | **-6.85** | **.114** | **1.82** | **-.445** | **2.22** | **1.06** | **2.24** | **-.431** | **.225** | **.087** |
| Stddev | 1.06 | .08 | .130 | .38 | .657 | 1.67 | 2.91 | 4.78 | 1.52 | .235 | .154 |
| %RSD | 19.7 | 1.12 | 114. | 21.1 | 148. | 75.3 | 273. | 213. | 353. | 104. | 177. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

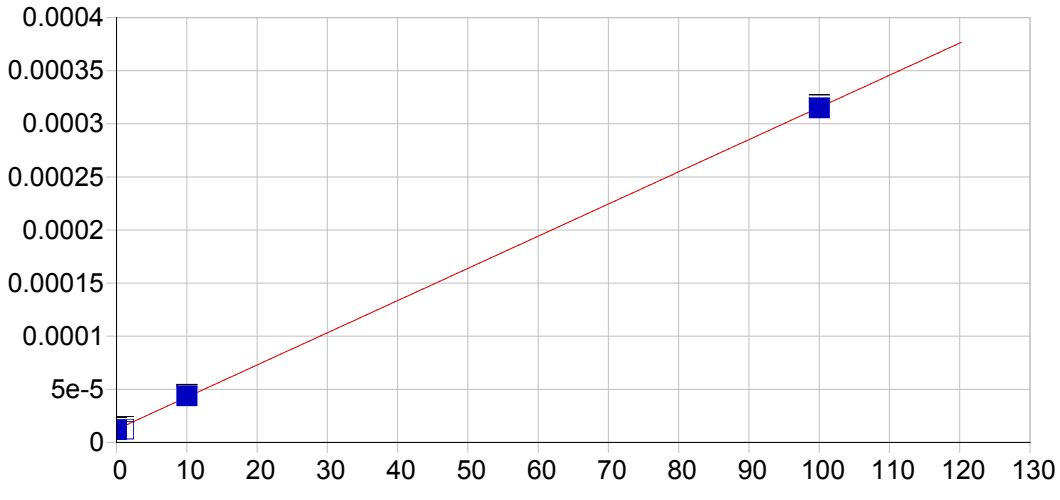
| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **55017.** | **1210400.** | **294280.** |
| Stddev | 372. | 6662. | 1434. |
| %RSD | .67570 | .55041 | .48721 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:04:13 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000002 | 0.771259 | 2.570863 |
| Ag 338.289 {100} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.962425 | 0.000002 | 18.287510 | 60.958366 |
| Al 167.079 {501} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | None | 0.000058 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000014 | 0.663610 | 2.212032 |
| Al 308.215 {109} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.992739 | 0.000216 | 35.529198 | 118.43066 |
| Al 396.152 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Curvili | 1/Conc | -0.000023 | 0.000001 | 0.000000 | 1.000000 | 0.999721 | 0.000063 | 12.909176 | 43.030588 |
| As 193.759 {474} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Var | 0.539750 | 0.187381 | 0.000000 | 1.000000 | 0.999781 | 1.235779 | 3.306742 | 11.022473 |
| As 197.262 {471} | 04/30/2019 08:01:24 | 04/29/2019 15:16:22 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.998967 | 0.000000 | 7.150038 | 23.833460 |
| Ba 233.527 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.998869 | 0.000001 | 0.388630 | 1.295433 |
| Ba 455.403 { 74} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000125 | 0.000046 | 0.000000 | 1.000000 | 0.998156 | 0.000011 | 0.424860 | 1.416201 |
| Ba 493.409 { 68} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.010947 | 0.000056 | 0.000000 | 1.000000 | 0.998653 | 0.000137 | 0.907157 | 3.023855 |
| Be 313.042 {108} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | -0.000185 | 0.000058 | 0.000000 | 1.000000 | 0.999544 | 0.000002 | 0.049429 | 0.164762 |
| Be 234.861 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999290 | 0.000001 | 1.414818 | 4.716060 |
| Ca 315.887 {107} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.000054 | 0.000000 | 0.000000 | 1.000000 | 0.999799 | 0.000011 | 12.463600 | 41.545332 |
| Ca 317.933 {106} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.002916 | 0.000001 | 0.000000 | 1.000000 | 0.999746 | 0.000028 | 6.859728 | 22.865759 |
| Ca 393.366 { 86} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Var | 0.008895 | 0.000188 | 0.000000 | 1.000000 | 0.999982 | 0.000207 | 0.074229 | 0.247430 |
| Ca 396.847 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.008134 | 0.000111 | 0.000000 | 1.000000 | 0.998837 | 0.000251 | 0.118050 | 0.393499 |
| Cd 226.502 {449} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | -0.000010 | 0.000026 | 0.000000 | 1.000000 | 0.997348 | 0.000002 | 0.233555 | 0.778515 |
| Cd 228.802 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | 0.000024 | 0.000048 | 0.000000 | 1.000000 | 0.991474 | 0.000006 | 0.157317 | 0.524389 |
| Co 228.616 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000017 | 0.000018 | 0.000000 | 1.000000 | 0.996680 | 0.000006 | 0.449246 | 1.497487 |
| Co 238.892 {141} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.998281 | 0.000005 | 0.890001 | 2.966671 |
| Cr 205.560 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Var | 0.000037 | 0.000015 | 0.000000 | 1.000000 | 0.997498 | 0.000145 | 0.312030 | 1.040101 |
| Cr 267.716 {126} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.998132 | 0.000001 | 0.923046 | 3.076818 |
| Cu 224.700 {450} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | -0.000001 | 0.000006 | 0.000000 | 1.000000 | 0.999425 | 0.000011 | 0.447985 | 1.493282 |
| Cu 324.754 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | 32.917937 | 0.432226 | 0.000000 | 1.000000 | 0.999630 | 0.452439 | 5.608774 | 18.695912 |
| Cu 327.396 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 7.187822 | 0.321888 | 0.000000 | 1.000000 | 0.999459 | 0.282912 | 9.835319 | 32.784397 |
| Fe 234.349 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Curvili | 1/Var | 0.000030 | 0.000000 | 0.000000 | 1.000000 | 0.999923 | 0.000006 | 1.861928 | 6.206425 |
| Fe 239.562 {140} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000013 | 0.000000 | 0.000000 | 1.000000 | 0.994823 | 0.000040 | 17.270833 | 57.569443 |
| Fe 259.940 {129} | 04/30/2019 08:01:24 | 04/29/2019 15:35:49 | Curvili | 1/Var | 0.000065 | 0.000001 | 0.000000 | 1.000000 | 0.997286 | 0.000158 | 5.216183 | 17.387276 |
| Mg 202.582 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999696 | 0.000343 | 2.203469 | 7.344897 |
| Mg 279.079 {121} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.100000 | 0.999980 | 0.000001 | 225.46699 | 751.55664 |
| Mg 280.270 {120} | 04/30/2019 08:01:24 | 04/29/2019 15:16:24 | Linear | 1/Var | 0.001262 | 0.000024 | 0.000000 | 1.000000 | 0.992448 | 0.000619 | 0.051519 | 0.171731 |
| Mn 257.610 {131} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000029 | 0.000012 | 0.000000 | 1.000000 | 0.995548 | 0.000011 | 0.097079 | 0.323597 |
| Mn 259.373 {130} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999811 | 0.000028 | 1.512228 | 5.040759 |
| Mo 202.030 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Conc | 0.000010 | 0.000009 | 0.000000 | 1.000000 | 0.918937 | 0.000011 | 0.461169 | 1.537230 |
| Mo 203.844 {465} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Var | 0.000022 | 0.000006 | 0.000000 | 1.000000 | 0.999869 | 0.000018 | 0.801215 | 2.670716 |
| Mo 204.598 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999653 | 0.000025 | 0.916548 | 3.055158 |
| Ni 221.647 {452} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.998093 | 0.000030 | 0.768351 | 2.561171 |
| Ni 231.604 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000020 | 0.000011 | 0.000000 | 1.000000 | 0.984592 | 0.000007 | 0.735570 | 2.451899 |
| Pb 216.999 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000015 | 0.000001 | 0.000000 | 1.000000 | 0.999773 | 0.000038 | 5.620225 | 18.734085 |
| Pb 220.353 {453} | 04/30/2019 08:01:24 | 04/29/2019 15:09:57 | Linear | 1/Conc | 0.000028 | 0.000003 | 0.000000 | 1.000000 | 0.878400 | 0.000005 | 2.481162 | 8.270541 |
| Pb 220.353 {153} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999653 | 0.000000 | 6.969384 | 23.231279 |
| Sb 206.833 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.998562 | 0.000001 | 2.581313 | 8.604377 |
| Sb 217.581 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.933696 | 0.000006 | 2.801324 | 9.337748 |
| Se 196.090 {472} | 04/30/2019 08:01:24 | 04/29/2019 15:09:58 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999198 | 0.000000 | 4.389697 | 14.632322 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Curvili | 1/Conc | 0.000004 | 0.000000 | -0.000000 | 1.000000 | 0.999688 | 0.000000 | 28.202163 | 94.007210 |
| Tl 190.856 {476} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.997608 | 0.000002 | 2.696044 | 8.986812 |
| Tl 190.856 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.997785 | 0.000001 | 5.738296 | 19.127652 |
| V 290.882 {116} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.998924 | 0.000002 | 8.162286 | 27.207619 |
| V 292.402 {115} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000005 | 0.000007 | 0.000000 | 1.000000 | 0.998319 | 0.000005 | 0.630081 | 2.100271 |
| Zn 206.200 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000061 | 0.000017 | 0.000000 | 1.000000 | 0.996075 | 0.000214 | 0.372954 | 1.243179 |
| Zn 213.856 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:09:59 | Linear | 1/Conc | 0.000030 | 0.000027 | 0.000000 | 1.000000 | 0.999485 | 0.000004 | 0.208095 | 0.693650 |
| Y 224.306 {450}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.004901 | 0.000005 | 0.000000 | 1.000000 | 0.999164 | 0.000037 | 10.509748 | 35.032492 |
| Na 589.592 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 0.000353 | 0.000005 | 0.000000 | 1.000000 | 0.999651 | 0.000172 | 7.542021 | 25.140069 |
| Si 251.611 {134} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 5.496233 | 0.049700 | 0.000000 | 1.000000 | 0.999713 | 0.563773 | 25.456914 | 84.856379 |
| Ti 323.452 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000229 | 0.000006 | 0.000000 | 1.000000 | 0.998823 | 0.000003 | 1.679766 | 5.599219 |
| Ti 334.941 {101} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000004 | 0.000000 | 1.000000 | 0.999000 | 0.000001 | 2.153927 | 7.179758 |
| Sr 407.771 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000090 | 0.000090 | 0.000000 | 1.000000 | 0.998548 | 0.000019 | 0.191487 | 0.638289 |
| Sr 421.552 { 80} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000064 | 0.000134 | 0.000000 | 1.000000 | 0.998725 | 0.000027 | 0.129437 | 0.431456 |
| Sn 189.989 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.998477 | 0.000002 | 1.686047 | 5.620155 |
| B 249.678 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999110 | 0.000001 | 1.384749 | 4.615829 |
| B 249.773 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.996375 | 0.000019 | 0.746113 | 2.487044 |
| Li 670.784 { 50} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000113 | 0.000026 | 0.000000 | 1.000000 | 0.996196 | 0.000316 | 1.644438 | 5.481459 |
| K 766.490 { 44} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | -0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999481 | 0.000045 | 53.224850 | 177.41616 |
| P 213.618 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:16:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1106.1553 | 3687.1846 |
| S 182.034 {485} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Curvili | 1/Conc | 0.000025 | 0.000000 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 6.539657 | 21.798855 |
| Hg 184.950 {482} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.351706 | 0.000021 | 8.769662 | 29.232206 |
| Ce 404.076 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000036 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.280330 | 74.267767 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

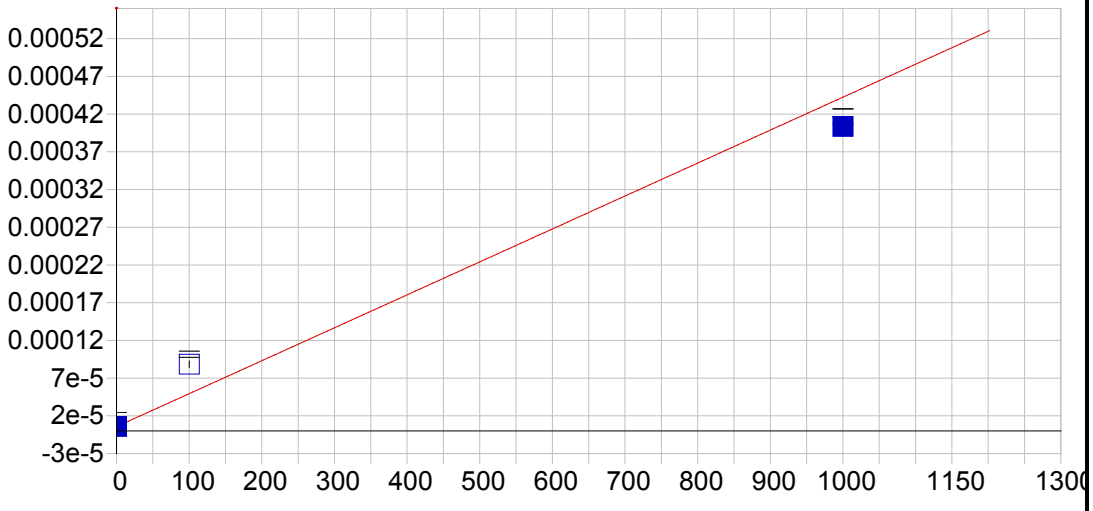



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.771259 | | |
| Predicted MQL: | 2.570863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.20712 | -.207 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.392 | .392 | 3.92 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.814 | -.186 | -.186 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .06215 | -.938 | -93.8 | .00001 | .000 | 1 |

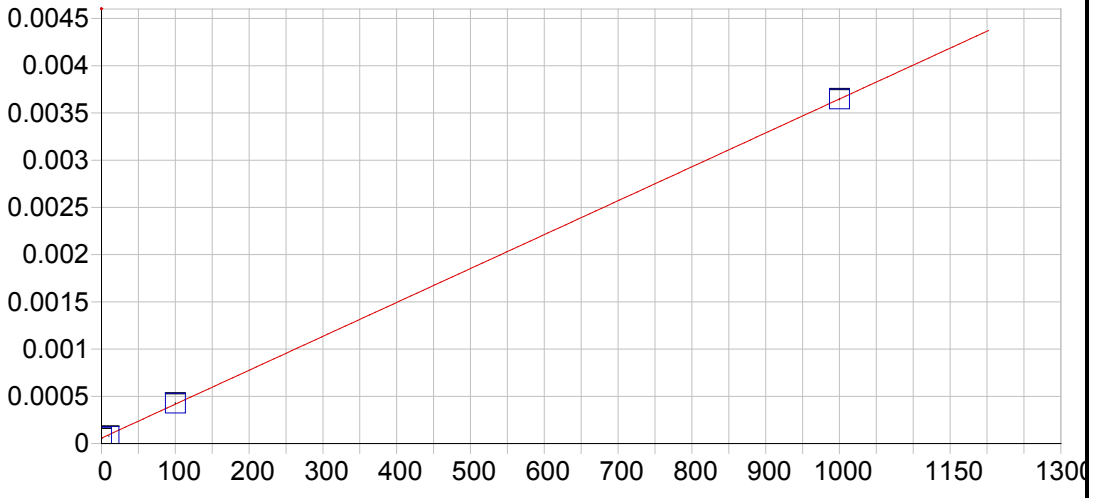



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.962425 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 18.287510 | | |
| Predicted MQL: | 60.958366 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08027 | -.080 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 189.19 | 89.2 | 89.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 910.83 | -89.2 | -8.92 | .00040 | .000 | 1 |

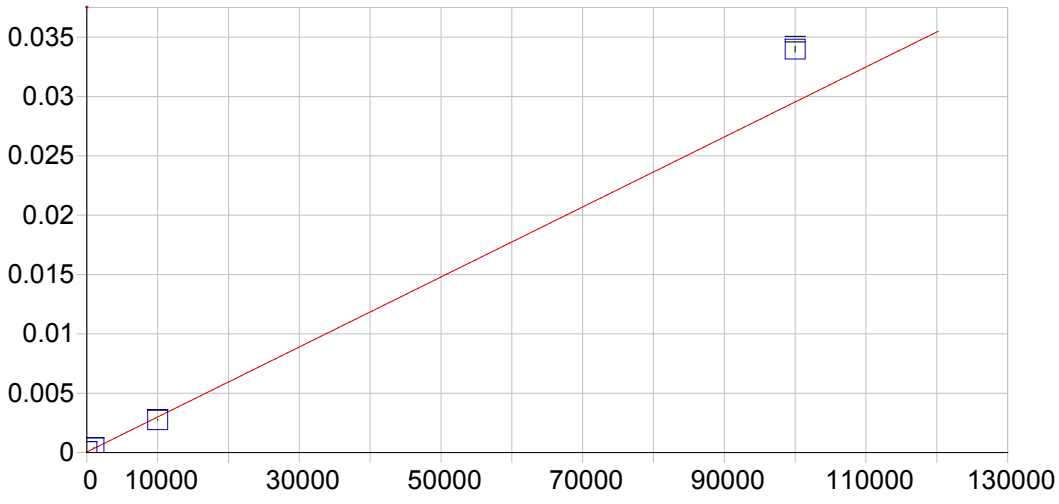



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.663610 | | |
| Predicted MQL: | 2.212032 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.0288 | 2.03 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.78 | -.219 | -.022 | .00365 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.5578 | -4.44 | -44.4 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.63 | 2.63 | 2.63 | .00043 | .000 | 1 |

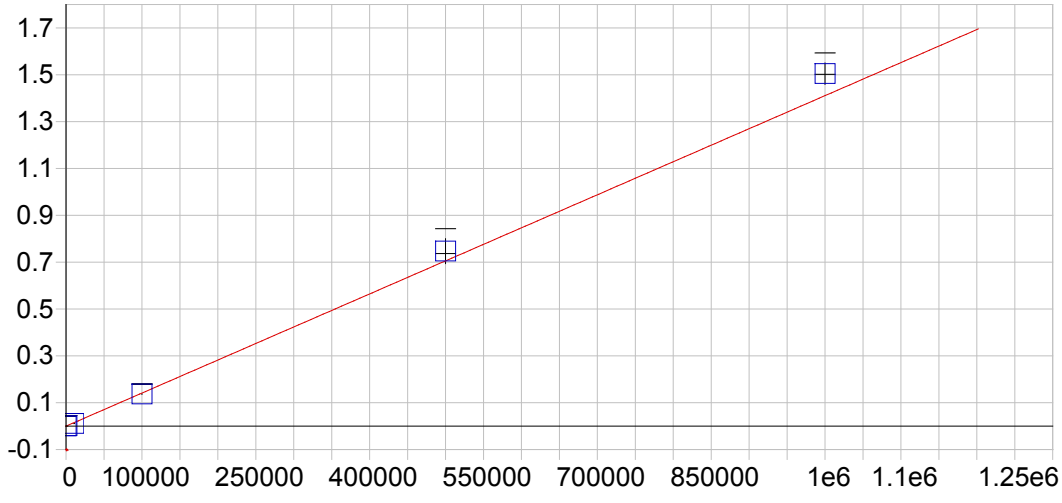



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992739 | Status: | OK. |
| Std Error of Est: | 0.000216 | | |
| Predicted MDL: | 35.529198 | | |
| Predicted MQL: | 118.430662 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 75.924 | 75.9 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9189.9 | -810. | -8.10 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1201.1 | 201. | 20.1 | .00040 | .000 | 1 |
| CalStd13=10 | 100000. | 115080. | 15100. | 15.1 | .03399 | .000 | 1 |

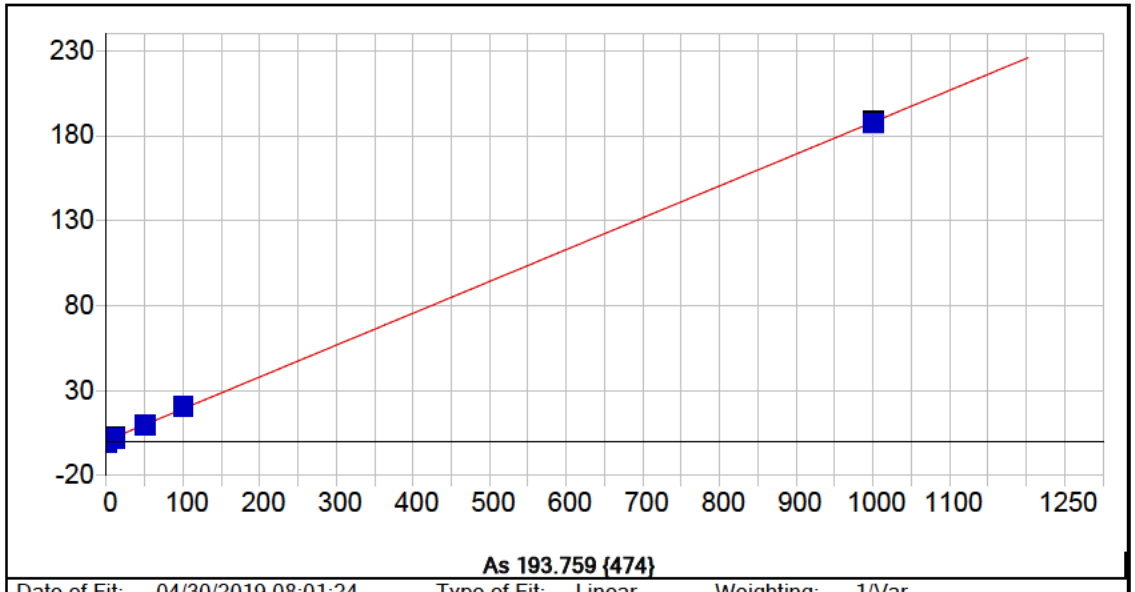



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999721 | Status: | OK. |
| Std Error of Est: | 0.000063 | | |
| Predicted MDL: | 12.909176 | | |
| Predicted MQL: | 43.030588 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33758 | .338 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 529520. | 29500. | 5.90 | .74706 | .053 | 1 |
| CalStd13=10 | 100000. | 96995. | -3010. | -3.01 | .13683 | .001 | 1 |
| CalStd10=10 | 10000. | 7635.5 | -2360. | -23.6 | .01075 | .000 | 1 |
| CalStd9=100 | 1000.0 | 919.15 | -80.8 | -8.08 | .00127 | .000 | 1 |
| CalibStd15= | 1000000. | 1066400. | 66400. | 6.64 | 1.5046 | .045 | 1 |

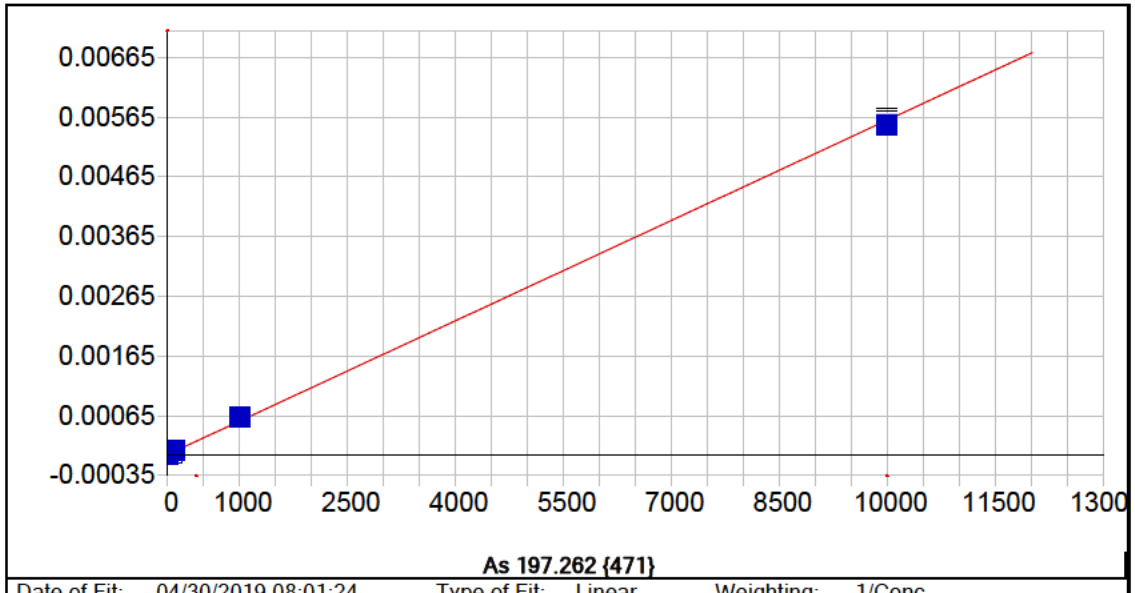



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.539750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.187381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 1.235779 | | |
| Predicted MDL: | 3.306742 | | |
| Predicted MQL: | 11.022473 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0560 | -6.06 | .000 | -.59503 | .623 | 1 |
| CalStd9=100 | 1000.0 | 997.06 | -2.94 | -.294 | 186.75 | 1.12 | 1 |
| CalStd7=50 | 50.000 | 47.791 | -2.21 | -4.42 | 9.4735 | .588 | 1 |
| CalStd5=10 | 10.000 | 7.5505 | -2.45 | -24.5 | 1.9497 | .990 | 1 |
| CalStd8=100 | 100.00 | 106.54 | 6.54 | 6.54 | 20.442 | .494 | 1 |

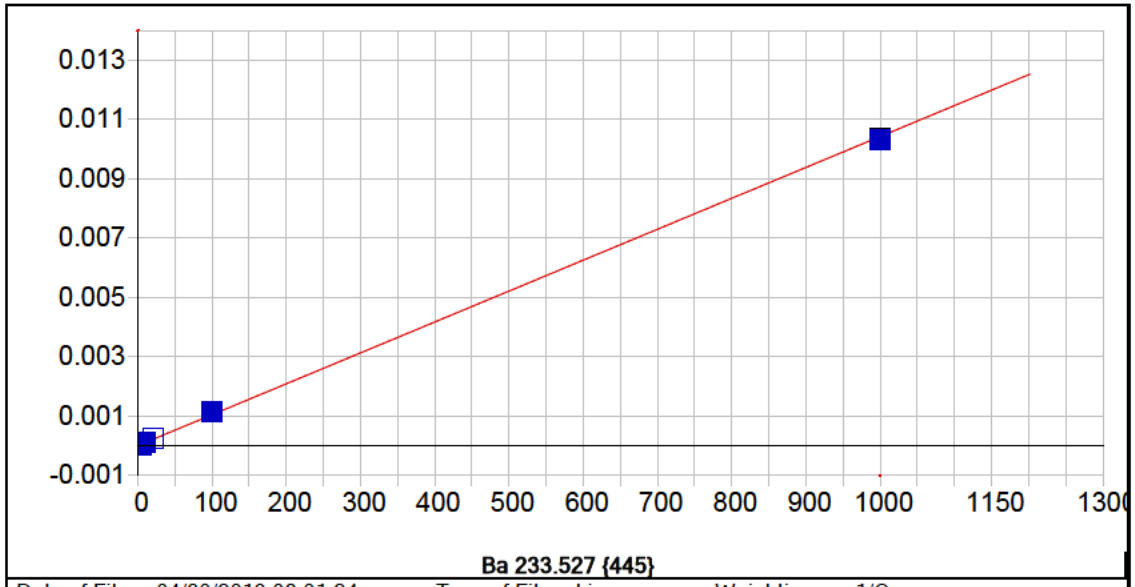



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.150038 | | |
| Predicted MQL: | 23.833460 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00548 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.8 | 132. | 13.2 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.208 | 8.21 | 16.4 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.48 | 14.5 | 14.5 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.4 | -156. | -1.56 | .00555 | .000 | 1 |

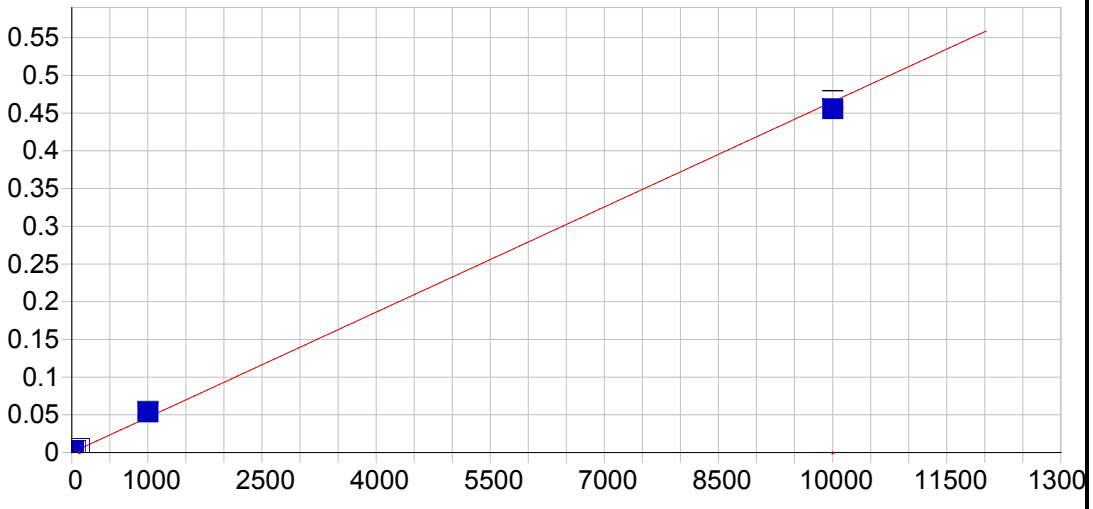



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998869 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.388630 | | |
| Predicted MQL: | 1.295433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.685 | 1.69 | 16.9 | .00013 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.379 | 2.38 | 11.9 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.99 | 8.99 | 8.99 | .00114 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.5664 | -1.43 | -28.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.19 | -10.8 | -1.08 | .01031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .18135 | -.819 | -81.9 | .00001 | .000 | 1 |

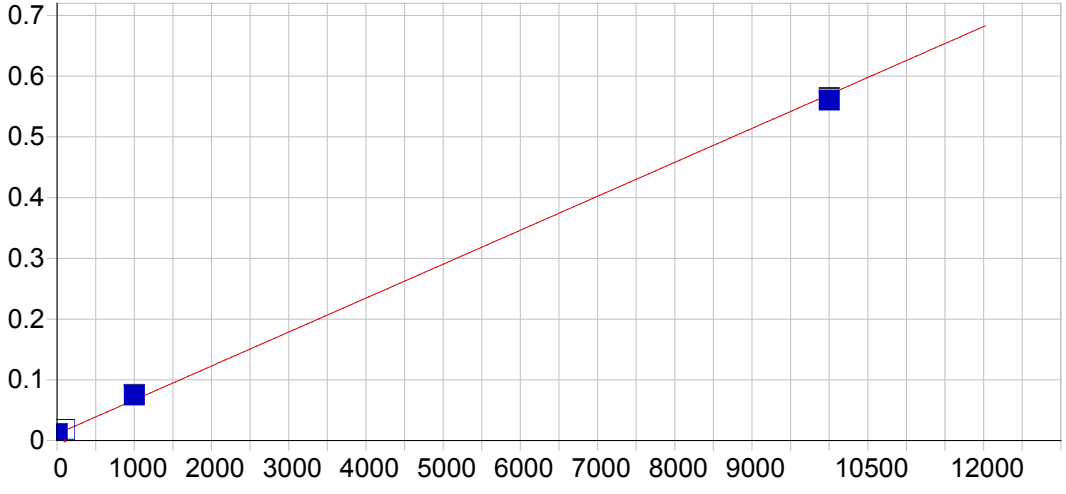



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000125 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998156 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.424860 | | |
| Predicted MQL: | 1.416201 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00102 | -.001 | .000 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.838 | 15.8 | 31.7 | .00319 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.147 | 3.15 | 31.5 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.954 | 5.95 | 29.8 | .00133 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.81 | 24.8 | 24.8 | .00593 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9621 | .962 | 19.2 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.5 | 151. | 15.1 | .05367 | .001 | 1 |
| CalStd3=1 | 1.0000 | .51857 | -.481 | -48.1 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.3 | -202. | -2.02 | .45572 | .011 | 1 |

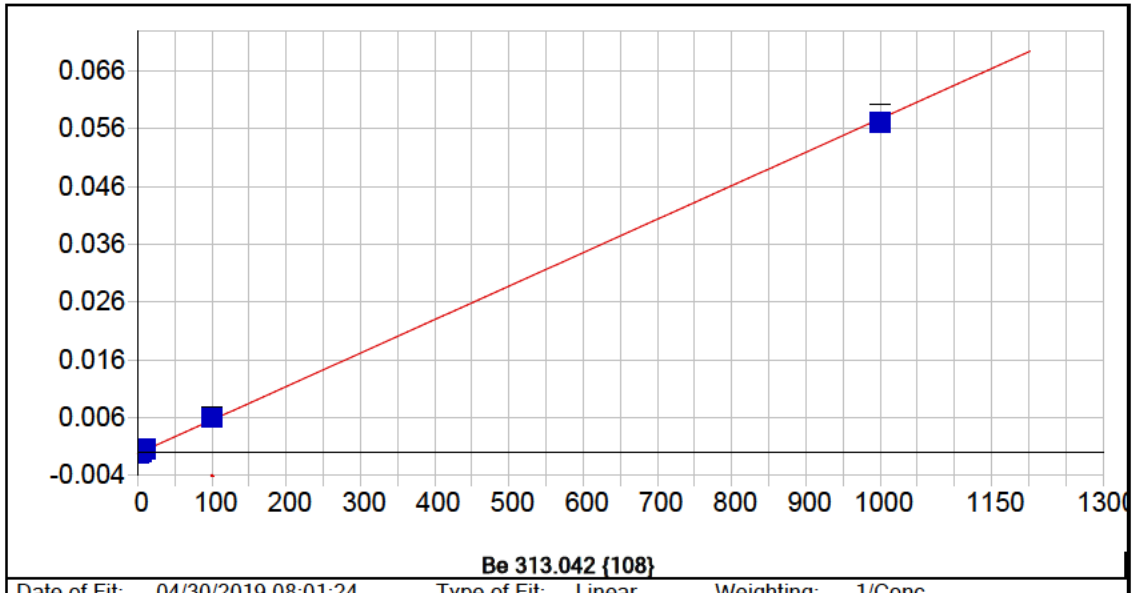



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010947 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998653 | Status: | OK. |
| Std Error of Est: | 0.000137 | | |
| Predicted MDL: | 0.907157 | | |
| Predicted MQL: | 3.023855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03968 | -.040 | .000 | .01094 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1140.3 | 140. | 14.0 | .07469 | .001 | 1 |
| CalStd8=100 | 100.00 | 127.32 | 27.3 | 27.3 | .01806 | .000 | 1 |
| CalStd10=10 | 10000. | 9832.4 | -168. | -1.68 | .56060 | .003 | 1 |

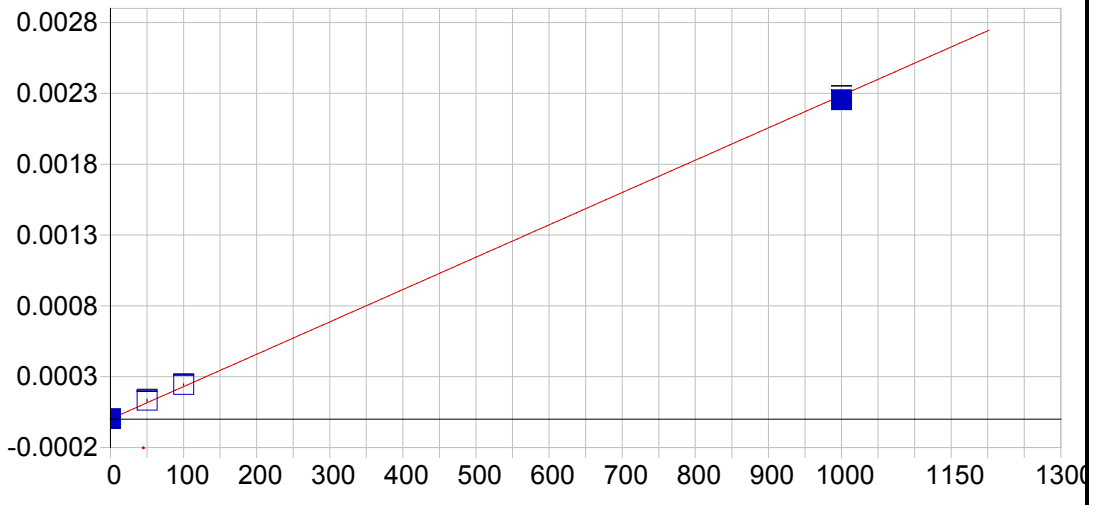



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000185 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000058 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999544 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.049429 | | |
| Predicted MQL: | 0.164762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.811 | 1.81 | 18.1 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.89 | 6.89 | 6.89 | .00601 | .000 | 1 |
| CalStd2=0.5 | .50000 | .48965 | -.010 | -2.07 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7741 | .774 | 15.5 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.47 | -9.53 | -.953 | .05717 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0666 | .067 | 6.66 | -.00012 | .000 | 1 |

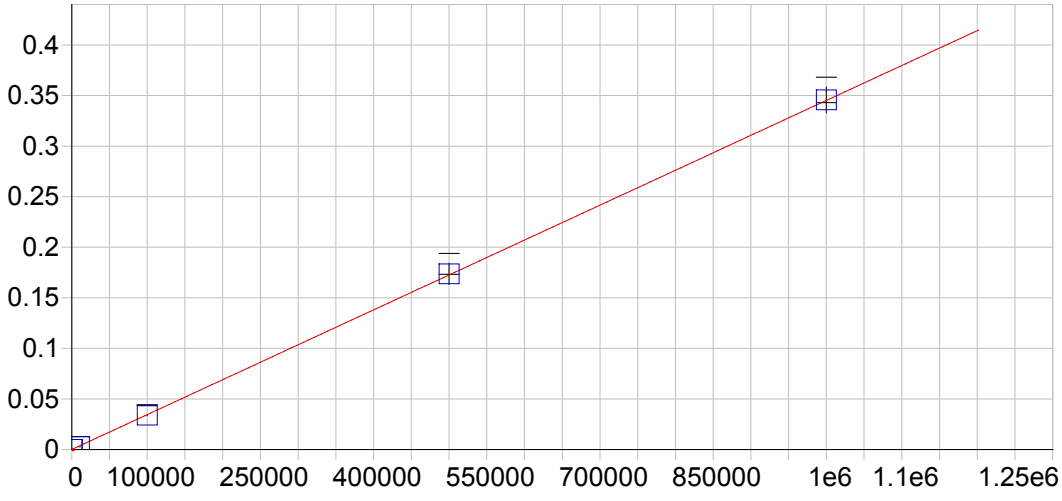



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999290 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.414818 | | |
| Predicted MQL: | 4.716060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00973 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.57 | -13.4 | -1.34 | .00225 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.08 | 6.08 | 6.08 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.360 | 7.36 | 14.7 | .00013 | .000 | 1 |

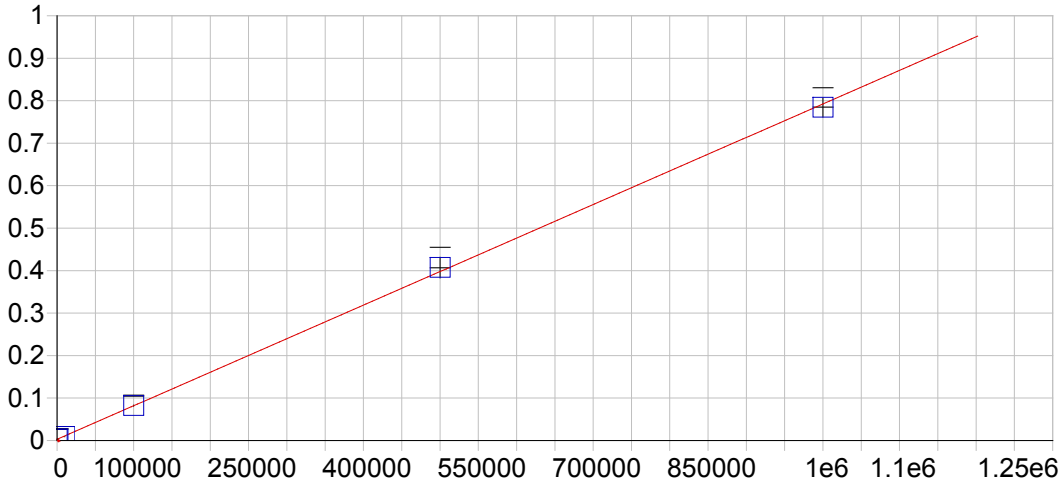



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999799 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 12.463600 | | |
| Predicted MQL: | 41.545332 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .37459 | .375 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 7609.8 | -2390. | -23.9 | .00268 | .000 | 1 |
| CalStd13=10 | 100000. | 97961. | -2040. | -2.04 | .03386 | .001 | 1 |
| CalStd14=50 | 500000. | 503050. | 3050. | .611 | .17366 | .010 | 1 |
| CalStd9=100 | 1000.0 | 877.21 | -123. | -12.3 | .00036 | .000 | 1 |
| CalibStd15= | 1000000. | 1001500. | 1500. | .150 | .34568 | .013 | 1 |

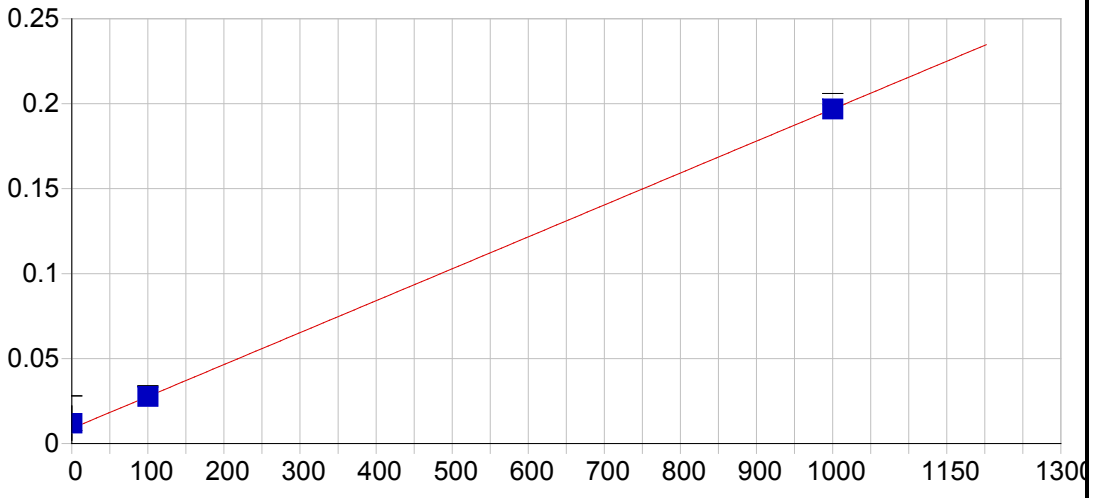



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002916 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 6.859728 | | |
| Predicted MQL: | 22.865759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13150 | .131 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 7981.1 | -2020. | -20.2 | .00922 | .000 | 1 |
| CalStd13=10 | 100000. | 100320. | 322. | .322 | .08212 | .001 | 1 |
| CalStd14=50 | 500000. | 512170. | 12200. | 2.43 | .40730 | .024 | 1 |
| CalStd9=100 | 1000.0 | 1053.4 | 53.4 | 5.34 | .00375 | .000 | 1 |
| CalibStd15= | 1000000. | 989470. | -10500. | -1.05 | .78415 | .023 | 1 |

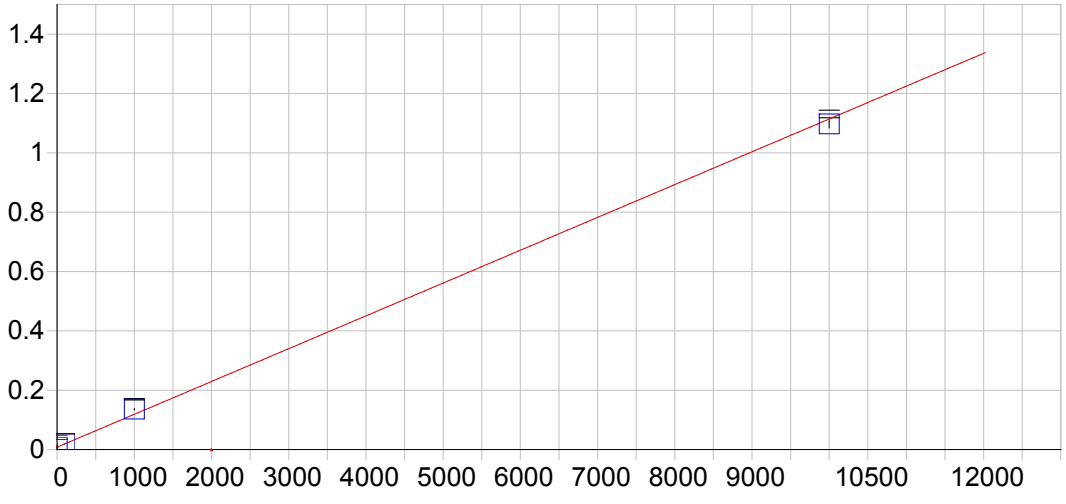



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008895 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000188 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999982 | Status: | OK. |
| Std Error of Est: | 0.000207 | | |
| Predicted MDL: | 0.074229 | | |
| Predicted MQL: | 0.247430 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 16.421 | 16.4 | .000 | .01198 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .196 | .020 | .19683 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.972 | -.028 | -.028 | .02768 | .000 | 1 |

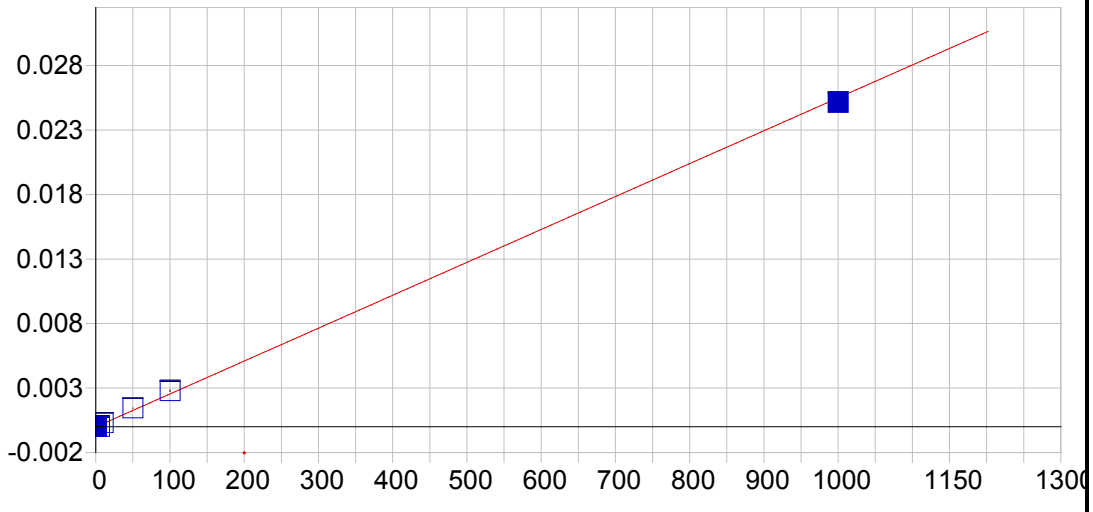



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000111 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998837 | Status: | OK. |
| Std Error of Est: | 0.000251 | | |
| Predicted MDL: | 0.118050 | | |
| Predicted MQL: | 0.393499 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01340 | -.013 | .000 | .00813 | .007 | 1 |
| CalStd10=10 | 10000. | 9847.0 | -153. | -1.53 | 1.0973 | .013 | 1 |
| CalStd8=100 | 100.00 | 99.586 | -.414 | -.414 | .01915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1153.4 | 153. | 15.3 | .13571 | .002 | 1 |

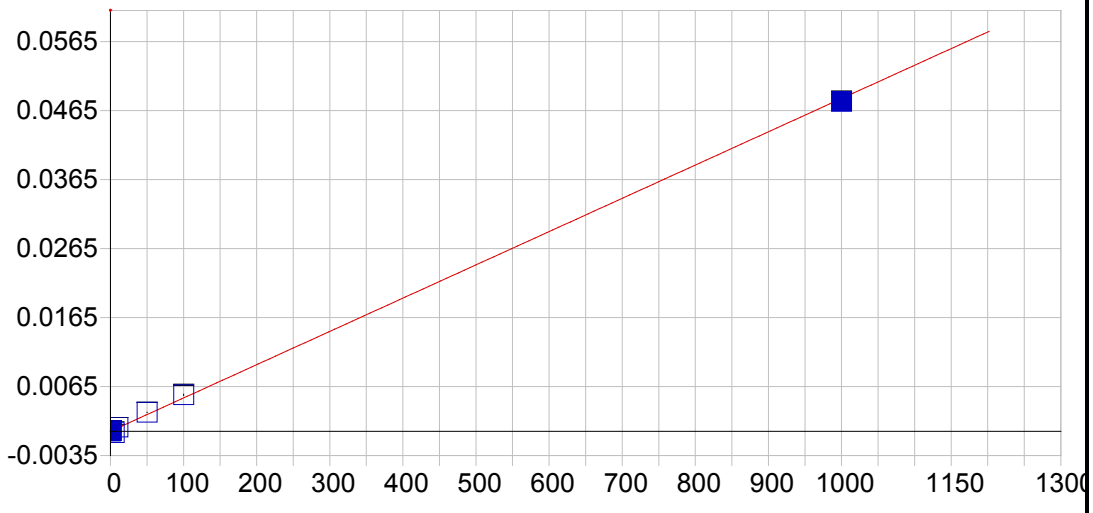



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997348 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.233555 | | |
| Predicted MQL: | 0.778515 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.865 | 6.87 | 13.7 | .00144 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2285 | .228 | 22.8 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61713 | .117 | 23.4 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | .73284 | -4.27 | -85.3 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.55 | 9.55 | 9.55 | .00278 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.062 | 2.06 | 20.6 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.44 | -14.6 | -1.46 | .02513 | .000 | 1 |

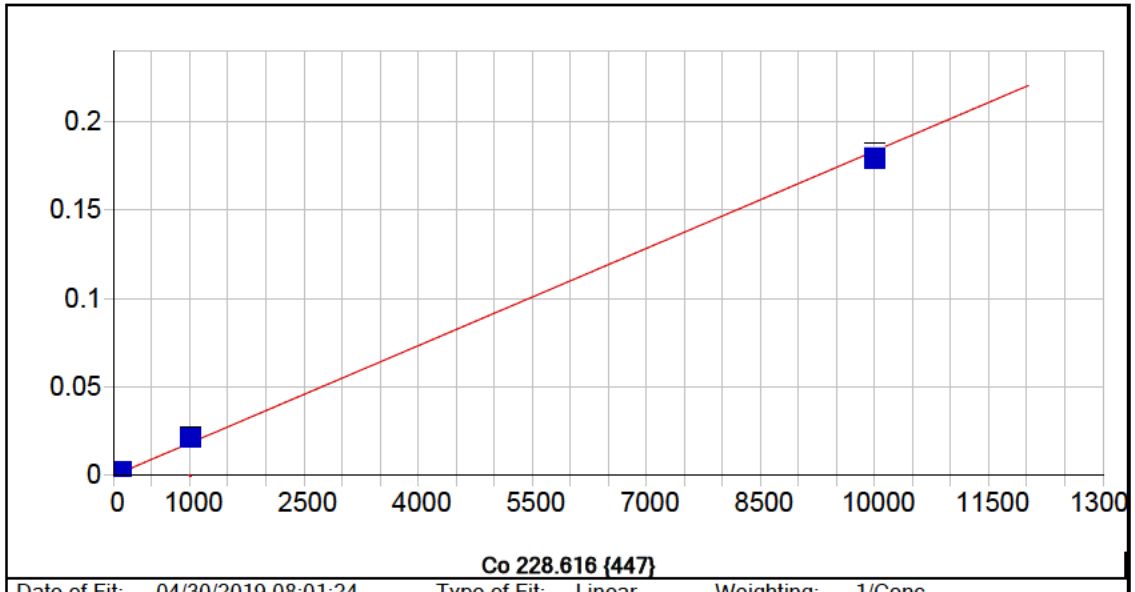



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991474 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.157317 | | |
| Predicted MQL: | 0.524389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.791 | 6.79 | 13.6 | .00276 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1739 | .174 | 17.4 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71504 | .215 | 43.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | -4.4200 | -9.42 | -188. | -.00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00530 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.002 | 2.00 | 20.0 | .00060 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.91 | -9.09 | -.909 | .04781 | .000 | 1 |

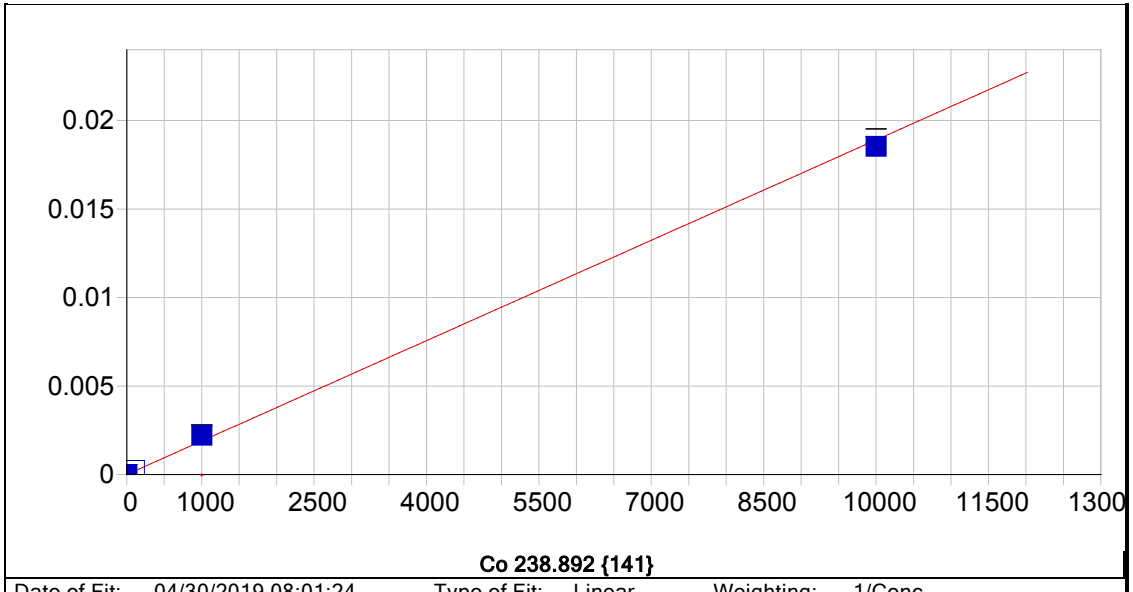



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996680 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.449246 | | |
| Predicted MQL: | 1.497487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00352 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.275 | 16.3 | 32.6 | .00123 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.608 | 3.61 | 36.1 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 16.987 | 12.0 | 240. | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 127.97 | 28.0 | 28.0 | .00236 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1163.2 | 163. | 16.3 | .02135 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0124 | .012 | 1.24 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9777.2 | -223. | -2.23 | .17958 | .003 | 1 |

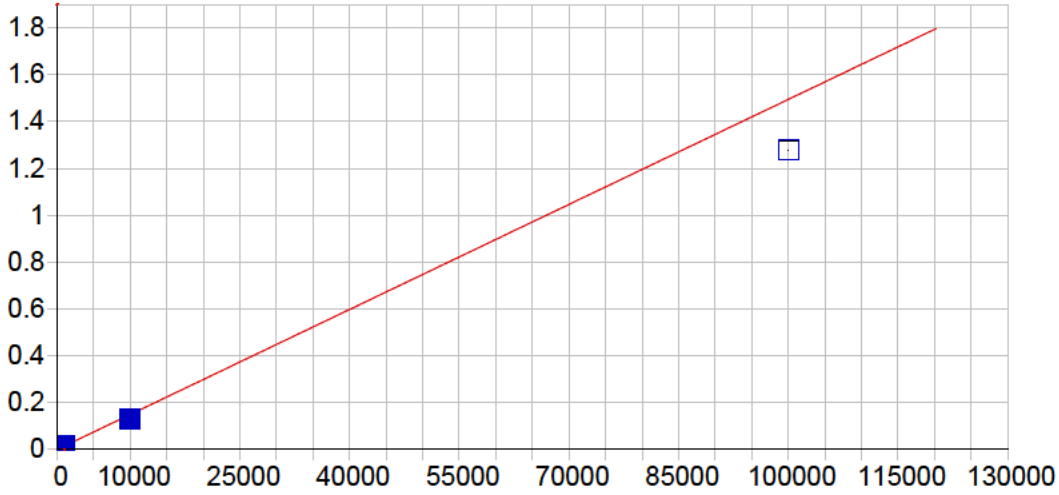



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998281 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.890001 | | |
| Predicted MQL: | 2.966671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03977 | -.040 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1168.3 | 168. | 16.8 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9806.8 | -193. | -1.93 | .01854 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.86 | 24.9 | 24.9 | .00024 | .000 | 1 |

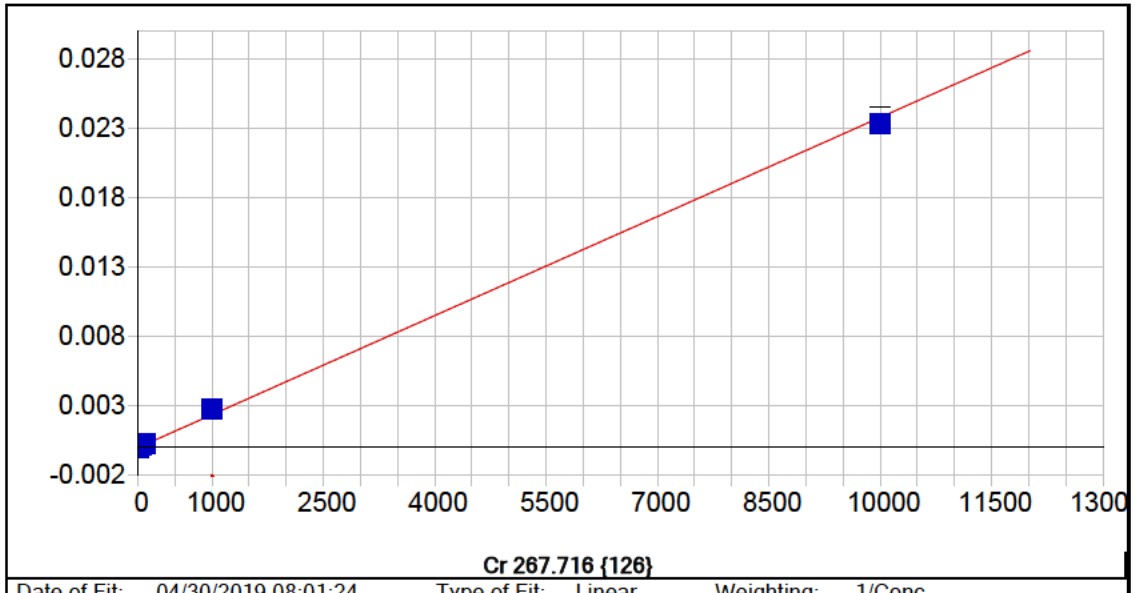



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997498 | Status: | OK. |
| Std Error of Est: | 0.000145 | | |
| Predicted MDL: | 0.312030 | | |
| Predicted MQL: | 1.040101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.1414 | -2.14 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9178 | -.082 | -.822 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.687 | 5.69 | 11.4 | .00087 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.5 | 30.5 | 3.05 | .01544 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.35 | 9.35 | 9.35 | .00167 | .000 | 1 |
| CalStd4=5 | 5.0000 | 51.363 | 46.4 | 927. | .00080 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.5639 | -2.56 | -256. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 8651.3 | -1350. | -13.5 | .12935 | .002 | 1 |
| CalStd12=10 | 100000. | 85458. | -14500. | -14.5 | 1.2774 | .003 | 1 |

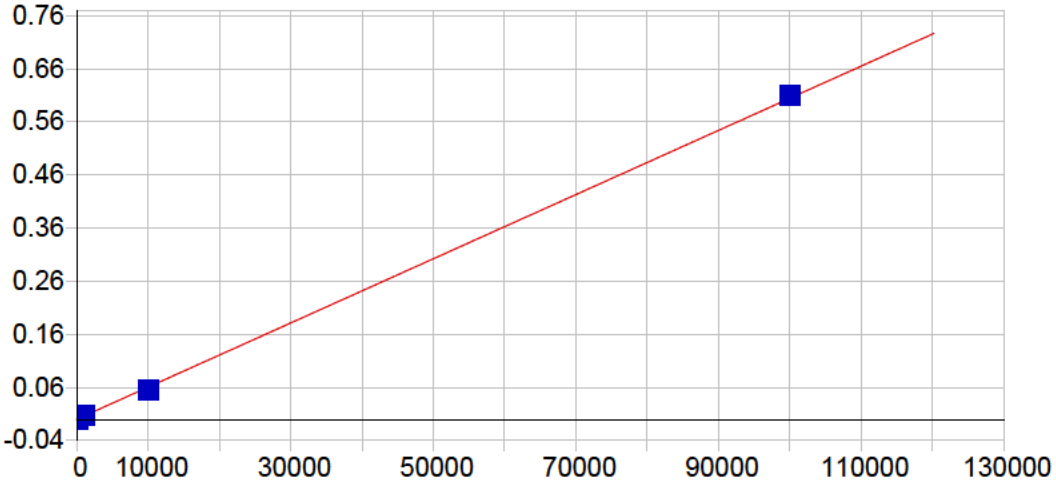



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998132 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.923046 | | |
| Predicted MQL: | 3.076818 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00873 | -.009 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.160 | 3.16 | 31.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 63.410 | 13.4 | 26.8 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1156.3 | 156. | 15.6 | .00275 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.83 | 23.8 | 23.8 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 8.9402 | 3.94 | 78.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9799.4 | -201. | -2.01 | .02328 | .001 | 1 |

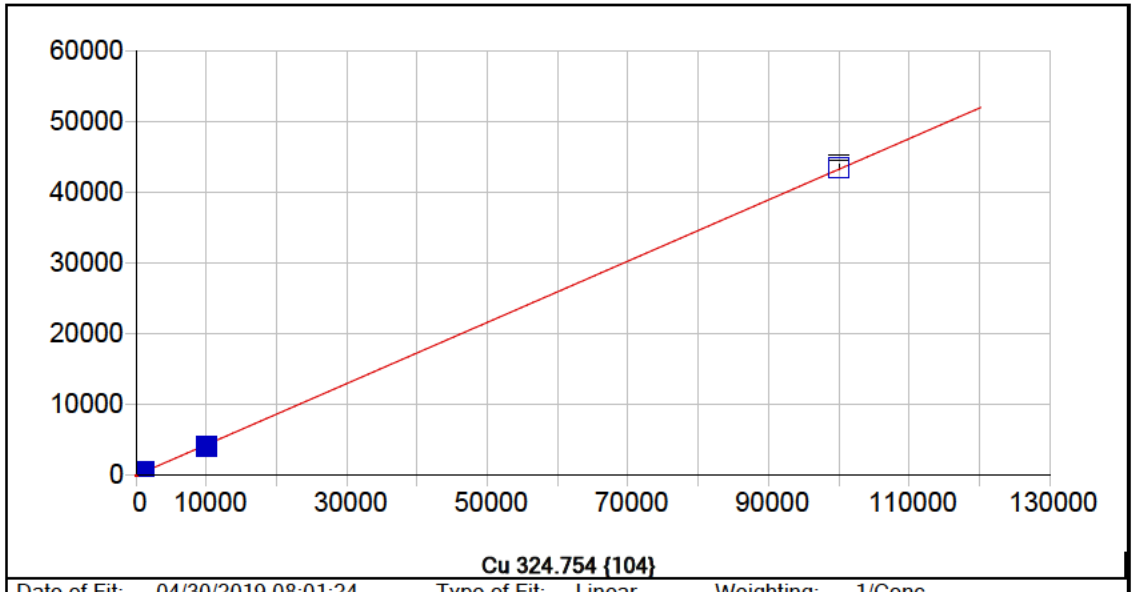



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999425 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.447985 | | |
| Predicted MQL: | 1.493282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03345 | .033 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.2 | 44.2 | 4.42 | .00631 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.011 | -27.0 | -54.0 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.772 | -33.2 | -33.2 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.7070 | -15.3 | -76.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100930. | 926. | .926 | .60996 | .000 | 1 |
| CalStd10=10 | 10000. | 9105.5 | -895. | -8.95 | .05503 | .001 | 1 |

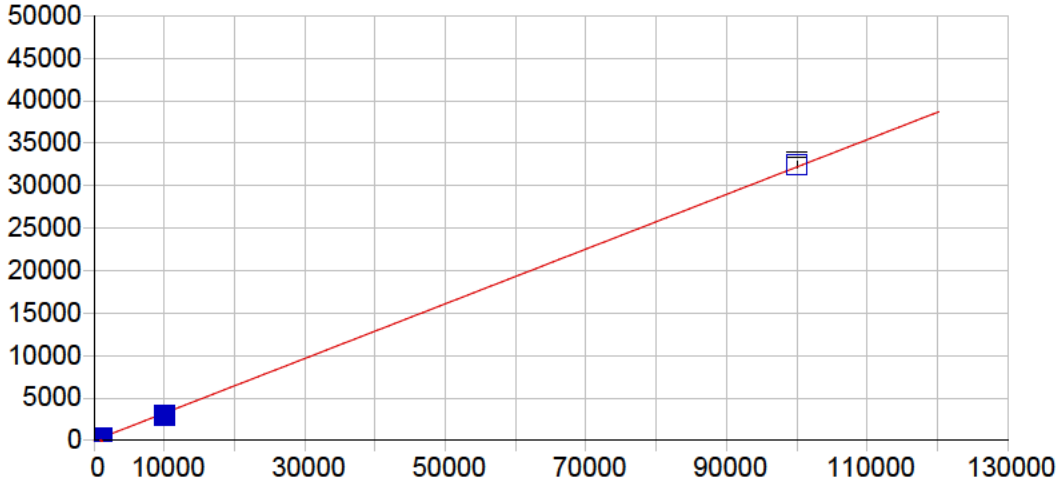



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 32.917937 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.432226 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999630 | Status: | OK. |
| Std Error of Est: | 0.452439 | | |
| Predicted MDL: | 5.608774 | | |
| Predicted MQL: | 18.695912 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01484 | -.015 | .000 | 32.912 | 1.24 | 1 |
| CalStd9=100 | 1000.0 | 1083.9 | 83.9 | 8.39 | 501.38 | 9.93 | 1 |
| CalStd8=100 | 100.00 | 121.35 | 21.4 | 21.4 | 85.370 | 1.21 | 1 |
| CalStd10=10 | 10000. | 9248.4 | -752. | -7.52 | 4030.0 | 17.9 | 1 |
| CalStd12=10 | 100000. | 100620. | 619. | .619 | 43523. | 365. | 1 |
| CalStd5=10 | 10.000 | 15.681 | 5.68 | 56.8 | 39.696 | 3.29 | 1 |
| CalStd6=20 | 20.000 | 28.281 | 8.28 | 41.4 | 45.142 | .661 | 1 |
| CalStd7=50 | 50.000 | 63.663 | 13.7 | 27.3 | 60.435 | .678 | 1 |

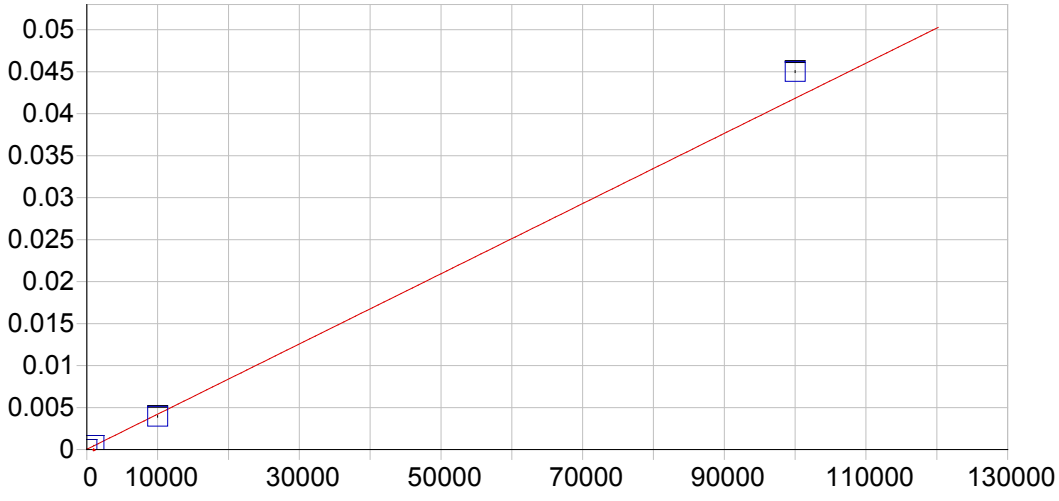



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.187822 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.321888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999459 | Status: | OK. |
| Std Error of Est: | 0.282912 | | |
| Predicted MDL: | 9.835319 | | |
| Predicted MQL: | 32.784397 | | |

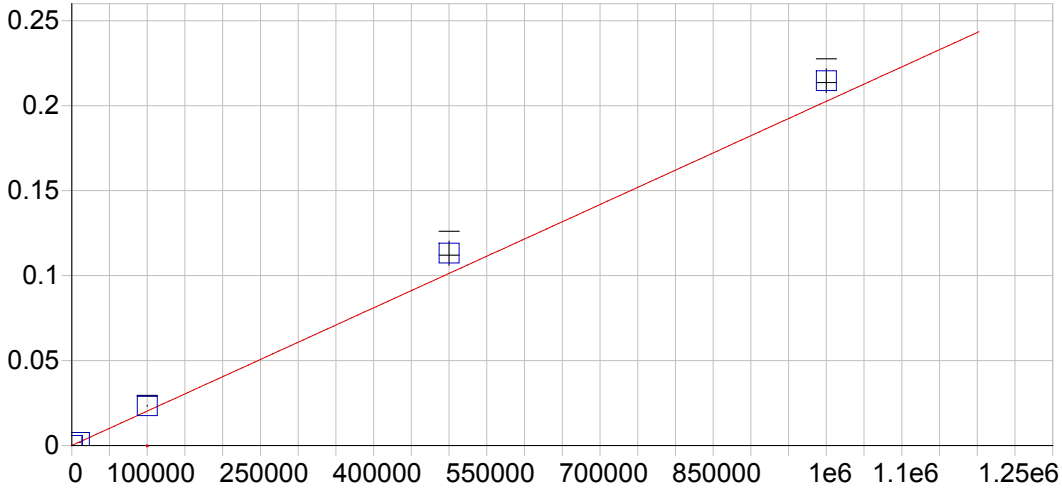
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01440 | -.014 | .000 | 7.1832 | 2.95 | 1 |
| CalStd6=20 | 20.000 | 24.984 | 4.98 | 24.9 | 15.226 | 3.16 | 1 |
| CalStd7=50 | 50.000 | 66.452 | 16.5 | 32.9 | 28.568 | 1.65 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | 46.347 | 5.06 | 1 |
| CalStd9=100 | 1000.0 | 1078.5 | 78.5 | 7.85 | 354.16 | 6.84 | 1 |
| CalStd10=10 | 10000. | 9093.8 | -906. | -9.06 | 2934.4 | 26.3 | 1 |
| CalStd12=10 | 100000. | 100770. | 771. | .771 | 32444. | 356. | 1 |
| CalStd4=5 | 5.0000 | 12.546 | 7.55 | 151. | 11.225 | 2.33 | 1 |
| CalStd5=10 | 10.000 | 15.797 | 5.80 | 58.0 | 12.271 | 2.94 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000030 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999923 | | Status: | OK. | |
| Std Error of Est: | 0.000006 | | | | |
| Predicted MDL: | 1.861928 | | | | |
| Predicted MQL: | 6.206425 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23485 | -.235 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9375.0 | -625. | -6.25 | .00395 | .000 | 1 |
| CalStd13=10 | 100000. | 107610. | 7610. | 7.61 | .04501 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1097.8 | 97.8 | 9.78 | .00049 | .000 | 1 |

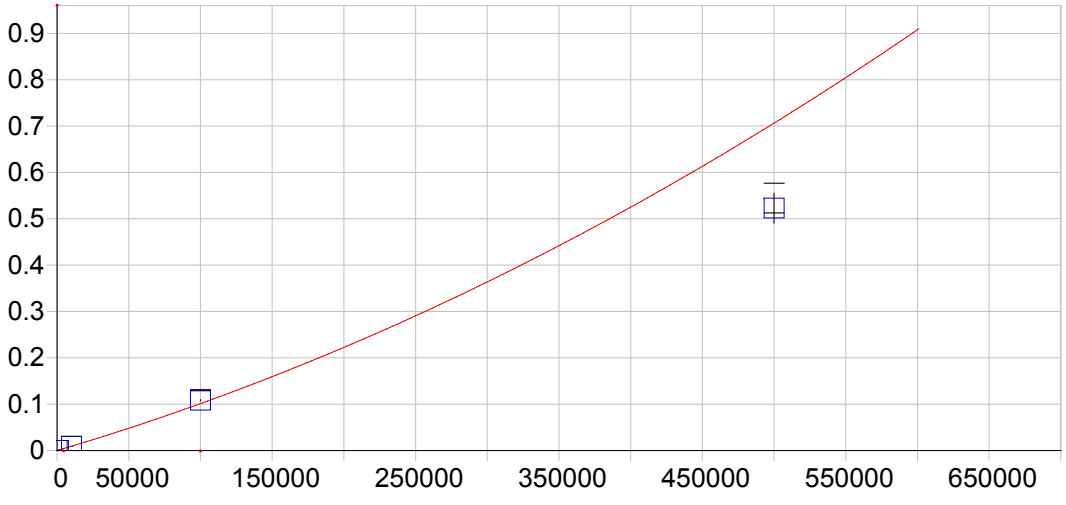



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994823 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 17.270833 | | |
| Predicted MQL: | 57.569443 | | |

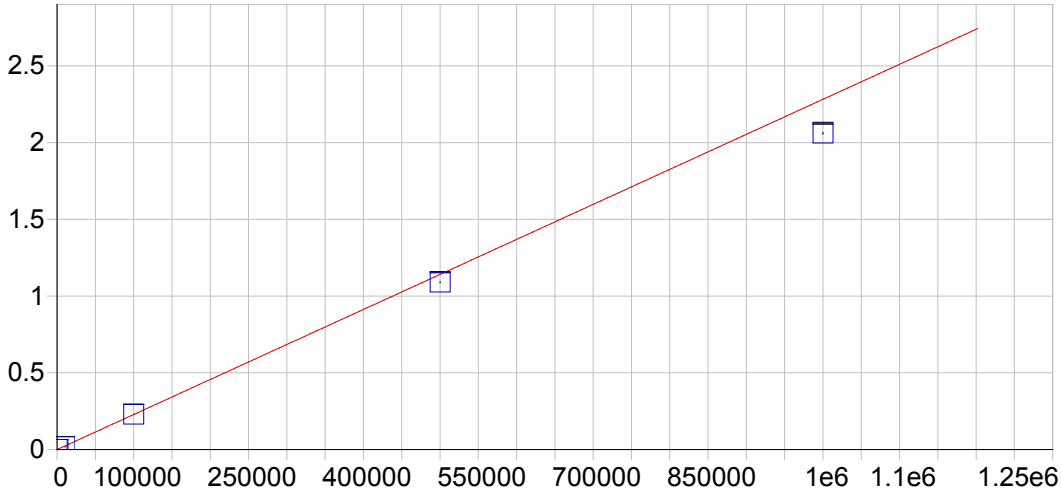
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0192 | -2.02 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9267.3 | -733. | -7.33 | .00189 | .000 | 1 |
| CalStd13=10 | 100000. | 115270. | 15300. | 15.3 | .02336 | .000 | 1 |
| CalStd14=50 | 500000. | 558690. | 58700. | 11.7 | .11317 | .007 | 1 |
| CalStd9=100 | 1000.0 | 1068.1 | 68.1 | 6.81 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 1059600. | 59600. | 5.96 | .21464 | .007 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000065 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997286 | | Status: | Warning | Positive Curvature |
| Std Error of Est: | 0.000158 | | | | |
| Predicted MDL: | 5.216183 | | | | |
| Predicted MQL: | 17.387276 | | | | |

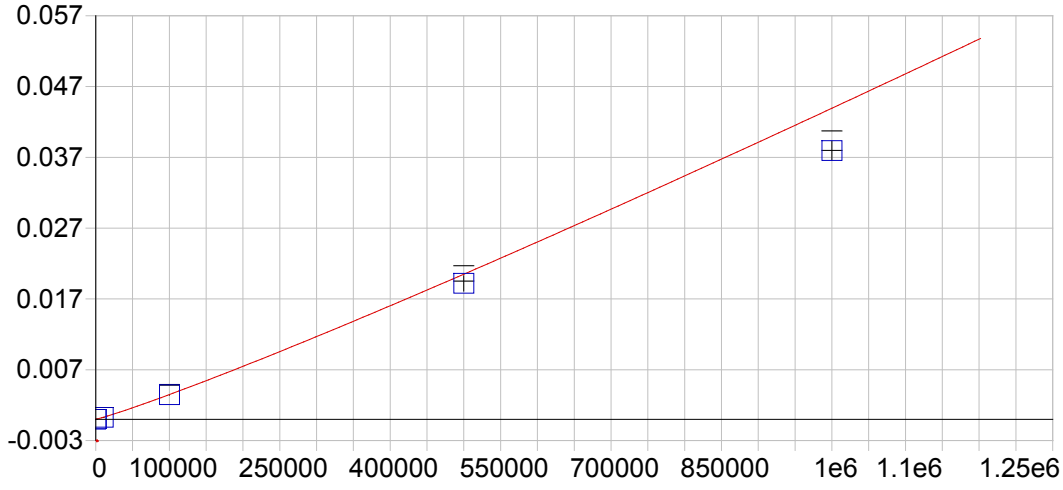
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.898 | -24.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9540.9 | -459. | -4.59 | .00886 | .000 | 1 |
| CalStd13=10 | 100000. | 106310. | 6310. | 6.31 | .10833 | .001 | 1 |
| CalStd14=50 | 500000. | 398750. | -101000. | -20.2 | .52289 | .032 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .00106 | .000 | 1 |




**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000002 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999696 | | Status: | OK. | |
| Std Error of Est: | 0.000343 | | | | |
| Predicted MDL: | 2.203469 | | | | |
| Predicted MQL: | 7.344897 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 23.811 | 23.8 | .000 | .00006 | .000 | 1 |
| CalStd13=10 | 100000. | 100590. | 591. | .591 | .22957 | .000 | 1 |
| CalStd10=10 | 10000. | 7754.8 | -2250. | -22.5 | .01770 | .000 | 1 |
| CalStd14=50 | 500000. | 477620. | -22400. | -4.48 | 1.0900 | .004 | 1 |
| CalStd9=100 | 1000.0 | 997.86 | -2.14 | -.214 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 903090. | -96900. | -9.69 | 2.0610 | .006 | 1 |

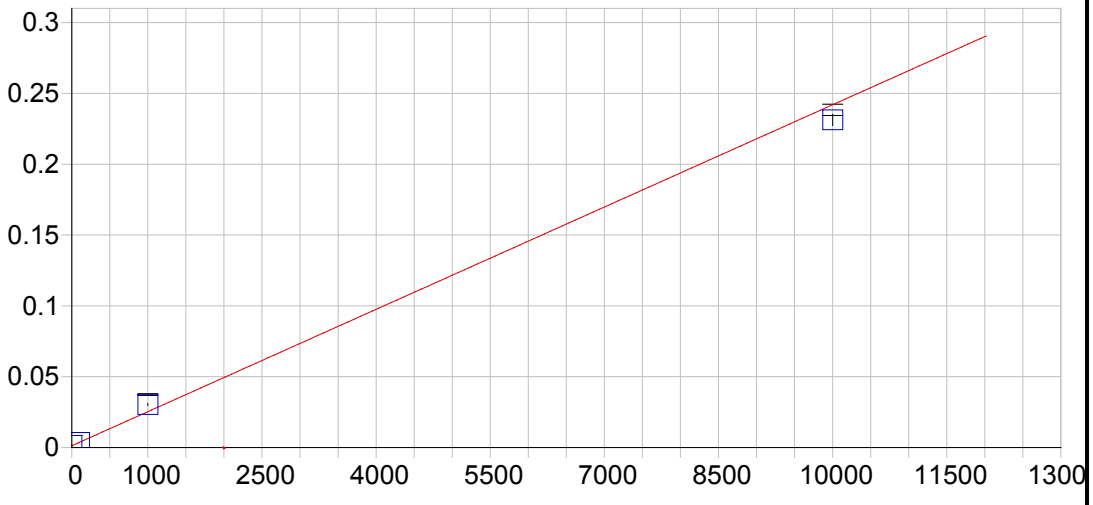



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.100000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 225.466994 | | |
| Predicted MQL: | 751.556647 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99264. | -736. | -.736 | .00346 | .000 | 1 |
| CalStd10=10 | 10000. | 9429.9 | -570. | -5.70 | .00026 | .000 | 1 |
| CalStd14=50 | 500000. | 470980. | -29000. | -5.80 | .01919 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1323.1 | 323. | 32.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 875190. | -125000. | -12.5 | .03794 | .001 | 1 |

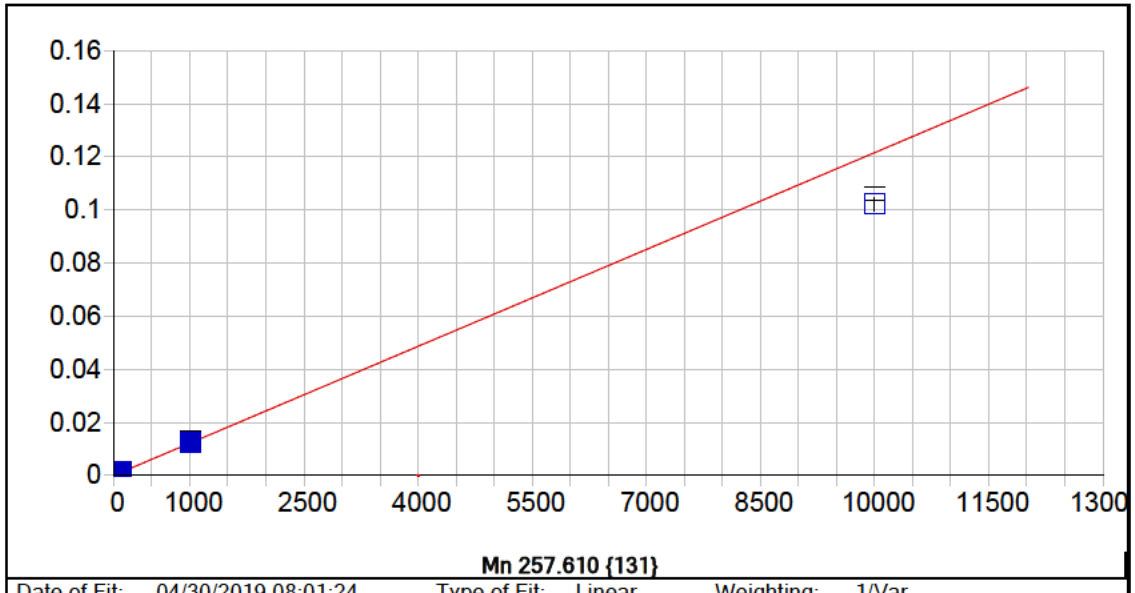



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001262 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992448 | Status: | OK. |
| Std Error of Est: | 0.000619 | | |
| Predicted MDL: | 0.051519 | | |
| Predicted MQL: | 0.171731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.739 | 11.7 | .000 | .00154 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1206.8 | 207. | 20.7 | .03031 | .001 | 1 |
| CalStd10=10 | 10000. | 9556.1 | -444. | -4.44 | .23129 | .004 | 1 |
| CalStd8=100 | 100.00 | 93.604 | -6.40 | -6.40 | .00351 | .000 | 1 |

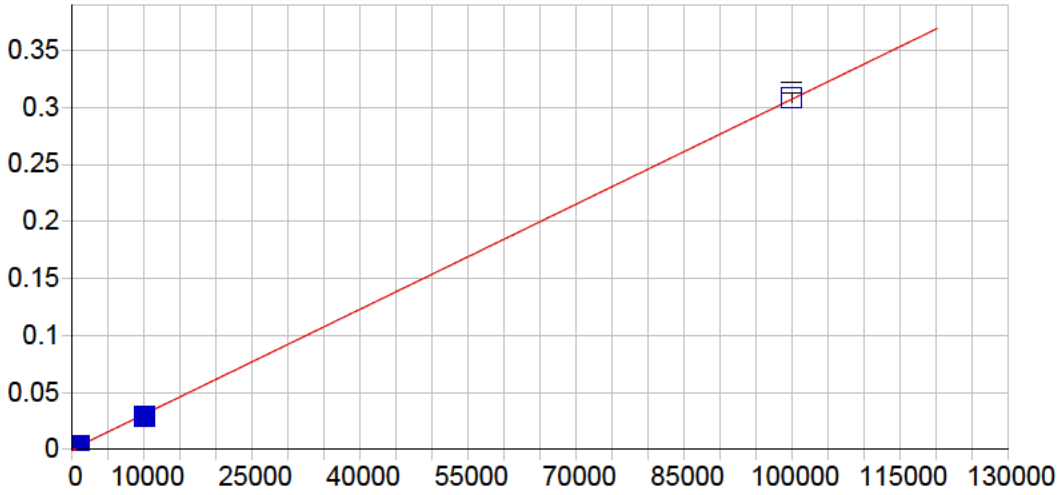



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995548 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.097079 | | |
| Predicted MQL: | 0.323597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04516 | -.045 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.003 | 5.00 | 10.0 | .00070 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.805 | .805 | 4.02 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.55 | 8.55 | 8.55 | .00135 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2295 | -.770 | -15.4 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.2 | 22.2 | 2.22 | .01246 | .000 | 1 |
| CalStd10=10 | 10000. | 8405.2 | -1590. | -15.9 | .10223 | .003 | 1 |

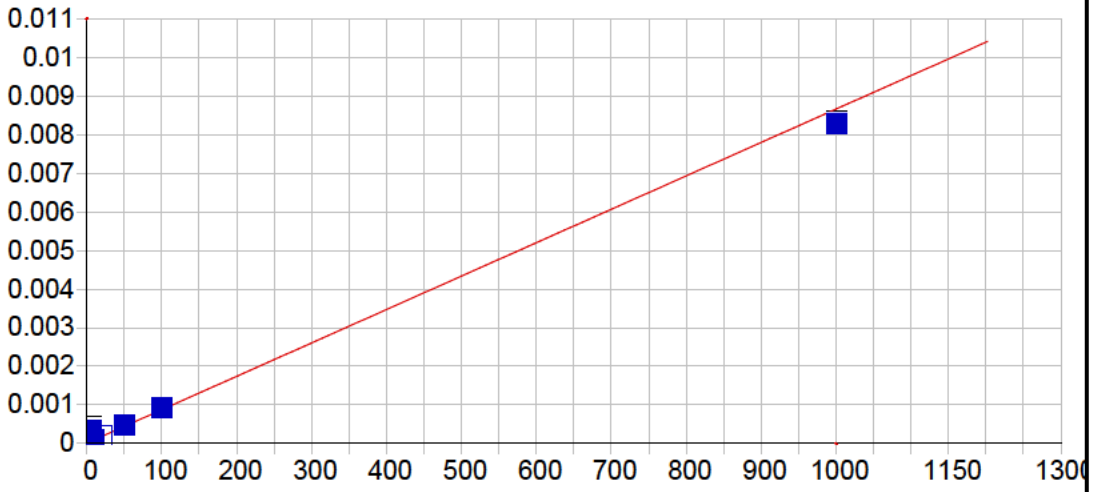



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999811 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 1.512228 | | |
| Predicted MQL: | 5.040759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04534 | -.045 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9446.9 | -553. | -5.53 | .02904 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1096.1 | 96.1 | 9.61 | .00338 | .000 | 1 |
| CalStd12=10 | 100000. | 100460. | 458. | .458 | .30829 | .005 | 1 |

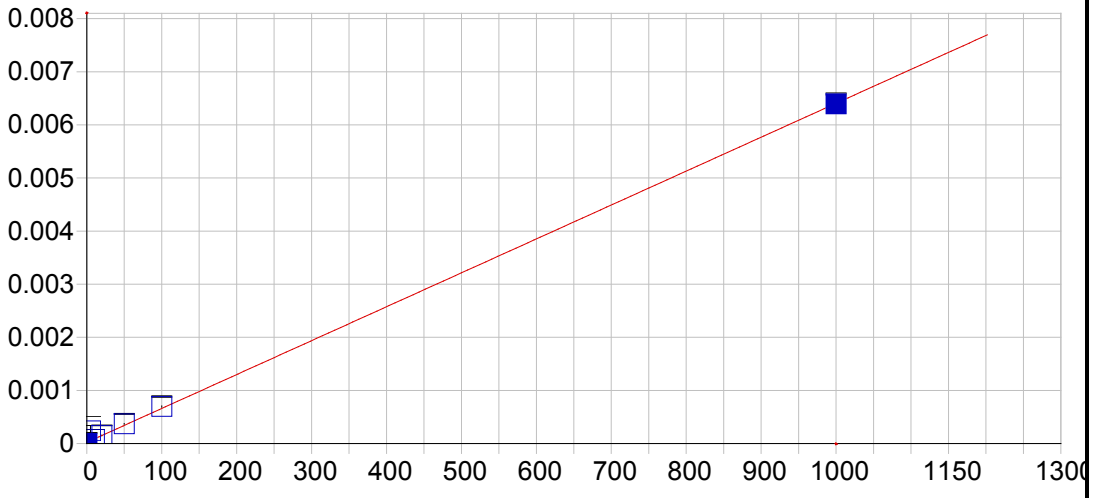



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.918937 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.461169 | | |
| Predicted MQL: | 1.537230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03405 | -.034 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.376 | 4.38 | 8.75 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.645 | 1.65 | 8.23 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.38 | 4.38 | 4.38 | .00092 | .000 | 1 |
| CalStd4=5 | 5.0000 | 37.919 | 32.9 | 658. | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.12 | -43.9 | -4.39 | .00831 | .000 | 1 |

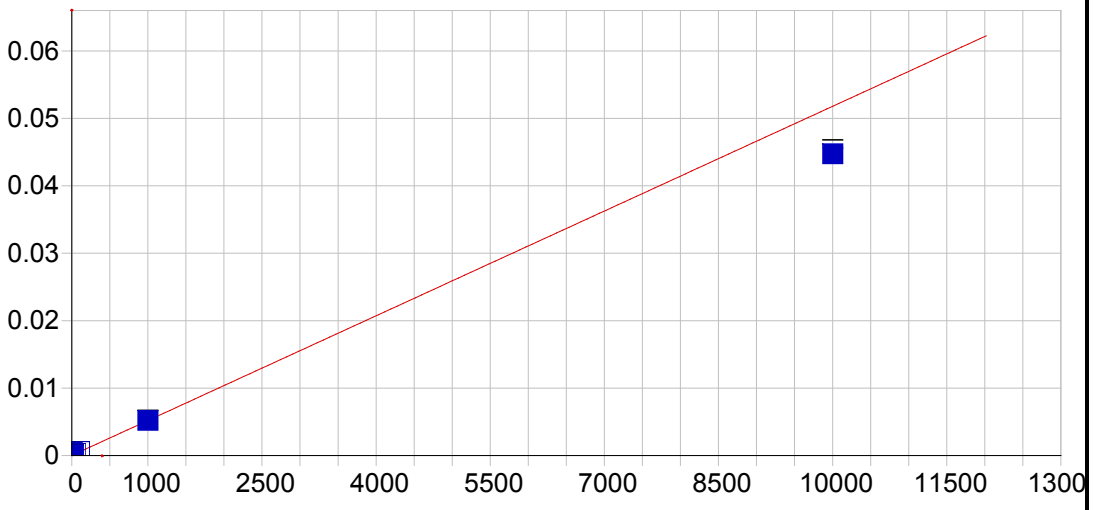



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999869 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.801215 | | |
| Predicted MQL: | 2.670716 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8973 | -1.90 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.529 | 4.53 | 9.06 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.586 | .586 | 2.93 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1156 | -.884 | -8.84 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.51 | 5.51 | 5.51 | .00070 | .000 | 1 |
| CalStd4=5 | 5.0000 | 33.690 | 28.7 | 574. | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.91 | -2.09 | -.209 | .00639 | .000 | 1 |

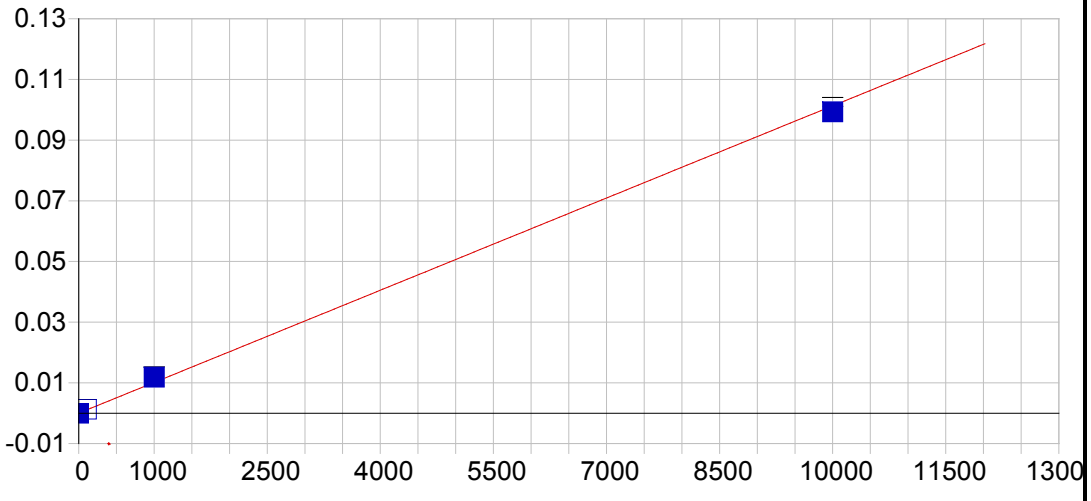



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.916548 | | |
| Predicted MQL: | 3.055158 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3158 | -2.32 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.135 | 5.14 | 10.3 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.378 | .378 | 1.89 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6092 | -.391 | -3.91 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.62 | 7.62 | 7.62 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 83.457 | 78.5 | 1570. | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.19 | .219 | .00520 | .000 | 1 |
| CalStd10=10 | 10000. | 8637.4 | -1360. | -13.6 | .04474 | .001 | 1 |

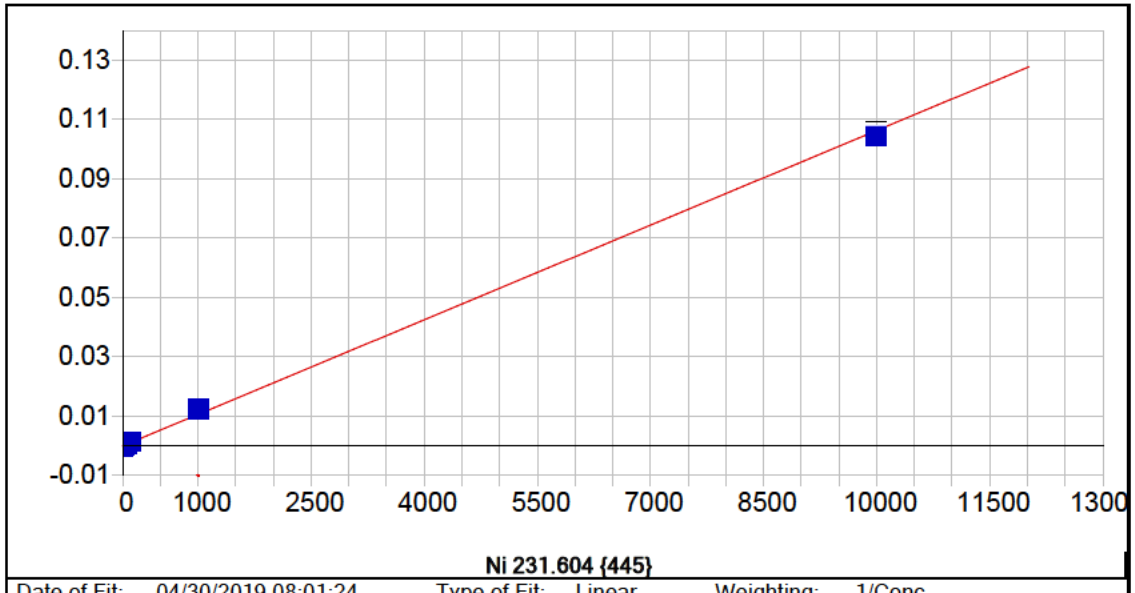



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998093 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 0.768351 | | |
| Predicted MQL: | 2.561171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04496 | -.045 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.5 | -202. | -2.02 | .09927 | .001 | 1 |
| CalStd8=100 | 100.00 | 129.81 | 29.8 | 29.8 | .00132 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1171.7 | 172. | 17.2 | .01187 | .000 | 1 |

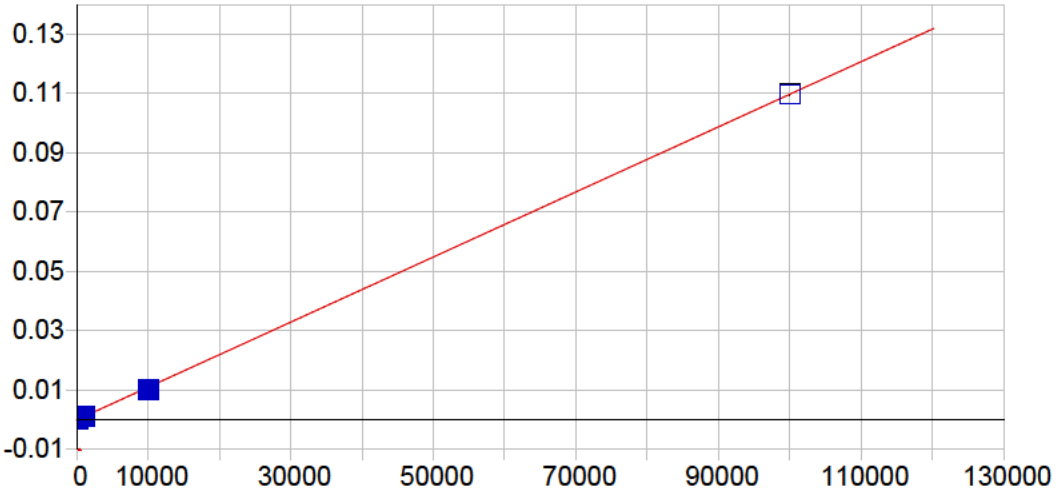



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.984592 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.735570 | | |
| Predicted MQL: | 2.451899 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00668 | .007 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 67.596 | 17.6 | 35.2 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.230 | 4.23 | 42.3 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 130.34 | 30.3 | 30.3 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | -33.889 | -38.9 | -778. | -.00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1173.8 | 174. | 17.4 | .01246 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86059 | -.139 | -13.9 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9813.3 | -187. | -1.87 | .10451 | .002 | 1 |

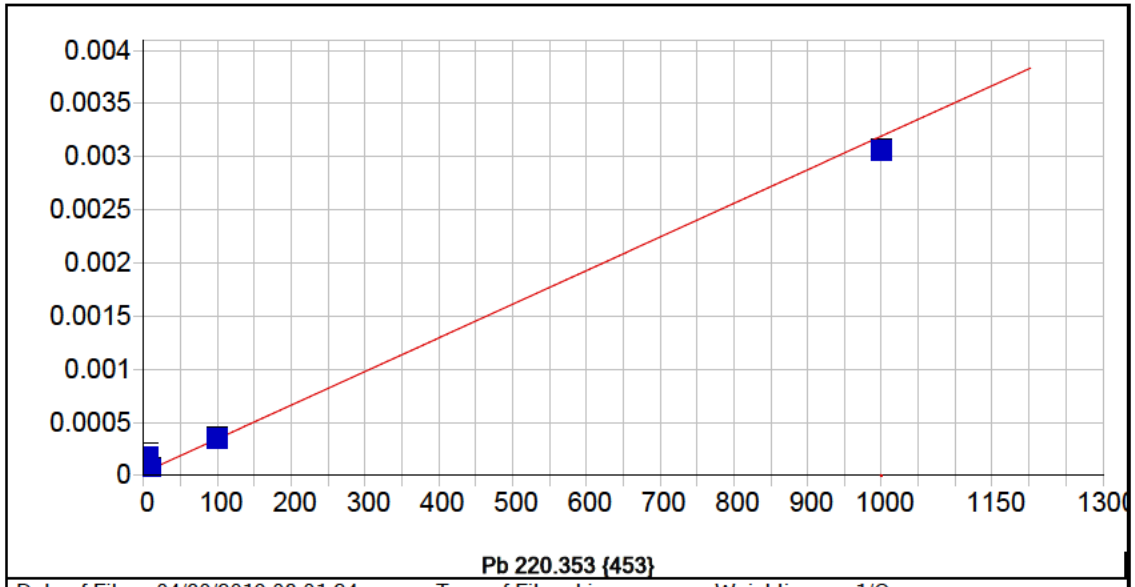



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999773 | Status: | OK. |
| Std Error of Est: | 0.000038 | | |
| Predicted MDL: | 5.620225 | | |
| Predicted MQL: | 18.734085 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.705 | -15.7 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1080.9 | 80.9 | 8.09 | .00120 | .000 | 1 |
| CalStd10=10 | 10000. | 9090.5 | -909. | -9.09 | .00999 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.63 | 8.63 | 8.63 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.9071 | -7.09 | -70.9 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99918. | -82.0 | -.082 | .10965 | .000 | 1 |

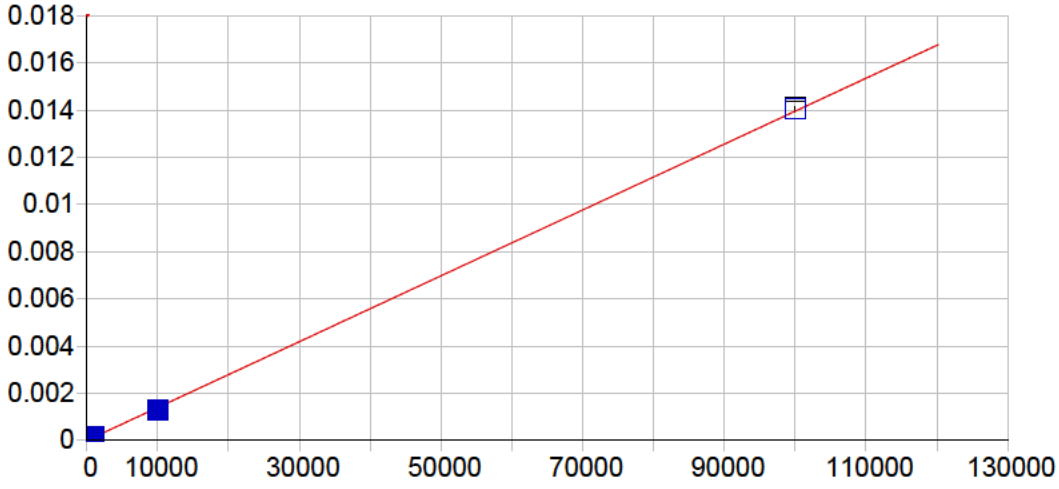



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.878400 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.481162 | | |
| Predicted MQL: | 8.270541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04083 | -.041 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.034 | 1.03 | 10.3 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.10 | 2.10 | 2.10 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 45.423 | 40.4 | 808. | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.47 | -43.5 | -4.35 | .00305 | .000 | 1 |

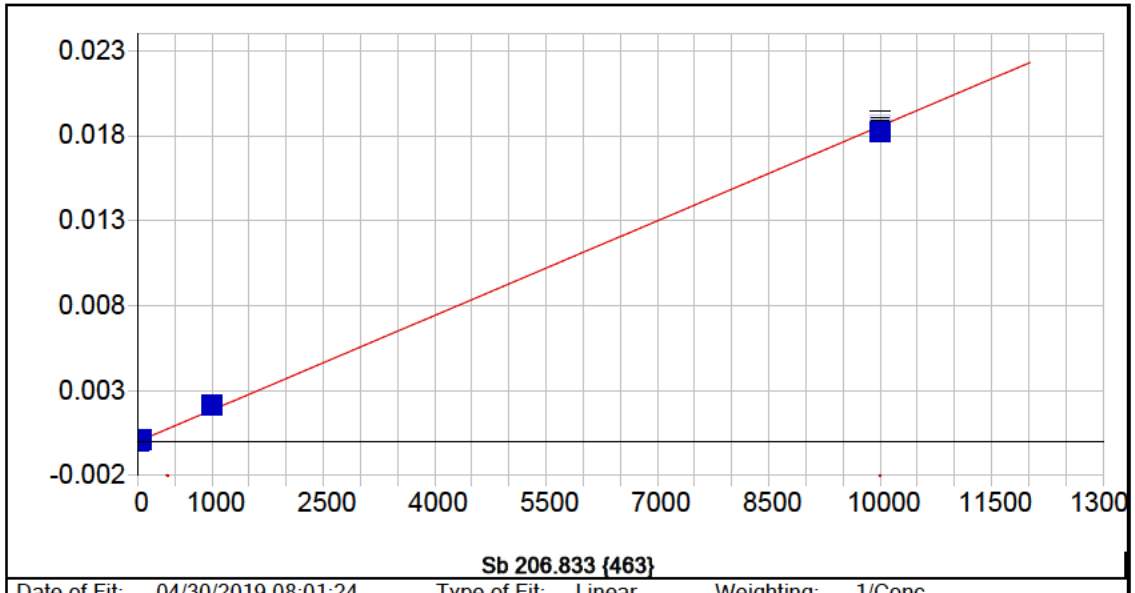



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.969384 | | |
| Predicted MQL: | 23.231279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01616 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1112.0 | 112. | 11.2 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9232.4 | -768. | -7.68 | .00129 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.00 | 12.0 | 12.0 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100640. | 644. | .644 | .01405 | .000 | 1 |

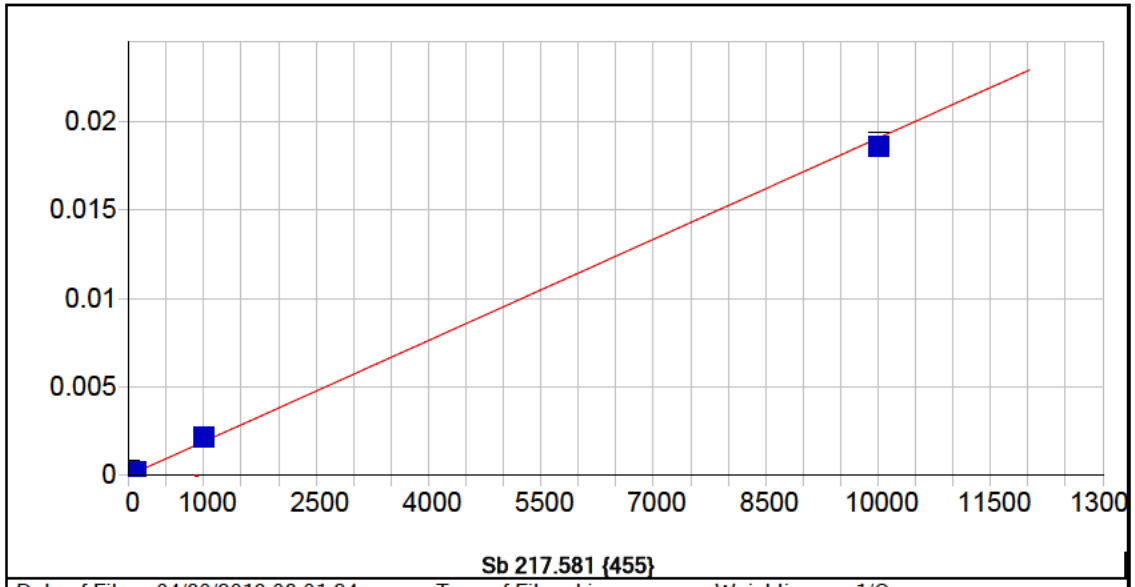



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998562 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.581313 | | |
| Predicted MQL: | 8.604377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00953 | -.010 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1149.7 | 150. | 15.0 | .00217 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.959 | 4.96 | 49.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.221 | 16.2 | 32.4 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.1 | -171. | -1.71 | .01859 | .000 | 1 |

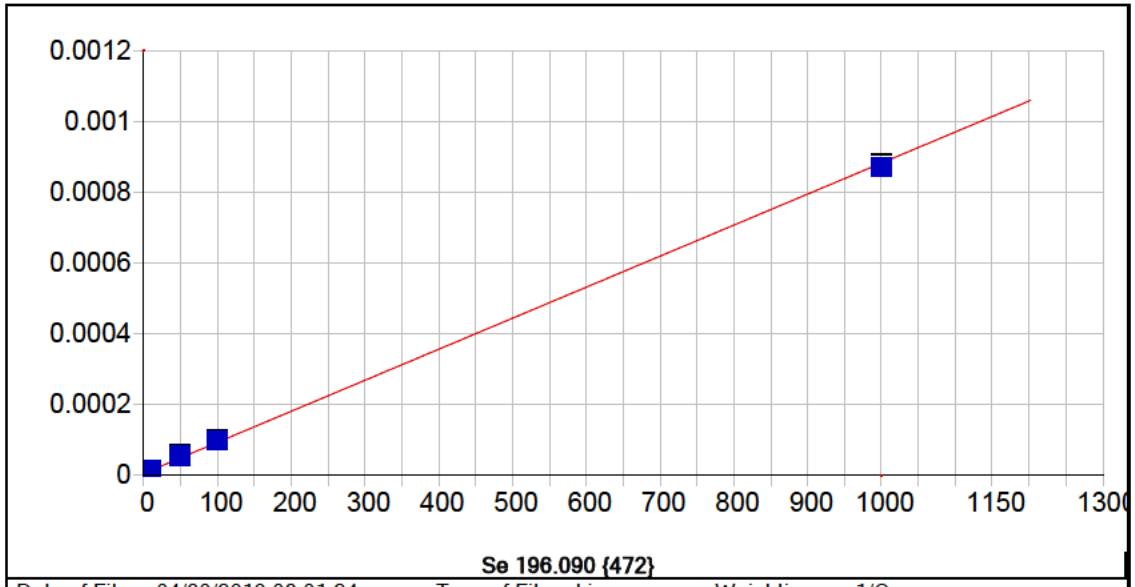



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.933696 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 2.801324 | | |
| Predicted MQL: | 9.337748 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09365 | -.094 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1135.8 | 136. | 13.6 | .00217 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.009 | 5.01 | 25.0 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.209 | 2.21 | 22.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.01 | 24.0 | 24.0 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 94.543 | 89.5 | 1790. | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9743.4 | -257. | -2.57 | .01856 | .000 | 1 |

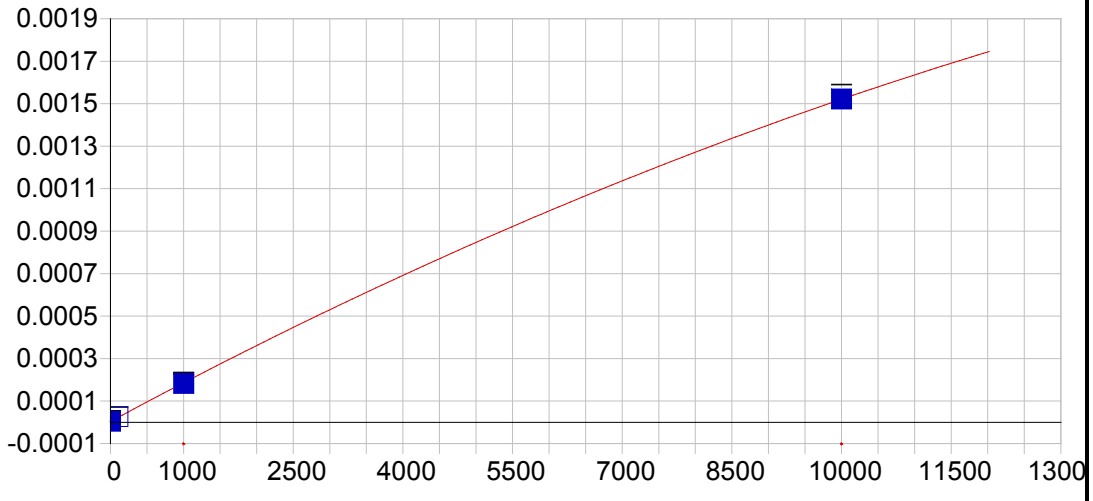



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999198 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.389697 | | |
| Predicted MQL: | 14.632322 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00167 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.114 | 8.11 | 16.2 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.41 | -13.6 | -1.36 | .00087 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5938 | -.406 | -4.06 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.88 | 5.88 | 5.88 | .00010 | .000 | 1 |

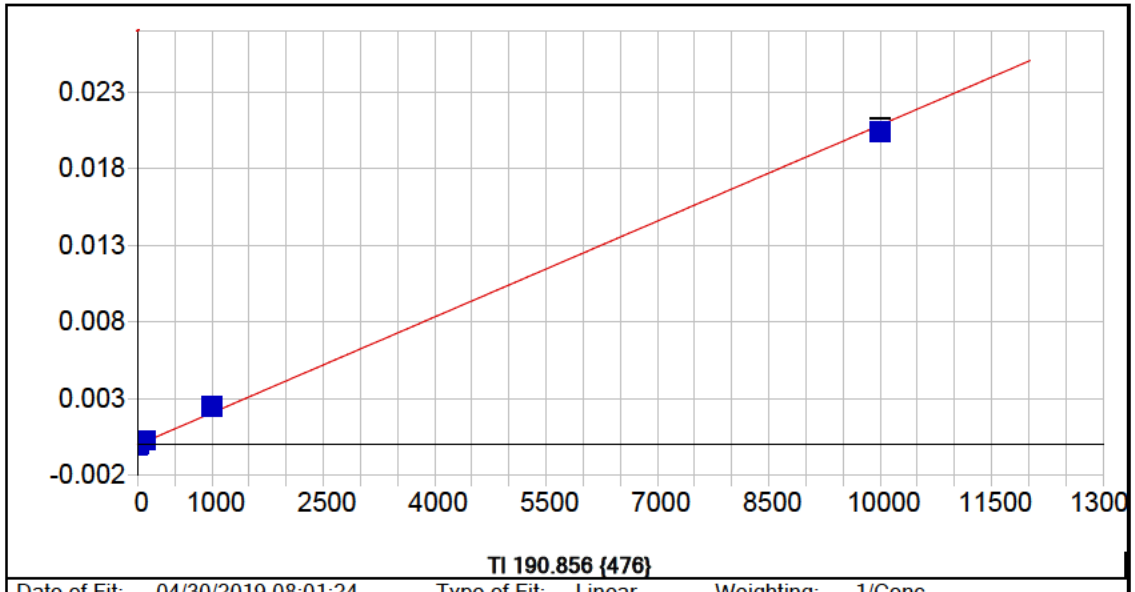



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999688 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.202163 | | |
| Predicted MQL: | 94.007210 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01855 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.30 | -23.7 | -2.37 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.26 | .033 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.89 | 20.9 | 20.9 | .00003 | .000 | 1 |

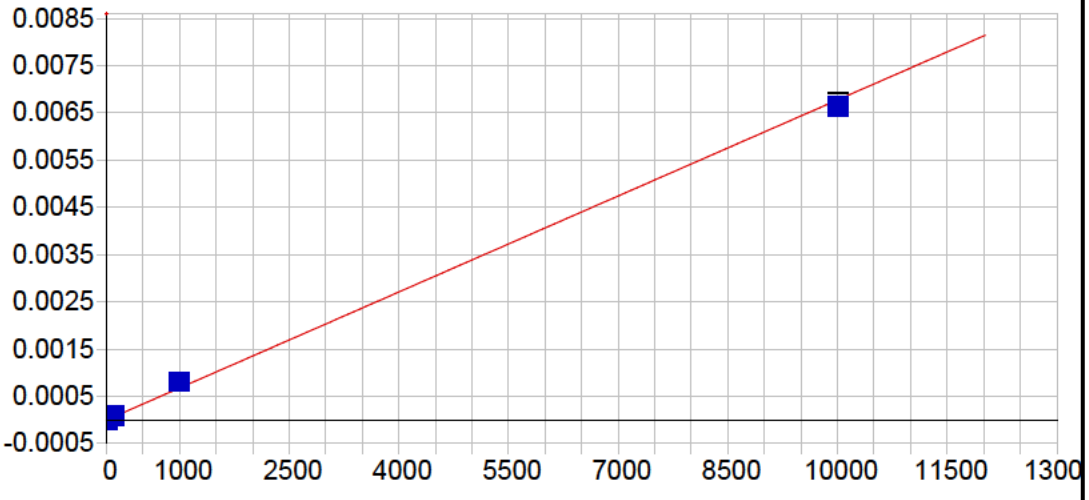



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997608 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 2.696044 | | |
| Predicted MQL: | 8.986812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00879 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1186.9 | 187. | 18.7 | .00248 | .000 | 1 |
| CalStd8=100 | 100.00 | 135.27 | 35.3 | 35.3 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.620 | 3.62 | 36.2 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9774.2 | -226. | -2.26 | .02045 | .000 | 1 |

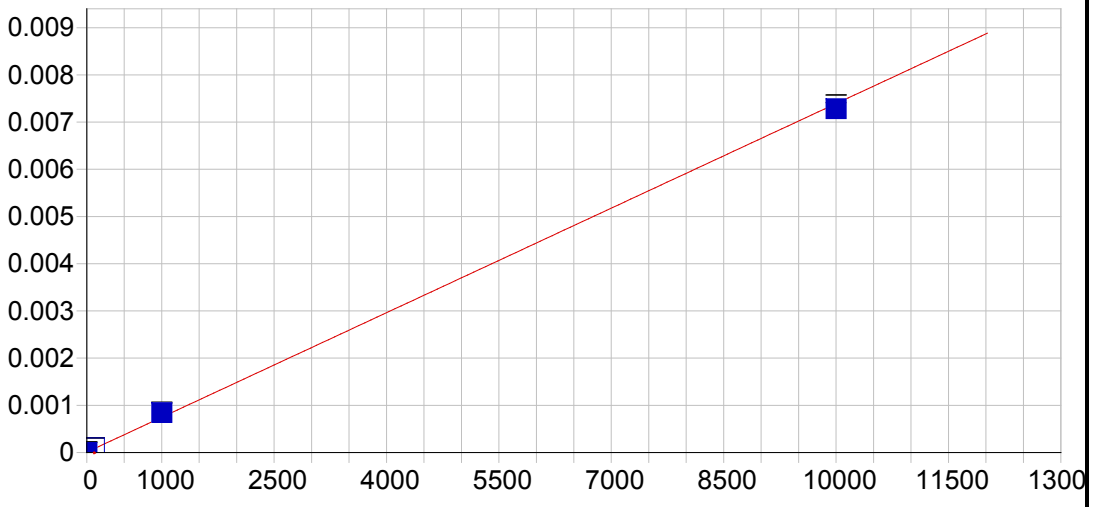



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997785 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.738296 | | |
| Predicted MQL: | 19.127652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00518 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1191.3 | 191. | 19.1 | .00081 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.17 | 28.2 | 28.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.666 | .666 | 6.66 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9779.8 | -220. | -2.20 | .00663 | .000 | 1 |

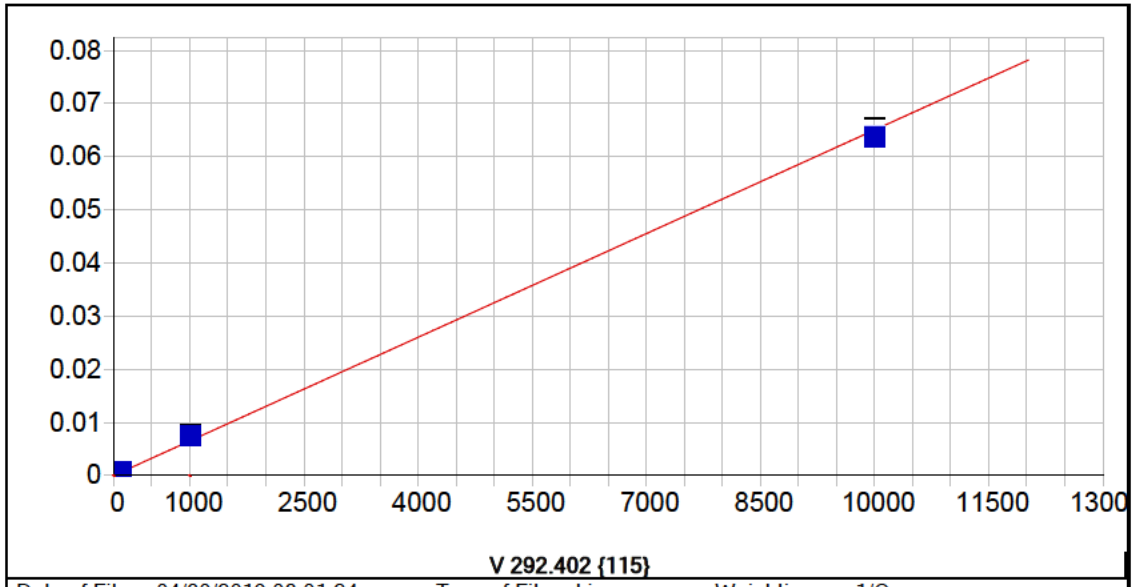



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998924 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 8.162286 | | |
| Predicted MQL: | 27.207619 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03327 | -.033 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1129.9 | 130. | 13.0 | .00084 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.3 | -152. | -1.52 | .00728 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.80 | 21.8 | 21.8 | .00010 | .000 | 1 |

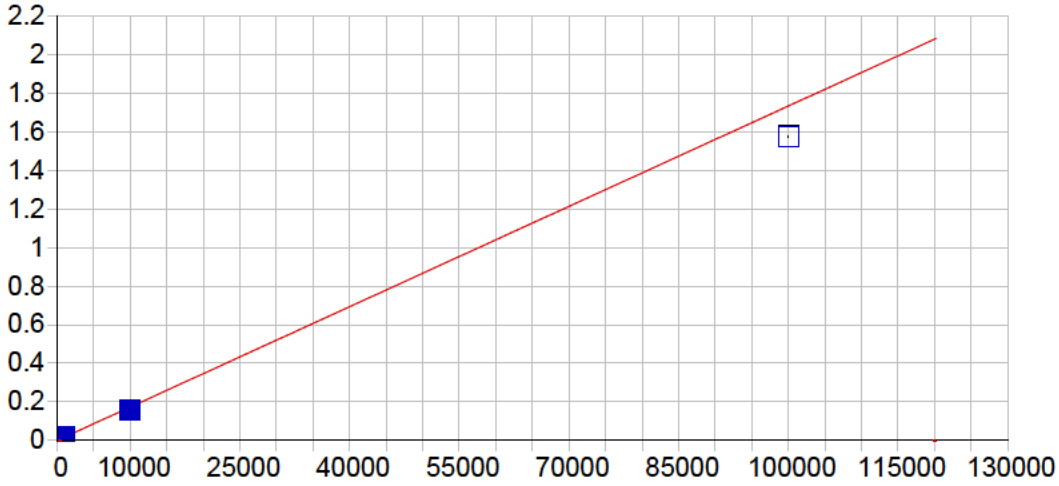



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998319 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.630081 | | |
| Predicted MQL: | 2.100271 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01257 | -.013 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 62.800 | 12.8 | 25.6 | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1150.5 | 150. | 15.0 | .00749 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.252 | 5.25 | 26.3 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.751 | 3.75 | 37.5 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.26 | 23.3 | 23.3 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9805.2 | -195. | -1.95 | .06401 | .002 | 1 |

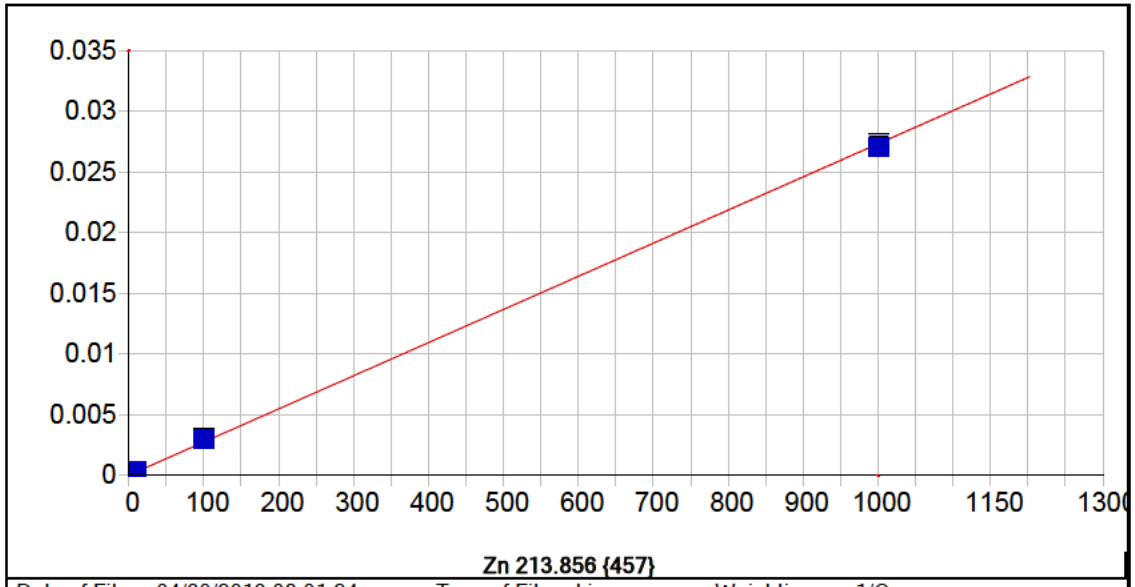



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996075 | Status: | OK. |
| Std Error of Est: | 0.000214 | | |
| Predicted MDL: | 0.372954 | | |
| Predicted MQL: | 1.243179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9095.3 | -905. | -9.05 | .15761 | .003 | 1 |
| Blank | .00000 | -2.7928 | -2.79 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01879 | .000 | 1 |
| CalStd12=10 | 100000. | 90861. | -9140. | -9.14 | 1.5740 | .004 | 1 |
| CalStd5=10 | 10.000 | 10.445 | .445 | 4.45 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.52 | 19.5 | 19.5 | .00213 | .000 | 1 |

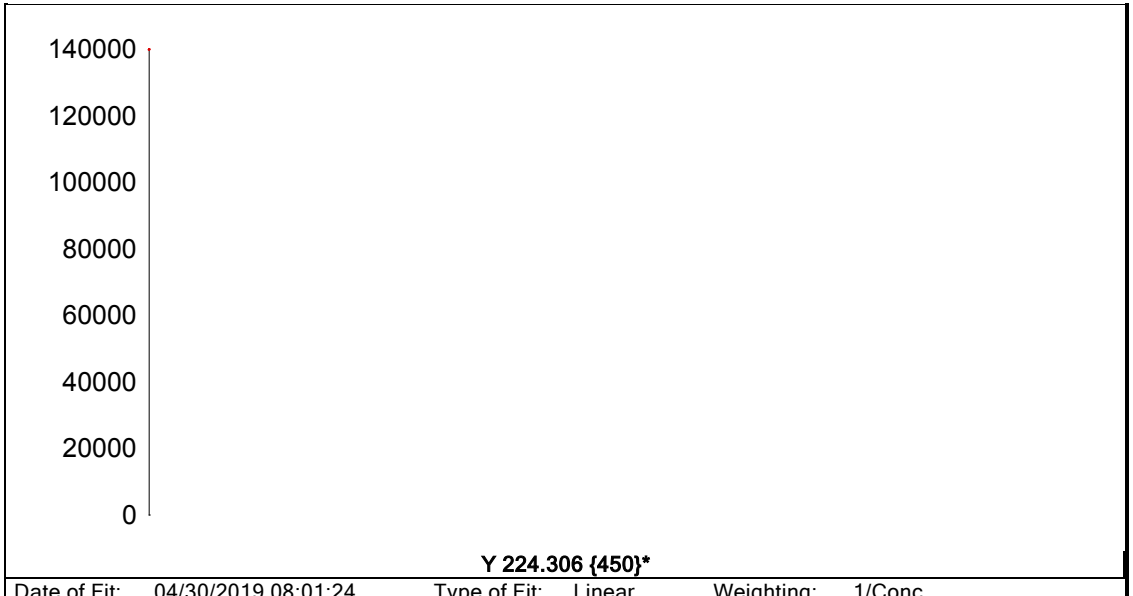



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

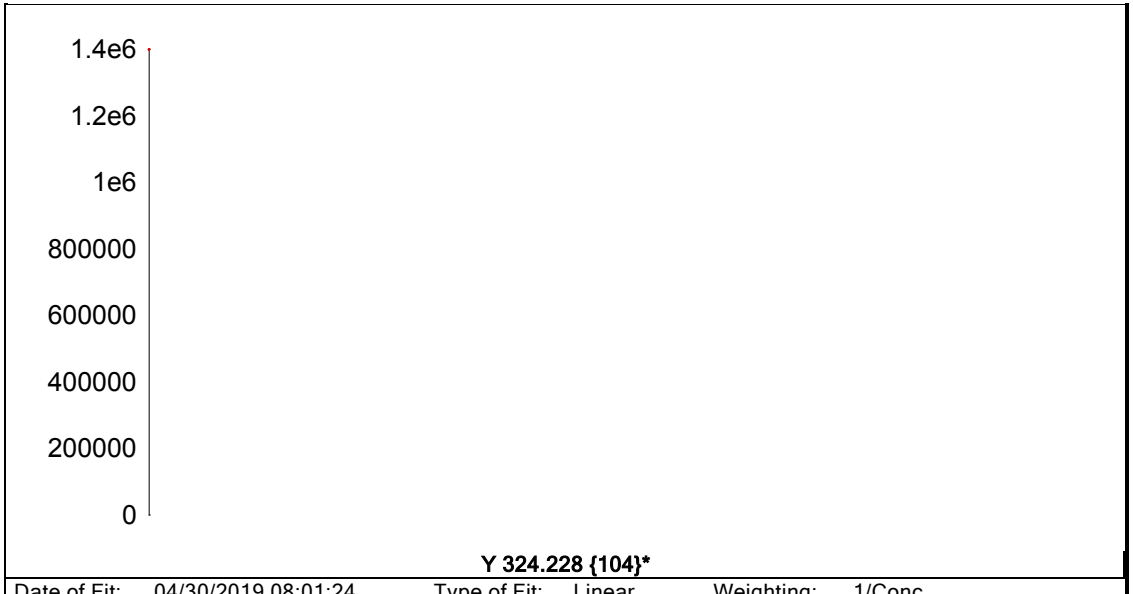
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999485 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.208095 | | |
| Predicted MQL: | 0.693650 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00259 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.74 | -10.3 | -1.03 | .02724 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.852 | 1.85 | 18.5 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.42 | 8.42 | 8.42 | .00301 | .000 | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

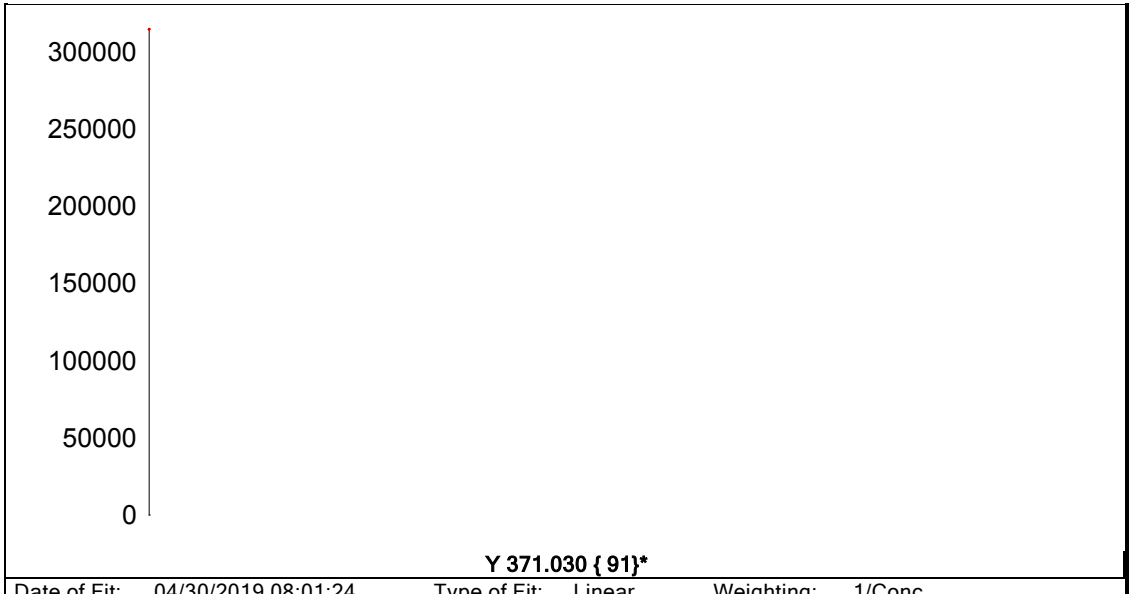
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 126700. | 632. | 1 |




**Y 324.228 {104}***

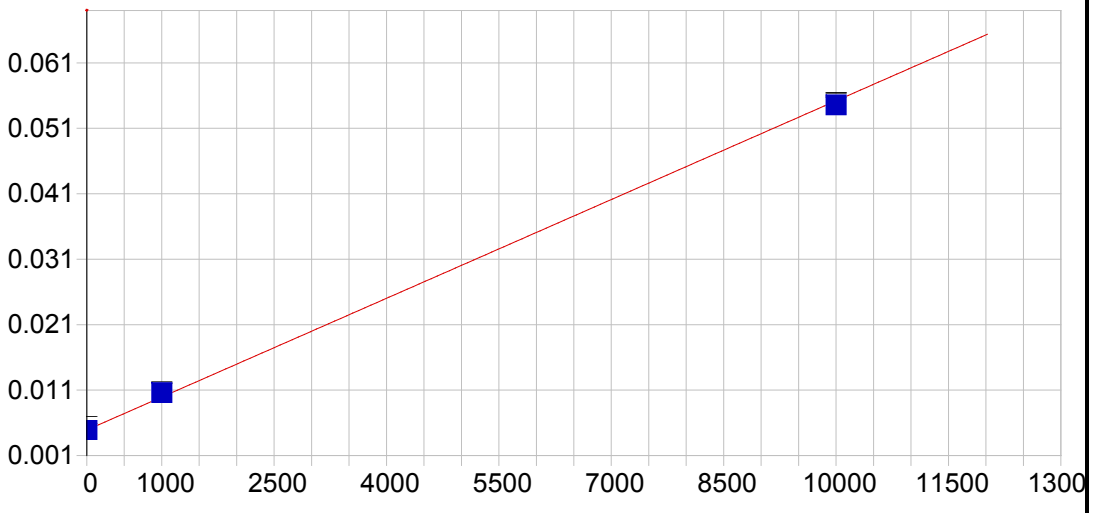
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1295600. | 3610. | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 287860. | 9200. | 1 |

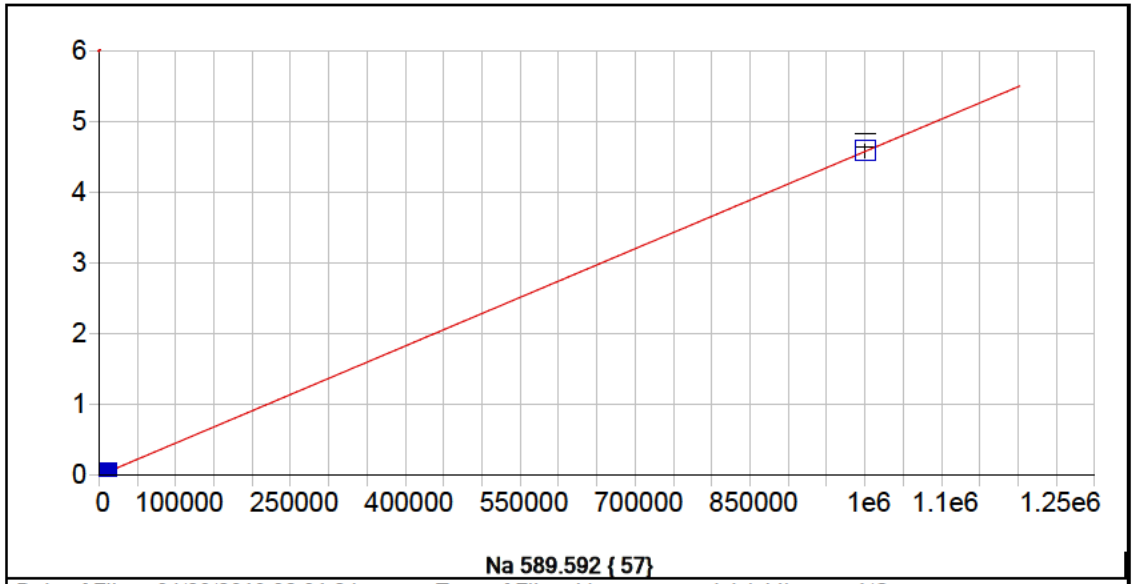



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004901 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999164 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 10.509748 | | |
| Predicted MQL: | 35.032492 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11639 | -.116 | .000 | .00490 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | .01058 | .000 | 1 |
| CalStd10=10 | 10000. | 9870.7 | -129. | -1.29 | .05456 | .000 | 1 |

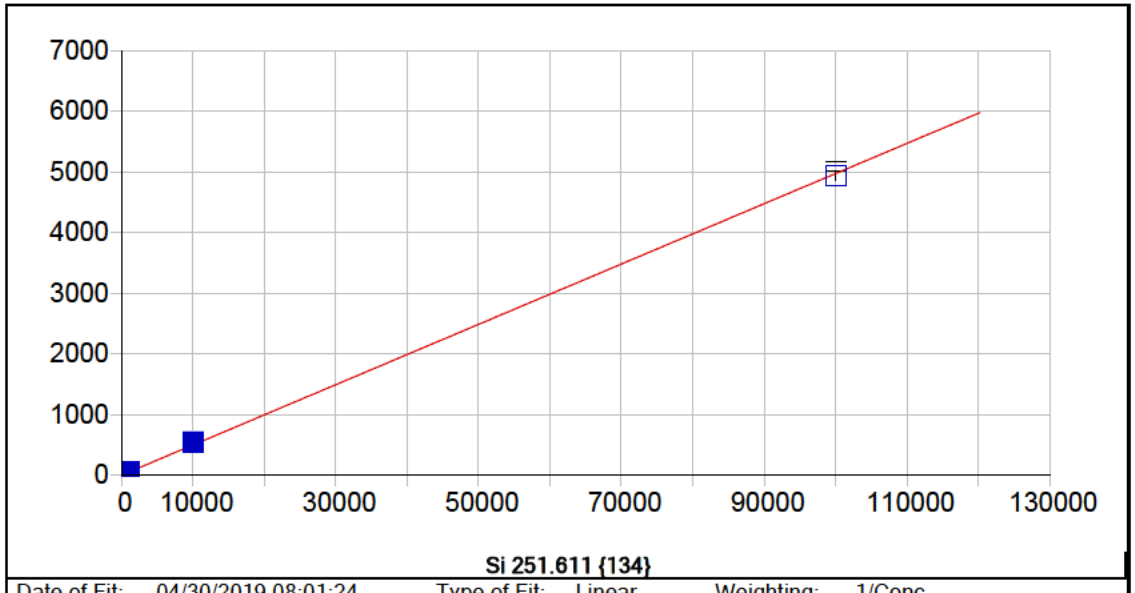



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000353 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 7.542021 | | |
| Predicted MQL: | 25.140069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44012 | .440 | .000 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 814.88 | -185. | -18.5 | .00408 | .000 | 1 |
| CalStd10=10 | 10000. | 7422.4 | -2580. | -25.8 | .03432 | .000 | 1 |
| CalibStd15= | 1000000. | 1002800. | 2760. | .276 | 4.5893 | .089 | 1 |

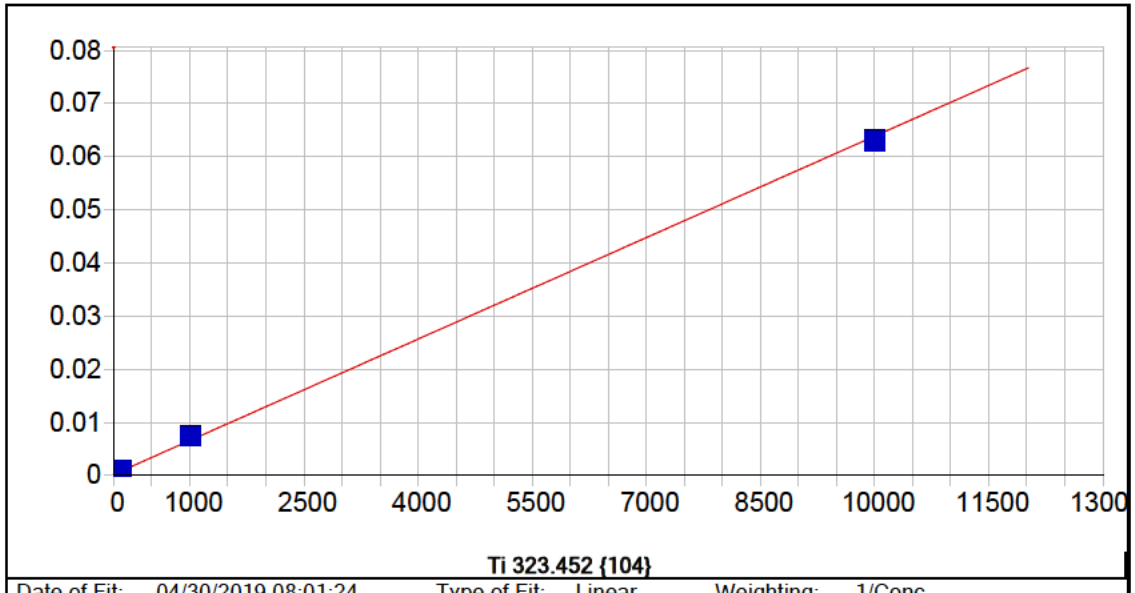



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.496233 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.049700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.563773 | | |
| Predicted MDL: | 25.456914 | | |
| Predicted MQL: | 84.856379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05943 | -.059 | .000 | 5.4933 | 3.24 | 1 |
| CalStd9=100 | 1000.0 | 991.13 | -8.87 | -.887 | 58.676 | 3.89 | 1 |
| CalStd10=10 | 10000. | 10762. | 762. | 7.62 | 565.27 | 4.29 | 1 |
| CalibStd15= | 100000. | 99209. | -791. | -.791 | 4936.2 | 82.1 | 1 |

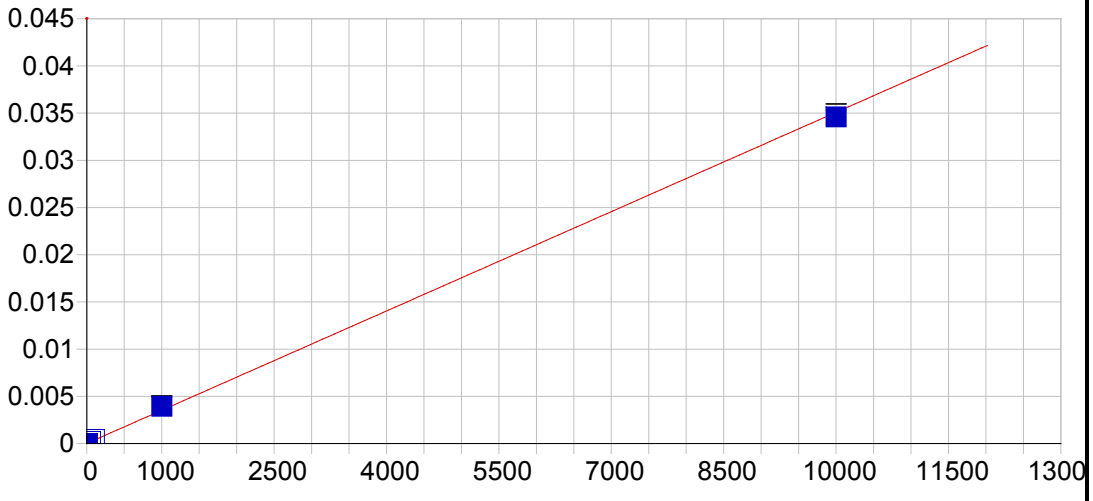



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000229 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998823 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.679766 | | |
| Predicted MQL: | 5.599219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00312 | -.003 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.426 | 1.43 | 14.3 | .00030 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.46 | 21.5 | 21.5 | .00100 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1118.2 | 118. | 11.8 | .00735 | .000 | 1 |
| CalStd10=10 | 10000. | 9843.9 | -156. | -1.56 | .06295 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.862 | 15.9 | 31.7 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2356 | -.764 | -15.3 | .00026 | .000 | 1 |

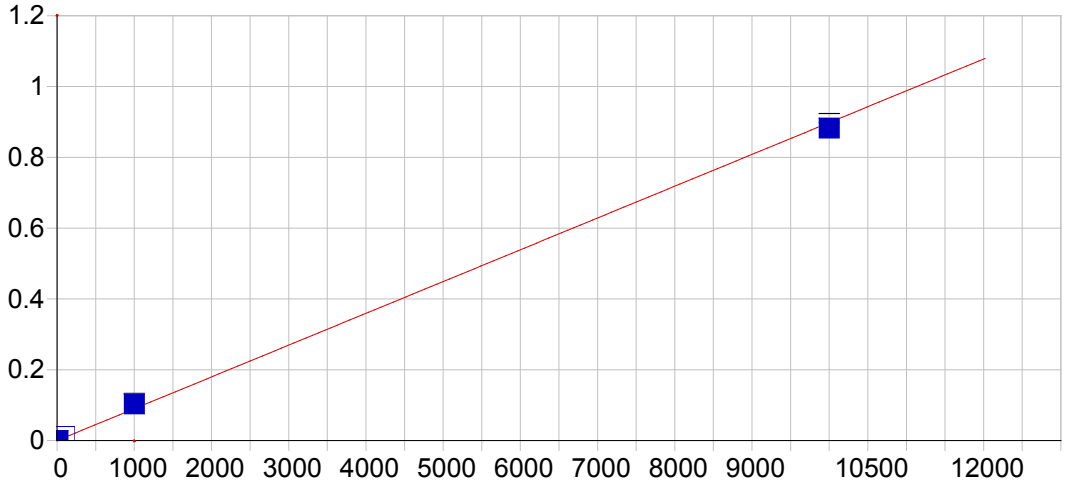



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.153927 | | |
| Predicted MQL: | 7.179758 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.46 | 18.5 | 18.5 | .00043 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1115.8 | 116. | 11.6 | .00393 | .000 | 1 |
| CalStd10=10 | 10000. | 9857.1 | -143. | -1.43 | .03460 | .000 | 1 |
| CalStd7=50 | 50.000 | 60.626 | 10.6 | 21.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5173 | -2.48 | -49.7 | .00002 | .000 | 1 |

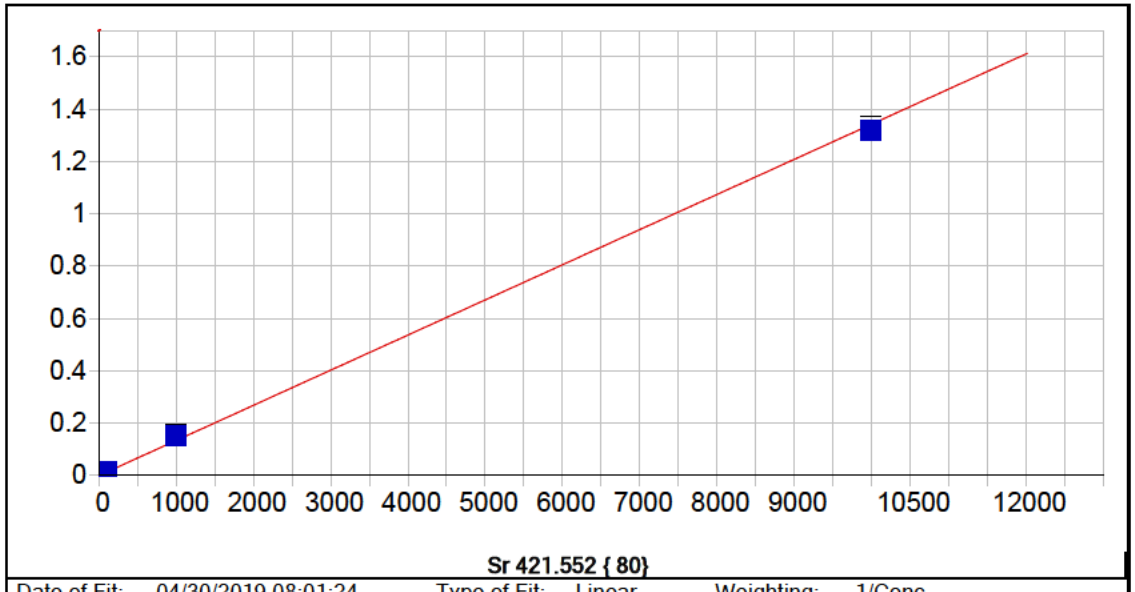



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000090 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998548 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.191487 | | |
| Predicted MQL: | 0.638289 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00094 | -.001 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .96922 | -.031 | -3.08 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.2802 | 1.28 | 25.6 | .00065 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.494 | 3.49 | 34.9 | .00130 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.84 | 23.8 | 23.8 | .01121 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1148.3 | 148. | 14.8 | .10324 | .002 | 1 |
| CalStd10=10 | 10000. | 9823.1 | -177. | -1.77 | .88250 | .013 | 1 |

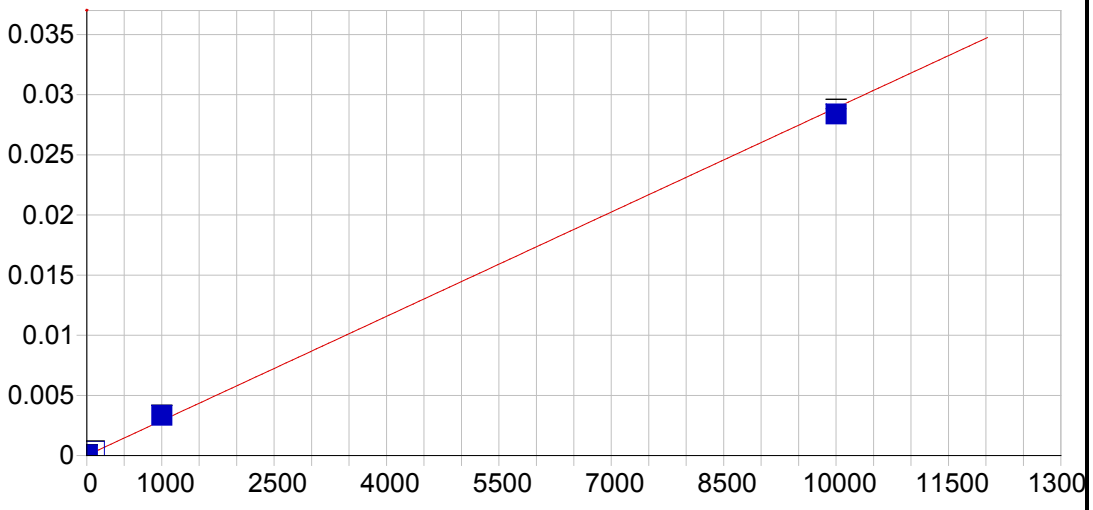



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998725 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.129437 | | |
| Predicted MQL: | 0.431456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | .59172 | -.408 | -40.8 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0861 | 1.09 | 21.7 | .00088 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.395 | 3.40 | 34.0 | .00186 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.02 | 23.0 | 23.0 | .01657 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1137.3 | 137. | 13.7 | .15263 | .003 | 1 |
| CalStd10=10 | 10000. | 9835.6 | -164. | -1.64 | 1.3195 | .013 | 1 |

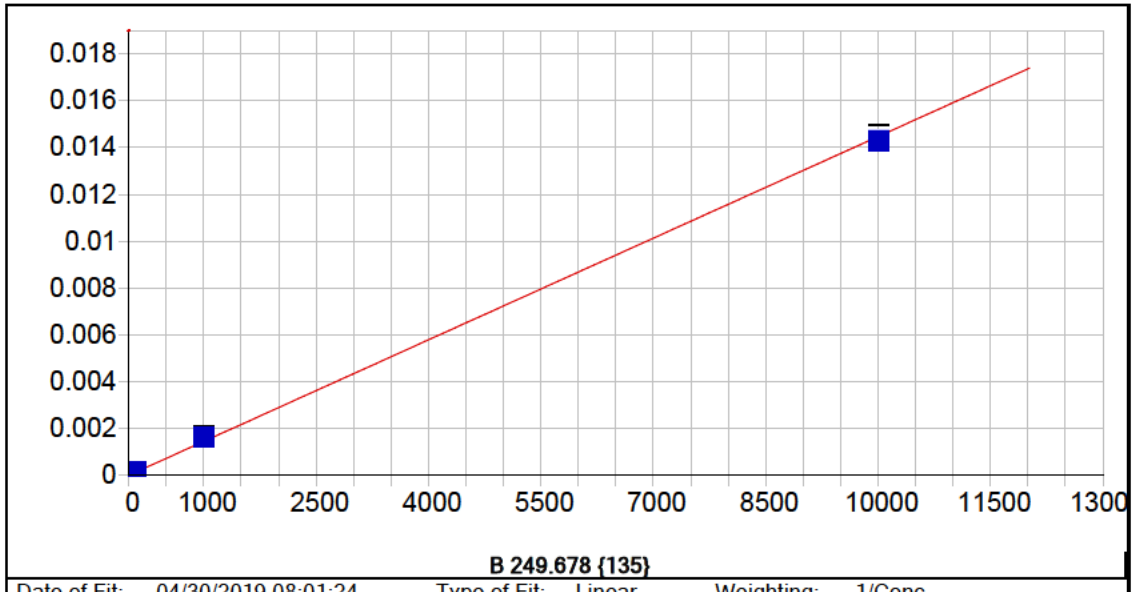



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998477 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.686047 | | |
| Predicted MQL: | 5.620155 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00781 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9819.9 | -180. | -1.80 | .02839 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.1 | 151. | 15.1 | .00334 | .000 | 1 |
| CalStd8=100 | 100.00 | 125.03 | 25.0 | 25.0 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.973 | 3.97 | 39.7 | .00005 | .000 | 1 |

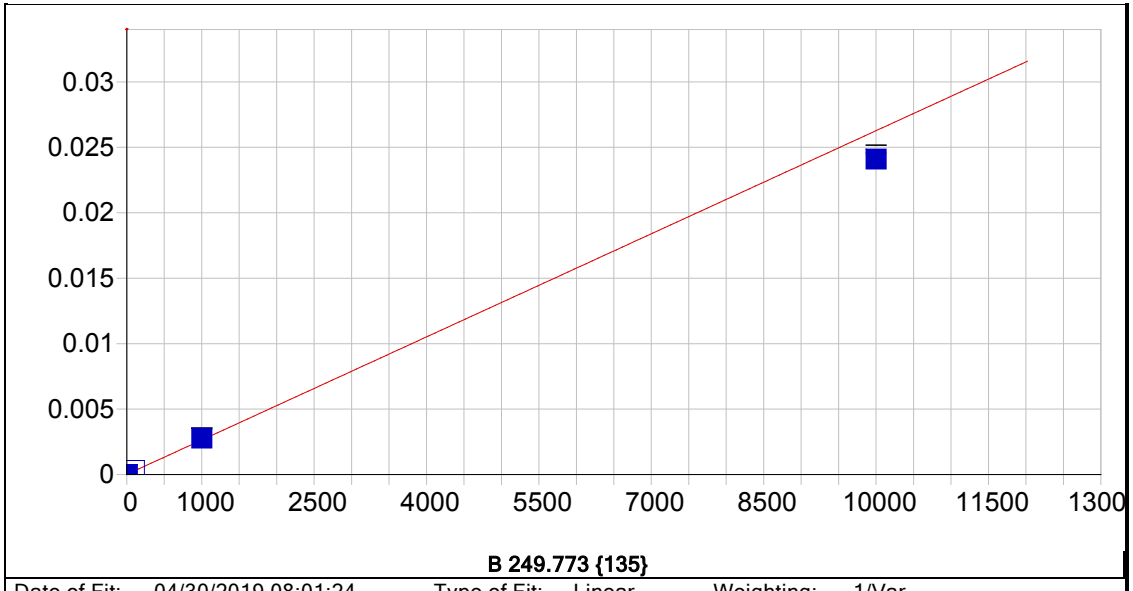



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999110 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.384749 | | |
| Predicted MQL: | 4.615829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00023 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.83 | 15.8 | 15.8 | .00018 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1048 | -2.90 | -29.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1121.6 | 122. | 12.2 | .00164 | .000 | 1 |
| CalStd10=10 | 10000. | 9865.4 | -135. | -1.35 | .01433 | .000 | 1 |

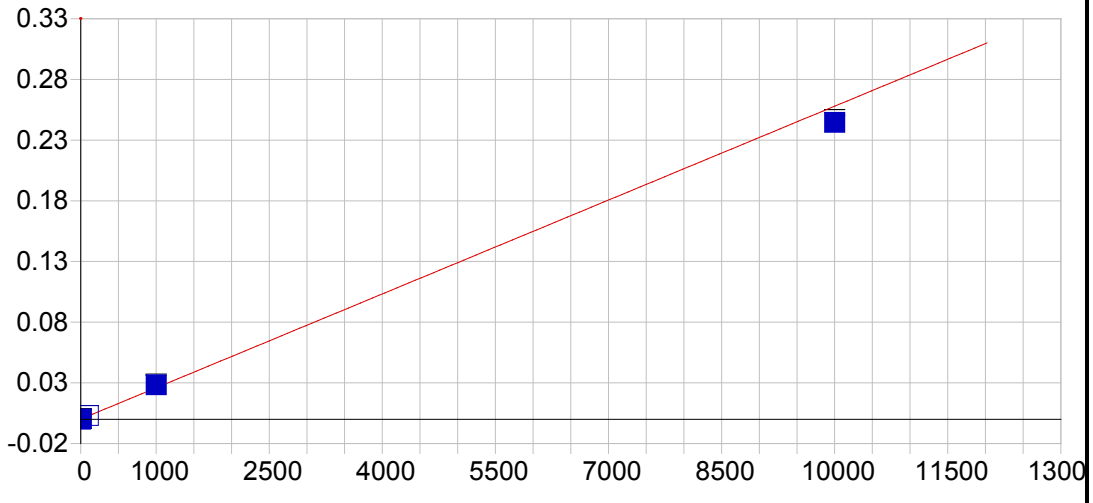



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996375 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.746113 | | |
| Predicted MQL: | 2.487044 | | |

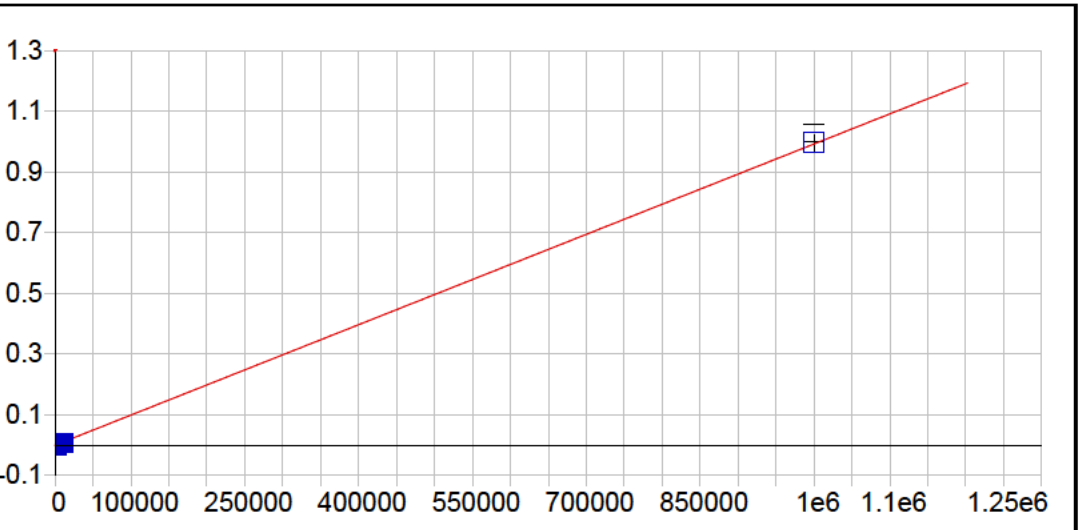
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .98371 | .984 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.20 | 10.2 | 10.2 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9208 | -2.08 | -20.8 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.7 | 51.7 | 5.17 | .00278 | .000 | 1 |
| CalStd10=10 | 10000. | 9170.7 | -829. | -8.29 | .02410 | .000 | 1 |




**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000113 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000026 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.996196 | | Status: | OK. | |
| Std Error of Est: | 0.000316 | | | | |
| Predicted MDL: | 1.644438 | | | | |
| Predicted MQL: | 5.481459 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.7449 | -7.74 | .000 | -.00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4820 | -3.52 | -35.2 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.33 | 12.3 | 12.3 | .00301 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1095.5 | 95.5 | 9.55 | .02836 | .001 | 1 |
| CalStd10=10 | 10000. | 9480.5 | -520. | -5.20 | .24456 | .002 | 1 |

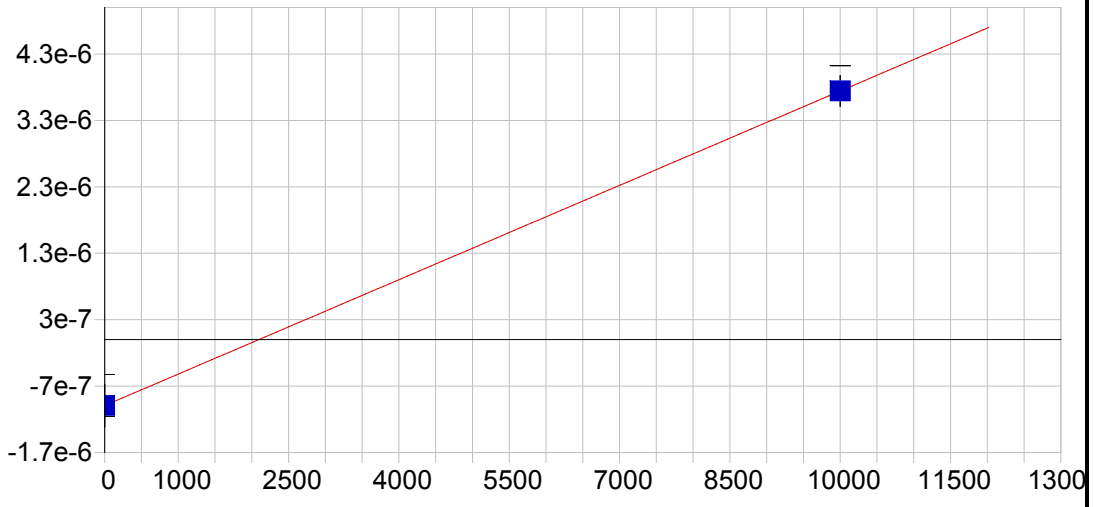



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999481 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 53.224850 | | |
| Predicted MQL: | 177.416168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .55818 | .558 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 750.89 | -249. | -24.9 | .00072 | .000 | 1 |
| CalStd10=10 | 10000. | 6875.5 | -3120. | -31.2 | .00680 | .000 | 1 |
| CalibStd15= | 1000000. | 1003400. | 3370. | .337 | .99608 | .027 | 1 |

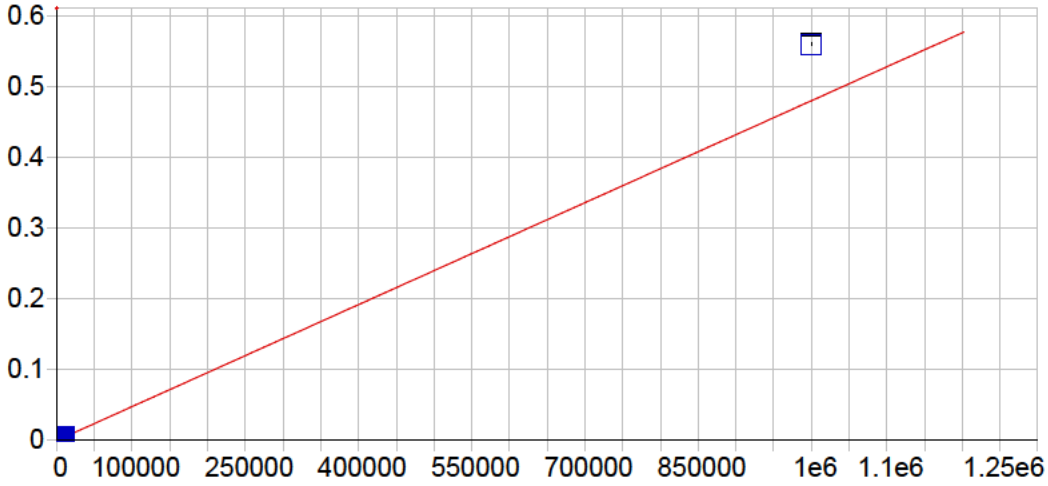



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1106.155392 | | |
| Predicted MQL: | 3687.184641 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00000 | .000 | 1 |

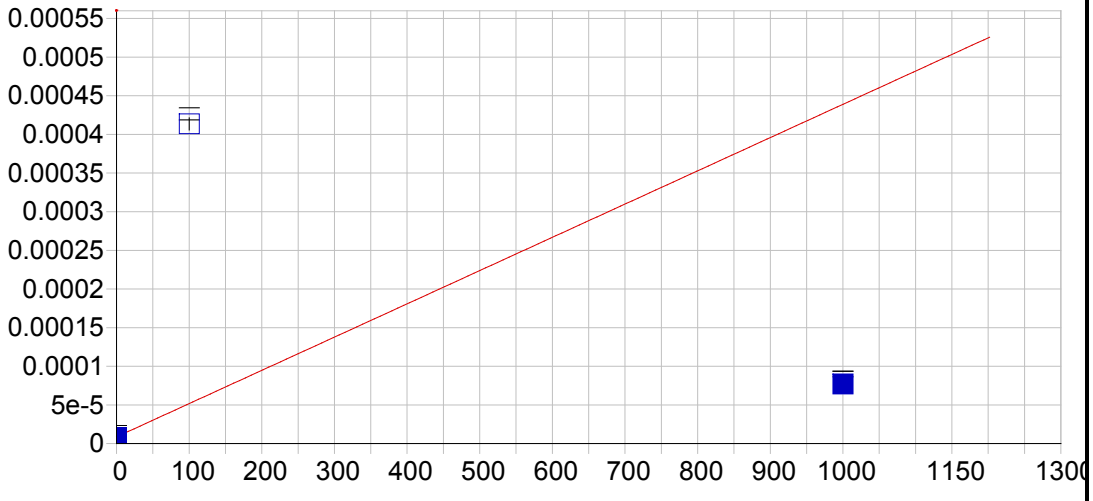



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 6.539657 | | |
| Predicted MQL: | 21.798855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09299 | -.093 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1103.6 | 104. | 10.4 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9912.2 | -87.8 | -.878 | .00479 | .000 | 1 |
| CalibStd15= | 1000000. | 1166000. | 166000. | 16.6 | .55925 | .001 | 1 |

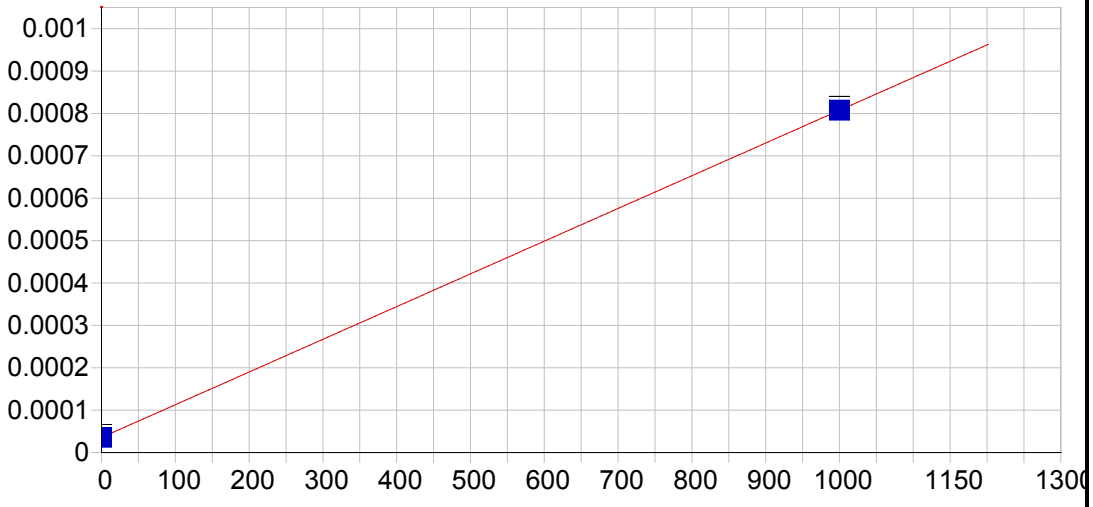



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.351706 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 8.769662 | | |
| Predicted MQL: | 29.232206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75710 | -.757 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 941.22 | 841. | 841. | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 158.78 | -841. | -84.1 | .00008 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000036 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.280330 | | |
| Predicted MQL: | 74.267767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00081 | .000 | 1 |

Sample Name: Blank Acquired: 04/29/2019 14:05:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.595** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.008** | **-.000** |
| Stddev | .000 | .000 | .000 | .623 | .000 | .000 | .000 | .000 | .000 | .000 | .007 | .000 |
| %RSD | 21.1 | 19.7 | 44.3 | 105. | 1380. | 95.5 | 2.89 | 1.22 | 136. | 31.2 | 84.8 | 17.3 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **32.9** | **7.18** | **.000** | **.000** | **.000** | **-.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.2 | 2.95 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.5 | 57.1 | 10.1 | 74.1 | 84.2 | 3.76 | 41.1 | 1.97 | 17.8 | 25.0 | 263. | 5.86 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.35 | 50.7 | 26.0 | 86.5 | 234. | 16.4 | 200. | 9.31 | 190. | 77.9 | 46.1 | 122. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 129. | 53.8 | 28.8 | 40.4 | 12.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1295600.** | **287860.** |
| Stddev | 632. | 3609. | 9201. |
| %RSD | .49904 | .27857 | 3.1964 |

Sample Name: CalStd2=0.5 Acquired: 04/29/2019 14:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.22 | 142. | 3.55 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **126980.** | **1297900.** |
| Stddev | 274. | 2751. |
| %RSD | .21587 | .21197 |

Sample Name: CalStd3=1 Acquired: 04/29/2019 14:18:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.2 | 22.5 | 1.42 | 9.82 | 6.90 | 16.6 | 23.9 | 50.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1298300.** | **279670.** |
| Stddev | 1171. | 9813. | 1746. |
| %RSD | .92435 | .75586 | .62446 |

Sample Name: CalStd4=5 Acquired: 04/29/2019 14:24:48 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.001** | **.000** | **11.2** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.3 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 10.9 | 840. | 123. | 28.5 | 37.1 | 35.4 | 20.7 | 17.1 | 35.4 | 46.7 | 45.9 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 21.1 | 52.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117820.** | **1258200.** | **279990.** |
| Stddev | 1002. | 22700. | 4543. |
| %RSD | .85066 | 1.8042 | 1.6225 |

Sample Name: CalStd5=10 Acquired: 04/29/2019 14:38:57 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.95** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **39.7** |
| Stddev | .000 | .000 | .99 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.3 |
| %RSD | 3.06 | 3.33 | 50.8 | 29.0 | 2.78 | 1.22 | .861 | 1.90 | 1.46 | 1.04 | 1.45 | 8.29 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 23.9 | 1.07 | 1.95 | 4.86 | 2.85 | 22.0 | 10.6 | 8.52 | 5.57 | 6.62 | 12.2 | 3.48 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.54 | .513 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127470.** | **1314900.** | **279840.** |
| Stddev | 543. | 5916. | 2698. |
| %RSD | .42597 | .44994 | .96416 |

Sample Name: CalStd6=20 Acquired: 04/29/2019 14:45:45 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **45.1** | **15.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .7 | 3.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.50 | 1.46 | 20.8 | 4.06 | 1.08 | 2.09 | 7.34 | 4.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127230.** | **1336500.** | **281290.** |
| Stddev | 281. | 43722. | 4762. |
| %RSD | .22067 | 3.2714 | 1.6930 |

Sample Name: CalStd7=50 Acquired: 04/29/2019 14:51:59 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **9.47** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **60.4** | **28.6** | **.001** | **.000** |
| Stddev | .59 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .7 | 1.7 | .000 | .000 |
| %RSD | 6.20 | 13.3 | 6.05 | .715 | .561 | .416 | .571 | 4.00 | 1.12 | 5.76 | 3.81 | .557 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.92 | .610 | 2.57 | 4.98 | 4.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127250.** | **1316800.** | **277460.** |
| Stddev | 420. | 21696. | 1525. |
| %RSD | .32990 | 1.6476 | .54972 |

Sample Name: CalStd8=100 Acquired: 04/29/2019 14:58:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **20.4** | **.000** | **.001** | **.018** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .963 | 1.50 | 2.42 | 3.40 | 1.41 | .981 | 1.80 | 2.05 | 1.32 | 1.97 | 1.86 | 1.68 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **85.4** | **46.3** | **.004** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 1.2 | 5.1 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.44 | 2.03 | 1.56 | 1.42 | 10.9 | 1.66 | 1.75 | 1.48 | 1.88 | 1.49 | 1.90 | 3.34 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.75 | 3.28 | 1.72 | 9.43 | 1.14 | 9.36 | 2.05 | 1.72 | 2.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127180.** | **1310400.** | **281060.** |
| Stddev | 947. | 4674. | 2562. |
| %RSD | .74427 | .35668 | .91156 |

Sample Name: CalStd9=1000 Acquired: 04/29/2019 15:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **187.** | **.001** | **.010** | **.075** | **.057** | **.002** | **.000** | **.136** | **.025** | **.048** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .001 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .200 | 3.18 | .600 | .448 | .355 | 1.58 | 2.26 | 1.21 | 2.00 | 1.68 | .171 | .112 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.003** | **501.** | **354.** | **.000** | **.000** | **.001** | **.000** | **.030** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 7. | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .177 | 2.19 | .085 | 2.28 | 1.98 | 1.93 | 2.35 | 1.99 | 1.63 | 7.99 | 2.19 | 2.33 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.012** | **.012** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.08 | .308 | .184 | .205 | .238 | .841 | .510 | .345 | .214 | .911 | 3.43 | .458 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.019** | **.027** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | 2.36 | .194 | .212 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127570.** | **1307300.** | **280800.** |
| Stddev | 349. | 1896. | 1299. |
| %RSD | .27346 | .14504 | .46270 |

Sample Name: CalStd10=10000 Acquired: 04/29/2019 15:10:04 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.561** | **.003** | **1.10** | **.180** | **.019** | **.129** | **.023** | **4030.** | **2930.** | **.004** |
| Stddev | .000 | .000 | .003 | .000 | .01 | .003 | .000 | .002 | .001 | 18. | 26. | .000 |
| %RSD | 1.36 | 1.33 | .608 | .509 | 1.17 | 1.45 | 2.27 | 1.41 | 2.34 | .443 | .897 | 2.36 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.009** | **.000** | **.231** | **.084** | **.029** | **.045** | **.099** | **.105** | **.010** | **.019** | **.019** |
| Stddev | .000 | .000 | .000 | .004 | .002 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | .808 | .895 | 1.21 | 1.72 | 1.97 | .795 | 1.32 | 1.49 | 1.45 | 1.24 | 1.27 | 1.21 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.020** | **.007** | **.064** | **.158** |
| Stddev | .000 | .000 | .000 | .002 | .003 |
| %RSD | 1.31 | 1.21 | 1.12 | 2.37 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125980.** | **1287600.** | **280530.** |
| Stddev | 699. | 6558. | 1857. |
| %RSD | .55457 | .50933 | .66194 |

Sample Name: CalStd12=100K  Acquired: 04/29/2019 15:16:31  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.28** | **43500.** | **32400.** | **.308** | **.110** | **1.57** |
| Stddev | .00 | 365. | 356. | .005 | .000 | .00 |
| %RSD | .220 | .838 | 1.10 | 1.48 | .171 | .244 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126080.** | **1291400.** | **280400.** |
| Stddev | 291. | 5332. | 3029. |
| %RSD | .23081 | .41287 | 1.0804 |

Sample Name: CalStd13=100000 Acquired: 04/29/2019 15:22:50 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.137** | **.034** | **.045** | **.023** | **.108** | **.003** |
| Stddev | .001 | .001 | .000 | .000 | .001 | .000 |
| %RSD | .846 | 1.58 | .264 | 1.03 | 1.09 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122870.** | **1255700.** | **276750.** |
| Stddev | 346. | 2861. | 2131. |
| %RSD | .28177 | .22782 | .77016 |

Sample Name: CalStd14=500000 Acquired: 04/29/2019 15:29:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.747** | **.174** | **.113** | **.523** | **.019** |
| Stddev | .053 | .010 | .007 | .032 | .001 |
| %RSD | 7.08 | 5.95 | 6.23 | 6.16 | 5.67 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **113070.** | **256400.** |
| Stddev | 158. | 15182. |
| %RSD | .13942 | 5.9212 |

Sample Name: CalibStd15=1000k Acquired: 04/29/2019 15:35:54 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.50** | **.346** | **.215** | **.038** |
| Stddev | .04 | .013 | .007 | .001 |
| %RSD | 3.02 | 3.65 | 3.25 | 3.63 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100510.** | **240940.** |
| Stddev | 265. | 3898. |
| %RSD | .26327 | 1.6180 |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.1** | **9800.** | **1980.** | **2200.** | **47.0** | **8230.** | **47.2** | **53.9** | **567.** | **220.** | **261.** | **266.** |
| Stddev | .9 | 149. | 22. | 36. | .8 | 95. | .3 | .7 | 7. | 3. | 3. | 8. |
| %RSD | 2.04 | 1.52 | 1.13 | 1.65 | 1.77 | 1.15 | .728 | 1.23 | 1.26 | 1.50 | 1.18 | 3.18 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **5250.** | **10400.** | **489.** | **521.** | **465.** | **487.** | **566.** | **565.** | **504.** | **454.** | **558.** | **553.** |
| Stddev | 77. | 198. | 9. | 10. | 6. | 5. | 8. | 8. | 13. | 11. | 7. | 7. |
| %RSD | 1.46 | 1.90 | 1.87 | 1.91 | 1.24 | .992 | 1.46 | 1.33 | 2.48 | 2.32 | 1.32 | 1.28 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Avg | **1940.** | **2280.** | **545.** | **552.** | **516.** | **463.** |
| Stddev | 36. | 21. | 7. | 11. | 8. | 8. |
| %RSD | 1.87 | .934 | 1.24 | 2.07 | 1.49 | 1.77 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127840.** | **1307600.** | **282500.** |
| Stddev | 723. | 3041. | 3053. |
| %RSD | .56570 | .23256 | 1.0807 |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.7** | **1190.** | **1090.** | **62.9** | **29.9** | **11.9** | **1690.** | **15.5** | **15.6** | **34.8** | **35.4** | **33.5** |
| Stddev | .6 | 4. | 10. | 2.2 | .6 | .0 | 19. | .2 | .1 | .6 | .8 | 5.8 |
| %RSD | 2.07 | .337 | .895 | 3.47 | 2.00 | .210 | 1.10 | 1.29 | .722 | 1.84 | 2.40 | 17.5 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2790 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.9** | **1010.** | F **2000.** | **1770.** | **31.3** | **30.8** | **36.0** | **27.9** | F **73.5** | **65.8** | **71.9** | **34.5** |
| Stddev | 9.5 | 7. | 9. | 11. | .1 | .4 | .2 | 1.2 | 3.3 | 3.7 | 1.4 | .2 |
| %RSD | 27.2 | .689 | .472 | .607 | .360 | 1.44 | .578 | 4.12 | 4.43 | 5.66 | 1.91 | .643 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 1500. | | | | | | 60.0 | | | |
| Range | | | 20.0% | | | | | | 20.0% | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.8** |
| Stddev | .5 |
| %RSD | 1.78 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126440.** | **1299100.** | **281370.** |
| Stddev | 219. | 5591. | 1830. |
| %RSD | .17330 | .43034 | .65021 |

Sample Name: icb Acquired: 04/29/2019 16:14:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.28** | **-7.66** | **-3.49** | **-.678** | **.040** | **-65.2** | **-.007** | **-.012** | **-.389** | **-1.22** | **-4.14** | **-25.7** |
| Stddev | .34 | .15 | 1.09 | .359 | .035 | .2 | .032 | .075 | .382 | .46 | 9.91 | 1.7 |
| %RSD | 26.3 | 1.92 | 31.4 | 53.0 | 88.7 | .234 | 459. | 599. | 98.2 | 37.6 | 240. | 6.64 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-45.1** | **-2.33** | **-.779** | **-.444** | **-1.13** | **-1.37** | **-3.02** | **.005** | **-.886** | **-.475** |
| Stddev | .0 | .06 | .620 | .386 | 1.46 | 2.34 | 3.42 | 1.60 | .585 | .118 |
| %RSD | .069 | 2.49 | 79.6 | 87.1 | 129. | 171. | 113. | 35200. | 66.0 | 24.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127950.** | **1314600.** | **279150.** |
| Stddev | 183. | 1396. | 1497. |
| %RSD | .14280 | .10615 | .53616 |

Sample Name: MRL/LLOQ  Acquired: 04/29/2019 16:20:21  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.83** | **399.** | **17.3** | **9.58** | **3.95** | **517.** | **5.09** | **5.18** | **11.3** | **11.0** | F **13.3** | **7.86** |
| Stddev | 1.05 | 1. | 2.5 | .18 | .05 | 14. | .17 | .15 | .5 | .5 | 4.8 | 7.22 |
| %RSD | 10.7 | .244 | 14.5 | 1.86 | 1.29 | 2.78 | 3.44 | 2.86 | 4.58 | 4.90 | 36.2 | 91.9 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 20.0 | | | | | | | | | | 10.0 | |
| Range | -30.0% | | | | | | | | | | 30.0% | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **307.** | **557.** | **8.25** | **9.62** | **11.6** | **8.10** | **21.4** | **19.7** | **23.6** | **10.9** | **10.8** |
| Stddev | 2. | 4. | .12 | .52 | .7 | 1.19 | .9 | 3.6 | 1.2 | .6 | .2 |
| %RSD | .663 | .694 | 1.39 | 5.44 | 5.69 | 14.7 | 4.16 | 18.0 | 4.87 | 5.32 | 1.75 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127160.** | **1305200.** | **281920.** |
| Stddev | 119. | 3887. | 2379. |
| %RSD | .09325 | .29784 | .84390 |

Sample Name: ICSA Acquired: 04/29/2019 16:26:32 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.57** | **526000.** | **.004** | **.000** | **-.667** | **500000.** | **-.001** | **1.18** | **-.018** | **-1.26** | **.003** |
| Stddev | 1.50 | 23900. | 6.63 | 1.21 | .217 | 7850. | .538 | .23 | .727 | 1.07 | 6.54 |
| %RSD | 95.8 | 4.54 | 159000. | 2500000. | 32.5 | 1.57 | 58400. | 19.2 | 4030. | 84.3 | 198000. |
| Check ? | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **542000.** | **473000.** | **-5.48** | **2.51** | **-.575** | **1.54** | **-4.63** | **-11.4** | **-.063** | **13300.** | **-6.89** |
| Stddev | 8100. | 7050. | .16 | .71 | 1.79 | 2.10 | 5.91 | 8.1 | 1.69 | 228. | 1.94 |
| %RSD | 1.49 | 1.49 | 2.86 | 28.5 | 311. | 136. | 128. | 71.3 | 2680. | 1.71 | 28.2 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112330.** | **1167300.** | **261400.** |
| Stddev | 184. | 5118. | 4079. |
| %RSD | .16359 | .43841 | 1.5603 |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **431000.** | **536.** | **577.** | **460.** | **533.** | **447.** | **407000.** | **484.** | **514.** | **523.** |
| Stddev | 1. | 3080. | 4. | 12. | 6. | 2. | 5. | 4890. | 7. | 8. | 4. |
| %RSD | .232 | .714 | .730 | 2.06 | 1.40 | .354 | 1.09 | 1.20 | 1.47 | 1.63 | .686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2025 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | **498.** | **446000.** | **402000.** | **452.** | **521.** | **454.** | **480.** | **503.** | **504.** | F **765.** |
| Stddev | 4. | 12. | 2900. | 6120. | 2. | 7. | 7. | 8. | 8. | 7. | 23. |
| %RSD | .885 | 2.37 | .651 | 1.52 | .475 | 1.27 | 1.59 | 1.59 | 1.58 | 1.40 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | | | 500. |
| Range | | | | | | | | | | | 20.0% |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F **395.** | **502.** | **528.** | **444.** | **534.** | **550.** | **539.** | **482.** | **444.** |
| Stddev | 11. | 6. | 16. | 11. | 8. | 7. | 3. | 7. | 8. |
| %RSD | 2.70 | 1.22 | 3.02 | 2.45 | 1.51 | 1.28 | .483 | 1.39 | 1.80 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | |
| Range | -20.0% | | | | | | | | |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114940.** | **1185100.** | **265530.** |
| Stddev | 897. | 3486. | 319. |
| %RSD | .78024 | .29412 | .12000 |

Sample Name: 256803 Acquired: 04/29/2019 16:45:08 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.10** | **3900.** | **25.3** | **52.8** | **.350** | **16600.** | **.336** | **.603** | **11.5** | **8.42** | **22.7** | **22.4** |
| Stddev | .47 | 74. | 1.8 | .3 | .039 | 218. | .038 | .106 | .7 | .58 | 6.4 | 7.0 |
| %RSD | 42.9 | 1.88 | 7.14 | .560 | 11.3 | 1.31 | 11.2 | 17.5 | 6.05 | 6.91 | 28.2 | 31.3 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6290.** | **5750.** | **7230.** | **2.08** | **21.6** | **7.21** | **.481** | **-1.34** | **8.11** | **20.2** | **36.4** |
| Stddev | 97. | 88. | 70. | .14 | .3 | 1.54 | 1.75 | 3.46 | 1.10 | 1.2 | .2 |
| %RSD | 1.54 | 1.52 | .973 | 6.55 | 1.21 | 21.3 | 363. | 258. | 13.5 | 5.96 | .477 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **129460.** | **1346000.** | **286230.** |
| Stddev | 138. | 10633. | 2310. |
| %RSD | .10673 | .78995 | .80693 |

Sample Name: 1dup256803 Acquired: 04/29/2019 16:51:41 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-.939** | **3880.** | **29.9** | **72.5** | **.371** | **16400.** | **.553** | **.674** | **16.7** | **7.88** | **29.2** | **15.3** |
| Stddev | .671 | 114. | 3.0 | .6 | .062 | 480. | .097 | .115 | .5 | .61 | 5.8 | 10.6 |
| %RSD | 71.5 | 2.93 | 9.99 | .841 | 16.6 | 2.93 | 17.6 | 17.1 | 2.77 | 7.75 | 19.7 | 69.0 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **6730.** | **6050.** | **8880.** | **3.00** | **28.5** | **8.97** | **-1.14** | **-.517** | **4.70** | **20.7** | **38.7** |
| Stddev | 187. | 144. | 247. | .23 | .6 | 3.80 | 3.60 | 1.42 | .75 | .3 | .4 |
| %RSD | 2.78 | 2.38 | 2.79 | 7.56 | 1.94 | 42.4 | 316. | 275. | 16.0 | 1.29 | 1.02 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **129610.** | **1338800.** | **284190.** |
| Stddev | 755. | 5900. | 1269. |
| %RSD | .58289 | .44071 | .44656 |

Sample Name: 2dup256803 Acquired: 04/29/2019 16:58:13 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.59** | **4070.** | **35.2** | **59.0** | **.315** | **15700.** | **.289** | **.412** | **16.3** | **8.58** | **22.8** | **25.7** |
| Stddev | .52 | 20. | 2.3 | 1.4 | .067 | 41. | .089 | .097 | .4 | .65 | 2.6 | 4.3 |
| %RSD | 32.5 | .496 | 6.44 | 2.32 | 21.3 | .264 | 30.6 | 23.5 | 2.19 | 7.57 | 11.4 | 16.9 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7240.** | **5690.** | **8840.** | **2.23** | **27.7** | **9.38** | **-1.01** | **-4.29** | **6.96** | **23.7** | **42.3** |
| Stddev | 20. | 135. | 50. | .35 | .9 | 1.21 | 2.64 | 4.89 | 1.10 | 1.0 | .7 |
| %RSD | .272 | 2.37 | .568 | 15.9 | 3.31 | 12.9 | 261. | 114. | 15.9 | 4.24 | 1.69 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128400.** | **1339000.** | **284860.** |
| Stddev | 1075. | 2104. | 942. |
| %RSD | .83707 | .15712 | .33067 |

Sample Name: 256767 Acquired: 04/29/2019 17:04:45 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.21** | **3620.** | **19.6** | **57.7** | **.295** | **18600.** | **.377** | **.329** | **14.2** | **8.63** | **22.4** | **21.6** |
| Stddev | .15 | 33. | 2.0 | .2 | .016 | 150. | .037 | .065 | .5 | 1.27 | 6.5 | 3.7 |
| %RSD | 12.1 | .921 | 10.2 | .405 | 5.55 | .809 | 9.75 | 19.6 | 3.68 | 14.7 | 29.0 | 17.3 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7000.** | **6950.** | **7500.** | **1.50** | **24.9** | **5.47** | **-.827** | **.321** | **5.31** | **19.3** | **36.2** |
| Stddev | 88. | 138. | 80. | .46 | .4 | .84 | 1.61 | 2.03 | 1.75 | 1.0 | .2 |
| %RSD | 1.25 | 1.99 | 1.07 | 30.4 | 1.55 | 15.4 | 195. | 634. | 32.9 | 5.05 | .548 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128530.** | **1347600.** | **285180.** |
| Stddev | 389. | 7521. | 2048. |
| %RSD | .30232 | .55811 | .71812 |

Sample Name: 256797 Acquired: 04/29/2019 17:11:17 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 100
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **-1.58** | **3130.** | **14.7** | **48.7** | **.266** | **18300.** | **.452** | **.317** | **11.1** | **7.15** | **22.0** | **16.2** |
| Stddev | .68 | 71. | 1.0 | .5 | .010 | 244. | .351 | .151 | .2 | .37 | 5.5 | 6.6 |
| %RSD | 42.7 | 2.26 | 7.09 | 1.10 | 3.89 | 1.34 | 77.5 | 47.5 | 1.42 | 5.16 | 24.9 | 40.5 |

| Elem | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **5990.** | **6580.** | **6320.** | **1.27** | **18.9** | **2.03** | **.164** | **-3.20** | **5.76** | **16.8** | **31.3** |
| Stddev | 90. | 132. | 76. | .16 | .7 | 1.98 | 1.38 | 4.25 | 1.04 | .4 | .2 |
| %RSD | 1.51 | 2.01 | 1.20 | 12.9 | 3.62 | 97.7 | 840. | 133. | 18.1 | 2.42 | .586 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128570.** | **1340500.** | **282150.** |
| Stddev | 467. | 9929. | 1411. |
| %RSD | .36290 | .74070 | .49992 |

Sample Name: ccv1 Acquired: 04/29/2019 17:49:42 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **460.** | F **4050.** | **5450.** | **5400.** | **459.** | F **4140.** | **485.** | **5340.** | **4640.** | **5180.** | **5240.** | **5390.** |
| Stddev | 23. | 56. | 22. | 119. | 10. | 64. | 1. | 231. | 5. | 83. | 101. | 145. |
| %RSD | 4.89 | 1.38 | .395 | 2.20 | 2.25 | 1.53 | .210 | 4.32 | .106 | 1.61 | 1.93 | 2.68 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | | | |
| Range | | -10.4% | | | | -10.4% | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5320.** | **4980.** | F **5680.** | **5170.** | **5450.** | **4810.** | F **5640.** | **5330.** | **5300.** |
| Stddev | 118. | 28. | 24. | 34. | 22. | 36. | 28. | 105. | 16. |
| %RSD | 2.22 | .563 | .413 | .664 | .403 | .738 | .505 | 1.96 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | 5000. | | |
| Range | | | 10.4% | | | | 10.4% | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123080.** | **1257500.** | **274160.** |
| Stddev | 473. | 75307. | 1908. |
| %RSD | .38434 | 5.9889 | .69588 |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **480.** | **485.** | **503.** | F **587.** | **49.4** | **50.2** | **527.** | **52.0** | **52.2** | F **591.** | F **552.** |
| Stddev | .5 | 1. | 3. | . | 2. | .6 | 1.1 | 2. | .3 | .1 | 1. | 5. |
| %RSD | 1.01 | .272 | .694 | .096 | .255 | 1.19 | 2.10 | .320 | .565 | .221 | .179 | .948 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail |
| Value | | | | | 500. | | | | | | 500. | 500. |
| Range | | | | | 10.4% | | | | | | 10.4% | 10.4% |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **561.** | **514.** | **510.** | **544.** | **472.** | **491.** | **514.** | F **596.** | F **592.** | **545.** | **480.** | F **565.** |
| Stddev | 4. | 12. | 5. | 7. | 5. | 1. | 1. | . | 1. | 4. | 3. | 1. |
| %RSD | .784 | 2.34 | 1.03 | 1.33 | 1.15 | .260 | .267 | .047 | .196 | .745 | .704 | .182 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail |
| Value | 500. | | | | | | | 500. | 500. | | | 500. |
| Range | 10.4% | | | | | | | 10.4% | 10.4% | | | 10.4% |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | F **558.** | **498.** | F **615.** | F **554.** | **544.** | **552.** | **455.** |
| Stddev | 3. | 5. | 4. | 11. | 5. | 2. | 1. |
| %RSD | .537 | .979 | .574 | 1.95 | .948 | .367 | .247 |
| Check ? | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | 500. | 500. | | | |
| Range | 10.4% | | 10.4% | 10.4% | | | |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126540.** | **1325700.** | **275670.** |
| Stddev | 143. | 8007. | 1112. |
| %RSD | .11323 | .60400 | .40336 |

Sample Name: ccb Acquired: 04/29/2019 18:00:55 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.615** | **-12.1** | **-4.13** | **-.238** | **.260** | **-64.5** | **.216** | **.078** | **.468** | **.061** | **-3.75** | **-28.2** |
| Stddev | .604 | .2 | 3.07 | .527 | .060 | .6 | .114 | .159 | .143 | .576 | 6.55 | 1.5 |
| %RSD | 98.2 | 1.65 | 74.4 | 221. | 23.2 | .865 | 52.6 | 205. | 30.5 | 946. | 175. | 5.41 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-47.9** | **-1.61** | **1.70** | **.564** | **-.447** | **-.133** | **-1.41** | **1.69** | **.185** | **.066** |
| Stddev | .1 | .07 | .60 | .584 | 3.79 | 2.55 | 3.40 | 2.46 | .360 | .070 |
| %RSD | .188 | 4.58 | 35.3 | 104. | 848. | 1920. | 241. | 146. | 195. | 106. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126900.** | **1349400.** | **276260.** |
| Stddev | 436. | 24445. | 4406. |
| %RSD | .34375 | 1.8115 | 1.5949 |

CT LABORATORIES
delivering more than data from your environmental analyses

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## General Parameters

*Method :* Arsenic
*Operator :* [redacted]
*Instrument Mode:* Furnace
*Autosampler :* Furnace

## Analysis Details

*Analysis Name:* Analysis 3 05/02/2019
*Spectrometer:* M Series 650779 v1.30
*Operator Name:* [redacted]

## Reagent Details

| Reagent | Reagent Name |
|---|---|
| Matrix Modifier 1 | M13557 |

## Spectrometer Parameters - As

*Element:* As
*Measurement Mode:* Absorbance
*Wavelength:* 193.7nm
*Bandpass:* 0.5nm
*Lamp Current:* 80%
*Background Correction:* Zeeman
*High Resolution:* Off
*Optimise Spectrometer Parameters:* No
*Signal Type:* Transient
*Transient Type:* Area
*Number Of Resamples:* 2
*Measurement Time:* 3.5secs
*Flier Mode:* No
*Measure Peak From:* 0.75
*To:* 2.50secs
*Use RSD Test:* No

## Furnace Parameters - As

*Cuvette Type:* Omega
*Injection Temperature:* 20°C

**Furnace Programme (130.6secs)**

| Phase | Temp (°C) | Time (sec) | Ramp (°C/sec) | Gas Type | Gas Flow | Commands |
|---|---|---|---|---|---|---|
| 1 | 110 | 20.0 | 100 | 1 | 0.2L/min | |
| 2 | 130 | 30.0 | 1 | 1 | 0.2L/min | |
| 3 | 300 | 10.0 | 50 | 1 | 0.2L/min | |
| 4 | 1100 | 20.0 | 100 | 2 | 0.2L/min | NL |
| 5 | 2600 | 3.5 | 0 | 2 | Off | RD TC |
| 6 | 2800 | 3.5 | 0 | 2 | 0.3L/min | TC |

## Sampling Parameters - As

*Sampling:* Furnace
*Automatic Spike Prep:* 20.0µL
*Working Volume:* 20.0µL
*Sample Volume:* 20.0µL

**Matrix Modifiers**

| Modifier | Method | Volume | Order |
|---|---|---|---|
| 1 M13557 | Wet-mixed | 5.0µL | 1 |
| 2 | None | 20.0µL | 2 |
| 3 | None | 20.0µL | 3 |
| 4 | None | 20.0µL | 4 |
| 5 | None | 20.0µL | 5 |
| 6 | None | 20.0µL | 6 |

*Sample Preparation:* Int. Dilution
*Intelligent Dilution Threshold:* 90%
*Standard Preparation:* Fixed
*Std Additions:* None
*Slow Solution Uptake:* No
*Slow Injection:* No
*Sampling Delay:* No
*Number Of Washes:* 2

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Calibration Parameters - As

*Calibration Mode:* Normal
*Concentration Units:* µg/L
*Acceptable Fit:* 0.995
*Master Standard:* 25.0000
*Line Fit:* Linear
*Scaled Units:* µg/L
*Rescale Limit:* 10.0%
*Use Stored Calibration:* No
*Scaling Factor:* 1.0000
*Failure Action:* Retest

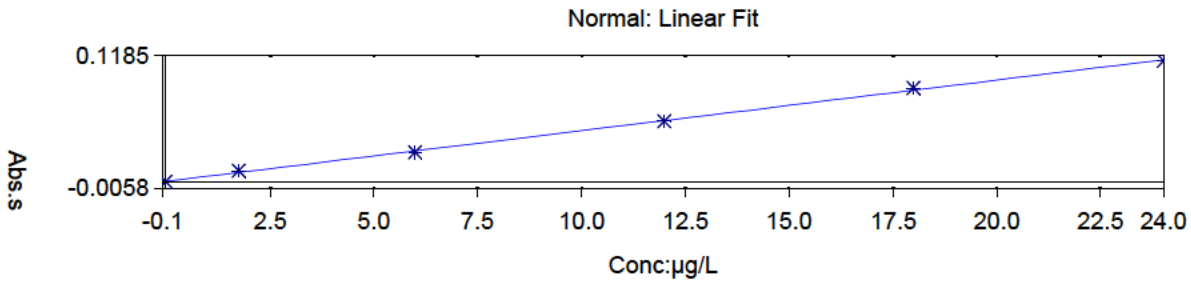
| | | | |
|---|---|---|---|
| Standard 1 | 1.7500 | Standard 4 | 18.0000 |
| Standard 2 | 6.0000 | Standard 5 | 24.0000 |
| Standard 3 | 12.0000 | | |

## QC Parameters - As

| Test | Conc:µg/L | Limits | Action | Repeat |
|---|---|---|---|---|
| CCB | 0.5000 | -0.010 to 0.100Abs.s | Retest | Continue |
| ICV | 10.0000 | 90.0 to 110.0% | Retest | Continue |
| CCV | 10.0000 | 90.0 to 110.0% | Retest | Continue |
| QC Anal Spike | 10.0000 | 85.0 to 115.0% | Retest | Continue |

## Solution Results - As

Y = 0.00472x + 0.0003
*Fit:* 0.9992
*Characteristic Conc:* 0.9317




| Sample ID | | Signal | Rsd | Conc | Corrected Conc |
|---|---|---|---|---|---|
| | | Abs.s (Area) | % | µg/L | µg/L |
| **As Blank** | | **-0.000** | **>99** | **0.0000** | |
| | 1 | -0.001 | Background: 0.029 | | 05/02/2019 13:29:59 |
| | 2 | 0.000 | Background: 0.028 | | 05/02/2019 13:32:59 |
| **As Standard 1** | | **0.010** | **11.1** | **1.7500** | |
| | 1 | 0.009 | Background: 0.030 | | 05/02/2019 13:35:58 |
| | 2 | 0.011 | Background: 0.028 | | 05/02/2019 13:38:58 |
| **As Standard 2** | | **0.027** | **1.8** | **6.0000 U** | |
| | 1 | 0.027 | Background: 0.029 | | 05/02/2019 13:41:57 |
| | 2 | 0.028 | Background: 0.031 | | 05/02/2019 13:44:57 |
| **As Standard 3** | | **0.056** | **3.2** | **12.0000** | |
| | 1 | 0.055 | Background: 0.033 | | 05/02/2019 13:47:56 |
| | 2 | 0.058 | Background: 0.031 | | 05/02/2019 13:50:57 |
| **As Standard 4** | | **0.087** | **2.4** | **18.0000** | |
| | 1 | 0.089 | Background: 0.031 | | 05/02/2019 13:53:56 |
| | 2 | 0.086 | Background: 0.033 | | 05/02/2019 13:56:56 |
| **As Standard 5** | | **0.113** | **1.6** | **24.0000** | |
| | 1 | 0.112 | Background: 0.035 | | 05/02/2019 13:59:56 |
| | 2 | 0.114 | Background: 0.034 | | 05/02/2019 14:02:57 |

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Solution Results - As

| Sample ID | Signal | Rsd | Conc | Corrected Conc |
|---|---|---|---|---|
| | Abs.s (Area) | % | µg/L | µg/L |
| **As ICV** | **0.049** | **5.6** | **10.3468** | **10.3468** |
| 1 | 0.047 | Background: 0.040 | | 05/02/2019 14:08:08 |
| 2 | 0.051 | Background: 0.032 | | 05/02/2019 14:11:07 |
| **As CCB** | **-0.000** | **>99** | **-0.1023 C** | **-0.1023 C** |
| 1 | -0.001 | Background: 0.033 | | 05/02/2019 14:14:07 |
| 2 | 0.000 | Background: 0.033 | | 05/02/2019 14:17:06 |
| **As 274295lcss 71761** | **0.071** | **0.3** | **14.9522** | **14.9522** |
| 1 | 0.071 | Background: 0.035 | | 05/02/2019 14:20:05 |
| 2 | 0.071 | Background: 0.035 | | 05/02/2019 14:23:04 |
| **As 274294mbs 71761** | **0.028** | **3.3** | **5.8479** | **5.8479** |
| 1 | 0.029 | Background: 0.078 | | 05/02/2019 14:26:04 |
| 2 | 0.027 | Background: 0.076 | | 05/02/2019 14:29:02 |
| **As 257647** | **0.083 O** | **12.1** | **17.4216** | **17.4216** |
| 1 | 0.075 O | Background: 2.177 O | | 05/02/2019 14:32:03 |
| 2 | 0.090 O | Background: 2.200 O | | 05/02/2019 14:35:02 |
| **As Analysis Spike** | **0.146 O** | **14.9** | **30.7504 C** | **30.7504 C** |
| 1 | 0.161 O | Background: 2.161 O | | 05/02/2019 14:38:00 |
| 2 | 0.130 O | Background: 2.201 O | | 05/02/2019 14:41:01 |
| **As Analysis Spike** | **0.043 I** | **0.9** | **9.1110** | **26.0314** |
| 1 | 0.043 | Background: 0.897 | | 05/02/2019 14:45:03 |
| 2 | 0.044 | Background: 0.888 | | 05/02/2019 14:48:02 |
| **As I257647** | **0.017** | **2.0** | **3.4687** | **3.4687** |
| 1 | 0.017 | Background: 0.572 | | 05/02/2019 14:52:07 |
| 2 | 0.016 | Background: 0.570 | | 05/02/2019 14:55:07 |
| **As 274296dup 257647 X5** | **0.028** | **3.9** | **5.9386** | **5.9386** |
| 1 | 0.029 | Background: 0.585 | | 05/02/2019 14:58:06 |
| 2 | 0.028 | Background: 0.576 | | 05/02/2019 15:01:05 |
| **As 274297dup 257647 X5** | **0.035** | **3.4** | **7.2874** | **7.2874** |
| 1 | 0.036 | Background: 0.564 | | 05/02/2019 15:04:05 |
| 2 | 0.034 | Background: 0.566 | | 05/02/2019 15:07:04 |
| **As 274298mss 257647 X5** | **0.049** | **2.6** | **10.2921** | **10.2921** |
| 1 | 0.050 | Background: 0.650 | | 05/02/2019 15:10:04 |
| 2 | 0.048 | Background: 0.651 | | 05/02/2019 15:13:03 |
| **As CCV** | **0.049** | **1.1** | **10.3782** | **10.3782** |
| 1 | 0.050 | Background: 0.082 | | 05/02/2019 15:16:02 |
| 2 | 0.049 | Background: 0.050 | | 05/02/2019 15:19:02 |
| **As CCB** | **-0.001** | **93.0** | **-0.2975 C** | **-0.2975 C** |
| 1 | -0.002 | Background: 0.051 | | 05/02/2019 15:22:01 |
| 2 | -0.000 | Background: 0.049 | | 05/02/2019 15:25:00 |
| **As 274299msds 257647 X** | **0.045** | **1.9** | **9.4810** | **9.4810** |
| 1 | 0.044 | Background: 0.595 | | 05/02/2019 15:27:59 |
| 2 | 0.046 | Background: 0.627 | | 05/02/2019 15:30:58 |

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Solution Results - As

| Sample ID | | Signal | Rsd | Conc | Corrected Conc | |
|---|---|---|---|---|---|---|
| | | Abs.s (Area) | % | µg/L | µg/L | |
| **As 257648 X5** | | **0.038** | **0.8** | **8.0429** | **8.0429** | |
| | 1 | 0.038 | | Background: 0.600 | | 05/02/2019 15:33:58 |
| | 2 | 0.038 | | Background: 0.587 | | 05/02/2019 15:36:57 |
| **As 257649 X5** | | **0.044** | **3.4** | **9.2617** | **9.2617** | |
| | 1 | 0.043 | | Background: 0.586 | | 05/02/2019 15:40:14 |
| | 2 | 0.045 | | Background: 0.592 | | 05/02/2019 15:43:13 |
| **As 257650 X5** | | **0.038** | **1.1** | **7.9964** | **7.9964** | |
| | 1 | 0.038 | | Background: 0.570 | | 05/02/2019 15:46:12 |
| | 2 | 0.038 | | Background: 0.566 | | 05/02/2019 15:49:12 |
| **As 257651 X5** | | **0.041** | **4.6** | **8.6183** | **8.6183** | |
| | 1 | 0.042 | | Background: 0.545 | | 05/02/2019 15:52:12 |
| | 2 | 0.040 | | Background: 0.545 | | 05/02/2019 15:55:11 |
| **As 257652 X5** | | **0.031** | **2.4** | **6.5403** | **6.5403** | |
| | 1 | 0.032 | | Background: 0.561 | | 05/02/2019 15:58:11 |
| | 2 | 0.031 | | Background: 0.561 | | 05/02/2019 16:01:10 |
| **As 257653 X5** | | **0.047** | **1.6** | **9.9444** | **9.9444** | |
| | 1 | 0.048 | | Background: 0.571 | | 05/02/2019 16:04:08 |
| | 2 | 0.047 | | Background: 0.566 | | 05/02/2019 16:07:08 |
| **As 257654 X5** | | **0.042** | **5.2** | **8.8959** | **8.8959** | |
| | 1 | 0.041 | | Background: 0.737 | | 05/02/2019 16:10:08 |
| | 2 | 0.044 | | Background: 0.741 | | 05/02/2019 16:13:06 |
| **As CCV** | | **0.051** | **1.8** | **10.7456** | **10.7456** | |
| | 1 | 0.050 | | Background: 0.094 | | 05/02/2019 16:16:05 |
| | 2 | 0.052 | | Background: 0.047 | | 05/02/2019 16:19:04 |
| **As CCB** | | **-0.000** | **>99** | **-0.0617** | **-0.0617** | |
| | 1 | 0.001 | | Background: 0.047 | | 05/02/2019 16:22:04 |
| | 2 | -0.001 | | Background: 0.048 | | 05/02/2019 16:25:03 |
| **As 257655 X5** | | **0.033** | **0.6** | **6.8669** | **6.8669** | |
| | 1 | 0.033 | | Background: 0.556 | | 05/02/2019 16:28:02 |
| | 2 | 0.033 | | Background: 0.591 | | 05/02/2019 16:31:01 |
| **As 257657 X5** | | **0.028** | **7.1** | **5.8664** | **5.8664** | |
| | 1 | 0.029 | | Background: 0.832 | | 05/02/2019 16:34:01 |
| | 2 | 0.027 | | Background: 0.853 | | 05/02/2019 16:37:01 |
| **As 257659 X5** | | **0.027** | **4.7** | **5.6589** | **5.6589** | |
| | 1 | 0.026 | | Background: 0.851 | | 05/02/2019 16:40:00 |
| | 2 | 0.028 | | Background: 0.857 | | 05/02/2019 16:42:59 |
| **As 257661 X5** | | **0.033** | **1.1** | **6.9886** | **6.9886** | |
| | 1 | 0.033 | | Background: 0.904 | | 05/02/2019 16:45:59 |
| | 2 | 0.034 | | Background: 0.903 | | 05/02/2019 16:48:58 |
| **As 259436 X5** | | **0.062** | **6.6** | **13.0305** | **13.0305** | |
| | 1 | 0.065 | | Background: 0.973 | | 05/02/2019 16:51:57 |
| | 2 | 0.059 | | Background: 0.971 | | 05/02/2019 16:54:56 |

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Solution Results - As

| Sample ID | Signal | Rsd | Conc | Corrected Conc | |
|---|---|---|---|---|---|
| | Abs.s (Area) | % | µg/L | µg/L | |
| **As 274300dup 259436 X5** | **0.046** | **2.1** | **9.7520** | **9.7520** | |
| 1 | 0.046 | Background: 0.886 | | | 05/02/2019 16:57:55 |
| 2 | 0.047 | Background: 0.890 | | | 05/02/2019 17:00:56 |
| **As 274301dup 259436 X5** | **0.050** | **1.4** | **10.5187** | **10.5187** | |
| 1 | 0.050 | Background: 0.907 | | | 05/02/2019 17:03:54 |
| 2 | 0.049 | Background: 0.905 | | | 05/02/2019 17:06:54 |
| **As 260475 X5** | **0.028** | **5.1** | **5.9667** | **5.9667** | |
| 1 | 0.027 | Background: 0.511 | | | 05/02/2019 17:09:53 |
| 2 | 0.029 | Background: 0.501 | | | 05/02/2019 17:12:52 |
| **As 257647 X5** | **0.015** | **1.9** | **3.1758** | **3.1758** | |
| 1 | 0.015 | Background: 0.530 | | | 05/02/2019 17:15:51 |
| 2 | 0.015 | Background: 0.525 | | | 05/02/2019 17:18:51 |
| **As Analysis Spike** | **0.065** | **0.2** | **13.6470** | **13.6470** | |
| 1 | 0.065 | Background: 0.508 | | | 05/02/2019 17:21:50 |
| 2 | 0.065 | Background: 0.513 | | | 05/02/2019 17:24:50 |
| **As CCV** | **0.048** | **0.6** | **10.1741** | **10.1741** | |
| 1 | 0.048 | Background: 0.080 | | | 05/02/2019 17:27:50 |
| 2 | 0.049 | Background: 0.050 | | | 05/02/2019 17:30:49 |
| **As CCB** | **-0.000** | **>99** | **-0.0859** | **-0.0859** | |
| 1 | 0.001 | Background: 0.049 | | | 05/02/2019 17:33:48 |
| 2 | -0.001 | Background: 0.053 | | | 05/02/2019 17:36:48 |

# METALS
# LOGBOOK
# DOCUMENTS

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264608 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 264609 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 264610 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 264611 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 264612 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 264613 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264614 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264615 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258597 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71264 | | | |
| | 258596 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71264 | | | |
| 143730 | 254964 | | 03/19/2019 | 1110 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU56 | | | Designated MS/MSD | | | | | 71264 | | | |
| | 264616 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 254964 | | | | 0 | | | |
| | 258599 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU56 | | | DUP | 254964 | | | | 71264 | | | |
| | 258600 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU56 | | | MSS | 254964 | | | | 71264 | | | |
| | 264617 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264618 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264619 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258601 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU56 | | | MSDS | 258600 | | | | 71264 | | | |
| 143730 | 254965 | | 03/19/2019 | 1110 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU56 | | | Designated MS/MSD | | | | | 71264 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264620 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254964 | | | | 0 | | | |
| | 258602 | | 03/19/2019 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU56 | | DUP | 254965 | | | | 71264 | | | |
| | 264621 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | L | 254965 | | | | 0 | | | |
| | 258603 | | 03/19/2019 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU56 | | MSS | 254965 | | | | 71264 | | | |
| | 258604 | | 03/19/2019 1110 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU56 | | MSDS | 258603 | | | | 71264 | | | |
| | 264622 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254965 | | | | 0 | | | |
| 143730 | 254967 | | 03/19/2019 1245 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU47 | | | | | | | 71264 | | | |
| | 264623 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 264624 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 264625 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 258605 | | 03/19/2019 1245 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU47 | | DUP | 254967 | | | | 71264 | | | |
| | 258606 | | 03/19/2019 1245 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU47 | | DUP | 254967 | | | | 71264 | | | |
| 143765 | 255855 | | 03/21/2019 1045 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU07 | | | | | | | 71264 | | | |
| 143765 | 255856 | | 03/22/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU03R2 | | | | | | | 71264 | | | |
| 143765 | 255857 | | 03/22/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU03R2 | | | | | | | 71264 | | | |
| 143765 | 255858 | | 03/22/2019 0850 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU03R3 | | | | | | | 71264 | | | |
| 143765 | 255859 | | 03/22/2019 0850 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU03R3 | | | | | | | 71264 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255860 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU07R1 | | | | | | 71264 | | | |
| 143765 | 255861 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU07R1 | | | | | | 71264 | | | |
| 143765 | 255880 | | 03/25/2019 1505 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU32 | | | | | | 71264 | | | |
| | 264626 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 264627 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 264628 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 266034 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 266036 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 266037 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 266039 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 266050 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 266041 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 266042 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 266043 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 266044 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 266045 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 266046 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143765 | 255858 | | 03/22/2019 0850 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU03R3 | | | | | | 71264 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255882 | DU1A-SU33 | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255883 | DU1B-SU33 | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255884 | DU3A-SU09 | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255885 | DU3B-SU09 | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255886 | DU3A-SU10 | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255887 | DU3B-SU10 | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255888 | DU3A-SU05 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| 143765 | 255889 | DU3B-SU05 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | 71264 | S | 4 | |
| | 266047 | | | CCV1 | | | MICP SOIL QSM | 0 | | | |
| | 266048 | | | CCV2 | | | MICP SOIL QSM | 0 | | | |
| | 266049 | | | CCB | | | MICP SOIL QSM | 0 | | | |
| | 273309 | | | ICV | | | MICP SOIL QSM | 0 | | | |
| | 273310 | | | ICVLL | | | MICP SOIL QSM | 0 | | | |
| | 273311 | | | ICB | | | MICP SOIL QSM | 0 | | | |
| | 273312 | | | ICSA | | | MICP SOIL QSM | 0 | | | |
| | 273313 | | | ICSAB | | | MICP SOIL QSM | 0 | | | |
| | 273315 | | | CCV1 | | | MICP SOIL QSM | 0 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273316 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 273317 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143730 | 254965 | | 03/19/2019 | 1110 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1B-SU56 | | | Designated MS/MSD | | | | | 71264 | | | |
| | 264621 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 254965 | | | | 0 | | | |
| | 258602 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1B-SU56 | | | DUP | 254965 | | | | 71264 | | | |
| | 258603 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1B-SU56 | | | MSS | 254965 | | | | 71264 | | | |
| | 273318 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 273319 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 273320 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258604 | | 03/19/2019 | 1110 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1B-SU56 | | | MSDS | 258603 | | | | 71264 | | | |
| | 264622 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 254965 | | | | 0 | | | |
| 143765 | 255856 | | 03/22/2019 | 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU03R2 | | | | | | | | 71264 | | | |
| 143765 | 255857 | | 03/22/2019 | 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU03R2 | | | | | | | | 71264 | | | |
| 143765 | 255881 | | 03/25/2019 | 1505 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU32 | | | | | | | | 71264 | | | |
| 143765 | 255884 | | 03/25/2019 | 1620 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU09 | | | | | | | | 71264 | | | |
| 143765 | 255885 | | 03/25/2019 | 1620 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU09 | | | | | | | | 71264 | | | |
| 143765 | 255887 | | 03/25/2019 | 1415 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU10 | | | | | | | | 71264 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159293 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273321 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273322 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273323 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 273326 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 273327 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |
| | 273328 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 273329 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |
| | 273330 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| 143765 | 255886 | | 03/25/2019 | 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU10 | | | | | | | 71264 | | | |
| | 273331 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273332 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273333 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |

**100** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264629 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 264630 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 264631 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 264632 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 264633 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 264634 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264635 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264636 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 258583 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71263 | | | |
| | 258582 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71263 | | | |
| | 264637 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 264638 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 264639 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143688 | 254597 | | 03/20/2019 | 1145 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU45 | | | | | | | | 71263 | | | |
| 143688 | 254598 | | 03/20/2019 | 1145 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU45 | | | | | | | | 71263 | | | |
| 143688 | 254599 | | 03/20/2019 | 1320 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU42 | | | | | | | | 71263 | | | |
| 143688 | 254600 | | 03/20/2019 | 1320 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU42 | | | | | | | | 71263 | | | |
| | 264656 | | 03/20/2019 | 1320 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU42 | | | DUP | 254600 | | | | 71263 | | | |

Page 2150

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264657 | | 03/20/2019 1320 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU42 | | DUP 254600 | | | | 71263 | | | |
| 143688 | 254601 | | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU01 | | Designated MS/MSD | | | | 71263 | | | |
| | 264640 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 254601 | | | | 0 | | | |
| | 258589 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 258588 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 264641 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 264642 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 264643 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 258590 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | MSS 254601 | | | | 71263 | | | |
| | 258591 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3A-SU01 | | MSDS 258590 | | | | 71263 | | | |
| | 264644 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 254601 | | | | 0 | | | |
| 143688 | 254602 | | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU01 | | Designated MS/MSD | | | | 71263 | | | |
| | 264645 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 254602 | | | | 0 | | | |
| | 258592 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | DUP 254602 | | | | 71263 | | | |
| | 258593 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | DUP 254602 | | | | 71263 | | | |
| | 258594 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | MSS 254602 | | | | 71263 | | | |
| | 258595 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| | | DU3B-SU01 | | MSDS 258594 | | | | 71263 | | | |
| | 264646 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 254602 | | | | 0 | | | |
| | 264647 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 264648 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 264649 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143688 | 254603 | | 03/20/2019 | 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3A-SU02 | | | | | | | 71263 | | | |
| 143688 | 254604 | | 03/20/2019 | 1550 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3B-SU02 | | | | | | | 71263 | | | |
| 143688 | 254605 | | 03/20/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3A-SU04 | | | | | | | 71263 | | | |
| 143688 | 254606 | | 03/20/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU3B-SU04 | | | | | | | 71263 | | | |
| 143730 | 254959 | | 03/19/2019 | 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU50 | | | | | | | 71263 | | | |
| 143730 | 254961 | | 03/19/2019 | 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU50 | | | | | | | 71263 | | | |
| 143730 | 254962 | | 03/19/2019 | 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU59 | | | | | | | 71263 | | | |
| 143730 | 254963 | | 03/19/2019 | 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU59 | | | | | | | 71263 | | | |
| 143730 | 254966 | | 03/19/2019 | 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU47 | | | | | | | 71263 | | | |
| 143730 | 254968 | | 03/19/2019 | 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU49 | | | | | | | 71263 | | | |
| | 264650 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 264651 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 264652 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143730 | 254969 | | 03/19/2019 | 1335 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU49 | | | | | | | 71263 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255833 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU03R1 | | | | | | 71263 | | | |
| 143765 | 255853 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU03R1 | | | | | | 71263 | | | |
| 143765 | 255854 | | 03/21/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU07 | | | | | | 71263 | | | |
| | 264653 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 264654 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 264655 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 273252 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 273253 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 273254 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 273255 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 273256 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| 143688 | 254601 | | 03/20/2019 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU01 | | Designated MS/MSD | | | | 71263 | | | |
| | 264640 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 254601 | | | | 0 | | | |
| | 258589 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 258588 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | DUP 254601 | | | | 71263 | | | |
| | 258590 | | 03/20/2019 1435 | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | MSS 254601 | | | | 71263 | | | |
| | 273258 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 273259 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273260 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 258591 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3A-SU01 | | MSDS | 258590 | | | | 71263 | | | |
| | 264644 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254601 | | | | 0 | | | |
| | 264645 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | L | 254602 | | | | 0 | | | |
| | 258592 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | DUP | 254602 | | | | 71263 | | | |
| | 258593 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | DUP | 254602 | | | | 71263 | | | |
| | 258594 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | MSS | 254602 | | | | 71263 | | | |
| | 258595 | | 03/20/2019 1435 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU3B-SU01 | | MSDS | 258594 | | | | 71263 | | | |
| | 264646 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 254602 | | | | 0 | | | |
| 143688 | 254603 | | 03/20/2019 1550 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU02 | | | | | | | 71263 | | | |
| | 273261 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 273262 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 273263 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| 143688 | 254604 | | 03/20/2019 1550 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU02 | | | | | | | 71263 | | | |
| 143688 | 254606 | | 03/20/2019 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU04 | | | | | | | 71263 | | | |
| 143765 | 255833 | | 03/21/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU03R1 | | | | | | | 71263 | | | |
| 143765 | 255853 | | 03/21/2019 0845 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3B-SU03R1 | | | | | | | 71263 | | | |
| 143765 | 255854 | | 03/21/2019 1045 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU3A-SU07 | | | | | | | 71263 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159294 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273264 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273265 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273266 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 273289 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 273290 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |
| | 273291 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 273292 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |
| | 273293 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| 143688 | 254602 | | 03/20/2019 | 1435 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| RERUN | | DU3B-SU01 | | | Designated MS/MSD | | | | 71263 | | | |
| 143688 | 254605 | | 03/20/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| RERUN | | DU3A-SU04 | | | | | | | 71263 | | | |
| | 273294 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273295 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273296 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |

**102** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159388 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 265992 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 265994 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 265995 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 265997 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 266013 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 260074 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71284 | | | |
| | 260073 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71284 | | | |
| 143765 | 255901 | | 03/25/2019 | 0805 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU46 | | | | | | | | 71284 | | | |
| 143765 | 255903 | | 03/25/2019 | 0805 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU46 | | | | | | | | 71284 | | | |
| 143765 | 255904 | | 03/25/2019 | 1400 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU38 | | | | | | | | 71284 | | | |
| | 265999 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 266000 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 266001 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 260075 | | 03/25/2019 | 1400 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU38 | | | DUP | 255904 | | | | 71284 | | | |
| | 260076 | | 03/25/2019 | 1400 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU38 | | | DUP | 255904 | | | | 71284 | | | |
| 143765 | 255905 | | 03/25/2019 | 1400 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU38 | | | | | | | | 71284 | | | |
| 143765 | 255906 | | 03/25/2019 | 1305 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU40 | | | | | | | | 71284 | | | |
| 143765 | 255907 | | 03/25/2019 | 1305 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU40 | | | | | | | | 71284 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159388 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255908 | | 03/25/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU35 | | | | | | 71284 | | | |
| 143765 | 255909 | | 03/25/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU35 | | | | | | 71284 | | | |
| 143765 | 255910 | | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU31 | | | | | | 71284 | | | |
| 143765 | 255911 | | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU31 | | | | | | 71284 | | | |
| 143765 | 255912 | | 03/22/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU07R2 | | | | | | 71284 | | | |
| | 266002 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 266003 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 266004 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143765 | 255913 | | 03/22/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU07R2 | | | | | | 71284 | | | |
| 143765 | 255914 | | 03/22/2019 1255 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU07R3 | | | | | | 71284 | | | |
| 143765 | 255915 | | 03/22/2019 1255 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU07R3 | | | | | | 71284 | | | |
| 143765 | 255916 | | 03/22/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU02R1 | | | | | | 71284 | | | |
| 143765 | 255917 | | 03/22/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU02R1 | | | | | | 71284 | | | |
| 143765 | 255918 | | 03/22/2019 1625 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU02R2 | | | | | | 71284 | | | |
| 143765 | 255919 | | 03/22/2019 1625 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU02R2 | | | | | | 71284 | | | |
| | 266005 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 255919 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159388 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 260078 | | 03/22/2019 1625 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU02R2 | | DUP | 255919 | | | | 71284 | | | |
| | 260079 | | 03/22/2019 1625 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU02R2 | | DUP | 255919 | | | | 71284 | | | |
| | 266006 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 266007 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 266008 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 260080 | | 03/22/2019 1625 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU02R2 | | MSS | 255919 | | | | 71284 | | | |
| | 260081 | | 03/22/2019 1625 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU02R2 | | MSDS | 260080 | | | | 71284 | | | |
| | 266009 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 255919 | | | | 0 | | | |
| 143765 | 255920 | | 03/22/2019 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU02R3 | | | | | | | 71284 | | | |
| 143811 | 256795 | | 03/26/2019 1340 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU25 | | | | | | | 71284 | | | |
| | 266010 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 266011 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 266012 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |

**47** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159809 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273038 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | | | |
| | 273039 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | | | |
| | 273040 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | | | |
| | 273041 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | | | |
| | 273042 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | | | |
| | 273043 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | | | |
| | 273044 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | | | |
| | 273048 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | | | |
| | 265241 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | 71469 | | | |
| | 270334 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273046 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | | | |
| | 270336 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 265240 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | 71469 | | | |
| 143765 | 255921 | | 03/22/2019 | 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU02R3 | | | | | | | 71469 | | | |
| 143811 | 256767 | | 03/26/2019 | 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU24 | | | | | | | 71469 | | | |
| 143811 | 256794 | | 03/26/2019 | 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU24 | | | | | | | 71469 | | | |
| 143811 | 256796 | | 03/26/2019 | 1345 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU25 | | | | | | | 71469 | | | |
| 143811 | 256797 | | 03/26/2019 | 1420 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU15 | | | | | | | 71469 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159809 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143811 | 256798 | | 03/26/2019 1420 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU15 | | | | | | | 71469 | | | |
| | 273059 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | L | 256798 | | | | | | | |
| | 265264 | | 03/26/2019 1420 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU15 | | DUP | 256798 | | | | 71469 | | | |
| | 265265 | | 03/26/2019 1420 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU15 | | DUP | 256798 | | | | 71469 | | | |
| | 273064 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | | | | |
| | 270335 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 273045 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | | | | |
| | 270322 | | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | | 0 | | | |
| | 270323 | | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | | 0 | | | |
| | 270324 | | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | | 0 | | | |
| | 270325 | | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | | 0 | | | |
| | 270326 | | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | | 0 | | | |
| | 265266 | | 03/26/2019 1420 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU15 | | MSS | 256798 | | | | 71469 | | | |
| | 270327 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 256798 | | | | 0 | | | |
| 143811 | 256799 | | 03/26/2019 0955 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU08 | | | | | | | 71469 | | | |
| 143811 | 256800 | | 03/26/2019 0955 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU08 | | | | | | | 71469 | | | |
| 143811 | 256801 | | 03/26/2019 1120 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3A-SU06 | | | | | | | 71469 | | | |
| 143811 | 256802 | | 03/26/2019 1120 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU3B-SU06 | | | | | | | 71469 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159809 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143811 | 256803 | | 03/26/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU18 | | | | | | 71469 | | | |
| | 266418 | | 03/26/2019 1630 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU18 | | DUP 256803 | | | | 71469 | | | |
| | 266419 | | 03/26/2019 1630 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU18 | | DUP 256803 | | | | 71469 | | | |
| 143811 | 256804 | | 03/26/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU18 | | | | | | 71469 | | | |
| | 270328 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 270329 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 270330 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143811 | 256805 | | 03/26/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU22 | | | | | | 71469 | | | |
| 143811 | 256806 | | 03/26/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU22 | | | | | | 71469 | | | |
| 143811 | 256807 | | 03/26/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU17 | | | | | | 71469 | | | |
| 143811 | 256808 | | 03/26/2019 1545 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU17 | | | | | | 71469 | | | |
| 143856 | 257642 | | 03/27/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU16 | | | | | | 71469 | | | |
| 143856 | 257643 | | 03/27/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU16 | | | | | | 71469 | | | |
| 143856 | 257644 | | 03/27/2019 1401 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU26 | | | | | | 71469 | | | |
| 143856 | 257645 | | 03/27/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU20 | | | | | | 71469 | | | |
| | 270331 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |

Page 2161

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159809 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 270332 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270333 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 273471 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 273472 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 273473 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 273474 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 273475 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| 143811 | 256803 | | 03/26/2019 | 1630 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU18 | | | | | | | | 71469 | | | |
| | 266418 | | 03/26/2019 | 1630 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU18 | | | DUP | 256803 | | | | 71469 | | | |
| | 266419 | | 03/26/2019 | 1630 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU18 | | | DUP | 256803 | | | | 71469 | | | |
| 143811 | 256767 | | 03/26/2019 | 0915 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU24 | | | | | | | | 71469 | | | |
| 143811 | 256797 | | 03/26/2019 | 1420 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU15 | | | | | | | | 71469 | | | |
| | 273476 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 273477 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 273478 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |

**67** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159920 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271470 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | | | | |
| | 270998 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 270999 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 271000 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 271001 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 271002 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271003 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271004 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 265269 | | | | | | ICP QSM 5.0 | | | | |
| | | | | LCSS | | | | 71472 | | | |
| | 265268 | | | | | | ICP QSM 5.0 | | | | |
| | | | | MBS | | | | 71472 | | | |
| 143856 | 257646 | | 03/27/2019 1511 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU20 | | | | | | 71472 | | | |
| 143856 | 257647 | | 03/27/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU44R1 | | | | | | 71472 | | | |
| 143856 | 257648 | | 03/27/2019 0926 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU44R1 | | | | | | 71472 | | | |
| 143856 | 257649 | | 03/27/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU44R2 | | | | | | 71472 | | | |
| 143856 | 257650 | | 03/27/2019 1011 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU44R2 | | | | | | 71472 | | | |
| 143856 | 257651 | | 03/27/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU44R3 | | | | | | 71472 | | | |
| | 271005 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271006 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159920 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271007 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143856 | 257652 | | 03/27/2019 1106 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU44R3 | | | | | | 71472 | | | |
| 143856 | 257653 | | 03/27/2019 1225 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU48 | | | | | | 71472 | | | |
| 143856 | 257654 | | 03/27/2019 1226 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU48 | | | | | | 71472 | | | |
| 143856 | 257655 | | 03/27/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU26 | | | | | | 71472 | | | |
| 143856 | 257656 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU30S1 | | | | | | 71472 | | | |
| | 265270 | | 03/27/2019 1050 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU30S1 | | DUP 257656 | | | | 71472 | | | |
| | 265271 | | 03/27/2019 1050 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU30S1 | | DUP 257656 | | | | 71472 | | | |
| 143856 | 257657 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU30S1 | | | | | | 71472 | | | |
| 143856 | 257658 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU30S2 | | | | | | 71472 | | | |
| 143856 | 257659 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU30S2 | | | | | | 71472 | | | |
| | 271008 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271009 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271010 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143856 | 257660 | | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU30S3 | | | | | | 71472 | | | |
| 143856 | 257661 | | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU30S3 | | | | | | 71472 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159920 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257662 | | 03/27/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU18 | | | | | | 71472 | | | |
| 143856 | 257663 | | 03/27/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU18 | | | | | | 71472 | | | |
| 143900 | 258269 | | 03/28/2019 0935 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU10 | | Designated MS/MSD | | | | 71472 | | | |
| | 271011 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 258269 | | | | 0 | | | |
| | 265286 | | 03/28/2019 0935 | | | | ICP QSM 5.0 | | | | |
| | | DU2A-SU10 | | DUP 258269 | | | | 71472 | | | |
| | 265287 | | 03/28/2019 0935 | | | | ICP QSM 5.0 | | | | |
| | | DU2A-SU10 | | MSS 258269 | | | | 71472 | | | |
| | 265288 | | 03/28/2019 0935 | | | | ICP QSM 5.0 | | | | |
| | | DU2A-SU10 | | MSDS 265287 | | | | 71472 | | | |
| | 271012 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 258269 | | | | 0 | | | |
| | 271013 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271014 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271015 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143900 | 258274 | | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU04 | | | | | | 71472 | | | |
| | 265272 | | 03/28/2019 1310 | | | | ICP QSM 5.0 | | | | |
| | | DU2A-SU04 | | DUP 258274 | | | | 71472 | | | |
| | 265273 | | 03/28/2019 1310 | | | | ICP QSM 5.0 | | | | |
| | | DU2A-SU04 | | DUP 258274 | | | | 71472 | | | |
| | 271016 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271017 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271018 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 271943 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159920 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271944 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 271945 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 271946 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | MRL | | | | | 0 | | | |
| | 271947 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 271948 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| 143856 | 257656 | | 03/27/2019 | 1050 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU30S1 | | | | | | | | 71472 | | | |
| | 265270 | | 03/27/2019 | 1050 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU30S1 | | | DUP | 257656 | | | | 71472 | | | |
| | 265271 | | 03/27/2019 | 1050 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU30S1 | | | DUP | 257656 | | | | 71472 | | | |
| 143856 | 257658 | | 03/27/2019 | 1055 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU30S2 | | | | | | | | 71472 | | | |
| 143856 | 257660 | | 03/27/2019 | 1100 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU30S3 | | | | | | | | 71472 | | | |
| | 271949 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271950 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271951 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |

**65** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271472 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | | | | |
| | 270958 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 270959 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 270960 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 270961 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 265277 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71473 | | | |
| | 265276 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71473 | | | |
| 143900 | 258271 | | 03/28/2019 | 0935 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU10 | | | Designated MS/MSD | | | | | 71473 | | | |
| | 270962 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 258271 | | | | 0 | | | |
| | 265289 | | 03/28/2019 | 0935 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU10 | | | DUP | 258271 | | | | 71473 | | | |
| | 265290 | | 03/28/2019 | 0935 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU10 | | | MSS | 258271 | | | | 71473 | | | |
| | 265291 | | 03/28/2019 | 0935 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU10 | | | MSDS | 265290 | | | | 71473 | | | |
| | 270963 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 258271 | | | | 0 | | | |
| | 270964 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 270965 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270966 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143900 | 258272 | | 03/28/2019 | 1105 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU05 | | | | | | | | 71473 | | | |
| 143900 | 258273 | | 03/28/2019 | 1105 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU05 | | | | | | | | 71473 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143900 | 258275 | | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU04 | | | | | | 71473 | | | |
| 143900 | 258276 | | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU03 | | | | | | 71473 | | | |
| 143900 | 258277 | | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU03 | | | | | | 71473 | | | |
| 143965 | 259433 | | 03/28/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU13 | | Designated MS/MSD | | | | 71473 | | | |
| | 270967 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 259433 | | | | 0 | | | |
| | 265292 | | 03/28/2019 0830 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU13 | | DUP 259433 | | | | 71473 | | | |
| | 265293 | | 03/28/2019 0830 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU13 | | MSS 259433 | | | | 71473 | | | |
| | 265294 | | 03/28/2019 0830 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU13 | | MSDS 265293 | | | | 71473 | | | |
| | 270968 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 270969 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 270970 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 270971 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 259433 | | | | 0 | | | |
| 143965 | 259434 | | 03/28/2019 0831 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU13 | | Designated MS/MSD | | | | 71473 | | | |
| | 270972 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 259434 | | | | 0 | | | |
| | 265278 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | DUP 259434 | | | | 71473 | | | |
| | 265279 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | DUP 259434 | | | | 71473 | | | |
| | 265280 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | MSS 259434 | | | | 71473 | | | |
| | 265281 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | MSDS 265280 | | | | 71473 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 270973 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 259434 | | | | 0 | | | |
| 143965 | 259435 | | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU14 | | | | | | 71473 | | | |
| 143965 | 259436 | | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU14 | | | | | | 71473 | | | |
| | 270974 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 270975 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 270976 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143965 | 259437 | | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU19 | | | | | | 71473 | | | |
| 143965 | 259459 | | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU19 | | | | | | 71473 | | | |
| 143965 | 259460 | | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU12 | | | | | | 71473 | | | |
| 143965 | 259462 | | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU12 | | | | | | 71473 | | | |
| 143965 | 259463 | | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU36R1 | | | | | | 71473 | | | |
| 143965 | 259464 | | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU36R1 | | | | | | 71473 | | | |
| 143965 | 259465 | | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU36R2 | | | | | | 71473 | | | |
| | 265282 | | 03/29/2019 1005 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU36R2 | | DUP 259465 | | | | 71473 | | | |
| | 265283 | | 03/29/2019 1005 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU36R2 | | DUP 259465 | | | | 71473 | | | |
| 143965 | 259466 | | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU36R2 | | | | | | 71473 | | | |

Page 2169

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 270977 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 270978 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270979 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143965 | 259467 | | 03/29/2019 | 1010 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU36R3 | | | | | | | | 71473 | | | |
| 143965 | 259468 | | 03/29/2019 | 1010 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU36R3 | | | | | | | | 71473 | | | |
| | 270980 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 270981 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270982 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 271952 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 271953 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 271954 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 271955 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | MRL | | | | | 0 | | | |
| | 271956 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 271957 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| 143965 | 259433 | | 03/28/2019 | 0830 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU13 | | | Designated MS/MSD | | | | | 71473 | | | |
| | 272087 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 259433 | | | | | | | |
| | 265292 | | 03/28/2019 | 0830 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU13 | | | DUP | 259433 | | | | 71473 | | | |
| | 271958 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |

Page 2170

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271959 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271960 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 265293 | | 03/28/2019 | 0830 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU13 | | | MSS | 259433 | | | | 71473 | | | |
| | 265294 | | 03/28/2019 | 0830 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU13 | | | MSDS | 265293 | | | | 71473 | | | |
| | 272088 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 259433 | | | | | | | |
| 143965 | 259462 | | 03/28/2019 | 1344 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1B-SU12 | | | | | | | | 71473 | | | |
| | 271961 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271962 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271963 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 271964 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271965 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271966 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143965 | 259460 | | 03/28/2019 | 1344 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU12 | | | | | | | | 71473 | | | |
| | 271967 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271968 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271969 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |

**86** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MGFAA AS QSM SOIL Analytical Run
# 160412 on 05/07/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 276689 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCVLL | | | | | | | | |
| | 276544 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | ICV | | | | | 0 | | | |
| | 276545 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 274295 | | | | | | | ARSENIC QSM | | | | |
| | | | | LCSS | | | | | 71761 | | | |
| | 274294 | | | | | | | ARSENIC QSM | | | | |
| | | | | MBS | | | | | 71761 | | | |
| | 276687 | | | | | | | ARSENIC QSM | | | | |
| | | | | L | 257647 | | | | | | | |
| | 274296 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | DUP | 257647 | | | | 71761 | | | |
| | 274297 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | DUP | 257647 | | | | 71761 | | | |
| | 274298 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | MSS | 257647 | | | | 71761 | | | |
| | 276546 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCV | | | | | 0 | | | |
| | 276547 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 274299 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | MSDS | 274298 | | | | 71761 | | | |
| 143856 | 257648 | | 03/27/2019 0926 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU44R1 | | | | | | | 71761 | | | |
| 143856 | 257649 | | 03/27/2019 1010 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU44R2 | | | | | | | 71761 | | | |
| 143856 | 257650 | | 03/27/2019 1011 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU44R2 | | | | | | | 71761 | | | |
| 143856 | 257651 | | 03/27/2019 1105 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU44R3 | | | | | | | 71761 | | | |
| 143856 | 257652 | | 03/27/2019 1106 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU44R3 | | | | | | | 71761 | | | |
| 143856 | 257653 | | 03/27/2019 1225 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU48 | | | | | | | 71761 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: Metals [redacted] ANALYTICALRUN.RPT

# MGFAA AS QSM SOIL Analytical Run
# 160412 on 05/07/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257654 | | 03/27/2019 1226 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU48 | | | | | | 71761 | | | |
| | 276548 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCV | | | | 0 | | | |
| | 276549 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | 0 | | | |
| 143856 | 257655 | | 03/27/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU26 | | | | | | 71761 | | | |
| 143856 | 257657 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU30S1 | | | | | | 71761 | | | |
| 143856 | 257659 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU30S2 | | | | | | 71761 | | | |
| 143856 | 257661 | | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU30S3 | | | | | | 71761 | | | |
| 143965 | 259436 | | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU14 | | | | | | 71761 | | | |
| | 274300 | | 03/28/2019 1017 | | | | ARSENIC QSM | | | | |
| | | DU1B-SU14 | | DUP 259436 | | | | 71761 | | | |
| | 274301 | | 03/28/2019 1017 | | | | ARSENIC QSM | | | | |
| | | DU1B-SU14 | | DUP 259436 | | | | 71761 | | | |
| 144004 | 260475 | | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU4B-SU05 | | | | | | 71761 | | | |
| 143856 | 257647 | | 03/27/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU44R1 | | | | | | 71761 | | | |
| | 276688 | | | | | | ARSENIC QSM | | | | |
| | | | | PDSS 257647 | | | | | | | |
| | 276550 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCV | | | | 0 | | | |
| | 276551 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | 0 | | | |

**33** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# PREP WORKSHEET
# on 05/01/2019

Prep Batch **71,264** Date Prepped: 04/01/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258596 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.90 | | | |
| | 258597 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.96 | | | |
| 143730 | 254964 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254965 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254965 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254967 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| 143765 | 255855 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255856 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 255856 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 255857 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255857 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255858 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 255858 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 255859 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255860 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255861 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255880 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255881 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 255882 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 255883 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255884 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255884 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255885 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255885 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255886 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 255886 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 255887 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255887 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255888 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255889 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 258599 | DUP | 254964 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258600 | MSS | 254964 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258601 | MSDS | 258600 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258602 | DUP | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258602 | DUP | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |

# PREP WORKSHEET
# on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258603 | MSS | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258603 | MSS | 254965 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258604 | MSDS | 258603 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258604 | MSDS | 258603 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258605 | DUP | 254967 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 258606 | DUP | 254967 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,263** Date Prepped: 04/01/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258582 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.99 | | | |
| | 258583 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.98 | | | |
| 143688 | 254597 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254598 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 254599 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254600 | | | ICP QSM 5.0 | SOIL | 50 | 2.02 | | 4 | |
| | 254601 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254601 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254602 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254602 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254603 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254603 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 254604 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 254604 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 254605 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 254605 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 254606 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143688 | 254606 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| 143730 | 254959 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254961 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 254962 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 254963 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 254966 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 254968 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 254969 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| 143765 | 255833 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255833 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 255853 | | | ICP QSM 5.0 | SOIL | 50 | 2.09 | | 4 | |
| | 255853 | | | ICP QSM 5.0 | SOIL | 50 | 2.09 | | 4 | |
| | 255854 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 255854 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 258588 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258588 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258589 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258589 | DUP | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 258590 | MSS | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258590 | MSS | 254601 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 258591 | MSDS | 258590 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258591 | MSDS | 258590 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258592 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258592 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258593 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 258593 | DUP | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 258594 | MSS | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258594 | MSS | 254602 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 258595 | MSDS | 258594 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 258595 | MSDS | 258594 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 264656 | DUP | 254600 | ICP QSM 5.0 | SOIL | 50 | 2.01 | | | |
| | 264657 | DUP | 254600 | ICP QSM 5.0 | SOIL | 50 | 2.02 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,284** Date Prepped: 04/03/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 260073 | MBS | | ICP QSM 5.0 | SOLID | 50 | 2.00 | | | |
| | 260074 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.00 | | | |
| 143765 | 255901 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 255903 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 255904 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 255905 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 255906 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255907 | | | ICP QSM 5.0 | SOIL | 50 | 2.02 | | 4 | |
| | 255908 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255909 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 255910 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |
| | 255911 | | | ICP QSM 5.0 | SOIL | 50 | 2.02 | | 4 | |
| | 255912 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 255913 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 255914 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 255915 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 255916 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255917 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 255918 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 255919 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 255920 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| 143811 | 256795 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 260075 | DUP | 255904 | ICP QSM 5.0 | SOIL | 50 | 1.98 | | | |
| | 260076 | DUP | 255904 | ICP QSM 5.0 | SOIL | 50 | 1.98 | | | |
| | 260078 | DUP | 255919 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 260079 | DUP | 255919 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 260080 | MSS | 255919 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 260081 | MSDS | 260080 | ICP QSM 5.0 | SOIL | 50 | 1.98 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,469** Date Prepped: 04/15/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 265240 | MBS | | ICP QSM 5.0 | SOLID | 50 | 2.07 | | | |
| | 265241 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.00 | | | |
| 143765 | 255921 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| 143811 | 256767 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 256767 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 256794 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 256796 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 256797 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 256797 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 256798 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 256799 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 256800 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 256801 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 256802 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 256803 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 256803 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 256804 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143811 | 256805 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |
| | 256806 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 256807 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 256808 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| 143856 | 257642 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 257643 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 257644 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 257645 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 265264 | DUP | 256798 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 265265 | DUP | 256798 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 265266 | MSS | 256798 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 265267 | MSDS | 265266 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 266418 | DUP | 256803 | ICP QSM 5.0 | SOIL | 50 | 2.03 | | | |
| | 266418 | DUP | 256803 | ICP QSM 5.0 | SOIL | 50 | 2.03 | | | |
| | 266419 | DUP | 256803 | ICP QSM 5.0 | SOIL | 50 | 2.02 | | | |
| | 266419 | DUP | 256803 | ICP QSM 5.0 | SOIL | 50 | 2.02 | | | |

Page 2183

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,472** Date Prepped: 04/19/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 265268 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.93 | | | |
| | 265269 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.97 | | | |
| 143856 | 257646 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 257647 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 257648 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 257649 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 257650 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 257651 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 257652 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 257653 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 257654 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 257655 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 257656 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 257656 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 257657 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 257658 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 257658 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257659 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 257660 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 257660 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 257661 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 257662 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 257663 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| 143900 | 258269 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 258274 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 265270 | DUP | 257656 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265270 | DUP | 257656 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265271 | DUP | 257656 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265271 | DUP | 257656 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265272 | DUP | 258274 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265273 | DUP | 258274 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265286 | DUP | 258269 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265287 | MSS | 258269 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 265288 | MSDS | 265287 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |

**PREP WORKSHEET**
**on 05/01/2019**

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,473** Date Prepped: 04/21/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 265276 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.95 | | | |
| | 265277 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.01 | | | |
| 143900 | 258271 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 258272 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 258273 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 258275 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 258276 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 258277 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| 143965 | 259433 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259433 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259434 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259435 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 259436 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 259437 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 259459 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259460 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259460 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259462 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 259462 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 259463 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 259464 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 259465 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259466 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 259467 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 259468 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 265278 | DUP | 259434 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265279 | DUP | 259434 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 265280 | MSS | 259434 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 265281 | MSDS | 265280 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265282 | DUP | 259465 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265283 | DUP | 259465 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 265289 | DUP | 258271 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 265290 | MSS | 258271 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 265291 | MSDS | 265290 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 265292 | DUP | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |

# PREP WORKSHEET
# on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 265292 | DUP | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 265293 | MSS | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 265293 | MSS | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 265294 | MSDS | 265293 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265294 | MSDS | 265293 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/07/2019

Prep Batch **71,761** Date Prepped: 05/01/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 274294 | MBS | | ARSENIC QSM | SOLID | 50 | 1.94 | | | |
| | 274295 | LCSS | | ARSENIC QSM | SOLID | 50 | 2.00 | | | |
| 143856 | 257647 | | | ARSENIC QSM | SOIL | 50 | 2.04 | | 4 | |
| | 257648 | | | ARSENIC QSM | SOIL | 50 | 1.99 | | 4 | |
| | 257649 | | | ARSENIC QSM | SOIL | 50 | 1.95 | | 4 | |
| | 257650 | | | ARSENIC QSM | SOIL | 50 | 1.90 | | 4 | |
| | 257651 | | | ARSENIC QSM | SOIL | 50 | 1.93 | | 4 | |
| | 257652 | | | ARSENIC QSM | SOIL | 50 | 2.00 | | 4 | |
| | 257653 | | | ARSENIC QSM | SOIL | 50 | 1.97 | | 4 | |
| | 257654 | | | ARSENIC QSM | SOIL | 50 | 2.06 | | 4 | |
| | 257655 | | | ARSENIC QSM | SOIL | 50 | 1.90 | | 4 | |
| | 257657 | | | ARSENIC QSM | SOIL | 50 | 1.95 | | 4 | |
| | 257659 | | | ARSENIC QSM | SOIL | 50 | 1.92 | | 4 | |
| | 257661 | | | ARSENIC QSM | SOIL | 50 | 1.95 | | 4 | |
| 143965 | 259436 | | | ARSENIC QSM | SOIL | 50 | 2.08 | | 4 | |
| 144004 | 260475 | | | ARSENIC QSM | SOIL | 50 | 1.90 | | 4 | |
| | 274296 | DUP | 257647 | ARSENIC QSM | SOIL | 50 | 2.05 | | | |



Distibution: [redacted]PREPWRKSHT.RPT

# PREP WORKSHEET
# on 05/07/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 274297 | DUP | 257647 | ARSENIC QSM | SOIL | 50 | 2.04 | | | |
| | 274298 | MSS | 257647 | ARSENIC QSM | SOIL | 50 | 2.05 | | | |
| | 274299 | MSDS | 274298 | ARSENIC QSM | SOIL | 50 | 2.03 | | | |
| | 274300 | DUP | 259436 | ARSENIC QSM | SOIL | 50 | 2.08 | | | |
| | 274301 | DUP | 259436 | ARSENIC QSM | SOIL | 50 | 2.07 | | | |

Notes:_____

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: Soil

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71264 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/01/2019 |
| **Start Time:** | 11:12 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 04/01/2019
End Time: 14:11

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3231
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 91
Final-Digestion Temp (ºC): 92

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 258596 | (MB) | | 1.90 | | 50 |
| | 258597 | (LCS) | | 1.96 | | 50 |
| | 254964 | | | 1.91 | | 50 |
| | 254965 | Comments: | | 1.91 | | 50 |
| | 254967 | | | 1.90 | | 50 |
| | 255855 | | | 1.96 | | 50 |
| | 255856 | | | 2.08 | | 50 |
| | 255857 | | | 1.93 | | 50 |
| | 255858 | | | 2.06 | | 50 |
| | 255859 | | | 1.91 | | 50 |
| | 255860 | | | 1.92 | | 50 |
| | 255861 | | | 1.93 | | 50 |
| | 255880 | | | 1.94 | | 50 |
| | 255881 | | | 2.03 | | 50 |
| | 255882 | | | 1.95 | | 50 |
| | 255883 | | | 1.91 | | 50 |
| | 255884 | | | 1.92 | | 50 |
| | 255885 | | | 1.93 | | 50 |
| | 255886 | | | 1.97 | | 50 |
| | 255887 | | | 1.91 | | 50 |
| | 255888 | | | 1.96 | | 50 |
| | 255889 | | | 2.01 | | 50 |
| | 258605 | (DUP) | | 1.90 | | 50 |
| | 258606 | dup2 | | 1.90 | | 50 |
| | | | 254967 | | | 50 |
| | 258599 | (DUP) | | 1.92 | | 50 |
| | 258600 | (MS) | Parent Sample | 1.92 | | 50 |
| | 254601 | (MSD) | 254964 | 1.92 | | 50 |
| Leave >> | 258602 | (DUP) if applicable | | 1.91 | | 50 |
| blank | 258603 | (MS) | | 1.91 | | 50 |
| if N/A | 258604 | (MSD) | 254965 | 1.92 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

05/03/201912:25

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: Soil

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71263 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/01/2019 |
| **Start Time:** | 11:12 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 04/01/2019
End Time: 14:11

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3231
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 91
Final-Digestion Temp (ºC): 92

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 258582 | (MB) | | 1.99 | | 50 |
| | 258283 | (LCS) | | 1.98 | | 50 |
| | 254597 | | | 1.92 | | 50 |
| | 254598 | Comments: | | 2.06 | | 50 |
| | 254599 | 2dup 258589 1.93 | | 1.92 | | 50 |
| | 254600 | 2dup 258593 1.94 | | 2.02 | | 50 |
| | 254601 | | | 1.92 | | 50 |
| | 254602 | | | 1.93 | | 50 |
| | 254603 | | | 1.91 | | 50 |
| | 254604 | | | 2.06 | | 50 |
| | 254605 | | | 1.90 | | 50 |
| | 254606 | | | 1.95 | | 50 |
| | 254959 | | | 1.93 | | 50 |
| | 254961 | | | 1.92 | | 50 |
| | 254962 | | | 1.95 | | 50 |
| | 254963 | | | 1.93 | | 50 |
| | 254966 | | | 1.94 | | 50 |
| | 254968 | | | 1.99 | | 50 |
| | 254969 | | | 1.96 | | 50 |
| | 255833 | | | 1.96 | | 50 |
| | 255853 | | | 2.09 | | 50 |
| | 255854 | | | 2.01 | | 50 |
| | 264656 | (DUP) | | 1.92 | | 50 |
| | 264657 | dup2 | | 1.93 | | 50 |
| | | | 254600 | | | 50 |
| | 258588 | (DUP) | | 1.92 | | 50 |
| | 258590 | (MS) | Parent Sample | 1.91 | | 50 |
| | 258591 | (MSD) | 254601 | 1.93 | | 50 |
| Leave >> | 258592 | (DUP) if applicable | | 1.92 | | 50 |
| blank | 258594 | (MS) | Parent Sample | 1.92 | | 50 |
| if N/A | 258595 | (MSD) | 254602 | 1.93 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

05/03/201912:26

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71284 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/03/2019 |
| **Start Time:** | 14:25 |

Prep Analyst: [redacted]
Balance ID:

End Date: 04/03/2019
End Time: 16:56

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3231
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 92
Final-Digestion Temp (ºC): 93

| Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|
| 260073 | (MB) | | 2.00 | | 50 |
| 260074 | (LCS) | | 1.94 | | 50 |
| 255901 | | | 1.93 | | 50 |
| 255903 | **Comments:** | | 1.97 | | 50 |
| 255904 | | | 1.98 | | 50 |
| 255905 | | | 2.03 | | 50 |
| 255906 | | | 1.91 | | 50 |
| 255907 | | | 2.02 | | 50 |
| 255908 | | | 1.91 | | 50 |
| 255909 | | | 2.01 | | 50 |
| 255910 | | | 2.07 | | 50 |
| 255911 | | | 2.02 | | 50 |
| 255912 | | | 2.00 | | 50 |
| 255913 | | | 1.92 | | 50 |
| 255914 | | | 2.06 | | 50 |
| 255915 | | | 1.94 | | 50 |
| 255916 | | | 1.90 | | 50 |
| 255917 | | | 1.95 | | 50 |
| 255918 | | | 1.99 | | 50 |
| 255919 | | | 1.91 | | 50 |
| 255920 | | | 1.96 | | 50 |
| 256795 | | | 2.01 | | 50 |
| 260075 | (DUP) | | 1.98 | | 50 |
| 260076 | (DUP) | Parent Sample | 1.98 | | 50 |
| | (MSD) | 255904 | | | 50 |
| 260078 | (DUP) | | 1.92 | | 50 |
| 260080 | (MS) | Parent Sample | 1.96 | | 50 |
| 260081 | (MSD) | 255919 | 1.98 | | 50 |
| Leave >> 260079 | (DUP) if applicable | | 1.91 | | 50 |
| blank | (MS) | Parent Sample | | | 50 |
| if N/A | (MSD) | 255919 | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13753 |
| 0.1 | M13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13753 |
| 0.1 | M13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date:
05/06/201914:50

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: solid

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71469 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/15/2019 |
| **Start Time:** | 12:18 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 04/15/2019
End Time: 16:32

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 3231
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 91

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 265240 | (MB) | | 2.07 | | 50 |
| | 265241 | (LCS) | | 2.00 | | 50 |
| | 255921 | | | 2.01 | | 50 |
| | 256767 | **Comments:** | | 2.05 | | 50 |
| | 256794 | | | 1.99 | | 50 |
| | 256796 | | | 1.90 | | 50 |
| | 256797 | | | 1.91 | | 50 |
| | 256798 | | | 1.93 | | 50 |
| | 256799 | | | 2.01 | | 50 |
| | 256800 | | | 1.91 | | 50 |
| | 256801 | | | 1.95 | | 50 |
| | 256802 | | | 1.95 | | 50 |
| | 256803 | | | 2.03 | | 50 |
| | 256804 | | | 2.07 | | 50 |
| | 256805 | | | 2.07 | | 50 |
| | 256806 | | | 1.94 | | 50 |
| | 256807 | | | 1.91 | | 50 |
| | 256808 | | | 1.96 | | 50 |
| | 257642 | | | 1.94 | | 50 |
| | 257643 | | | 1.91 | | 50 |
| | 257644 | | | 1.92 | | 50 |
| | 257645 | | | 1.98 | | 50 |
| | 265264 | (DUP) | | 1.92 | | 50 |
| | 265266 | (MS) | Parent Sample | 1.93 | | 50 |
| | 265267 | (MSD) | 256798 | 1.93 | | 50 |
| | 266418 | (DUP) | | 2.03 | | 50 |
| | 266419 | (DUP) | Parent Sample | 2.02 | | 50 |
| | | (MSD) | 256803 | | | 50 |
| Leave >> | 265265 | (DUP) if applicable | | 1.94 | | 50 |
| blank | | (MS) | Parent Sample | | | 50 |
| if N/A | | (MSD) | 256798 | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13616 |
| 0.1 | m13753 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13616 |
| 0.1 | m13753 |
| | |
| | |
| | |
| | |

Reviewed By/Date:

05/06/201914:51

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71472 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/19/2019 |
| **Start Time:** | 12:26 |

Prep Analyst: [redacted]
Balance ID: VOB01

End Date: 04/19/2019
End Time: 16:59

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.675 |
| Hydrochloric Acid: | AB.676 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 91
Final-Digestion Temp (ºC): 92

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 265268 | (MB) | | 1.93 | | 50 |
| | 265269 | (LCS) | | 1.97 | | 50 |
| | 257646 | | | 2.00 | | 50 |
| | 257647 | Comments: | | 1.95 | | 50 |
| | 257648 | | | 1.97 | | 50 |
| | 257649 | | | 2.04 | | 50 |
| | 257650 | | | 1.98 | | 50 |
| | 257651 | | | 1.97 | | 50 |
| | 257652 | | | 1.91 | | 50 |
| | 257653 | | | 1.95 | | 50 |
| | 257654 | | | 1.95 | | 50 |
| | 257655 | | | 1.90 | | 50 |
| | 257656 | | | 1.91 | | 50 |
| | 257657 | | | 1.92 | | 50 |
| | 257658 | | | 1.96 | | 50 |
| | 257659 | | | 1.97 | | 50 |
| | 257660 | | | 1.96 | | 50 |
| | 257661 | | | 1.94 | | 50 |
| | 257662 | | | 1.92 | | 50 |
| | 257663 | | | 1.96 | | 50 |
| | 258269 | | | 1.96 | | 50 |
| | 258274 | | | 1.90 | | 50 |
| | 265270 | (DUP) | | 1.90 | | 50 |
| | 265271 | (DUP) | Parent Sample | 1.90 | | 50 |
| | | (MSD) | 257656 | | | 50 |
| | 265272 | (DUP) | | 1.90 | | 50 |
| | 265273 | (DUP) | Parent Sample | 1.90 | | 50 |
| | | (MSD) | 258274 | | | 50 |
| Leave >> | 265286 | (DUP) if applicable | | 1.95 | | 50 |
| blank | 265287 | (MS) | Parent Sample | 1.96 | | 50 |
| if N/A | 265288 | (MSD) | 258269 | 1.96 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13616 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13616 |
| 0.1 | M13753 |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/06/201914:51

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: solid

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71473 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/21/2019 |
| **Start Time:** | 14:36 |

Prep Analyst: [redacted]
Balance ID: VOB01

End Date: 04/21/2019
End Time: 18:55
Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 92

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 265276 | (MB) | | 1.95 | | 50 |
| | 265277 | (LCS) | | 2.01 | | 50 |
| | 258271 | | | 1.93 | | 50 |
| | 258272 | Comments: | | 1.99 | | 50 |
| | 258273 | | | 2.04 | | 50 |
| | 258275 | | | 1.98 | | 50 |
| | 258276 | | | 1.95 | | 50 |
| | 258277 | | | 2.05 | | 50 |
| | 259433 | | | 1.91 | | 50 |
| | 259434 | | | 1.95 | | 50 |
| | 259435 | | | 1.96 | | 50 |
| | 259436 | | | 2.03 | | 50 |
| | 259437 | | | 1.92 | | 50 |
| | 259459 | | | 1.91 | | 50 |
| | 259460 | | | 1.95 | | 50 |
| | 259462 | | | 1.99 | | 50 |
| | 259463 | | | 2.05 | | 50 |
| | 259464 | | | 2.00 | | 50 |
| | 259465 | | | 1.95 | | 50 |
| | 259466 | | | 2.05 | | 50 |
| | 259467 | | | 1.90 | | 50 |
| | 259468 | | | 1.94 | | 50 |
| | 265278 | (DUP) | | 1.95 | | 50 |
| | 265280 | (DUP) | Parent Sample | 1.96 | | 50 |
| | 265281 | (MSD) | 259434 | 1.95 | | 50 |
| | 265282 | (DUP) | | 1.95 | | 50 |
| | 265283 | (DUP) | Parent Sample | 1.94 | | 50 |
| | | (MSD) | 259465 | | | 50 |
| | 265289 | (DUP) | | 1.92 | | 50 |
| | 265290 | (MS) | Parent Sample | 1.93 | | 50 |
| | 265291 | (MSD) | 258271 | 1.92 | | 50 |
| Leave >> | 265292 | (DUP) if applicable | | 1.91 | | 50 |
| blank | 265293 | (MS) | Parent Sample | 1.91 | | 50 |
| if N/A | 265294 | (MSD) | 259433 | 1.90 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/06/201914:31

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71761 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 05/01/2019 |
| **Start Time:** | 12:35 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 05/01/2019
End Time: 15:51

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 90

| Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|
| 274294 | (MB) | | 1.94 | | 50 |
| 274295 | (LCS) | | 2.00 | | 50 |
| 257647 | | | 2.04 | | 50 |
| 257648 | **Comments:** | | 1.99 | | 50 |
| 257649 | | | 1.95 | | 50 |
| 257650 | | | 1.90 | | 50 |
| 257651 | | | 1.93 | | 50 |
| 257652 | | | 2.00 | | 50 |
| 257653 | | | 1.97 | | 50 |
| 257654 | | | 2.06 | | 50 |
| 257655 | | | 1.90 | | 50 |
| 257657 | | | 1.95 | | 50 |
| 257659 | | | 1.92 | | 50 |
| 257661 | | | 1.95 | | 50 |
| 259436 | | | 2.08 | | 50 |
| 260475 | | | 1.90 | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| 274296 | (DUP) | | 2.05 | | 50 |
| 274287 | (DUP) | | 2.04 | | 50 |
| 274298 | (MS) | Parent Sample | 2.05 | | 50 |
| 274299 | (MSD) | 257647 | 2.03 | | 50 |
| 274300 | (DUP) | | | | 50 |
| | (MS) | Parent Sample | | | 50 |
| | (MSD) | 259436 | 2.08 | | 50 |
| 274301 | (DUP) if applicable | | | | 50 |
| | (MS) | Parent Sample | | | 50 |
| | (MSD) | 259436 | 2.07 | | 50 |

Leave >> blank if N/A

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.075 | m13786 |
| | |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.075 | m13786 |
| | |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/07/201912:13

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4-3-19 | Data File: DO Results | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS #: 159293 | Analyst: XI | Reviewer: MOS | Approved? Yes No |

Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r > 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |
| **Preparation Batch Parameters** | **YES** | **NO** | **YES** | **NO** | |
| Prep Batch ID#: 71264 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As > LOD < ½ RL Mn > LOD OK |
| Spiked samples in batch: | | | | | |
| a) 254964 matrix = S | ✓ | ✓ | ✓ | ✓ | < invalid, fail |
| b) 254965 matrix = S | ✓ | | ✓ | | |
| c) 254967 matrix = S | ✓ | | ✓ | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: 71264 Dig. Meth. 3050 | ✓ | | | | |
| LCS - generated limits or project specific limits | ✓ | | | | |
| MB - <LOD or ≤ ½ RL | ✓ | | | | |
| Spiked samples in batch: | | | | | |
| a) 254967 matrix = S | ✓ | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

FORM #: FMT9-01
Rev. #: 1.0
Effective Date: 05/14/2014
Page 1 of 1

Page 2199

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/3/19 | Data File: 190403W05 | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: M135519 LIMS #: 159294 | Analyst: [illegible] | Reviewer: MDS | Approved? Yes No |
| Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r ≥ 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: (90-110%) / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / (80-120%) | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / (<LOD) / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: (70-130%) / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71263 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As >LOD < ½ RL Mn > LOD. ~B" |
| Spiked samples in batch: | | | | | |
| a) 254600 matrix = S | ✓ | ✓X | ✓ | ✓ | ~M" ~V' As |
| b) 254601 matrix = S | ✓ | ✓ | ✓ | ✓ | ~M" ~V" |
| c) 254602 matrix = S | ✓ | ✓ | ✓ | ✓ | ~M" ~V" |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4-5-19 | Data File: DOD Res 05 | Date of review: 4/19/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS # : 139588 | Analyst: [illegible] | Reviewer: MK | Approved? Yes / No |

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

| QC Parameters : ~~6010 / 200.7 / QSM / Other~~ | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration ~~linearity~~: r > 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: ~~90-110%~~ / ~~95-105%~~ | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / ~~80-120%~~ | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: ~~70-130%~~ / 80-120% | | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| Prep Batch ID#: 71284 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As, Pb > LOD As < ½ RL ok |
| Spiked samples in batch: | | | | | |
| a) 255904 matrix = S | ✓ | | ✓ | | |
| b) 255919 matrix = S | ✓ | ✓ | ✓ | ✓ | Ufortified no As involved |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | ✓ | ✓ | "M" As |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/18/19 | Data File: 200resd05 | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: 113519 LIMS #: 159809 | Analyst: JA | Reviewer: MES | Approved? (Yes) No |

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO |
|---|---|---|---|---|
| 1) Calibration linearity: (r > 0.995) / r > 0.998 | ✓ | | ✓ | |
| 2) ICV: (90-110%) / 95-105% | ✓ | | ✓ | |
| 2) ICVLL: 70-130% / (80-120%) | ✓ | | ✓ | |
| 3) ICB: < 3X IDL / (≤LOD) / <LOQ | ✓ | | ✓ | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | |
| 6) MRL/LLOQ: (70-130%) / 80-120% | ✓ | | ✓ | |
| 7) MDL Check: >LOD | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | |
| 10) CCV3/CCB3 | | | | |
| 11) CCV4/CCB4 | | | | |
| 12) CCV5/CCB5 | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO |
|---|---|---|---|---|
| Prep Batch ID#: 71419 Dig. Meth. 3050 | ✓ | | ✓ | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ |
| Spiked samples in batch: | | | | |
| a) 256798 matrix = S | ✓ | | ✓ | ✓ |
| b) 256805 matrix = S | ✓ | ✓ | ✓ | ✓ |
| c)_____ matrix =_____ | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | |
| LCS - generated limits or project specific limits | | | | |
| MB - <LOD or ≤ ½ RL | | | | |
| Spiked samples in batch: | | | | |
| a)_____ matrix =_____ | | | | |
| b)_____ matrix =_____ | | | | |
| c)_____ matrix =_____ | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | |
| LCS - generated limits or project specific limits | | | | |
| MB - <LOD or ≤ ½ RL | | | | |
| Spiked samples in batch: | | | | |
| a)_____ matrix =_____ | | | | |
| b)_____ matrix =_____ | | | | |
| c)_____ matrix =_____ | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | |
| LCS - generated limits or project specific limits | | | | |
| MB - <LOD or ≤ ½ RL | | | | |
| Spiked samples in batch: | | | | |
| a)_____ matrix =_____ | | | | |
| b)_____ matrix =_____ | | | | |
| c)_____ matrix =_____ | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | |

**Comments:**

MSDS Not Analyzed.

As > LOD < ½ RL Mn > LOD ~~& Mn Also~~ ~~>10X Mn MRL~~ "B"
"M"
"V"

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/24/19 4/25/19 | Data File: AsMn042519v5 AsMn042419v4 | Date of review: 4/26/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS #: 159920 | Analyst: MAS | Reviewer: | Approved? Yes No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r ≥ 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71472 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | | Mn > ½ RL Samples 10x |
| Spiked samples in batch: | | | | | |
| a) 257656 matrix = S | ✓ | ✓ | ✓ | ✓ | Dup invalid As |
| b) 258269 matrix = S | ✓ | ✓ | ✓ | ✓ | Linvalid As, Failed Mn. MS/MSD Failed Mn |
| c) 258274 matrix = S | ✓ | | ✓ | | |
| PDS: ±15% / 20% / 25% Sample#: 6 | ✓ | | ✓ | | ok |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/23/19, 4/25/19 | Data File: AsMn042519 v5, AsMn042319 v4 | Date of review: 4/26/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS #: 159931 | Analyst: MDS | Reviewer: | Approved? Yes No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / (QSM) / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r ≥ 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL: (70-130%) / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110%) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71473 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | Mn > ½ RL Samples 210x |
| Spiked samples in batch: | | | | | |
| a) 258271 matrix = S | ✓ | ✓ | ✓ | - | Invalid As, Failed Mn Dup invalid As |
| b) 259433 matrix = S | ✓ | ✓ | ✓ | - | Invalid As, Dup Failed "Y", MS/MSD failed Mn |
| c) 259434 matrix = S | ✓ | ✓ | ✓ | - | Invalid As, Dup+Trip failed Mn "Y", MS/MSD failed Mn |
| PDS: ±15% / (20%) / 25% Sample#: b | ✓ | | ✓ | | b) OK c) OK |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) 259465 matrix = S | ✓ | ✓ | - | ✓ | Dup+Trip invalid As |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

**GFAA / FLAA / CVAA Data Review checklist** | Method: 200.9 | 7000 series AA | 245.1 & 245.2 | 245.7 | 7470a / 7471a

**Instrumentation:** THERMO M SERIES AA | CETAC Hg ANALYZER

Analysis Date: 5/2/19 | Data File: As 050219 | Date Review: 5-3-19 | Analyte: As

Cal Std ID: M13787 | LIMS # : 160412 | Analyst: MDS | Reviewer: [signature] | Approved? Yes / No

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

| Calibration Parameters - | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity - r > 0.995 | ✓ | | ✓ | | |
| 2) ICV: 90-110% 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% 80-120% | ✓ | | ✓ | | |
| 3) ICB: <IDL / <LOD / <LOQ / <½ RL | ✓ | | ✓ | | |
| 6) MRL: 70-130% | | | | | |
| 7) CCV1/CCB1- (CCV: 90-110% / 80-120%) | ✓ | | ✓ | | |
| 8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL) | | | | | |
| 9) CCV3/CCB3 | | | | | |
| 10) CCV4/CCB4 | | | | | |
| 11) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| Prep Batch ID#: 71761 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD / <2.2X LOD / ≤ ½RL | ✓ | ✓ | ✓ | ✓ | As > ½ RL "B" |
| Spiked samples in batch: | | | | | |
| a) 257647 matrix = S | ✓ | ✓ | ✓ | ✓ | 1 + Dups invalid, MS/MSD Failed |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| d) matrix = | | | | | |
| e) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample# a | ✓ | | ✓ | | ok |
| MSA Performed? Yes No | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD / <2.2X LOD / ≤ ½RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| d) matrix = | | | | | |
| e) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample# | | | | | |
| MSA Performed? Yes No | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD / <2.2X LOD / ≤ ½RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| d) matrix = | | | | | |
| e) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample# | | | | | |
| MSA Performed? Yes No | | | | | |

"V" Samples with results < Adj RL

Diluted because background >1.0 Abs ✓

Page 2205

# CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

| Date | Time Start/End | Analyst | Method | LIMS# or Sample # | Sequence I.D. | Cal. Std | Alt. Source | Pressure (kPa) Comments | Analysis Tube Lot # | ICSA/ ICSAB |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/5/19 | 0915 / 1408 | MOS | NaK | 158439, 158477, 158473, 158475 | NaK030519 v1109 | M13705 | M13707 M13708 | 340 | 289471 | M13660 M13709 |
| 3/6/19 | 1135 / 1955 | MOS | DOO | 157684, 157677, High Std, IDL, MDL | DOO030619 | M13519 | M13661 M13626 | 340 | 289471 | M13660 M13621 |
| 3/11/19 | 0809 / 1109 | MOS | NaK | 158629, 158569, 158570, 158531, 158609 | NaK031119 v1110 | M13705 | M13707 M13708 | 340 | 289471 | M13660 M13709 |
| 3/12/19 | 1226 / 1443 | MOS | NaK | 158655 158531, 158628, 158654, 158652, 158658 | NaK031219 v1111 | M13705 | M13707 M13708 | 350 | 289471 | M13660 M13709 |
| 3/12/19 | 1450 / 1624 | MOS | NaK | 158658, 158655 | NaK032119b v1113 | M13705 | M13707 M13708 | 350 | 289471 | M13660 M13709 |
| 3/14/19 | 0844 / 1247 | MOS | NaK | 158730, 158728 158655, 158673, 158723, 158717, 158732 | NaK031419 v1114 | M13705 | M13707 M13708 | 350 | 289471 | M13660 M13709 |
| 3/18/19 | 0933 / 1246 | MOS | NaK | 158749, 158796, 158745, 158799 | NaK031819 v1116 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 3/19/19 | 1053 / 1233 | MOS | Li | 158806 | Li031919 v263 | M13746 | M13587 M13647 | 290 | 283740 | M13660 M13747 |
| 3/26/19 | 1029 / 1313 | MOS | NaK | 159009, 159029, 159025, 159011, 159055 | NaK032619 v1117 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 3/29/19 | 1141 / 1354 | MOS | NaK | 159136, 159176, 159178 | NaK032919 v1121 v1119 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 3/29/19 | 1504 / 1821 | MOS | NaK | 159193 159178, 159189, 159190, 159167, 159165 | NaK032919b v1120 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/1/19 | 1133 / 1232 | MOS | NaK | 159176, 159178, 159193, | NaK040119 v1124 v1123 v1122 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/2/19 | 1333 / 1638 | MOS | NaK | 159259, 159242, 159263, 159282, 159285 | NaK040219 v1125 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/3/19 | 1343 / 1622 | MOS | NaK | 159289, 159270, 159282, 159285 | NaK040319 v1126 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/5/19 | 1017 / 1244 | MOS | NaK | 159384, 159450, 159381, 159386 | NaK040519 v1127 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/9/19 | 1217 / 1515 | MOS | NaK | 159526, 159523 | NaK040919 v1128 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/10/19 | 1039 / 1338 | MOS | NaK | 159559 159526, 159546, 159597, 159557, 159555 | NaK041019 v1131 v1130 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/11/19 | 1223 / 1633 | MOS | NaK | 159526, 159635 159557, 159605, 159626, 159624, 159629 | NaK041119 v1133 v1132 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/12/19 | 0847 / 2202 | MOS | As+Pb | 159525, 159547, 159548, 159630 | Pb041219 v108 | M13519 | M13661 M13626 | 350 | 283740 | M13660 M13621 |
| 4/16/19 | 1355 / 1826 | MOS | NaK | 159683, 159735 159526, 159624, 159635, 159687, 159734 | NaK041619 v1134 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/18/19 | 1005 / 1344 | MOS | NaK | 159734, 159802, 159800, 159797, 159886 | NaK041819 v1136 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/19/19 | 1229 / 1710 | MOS | NaK | 159899, 159900, 159902 159902, 159797, 159882, 159897, 159895 | NaK041919 v1137 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/22/19 | 1321 / 1700 | MOS | NaK | 159945, 159935, 159933, 159922, 159941 | NaK042219 v1139 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 4/23/19 | 1508 tot9 / 0141 | MOS | As+Mn | 159931, 159920 | AsMn042319 v4 | M13519 | M13661 M13626 | 320 | 283740 | M13660 M13621 |
| 4/24/19 | 1221 / 1520 | MOS | NaK | 159968, 160047, 159990, 159988, 159941 | NaK042419 v1141 | M13705 | M13707 M13709 | 350 | 283740 | M13660 M13709 |
| 4/25/19 | 0910 / 1026 | MOS | NaK | 159935, 159941 | NaK042519 v1142 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |

Checked by: _____ Verified by: _____

## CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

| Date | Time Start/End | Analyst | Method | LIMS# or Sample # | Sequence I.D. | Cal. Std. | Alt. Source | Pressure (kPa) Comments | Analysis Table Lot # | ICSA/ ICSAB |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/25/19 | 1046 / 0147 | MOS | As+Pb+Mn | 159920, 159931, 160126, 160127, 160109 | AsMn042519 v5 | M13519 | M13661 M13626 | 320 | 283740 | M13660 M13621 |
| 4/29/19 | 1235 / 1846 | MOS | NaK | 160257, 160205, 160187, 160119, 160219, 160203 160222, 160228, 160195, 160186, 160202, 160242 | NaK042919 v1141 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 5/1/19 | 1201 / 1655 | MOS | NaK | 160257, 160205, 160339, 160285, 160287, 160299 | NaK050119 v1145 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 5/3/19 | 0914 / 1131 | MOS | L2 | 160258, 160514 | L2050319 v265 | M13796 | M13798 M13799 | 290 | 283740 | M13760 M13797 |
| 5/3/19 | 1328 / 1458 | MOS | L2 | 160258, 160514 | L2050319 v266 | M13796 | M13798 M13799 | 290 | 283740 | M13760 M13797 |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |

Checked by: _____ Verified by: _____

CT Laboratories, LLC

# ICP-6500 Instrument Run Logbook

| Date | Time: Start / End | Analyst | Analytes / Sequence I.D. | Method | LIMS # or Sample Description | Nebulizer Pressure (kpa) | Calib. Std ID | Version | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 3/29/19 | 1027 / 0621 | A | DOD Cal n 032919 | DOD Cal n | 159138, 159137, 159206 159182 159194 159191 159192 159183 159188, 86, 159183, 182 159177, 74 159187, 159175 | 270 | M13661 M13519 | V3287 V3286 V3283 V3282 | M13621 M13626 M13633 M13660 M13624 |
| 3/29/19 | 1027 / 0621 | A | 040119 | DOD Cal n | 159257 159179, 81 159168 159166 159260 159265 159266, 67, 69 159269 159271, 159235 | 270 | M13661 M13519 | V3289 V3286 V3284 V3288 | M13621 M13626 M13633 M13660 M13624 |
| 3/4/1/19 | 1225 / 0358 | A | 040219 | DOD Cal n | 159271 159280 159293 159284 159353 159286 159294 159288 159354 159291 159285 159287 159236 159292 | 270 | M13661 M13519 | V3294 V3293 | M13621 M13626 M13633 M13660 M13624 |
| 4/3/19 | 1405 / 1429 4/4/19 | A | 040519 | DOD Cal n | 159388, 159294 159457 159443 159387 159293 159449 159444 159385 79 159383 159445 | 270 | M13661 M13519 | V3296 V3299 V3295 V3300 V3297 V3303 | M13621 M13626 M13633 M13660 M13624 |
| 4/05/19 | 0716 / 0842 | A | 041019 | DOD Cal n | 159519, 159545, 159556 159563 159524 159560 159528 159561 159527 159529 | 270 | M13661 M13519 | V3302 V3301 | M13621 M13626 M13633 M13660 M13624 |
| 4/10/19 | 1139 / 1056 4/11/19 | A | 041119 | DOD Cal n | 159552 159550 159554 159622 159554 159553 159595 159633 159271 159549 159604 159615 | 270 | M13661 M13519 | V3308 V3305 V3304 V3302 | M13621 M13626 M13633 M13660 M13624 |
| 4/11/19 | 1345 / 1415 | A | 041519 | DOD Cal n | 159627 159628 159596 159603 159733 159681 159738 159680 159737 159739 159736 159685 | 270 | M13661 M13519 | V3310 V3309 | M13621 M13626 M13633 M13660 M13624 |
| 4/16/19 | 1505 / 1319 | A | 041819 | DOD Cal n | 159583 159798 159801 159857 159795 159803 159804 159796 159804 159805 159808 159809 | 280 | M13661 M13519 | V3312 V3311 V3313 V3306 | M13621 M13626 M13633 M13660 M13624 |
| 4/18/19 | 1426 / 1007 4/19 | A | 041919 | DOD Cal n | 159785 159294 159809 159293 | 280 | M13661 M13519 | V3314 | M13621 M13626 M13633 M13660 M13624 |
| 4/19/19 | 1057 / 1645 | A | 042219 | DOD Cal n | 159943 159893 159896 159901 159894 159898 | 280 | M13661 M13519 | V3323 V3324 | M13621 M13626 M13633 M13660 M13624 |
| 4/22/19 | 1517 / 0651 0728 | A | 042319 | DOD Cal n | 159985 159983, 159984 159943 159979, 159903 159905 160004 160204, 159944 159939 | 280 | M13661 M13519 | V3318 V3317 V3325 | M13621 M13626 M13633 M13660 M13624 |
| 4/23/19 | 1203 / 0513 | A | 042419 | DOD Cal n | 159524 159940 159736 159939 159906 159934 159904 159993 | 280 | M13661 M13519 | V3326 V3327 V3316 | M13621 M13626 M13633 M13660 M13624 |
| 4/24/19 | 1543 / 0422 | A | | | | | | | |

*A 4-3-19

Comments:

Checked By / Date:

CT Laboratories, LLC

# *ICP-6500 Instrument Run Logbook*

| Date | Time: Start / End | Analyst | Analytes / Sequence I.D. | Method | LIMS # or Sample Description | Nebulizer Pressure (kpa) | Calib. Std ID | Version | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 4/25/19 | 1403 / 4/26 1434 | JD | 042519 | DODCal u | 159294 159962 160125 160122 159549 160048 160124 159883 160105 160121 160120 160145, 160050 160191 160117 160108 160119 160192 159923 159921 160005 160194 | 280 | m13616e1 m13519 | V3329 V3328 V3320 | m13621 m13624 m13633 m13660 m13624 |
| 4/26/19 | 1447 / 1050 | JD | 042619 | DODCal u | | 280 | m13616e1 m13519 | V3330 V3331 V3319 | m13621 m13624 m13633 m13660 m13624 |
| 4/29/19 | 1405 / 1800 | JD | 042819 | DODCal u | 159294 160201 160204 160207 160288 160286 159549 | 280 | m13616e1 m13519 | V3321 | m13621 m13624 m13633 m13660 m13624 |
| 4/30/19 | 1341 / 1512 | JD | 043019 | DODCal u | 160230 160224 160256 160237 160290 160227 160051 160245 160243 160225 160224 160216 160244, 160248 | 280 | m13616e1 m13519 | V3336 V3335 V3337 | m13621 m13624 m13633 m13660 m13624 |
| 5/1/19 | 1518 / 1902 | JD | 050119 | DODCal u | 160286, 160288, 160290 | 280 | m13616e1 m13519 | V3339 | m13621 m13624 m13633 m13660 m13624 |
| 5/2/19 | 1511 / 1805 | JD | 050219 | DODCal u | 159549 | 280 | m13616e1 m13519 | V3334 | m13621 m13624 m13633 m13660 m13624 |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |

Comments: _____

_____

Checked By / Date: _____

# CT Laboratories Instrument Run Log

## Instrument ID: Thermo M Series AA

| Date | Start Time | End Time | Analyst | Analyte | LIMS Run # | Data File ID | Analysis ID | Cal. Std ID # | CCV Std ID # | ICV Std ID # | PMT | Char. Conc. | Cuvette Lot # | Sample Cup Lot # | Instrument Check |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/11/19 | 0749 | 0955 | MDS | Tl | 159601 | Tl041119 | 1 | M13771 | M13772 | M13773 | 619 | 1.0681 | 103387371 | 0518 | |
| 4/11/19 | 1018 | 1045 | MDS | Tl MSA | 159601 | Tl041119 | 2 | M13771 | — | — | 644 | — | 103387371 | 0518 | |
| 4/11/19 | 1133 | 1415 | MDS | As | 159611 | As041119 | 4 | M13771 | M13772 | M13773 | 458 | 0.8166 | 103387371 | 0518 | ✓ |
| 4/11/19 | 1434 | 1649 | MDS | As | 159612 | As041119 | 5 | M13771 | M13772 | M13773 | 458 | 0.8271 | 103387371 | 0518 | |
| 4/12/19 | 1344 | 1621 | MDS | As | 159712, 159711 | As041219 | 3 | M13771 | M13772 | M13773 | 453 | 1.0873 | 103387371 | 0518 | ✓ |
| 4/16/19 | 0822 | 1202 | MDS | As | 159713 | As041619 | 3 | M13771 | M13772 | M13773 | 457 | 0.9409 | 103387371 | 0518 | |
| 4/18/19 | 1222 | 1450 | MDS | Pb | 159870 | Pb041819 | 4 | M13771 | M13772 | M13773 | 558 | 0.2085 | 103387371 | 0518 | ✓ |
| 4/19/19 | 0853 | 1457 | MDS | As | 159886, 159885 | As041919 | 3 | M13771 | M13772 | M13773 | 458 | 0.7610 | 103387371 | 0518 | ✓ |
| 4/19/19 | 1538 | 1716 | MDS | Sb | 159453 | Sb041919 | 3 | M13787 | M13788 | M13789 | 403 | 1.2574 | 103387371 | 0518 | ✓ |
| 4/23/19 | 0759 | 1155 | MDS | Tl | 159996 | Tl042319 | 3 | M13787 | M13788 | M13789 | 609 | 1.0177 | 103387371 | 0518 | ✓ |
| 4/23/19 | 1621 | 1842 | MDS | Tl | 159996 | Tl042319 | 7 | M13787 | M13788 | M13789 | 639 | 1.4776 | 103387371 | 0518 | . |
| 4/24/19 | 0845 | 1041 | MDS | Tl | 159996 | Tl042419 | 3 | M13787 | M13788 | M13789 | 639 | 0.7746 | 103387371 | 0518 | . |
| 4/25/19 | 1600 | 1824 | MDS | Tl | 159998 | Tl042519 | 3 | M13787 | M13788 | M13789 | 605 | 0.9556 | 103387371 | 0518 | |
| 4/26/19 | 0800 | 1225 | MDS | Tl | 159997 | Tl042619 | 3 | M13787 | M13788 | M13789 | 595 | 0.9683 | 103387371 | 0518 | |
| 4/26/19 | 1340 | 1553 | MDS | Tl | 159997 | Tl042619 | 5 | M13787 | M13788 | M13789 | 595 | 1.2695 | 103387371 | 0518 | |
| 4/29/19 | 1021 | 1221 | MDS | Tl | 159997 | Tl042919 | 7 | M13787 | M13788 | M13789 | 634 | 0.8805 | 103387371 | 0518 | |
| 4/29/19 | 1248 | 1347 | MDS | Tl MSA | 159998, 159997 | Tl042919 | 9 | M13787 | — | — | 668 | — | 103387371 | 0518 | |
| 4/29/19 | 1455 | 2306 | MDS | As | 160251, 160254, 160250 | As042919 | 3 | M13787 | M13788 | M13789 | 458 | 0.8867 | 103387371 | 4518 | ✓ |
| 4/30/19 | 0734 | 1139 | MDS | As | 160252, 160254 | As043019 | 3 | M13787 | M13788 | M13789 | 457 | 0.9763 | 103387371 | 4518 | ✓ |
| 4/30/19 | 1328 | 1726 | MDS | As | 160312, 160303 | As043019 | 5 | M13787 | M13788 | M13789 | 453 | 0.9319 | 103387371 | 4518 | ✓ |
| 5/1/19 | 1109 | 1425 | MDS | Se | 160253 160307, 160311, 160309 | Se050119 | 7 | M13787 | M13788 | M13789 | 531 | 1.3163 | 103387371 | 4518 | ✓ |
| 5/1/19 | 1558 | 2205 | MDS | As | 160305 160306, 160308, 160310 | As050119 | 5 | M13787 | M13788 | M13789 | 453 | | 103387371 | 4518 | ✓ |
| 5/2/19 | 0945 | 1250 | MDS | As | 160305, 160304 | As050219 | 2 | M13787 | M13788 | M13789 | 453 | 0.9013 | 103387371 | 4518 | |
| 5/2/19 | 1329 | 1736 | MDS | As | 160412 | As050219 | 3 | M13787 | M13788 | M13789 | 453 | 0.9311 | 103387371 | 4518 | |
| 5/3/19 | 0918 | 1233 | MDS | Sb | 160349 160348, 160350, 160451 | Sb050319 | 8 | M13787 | M13788 | M13789 | 404 | 1.2134 | 103387371 | 4518 | ✓ |
| 5/3/19 | 1502 | 2120 | MDS | Tl | 160450 160345, 160453, 160455 | Tl050319 | 6 | M13787 | M13788 | M13789 | 644 | 1.3254 | 103387371 | 4518 | ✓ |

Reviewed By (Initials/Date):_____

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/23/2019 11:01:06 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:06:12 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:11:49 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:17:03 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:22:52 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:28:49 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:34:11 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:39:32 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:44:47 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:50:07 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:55:29 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:00:51 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:06:39 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:13:26 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:18:33 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:20:22 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:27:54 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/23/2019 12:27:54 | Sequence Started | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:28:15 | Running Blank (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:33:33 | Running CalStd4=5 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:38:54 | Running CalStd5=10 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:44:15 | Running CalStd7=50 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:49:37 | Running CalStd8=100 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:54:59 | Running CalStd9=1000 (6) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:00:16 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:05:21 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:10:58 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:16:12 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:22:01 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:27:57 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:33:19 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:38:40 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:43:55 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:49:14 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:54:37 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:59:58 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:05:18 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:12:05 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:17:27 | Running ICSA (74) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:23:17 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:28:39 | Running lcss71473 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:33:52 | Running mbs71473 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:39:02 | Pausing Autosampler Run... | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:40:33 | Running 258271 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:41:45 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:08:26 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/23/2019 15:08:26 | Sequence Started | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:08:47 | Running Blank (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:14:05 | Running CalStd4=5 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:19:26 | Running CalStd5=10 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:22:29 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/23/2019 15:22:33 | Closing will close the method and all associated samples. | [redacted] | Analyst | |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/23/2019 15:24:48 | Running CalStd7=50 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:30:10 | Running CalStd8=100 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:35:32 | Running CalStd9=1000 (6) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:40:50 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:45:55 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:51:32 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:56:46 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:02:34 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:08:32 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:13:53 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:19:15 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:24:30 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:29:49 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:35:12 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:40:33 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:46:21 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:53:07 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:58:14 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:03:33 | Running lcss71473 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:08:46 | Running mbs71473 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:13:59 | Running 258271 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:19:23 | Running l258271 (6) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:24:37 | Running dup258271 (7) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:30:00 | Running mss258271 (8) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:35:21 | Running msds258271 (9) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:40:42 | Running pdss258271 (10) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:46:02 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:51:10 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:56:31 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:01:53 | Running 258272 (11) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:07:17 | Running 258273 (12) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:12:42 | Running 258275 (13) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:18:06 | Running 258276 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:23:38 | Running 258277 (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:29:01 | Running 259433 (16) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:34:33 | Running l259433 (17) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:40:08 | Running dup259433 (18) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:45:44 | Running mss259433 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:51:25 | Running msds259433 (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:56:57 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:02:06 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:07:25 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:12:47 | Running pdss259433 (21) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:18:18 | Running 259434 (22) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:24:06 | Running l259434 (23) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:29:24 | Running dup259434 (24) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:35:12 | Running trip259434 (25) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:40:49 | Running mss259434 (26) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:46:33 | Running msds259434 (27) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:52:17 | Running pdss259434 (28) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:58:02 | Running 259435 (29) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:03:26 | Running 259436 (30) | [redacted] | Analyst | S_As & Pb & Mn(v3) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/23/2019 20:08:50 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:13:58 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:19:18 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:24:39 | Running 259437 (31) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:30:04 | Running 259459 (32) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:35:27 | Running 259460 (33) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:41:12 | Running 259462 (34) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:46:59 | Running 259463 (35) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:52:24 | Running 259464 (36) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:57:50 | Running 259465 (37) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:03:14 | Running dup259465 (38) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:08:39 | Running trip259465 (39) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:14:03 | Running 259466 (40) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:19:28 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:24:37 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:29:57 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:35:18 | Running 259467 (41) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:40:42 | Running 259468 (42) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:46:07 | Running lcss71472 (43) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:51:22 | Running mbs71472 (44) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:56:36 | Running 257646 (45) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:02:14 | Running 257647 (46) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:07:40 | Running 257648 (47) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:13:07 | Running 257649 (48) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:18:33 | Running 257650 (49) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:23:58 | Running 257651 (50) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:29:24 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:34:32 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:39:52 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:45:14 | Running 257652 (51) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:50:40 | Running 257653 (52) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:56:06 | Running 257654 (53) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:01:31 | Running 257655 (54) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:06:57 | Running 257656 (55) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:12:45 | Running dup257656 (56) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:18:30 | Running trip257656 (57) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:24:18 | Running 257657 (58) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:29:44 | Running 257658 (59) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:35:31 | Running 257659 (60) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:41:09 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:46:17 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:51:37 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:56:59 | Running 257660 (61) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:02:47 | Running 257661 (62) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:08:14 | Running 257662 (63) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:13:45 | Running 257663 (64) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:19:11 | Running 258269 (65) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:25:07 | Running l258269 (66) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:30:21 | Running dup258269 (67) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:36:23 | Running mss258269 (68) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:42:16 | Running msds258269 (69) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:48:15 | Running pdss258269 (70) | [redacted] | Analyst | S_As & Pb & Mn(v3) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/24/2019 00:54:09 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:59:17 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:04:36 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:09:58 | Running 258274 (71) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:15:22 | Running dup258274 (72) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:20:45 | Running trip258274 (73) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:26:07 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:31:28 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:36:36 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:41:54 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:47:16 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/24/2019 01:47:17 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/24/2019 01:47:19 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 07:52:54 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/24/2019 07:52:59 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/24/2019 07:53:38 | D33534 - Debug:Wavelength check : x = -0.457, y =-0.332 | [redacted] | Analyst | |
| | 04/24/2019 11:04:05 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:04:05 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/24/2019 11:04:26 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:07:13 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:09:50 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:12:27 | Running CalibStd-5.0 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:15:05 | Running CalibStd-10.0 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:17:43 | Running CalibStd-50 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:20:21 | Running CalibStd-100 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:22:59 | Running CalibStd-200 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:25:46 | Running CalibStd-500 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:28:41 | Running icv (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:31:18 | Running ICVLL (17) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:33:55 | Running icb (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:36:32 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:39:10 | Running icsa (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:42:07 | Running icsab (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:45:03 | Running lcsw (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:47:40 | Running mbw (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:50:17 | Running 268867 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:52:53 | Running msw268867 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:55:29 | Running msdw268867 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:58:05 | Running 268870 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:00:42 | Running 268871 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:03:19 | Running 268872 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:05:56 | Running 269146 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:08:33 | Running msw269146 (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:11:10 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:13:48 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:16:25 | Running msdw269146 (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:17:06 | Autosampler Run Completed | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:21:19 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:21:19 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/24/2019 12:21:40 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:24:26 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:27:03 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/24/2019 14:46:39 | Running 268261 (36) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:49:18 | Running lcsw71571 (37) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:51:54 | Running mbw71571 (38) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:54:31 | Running 268289 (39) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:57:08 | Running l268289 (40) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:59:45 | Running dup268289 (41) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:02:22 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:05:00 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:07:37 | Running msw268289 (42) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:10:12 | Running msdw268289 (43) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:12:47 | Running pdsw268289 (44) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:15:23 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:18:01 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:20:38 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:23:12 | Autosampler Run Completed | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:45:31 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/24/2019 15:45:31 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/25/2019 08:08:04 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/25/2019 08:08:09 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/25/2019 08:08:48 | D33534 - Debug:Wavelength check : x = -0.393, y =-0.347 | [redacted] | Analyst | |
| | 04/25/2019 09:10:24 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/25/2019 09:10:24 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:10:44 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:13:32 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:16:09 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:18:46 | Running CalibStd-5.0 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:21:23 | Running CalibStd-10.0 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:24:01 | Running CalibStd-50 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:26:40 | Running CalibStd-100 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:29:17 | Running CalibStd-200 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:32:04 | Running CalibStd-500 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:35:00 | Running icv (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:37:36 | Running ICVLL (17) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:40:13 | Running icb (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:42:50 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:45:28 | Running icsa (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:48:24 | Running icsab (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:51:20 | Running 266664 (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:53:57 | Running l266664 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:56:33 | Running dup266664 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:59:09 | Running msw266664 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:01:45 | Running msdw266664 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:04:21 | Running pdsw266664 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:07:09 | Running 267576 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:09:45 | Running 267592 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:12:21 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:14:59 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:17:37 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:20:10 | Autosampler Run Completed | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:46:04 | Sequence Started | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 10:46:04 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/25/2019 10:46:25 | Running Blank (1) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 10:51:43 | Running CalStd4=5 (2) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 10:57:05 | Running CalStd5=10 (3) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:02:26 | Running CalStd7=50 (4) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:07:48 | Running CalStd8=100 (5) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:13:10 | Running CalStd9=1000 (6) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:18:27 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:23:35 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:29:11 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:34:26 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:40:14 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:46:11 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:51:32 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:56:54 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:02:08 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:07:27 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:12:50 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:18:12 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:23:48 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:30:35 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:35:45 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:41:04 | Running 257656 (3) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:46:17 | Running dup257656 (4) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:51:30 | Running trip257656 (5) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:56:43 | Running 257658 (6) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:01:56 | Running 257660 (7) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:07:10 | Running 259433 (8) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:12:26 | Running l259433 (9) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:17:41 | Running dup259433 (10) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:22:55 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:28:06 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:33:26 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:38:48 | Running mss259433 (11) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:44:05 | Running msds259433 (12) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:49:21 | Running pdss259433 (13) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:54:44 | Running 259460 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:00:22 | Running 259462 (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:05:37 | Running lcss71586 (16) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:10:53 | Running mbs71586 (17) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:16:06 | Running 259469 (18) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:21:30 | Running l259469 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:26:44 | Running dup259469 (20) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:32:07 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:37:18 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:42:38 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:47:59 | Running trip259469 (21) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:53:23 | Running mss259469 (22) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:58:44 | Running msds259469 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:04:05 | Running pdss259469 (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:09:26 | Running 259470 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:14:50 | Running l259470 (26) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:20:03 | Running dup259470 (27) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:25:27 | Running trip259470 (28) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 15:30:53 | Running mss259470 (29) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:36:13 | Running msds259470 (30) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:41:34 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:46:46 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:52:05 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:57:27 | Running pdss259470 (31) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:02:47 | Running 259471 (32) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:08:11 | Running 259472 (33) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:13:36 | Running 259473 (34) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:19:00 | Running 259474 (35) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:24:25 | Running 259475 (36) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:29:58 | Running 259477 (37) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:35:20 | Running 259478 (38) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:40:44 | Running 259479 (39) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:46:10 | Running 259480 (40) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:51:34 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:56:44 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:02:04 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:07:26 | Running 259481 (41) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:13:03 | Running 259482 (42) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:18:49 | Running 259483 (43) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:24:25 | Running 259484 (44) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:30:02 | Running 259485 (45) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:35:28 | Running 259487 (46) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:40:52 | Running 259492 (47) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:46:18 | Running 259493 (48) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:51:44 | Running 259494 (49) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:57:08 | Running lcss71588 (50) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:02:23 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:07:34 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:12:54 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:18:16 | Running mbs71588 (51) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:23:31 | Running 259495 (52) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:28:53 | Running dup259495 (53) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:34:17 | Running trip259495 (54) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:39:40 | Running 259496 (55) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:45:10 | Running l259496 (56) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:50:24 | Running dup259496 (57) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:55:57 | Running trip259496 (58) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:01:28 | Running mss259496 (59) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:06:52 | Running msds259496 (60) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:12:13 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:17:24 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:22:44 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:28:06 | Running pdss259496 (61) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:33:35 | Running 259497 (62) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:38:57 | Running 259498 (63) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:44:20 | Running 259499 (64) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:50:06 | Running 259500 (65) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:55:54 | Running 259501 (66) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:01:19 | Running 259502 (67) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:06:57 | Running 259503 (68) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 20:12:22 | Running 259504 (69) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:17:49 | Running 259505 (70) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:23:23 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:28:32 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:33:52 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:39:14 | Running 259506 (71) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:44:39 | Running 260386 (72) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:50:24 | Running 260459 (73) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:55:47 | Running 260460 (74) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:01:35 | Running 260461 (75) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:07:00 | Running 260462 (76) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:12:59 | Running 260463 (77) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:18:24 | Running 260464 (78) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:24:21 | Running 260465 (79) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:29:48 | Running lcss71590 (80) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:35:11 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:40:21 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:45:41 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:51:03 | Running mbs71590 (81) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:56:18 | Running 260466 (82) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:01:32 | Running 260467 (83) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:06:58 | Running 260468 (84) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:12:21 | Running 260469 (85) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:17:48 | Running 260470 (86) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:23:13 | Running 260471 (87) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:28:40 | Running 260472 (88) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:34:06 | Running 260473 (89) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:39:33 | Running 260474 (90) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:44:58 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:50:08 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:55:27 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:00:50 | Running 260475 (91) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:06:16 | Running 260924 (92) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:11:43 | Running l260924 (93) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:16:58 | Running dup260924 (94) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:22:24 | Running trip260924 (95) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:27:51 | Running mss260924 (96) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:33:14 | Running msds260924 (97) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:38:36 | Running pdss260924 (98) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:43:58 | Running 260925 (99) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:49:25 | Running l260925 (100) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:54:41 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:59:50 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:05:09 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:10:31 | Running dup260925 (101) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:15:59 | Running trip260925 (102) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:21:26 | Running mss260925 (103) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:26:49 | Running msds260925 (104) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:32:12 | Running pdss260925 (105) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:37:36 | Running 260926 (106) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:43:02 | Running 260927 (107) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:48:27 | Running 260928 (108) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/26/2019 00:53:54 | Running 260929 (109) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:59:21 | Running 260930 (110) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:04:47 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:09:57 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:15:16 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:20:39 | Running 260931 (111) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:26:06 | Running 259460 (112) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:31:23 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:36:45 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:41:55 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:47:14 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:52:36 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/26/2019 01:52:36 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/26/2019 01:52:38 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/29/2019 08:19:15 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/29/2019 08:19:21 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/29/2019 08:20:00 | D33534 - Debug:Wavelength check : x = -0.390, y =-0.311 | [redacted] | Analyst | |
| | 04/29/2019 09:28:01 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/29/2019 09:28:01 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:28:22 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:31:09 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:33:46 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:36:23 | Running CalibStd-5.0 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:39:00 | Running CalibStd-10.0 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:41:39 | Running CalibStd-50 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:44:17 | Running CalibStd-100 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:46:54 | Running CalibStd-200 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:49:39 | Running CalibStd-500 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:52:34 | Running icv (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:55:11 | Running ICVLL (17) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:57:48 | Running icb (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:00:25 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:03:02 | Running icsa (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:05:59 | Running icsab (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:08:55 | Running lcsw (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:11:32 | Running mbw (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:14:09 | Running 269044 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:16:45 | Running msw269044 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:19:21 | Running msdw269044 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:21:59 | Running blank (103) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:24:37 | Running 262167 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:27:14 | Running l262167 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:29:51 | Running dup262167 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:32:28 | Running msw262167 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:35:16 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:37:54 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:40:32 | Running msdw262167 (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:43:21 | Running blank (104) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:46:01 | Running 272247 (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:48:39 | Running msw272247 (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:51:16 | Running msdw272247 (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:53:53 | Running blank (105) | [redacted] | Analyst | S_Sodium and Pota |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/02/2019 00:50:24 | Running 257627 (74) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 00:57:03 | Running 257628 (75) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:03:46 | Running 257629 (76) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:10:23 | Running 257630 (77) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:17:02 | Running 257631 (78) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:23:26 | Running 257632 (79) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:29:52 | Running 257633 (80) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:36:19 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:42:00 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:47:44 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 01:54:00 | Running 258192 (81) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:00:17 | Running msw258192 (82) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:06:38 | Running msdw258192 (83) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:13:03 | Running 258195 (84) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:19:25 | Running 258196 (85) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:25:46 | Running 258197 (86) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:32:08 | Running 258198 (87) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:38:22 | Running 258199 (88) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:44:56 | Running 258200 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:51:30 | Running 258201 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 02:58:05 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:03:49 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:09:34 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:15:50 | Running 258203 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:22:24 | Running 258207 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:28:41 | Running 258208 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:34:57 | Running 258209 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:41:13 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:47:23 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:53:07 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 03:58:51 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 04:05:07 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/02/2019 04:05:08 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/02/2019 04:05:09 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/02/2019 08:01:53 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/02/2019 08:01:57 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/02/2019 08:02:44 | D33534 - Debug:Wavelength check : x = 0.945, y =-0.238 | [redacted] | Analyst | |
| | 04/02/2019 13:36:00 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/02/2019 13:36:00 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/03/2019 07:05:04 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/03/2019 07:05:10 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/03/2019 07:05:50 | D33534 - Debug:Wavelength check : x = 0.863, y =-0.240 | [redacted] | Analyst | |
| | 04/03/2019 13:49:02 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/03/2019 13:49:02 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 13:49:23 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 13:55:36 | E33539 - : Error Updating Method with standard: Standard saturated. | [redacted] | Analyst | |
| | 04/03/2019 13:55:39 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:01:22 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:05:05 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/03/2019 14:05:05 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:05:25 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:11:42 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/03/2019 14:17:55 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:24:11 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:30:26 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:36:43 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:42:54 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:49:03 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 14:55:12 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:00:51 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:07:24 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:13:42 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:20:06 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:26:47 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:34:16 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:40:28 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:46:43 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:52:57 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 15:59:03 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:05:17 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:11:32 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:17:43 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:24:29 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:30:37 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:36:49 | Running ICVLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:43:03 | Running ICSA-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:49:15 | Running ICSA-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 16:55:58 | Running ICSA-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:01:57 | Running ICSA-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:08:08 | Running 257505 (61) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:14:49 | Running 257506 (62) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:21:30 | Running 257507 (63) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:28:12 | Running 257508 (64) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:34:52 | Running 257509 (65) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:41:32 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:47:00 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:52:45 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 17:59:01 | Running 257510 (66) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:05:42 | Running 257513 (69) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:12:14 | Running 257516 (72) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:18:58 | Running 257627 (74) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:25:30 | Running 257629 (76) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:31:47 | Running 259311 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:38:24 | Running msw259311 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:44:41 | Running msdw259311 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:50:59 | Running 259007 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 18:57:42 | Running msw259007 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:04:00 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:09:32 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:15:17 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:21:33 | Running msdw259007 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:27:53 | Running 259371 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:34:30 | Running 259426 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:41:06 | Running 259427 (14) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/03/2019 19:47:44 | Running 259428 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 19:54:24 | Running 259429 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:01:04 | Running 259430 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:07:44 | Running lcsw71255 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:14:03 | Running mbw71255 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:20:17 | Running 258029 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:26:53 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:32:22 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:38:06 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:44:23 | Running l258029 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:51:02 | Running dup258029 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 20:57:40 | Running msw258029 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:03:42 | Running pdsw258029 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:09:59 | Running lcsw71248 62 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:16:19 | Running mbw71248 62 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:22:33 | Running 258035 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:29:09 | Running l258035 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:35:48 | Running dup258035 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:42:26 | Running msw258035 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:48:23 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:53:52 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 21:59:37 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:05:52 | Running pdsw258035 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:12:08 | Running lcsw71254 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:18:28 | Running mbw71254 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:24:42 | Running 257990 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:31:22 | Running l257990 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:37:58 | Running dup257990 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:44:39 | Running msw257990 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:50:56 | Running pdsw257990 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 22:57:05 | Running 257994 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:03:39 | Running lcsw71251 49 53 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:09:59 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:15:27 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:21:11 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:27:27 | Running mbw71251 49 53 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:33:43 | Running 258019 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:39:58 | Running msw258019 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:45:54 | Running msdw258019 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:51:50 | Running pdsw258019 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/03/2019 23:58:16 | Running 258021 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:04:57 | Running 258077 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:11:21 | Running lcsw71256 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:17:42 | Running mbw71256 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:23:58 | Running 258205 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:30:38 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:36:07 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:41:51 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:48:07 | Running msw258205 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 00:54:21 | Running msdw258205 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:00:36 | Running pdsw258205 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:06:48 | Running 258210 (54) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/04/2019 01:13:27 | Running 258211 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:20:07 | Running 258212 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:26:40 | Running 258213 (57) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:33:12 | Running 258216 (58) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:39:43 | Running 258217 (59) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:46:23 | Running 258218 (60) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:53:04 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 01:58:34 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:04:19 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:10:35 | Running 258219 (67) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:17:17 | Running lcsw71245 (68) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:23:39 | Running mbw71245 (70) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:29:54 | Running 257745 (71) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:36:34 | Running l257745 (73) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:43:18 | Running dup257745 (75) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:49:59 | Running msw257745 (77) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 02:56:07 | Running msdw257745 (78) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:02:14 | Running pdsw257745 (79) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:08:31 | Running 257762 (80) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:15:11 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:20:41 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:26:27 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:32:44 | Running 257763 (81) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:39:19 | Running 257764 (82) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:45:58 | Running 257767 (83) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:52:38 | Running 257807 (84) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 03:59:18 | Running 257809 (85) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:05:59 | Running 257810 (86) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:12:38 | Running 257811 (87) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:19:17 | Running 257812 (88) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:25:58 | Running 257813 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:32:37 | Running 257814 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:39:17 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:44:48 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:50:33 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 04:56:50 | Running 257816 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:03:30 | Running 257817 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:10:11 | Running 257818 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:16:45 | Running 257819 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:23:26 | Running 257820 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:30:07 | Running 257821 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:36:47 | Running 257822 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:43:22 | Running 257823 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:50:03 | Running lcss71263 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 05:56:39 | Running mbs71263 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:03:07 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:08:36 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:14:22 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:20:39 | Running 254597 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:27:10 | Running 254598 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:33:45 | Running 254599 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:40:10 | Running 254600 (104) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/04/2019 06:46:44 | Running 1dup254600 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:53:11 | Running 2dup254600 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 06:59:43 | Running 254601 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:06:13 | Running l254601 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:12:48 | Running 1dup254601 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:19:11 | Running 2dup254601 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:25:40 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:31:22 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:37:08 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:43:25 | Running mss254601 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:49:42 | Running msds254601 (112) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 07:55:57 | Running pdss254601 (113) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:02:21 | Running 254602 (114) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:08:32 | Running l254602 (115) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:15:07 | Running 1dup254602 (116) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:21:19 | Running 2dup254602 (117) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:27:38 | Running mss254602 (118) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:33:59 | Running msds254602 (119) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:40:37 | Running pdss254602 (120) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:47:01 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:52:34 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 08:58:21 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:04:39 | Running 254603 (121) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:11:51 | Running 254604 (122) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:18:20 | Running 254605 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:25:05 | Running 254606 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:31:56 | Running 254959 (125) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:38:27 | Running 254961 (126) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:45:03 | Running 254962 (127) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:51:38 | Running 254963 (128) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 09:58:00 | Running 254966 (129) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:04:34 | Running 254968 (130) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:10:50 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:16:29 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:22:17 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:28:36 | Running 254969 (131) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:34:46 | Running 255833 (132) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:41:29 | Running 255853 (133) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:47:51 | Running 255854 (134) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 10:54:44 | Running lcss71264 (135) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:01:21 | Running mbs71264 (136) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:07:51 | Running 254964 (137) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:14:24 | Running l254964 (138) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:20:49 | Running 1dup254964 (139) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:27:21 | Running mss254964 (140) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:33:50 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:39:34 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:45:23 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:47:44 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:47:44 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/04/2019 11:51:43 | Running msds254964 (141) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 11:54:08 | Unable to Set Check Table, icsab | [redacted] | Analyst | |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/04/2019 11:54:08 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/04/2019 11:55:57 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:56:55 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:57:51 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/04/2019 11:58:13 | Running pdss254964 (142) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:02:36 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/04/2019 12:04:34 | Running 254965 (143) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:11:05 | Running l254965 (144) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:17:27 | Running 1dup254965 (145) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:23:56 | Running mss254965 (146) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:30:19 | Running msds254965 (147) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:36:51 | Running pdss254965 (148) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:43:23 | Running 254967 (149) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:50:01 | Running 1dup254967 (150) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 12:56:26 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:02:12 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:08:01 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:14:19 | Running 2dup254967 (151) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:20:44 | Running 255855 (152) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:24:52 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/04/2019 13:27:02 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/04/2019 13:27:10 | Running 255856 (153) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:33:35 | Running 255857 (154) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:39:45 | Running 255858 (155) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:45:56 | Running 255859 (156) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:52:08 | Running 255860 (157) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 13:58:40 | Running 255861 (158) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:05:00 | Running 255880 (159) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:11:20 | Running 255881 (160) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:17:34 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:23:13 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:29:00 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:35:21 | Running 255882 (161) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:35:57 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:40:31 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/04/2019 14:40:31 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:40:52 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:47:10 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:53:25 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 14:59:43 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:05:59 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:12:16 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:18:26 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:24:35 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:30:42 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:36:21 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:42:54 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:49:11 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 15:55:36 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 16:02:19 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 16:09:50 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/04/2019 16:16:02 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/05/2019 07:10:15 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:15:59 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:15:59 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/05/2019 07:16:20 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:22:02 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 07:22:42 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:28:55 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:35:30 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:41:46 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:48:03 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 07:54:13 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:00:22 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:06:31 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:12:10 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:18:42 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:25:00 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:31:24 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:38:16 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:45:41 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:51:53 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 08:58:05 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:04:20 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:10:25 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:16:40 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:22:55 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:29:07 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:35:53 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:42:05 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:48:17 | Running ICVLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 09:54:28 | Running ICSA-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:00:40 | Running ICSA-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:07:23 | Running ICSA-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:13:22 | Running ICSA-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:19:33 | Running lcss71284 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:26:05 | Running mbs71284 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:32:32 | Running 255901 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:38:49 | Running 255903 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:45:21 | Running 255904 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:51:51 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 10:57:22 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:03:06 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:09:24 | Running 1dup255904 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:15:54 | Running 2dup255904 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:22:24 | Running 255905 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:28:40 | Running 255906 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:34:51 | Running 255907 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:41:10 | Running 255908 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:47:35 | Running 255909 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 11:53:48 | Running 255910 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:00:11 | Running 255911 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:06:27 | Running 255912 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:12:54 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/05/2019 12:18:24 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:24:08 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:30:25 | Running 255913 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:36:39 | Running 255914 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:43:05 | Running 255915 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:49:24 | Running 255916 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 12:55:36 | Running 255917 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:01:44 | Running 255918 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:08:07 | Running 255919 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:14:28 | Running l255919 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:20:54 | Running 1dup255919 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:27:03 | Running 2dup255919 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:33:11 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:38:42 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:44:27 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:50:44 | Running mss255919 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 13:57:08 | Running msds255919 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:03:24 | Running pdss255919 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:09:41 | Running 255920 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:10:04 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 14:10:09 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 14:15:49 | Running 256795 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:22:23 | Running 254600 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:29:01 | Running 1dup254600 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:35:40 | Running 2dup254600 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:40:52 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/05/2019 14:42:18 | Running 254601 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:48:57 | Running l254601 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 14:55:24 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:00:51 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:06:36 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:12:52 | Running 1dup254601 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:19:22 | Running 2dup254601 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:26:01 | Running mss254601 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:32:42 | Running msds254601 (112) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:39:16 | Running pdss254601 (113) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:45:44 | Running 254602 (114) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:52:25 | Running l254602 (115) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 15:58:41 | Running 1dup254602 (116) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:05:08 | Running 2dup254602 (117) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:11:40 | Running mss254602 (118) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:18:09 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:23:37 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:29:21 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:35:38 | Running msds254602 (119) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:42:08 | Running pdss254602 (120) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:48:42 | Running 254603 (121) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 16:55:23 | Running 254604 (122) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:01:53 | Running 254605 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:08:30 | Running 254606 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:15:10 | Running 255833 (132) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:21:47 | Running 255853 (133) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/05/2019 17:28:29 | Running 255854 (134) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:34:38 | Running 255857 (154) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:41:07 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:46:35 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:52:19 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 17:58:37 | Running 255858 (155) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:05:06 | Running 255882 (161) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:11:30 | Running 255883 (162) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:17:57 | Running 255884 (163) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:24:39 | Running 255885 (164) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:31:10 | Running 255886 (165) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:38:02 | Running 255887 (166) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:44:27 | Running 255888 (167) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:50:58 | Running 255889 (168) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 18:57:25 | Running lcsw71309 71300 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:03:50 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:09:25 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:15:10 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:21:27 | Running mbw71309 71300 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:27:43 | Running 260297 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:34:36 | Running 260373 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:41:13 | Running 260611 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:48:18 | Running msw260611 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 19:54:54 | Running msdw260611 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:01:30 | Running pdsw260611 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:07:45 | Running lcsw71290 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:14:05 | Running mbw71290 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:20:19 | Running 259148 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:26:53 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:32:22 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:38:07 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:44:00 | Running l259148 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:50:38 | Running dup259148 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 20:57:12 | Running msw259148 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:03:25 | Running msdw259148 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:09:40 | Running pdsw259148 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:15:53 | Running 259169 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:22:21 | Running lcsw71292 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:28:41 | Running mbw71292 (54) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:34:55 | Running 259006 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:41:34 | Running l259006 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:48:05 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:53:42 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 21:59:27 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:05:44 | Running dup259006 (57) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:12:24 | Running msw259006 (58) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:18:44 | Running pdsw259006 (59) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:24:59 | Running lcsw71286 (60) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:31:21 | Running mbw71286 (61) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:37:35 | Running 259093 (62) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:44:33 | Running msw259093 (63) | [redacted] | Analyst | S_DOD Calibration |
| | 04/05/2019 22:50:57 | Running msdw259093 (64) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/17/2019 11:15:27 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:21:20 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:27:40 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:34:50 | Running 263133 (131) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:41:20 | Running msw263133 (132) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:47:08 | Running msdw263133 (133) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:53:17 | Running pdsw263133 (134) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 11:59:41 | Running 263224 (135) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:06:21 | Running 263763 (136) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:12:17 | Unable to Set Check Table, | [redacted] | Analyst | |
| | 04/17/2019 12:12:24 | Unable to Set Check Table, | [redacted] | Analyst | |
| | 04/17/2019 12:12:28 | Unable to Set Check Table, | [redacted] | Analyst | |
| | 04/17/2019 12:12:34 | Unable to Set Check Table, | [redacted] | Analyst | |
| | 04/17/2019 12:13:07 | Running 263764 (137) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:20:37 | Running 263765 (138) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:28:39 | Running 263766 (139) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:35:18 | Running msw263766 (140) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:41:38 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:47:23 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:53:12 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 12:59:32 | Running msdw263766 (141) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 13:05:50 | Running 259006 (142) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 13:12:39 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 13:19:32 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 13:25:18 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/17/2019 13:29:20 | E1141 - : Water flow incorrect during exposure - exposure aborted. Ch | [redacted] | Analyst | |
| | 04/17/2019 13:29:22 | E9013 - : Plasma went out due to the water flow from chiller falling sinc | [redacted] | iTEVA Control Center | |
| | 04/17/2019 13:29:26 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 07:19:30 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/18/2019 07:19:35 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/18/2019 07:20:22 | D33534 - Debug:Wavelength check : x = 1.230, y =-0.323 | [redacted] | Analyst | |
| | 04/18/2019 14:17:00 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:17:00 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/18/2019 14:17:23 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:23:49 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:25:27 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:25:39 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:25:39 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/18/2019 14:26:00 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:32:16 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:38:30 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/18/2019 14:38:46 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:45:04 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:51:21 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 14:51:25 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/18/2019 14:58:28 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:04:39 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:11:53 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:12:14 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/18/2019 15:18:00 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:23:40 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:30:11 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/18/2019 15:36:29 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:42:58 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:49:37 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 15:56:40 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:02:52 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:09:10 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:15:30 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:21:36 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:27:50 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:34:05 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:40:16 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:46:48 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:52:44 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 16:58:56 | Running ICVLL ag (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:05:11 | Running icsa-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:11:23 | Running icsa-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:18:06 | Running icsa-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:24:15 | Running icsa-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:30:29 | Running 259006 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:36:56 | Running 266863 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:43:10 | Running msw266863 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:49:29 | Running msdw266863 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 17:55:48 | Running 266864 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:02:20 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:08:00 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:13:46 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:20:02 | Running 266865 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:26:38 | Running 266866 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:33:14 | Running 266867 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:39:48 | Running 266868 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:46:22 | Running 266869 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:52:57 | Running 266870 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 18:59:39 | Running 266871 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:06:18 | Running 266872 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:12:56 | Running 266873 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:19:35 | Running 266200 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:26:35 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:32:18 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:38:03 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:44:18 | Running msw266200 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:50:34 | Running msdw266200 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 19:56:50 | Running 266285 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:03:52 | Running 266287 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:10:32 | Running 266289 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:17:10 | Running 265967 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:23:51 | Running 265980 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:30:32 | Running 265981 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:37:12 | Running 265982 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:43:49 | Running 265983 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:50:27 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 20:56:08 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:01:52 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/18/2019 21:08:08 | Running 265984 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:14:49 | Running 265985 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:21:30 | Running 265986 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:28:11 | Running 265987 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:34:51 | Running msw265987 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:41:10 | Running msdw265987 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:47:27 | Running 266211 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 21:54:06 | Running 266213 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:00:42 | Running 266214 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:07:21 | Running 266216 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:13:58 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:19:39 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:25:24 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:31:40 | Running 266218 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:38:20 | Running 266219 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:44:57 | Running 266220 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:51:39 | Running 266221 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 22:58:19 | Running 266259 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:04:53 | Running 266262 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:11:29 | Running 266263 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:18:07 | Running 266264 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:24:16 | Running 266266 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:30:58 | Running msw266266 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:37:14 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:42:55 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:48:41 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/18/2019 23:54:57 | Running msdw266266 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:01:16 | Running 266267 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:07:27 | Running 266268 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:13:37 | Running 266272 (54) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:19:45 | Running 266273 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:25:55 | Running 266274 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:32:38 | Running 266275 (57) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:39:15 | Running 266276 (58) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:45:26 | Running 266277 (59) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:52:08 | Running 266278 (60) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 00:58:59 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:04:40 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:10:26 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:16:42 | Running 266279 (61) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:23:26 | Running 266280 (62) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:30:02 | Running 266281 (63) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:36:41 | Running 266282 (64) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:43:17 | Running lcsw71461 (65) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:49:47 | Running mbw71461 (66) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 01:56:03 | Running 264107 (67) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:02:39 | Running l264107 (68) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:09:07 | Running dup264107 (69) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:15:41 | Running msw264107 (70) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:22:00 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:27:43 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:33:30 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/19/2019 02:39:46 | Running msdw264107 (71) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:46:08 | Running pdsw264107 (72) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:52:15 | Running lcsw71459 (73) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 02:58:39 | Running mbw71459 (74) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:04:54 | Running 264147 (75) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:11:49 | Running l264147 (76) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:18:26 | Running dup264147 (77) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:25:18 | Running msw264147 (78) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:31:38 | Running msdw264147 (79) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:38:03 | Running pdsw264147 (80) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:44:04 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:49:42 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 03:55:28 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:01:45 | Running 264148 (81) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:08:32 | Running 264149 (82) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:15:06 | Running 264150 (83) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:21:35 | Running 264151 (84) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:28:10 | Running 264152 (85) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:34:44 | Running lcsw71468 (86) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:41:03 | Running mbw71468 (87) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:47:12 | Running 264956 (88) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 04:53:41 | Running l264956 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:00:13 | Running dup264956 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:06:46 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:12:23 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:18:07 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:24:21 | Running msw264956 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:30:38 | Running msdw264956 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:36:59 | Running pdsw264956 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:43:04 | Running 264963 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:49:13 | Running lcsw71467 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 05:55:35 | Running mbw71467 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:01:49 | Running 264957 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:08:29 | Running l264957 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:14:57 | Running dup264957 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:21:33 | Running msw264957 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:27:52 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:33:28 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:39:09 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:45:18 | Running msdw264957 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:51:36 | Running pdsw264957 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 06:57:41 | Running 264964 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:03:51 | Running lcsw71463 62 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:10:23 | Running mbw71463 62 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:14:48 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/19/2019 07:14:48 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 07:16:44 | Running 264142 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:23:05 | Running msw264142 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:29:29 | Running msdw264142 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:36:01 | Running pdsw264142 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:42:19 | Running lcss71469 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 07:48:58 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/19/2019 07:54:40 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:00:27 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:06:46 | Running mbs71469 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:13:17 | Running 255921 (112) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:19:31 | Running 256767 (113) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:26:04 | Running 256794 (114) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:32:21 | Running 256796 (115) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:38:56 | Running 256797 (116) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:45:29 | Running 256798 (117) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:52:05 | Running l256798 (118) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 08:58:35 | Running 1dup256798 (119) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:05:13 | Running 2dup256798 (120) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:11:47 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:17:30 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:23:17 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:29:36 | Running mss256798 (121) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:36:04 | Running msds256798 (122) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:42:34 | Running pdss256798 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:49:03 | Running 256799 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 09:55:24 | Running 256800 (125) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 10:01:44 | Running 256801 (126) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 10:07:54 | Running 256802 (127) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 10:18:25 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/19/2019 10:18:26 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 10:21:13 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 10:21:13 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/19/2019 10:30:24 | Unable to Set Check Table, | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:33:19 | Printer wouldn't initialize | [redacted] | Analyst | |
| | 04/19/2019 10:38:19 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 10:49:08 | iTEVA loaded | [redacted] | iTEVA Control Center | |
| | 04/19/2019 10:49:27 | Connected to instrument 20082101 | [redacted] | iTEVA Control Center | |
| | 04/19/2019 10:50:08 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/19/2019 10:57:17 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/19/2019 10:57:17 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 10:57:37 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 10:59:32 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 10:59:34 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 11:00:40 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 11:00:40 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/19/2019 11:01:20 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 11:02:41 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 11:02:41 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/19/2019 11:05:08 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:08:06 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 11:11:41 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:17:57 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:24:14 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:30:32 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:36:43 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:42:53 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:49:03 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 11:54:47 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:01:25 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:07:44 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/19/2019 12:14:14 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:20:53 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:28:11 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:34:24 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:40:44 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:47:03 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:48:30 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 12:52:15 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 12:52:20 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 12:53:11 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 12:54:34 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 12:59:16 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 12:59:26 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:05:42 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:08:57 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 13:11:53 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:18:29 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:24:31 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:30:44 | Running msds256798 (122) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:37:26 | Running pdss256798 (123) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:43:53 | Running 256799 (124) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:50:07 | Running 256800 (125) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 13:56:35 | Running 256801 (126) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:00:19 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/19/2019 14:00:20 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 14:02:48 | Running 256802 (127) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:02:58 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 14:03:04 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 14:03:58 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 14:05:15 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 14:08:36 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 14:09:40 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 14:09:50 | Running 256803 (128) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:10:38 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 14:16:20 | Running 1dup256803 (129) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:22:48 | Running 2dup256803 (130) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:29:16 | Running 256804 (131) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:35:36 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:41:13 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:46:58 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:53:15 | Running 256805 (132) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 14:59:39 | Running 256806 (133) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:02:21 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 15:06:00 | Running 256807 (134) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:10:50 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 15:12:31 | Running 256808 (135) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:13:57 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/19/2019 15:16:17 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/19/2019 15:19:03 | Running 257642 (136) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:25:30 | Running 257643 (137) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:31:56 | Running 257644 (138) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:38:18 | Running 257645 (139) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/19/2019 15:44:51 | Running lcswtclp (140) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:51:08 | Running mbwtclp (141) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 15:57:23 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:02:52 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:08:37 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:14:55 | Running 262446 (142) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:21:37 | Running msw262446 (143) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:27:56 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:34:06 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:39:38 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:45:24 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/19/2019 16:51:41 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/19/2019 16:51:41 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/19/2019 16:51:43 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 06:55:15 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/22/2019 06:55:19 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/22/2019 06:55:59 | D33534 - Debug:Wavelength check : x = 0.919, y =-0.224 | [redacted] | Analyst | |
| | 04/22/2019 11:54:28 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/22/2019 11:54:28 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 11:54:49 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:01:10 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:07:41 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:12:50 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:45:54 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:45:54 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/22/2019 12:46:14 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:52:32 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 12:58:48 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:05:07 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:11:24 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:17:10 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/22/2019 13:17:47 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:24:00 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:30:09 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:35:39 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/22/2019 13:36:20 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:42:04 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:43:59 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/22/2019 13:48:42 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 13:55:02 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:01:34 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:08:06 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:09:38 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/22/2019 14:15:24 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:21:38 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:28:00 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:34:18 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:40:26 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:46:42 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:52:57 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 14:59:09 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/22/2019 15:04:42 | Closing will close the method and all associated samples. | [redacted] | Analyst | |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 06:34:37 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/25/2019 06:35:23 | D33534 - Debug:Wavelength check : x = 1.064, y =-0.266 | [redacted] | Analyst | |
| | 04/25/2019 07:06:37 | iTEVA loaded | [redacted] | iTEVA Control Center | |
| | 04/25/2019 07:06:56 | Connected to instrument 20082101 | [redacted] | iTEVA Control Center | |
| | 04/25/2019 07:07:38 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/25/2019 14:03:38 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:03:38 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/25/2019 14:03:58 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:10:16 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:16:34 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:22:49 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:29:06 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:35:23 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:41:33 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:47:43 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:53:51 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 14:59:32 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:03:42 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/25/2019 15:06:08 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:12:26 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:18:52 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:25:30 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:32:35 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:38:47 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:45:04 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:51:21 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 15:57:25 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:03:40 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:09:55 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:16:06 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:22:38 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:28:33 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:34:46 | Running ICVll AG (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:40:57 | Running ICSA-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:47:10 | Running ICSA-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:53:52 | Running ICSA-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 16:59:50 | Running ICSA-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:06:00 | Running 254601 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:12:38 | Running L254601 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:19:03 | Running 1DUP254601 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:25:41 | Running 2DUP254601 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:32:19 | Running MSS254601 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:38:56 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:44:27 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:50:12 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 17:56:28 | Running MSDS254601 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:03:07 | Running PDSS254601 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:09:30 | Running 254602 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:15:42 | Running L254602 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:22:06 | Running 1DUP254602 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:28:36 | Running 2DUP254602 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:35:04 | Running MSS254602 (17) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 18:41:32 | Running MSDS254602 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:48:00 | Running PDSS254602 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 18:54:14 | Running 254603 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:00:50 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:06:25 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:12:08 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:18:25 | Running 254604 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:24:52 | Running 254605 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:31:23 | Running 254606 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:38:00 | Running 255833 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:44:35 | Running 255853 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:51:12 | Running 255854 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 19:57:13 | Running 254965 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:03:20 | Running L254965 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:09:22 | Running 1DUP254965 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:15:31 | Running MSS254965 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:21:38 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:27:16 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:33:00 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:39:16 | Running MSDS254965 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:45:24 | Running PDSS254965 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:51:34 | Running 255856 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 20:57:32 | Running 255857 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:04:03 | Running 255881 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:10:33 | Running 255884 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:17:08 | Running 255885 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:23:19 | Running 255886 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:29:49 | Running 255887 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:35:53 | Running LCSS71374 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:41:44 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:47:20 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:53:04 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 21:59:20 | Running MSS261068 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:05:34 | Running MSDS261068 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:11:49 | Running PDSS261068 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:18:17 | Running 267773 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:25:00 | Running MSW267773 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:31:16 | Running MSDW267773 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:37:31 | Running 267774 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:44:20 | Running 267775 (48) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:50:39 | Running 267776 (49) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 22:57:15 | Running 267777 (50) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:03:49 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:09:31 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:15:15 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:21:31 | Running 267778 (51) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:27:53 | Running 267779 (52) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:34:31 | Running 267780 (53) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:41:04 | Running 267781 (54) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:47:36 | Running 267782 (55) | [redacted] | Analyst | S_DOD Calibration |
| | 04/25/2019 23:54:09 | Running 267783 (56) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 00:00:42 | Running 267784 (57) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/27/2019 07:42:02 | Running 269340 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 07:48:15 | Running 269341 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 07:54:49 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:00:29 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:06:14 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:12:31 | Running 269342 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:18:44 | Running l269342 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:24:57 | Running dup269342 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:31:10 | Running msw269342 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:37:32 | Running msdw269342 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:43:58 | Running pdsw269342 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:50:14 | Running lcsw71621 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:56:36 | Running mbw71621 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:02:51 | Running 270273 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:09:35 | Running msw270273 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:15:56 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:21:40 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:27:24 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:33:42 | Running msdw270273 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:40:05 | Running pdsw270273 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:46:15 | Running 270275 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:52:40 | Running 270276 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:59:13 | Running 270277 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:05:39 | Running 270278 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:12:18 | Running 270286 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:18:56 | Running 270287 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:25:49 | Running msw270287 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:32:28 | Running msdw270287 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:39:05 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:44:51 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:50:37 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:56:55 | Running 270298 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:03:06 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:09:18 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:15:01 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:20:46 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:27:04 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/27/2019 11:27:04 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/27/2019 11:27:06 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 07:03:29 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/29/2019 07:03:34 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/29/2019 07:04:21 | D33534 - Debug:Wavelength check : x = 1.077, y =-0.253 | [redacted] | Analyst | |
| | 04/29/2019 14:05:11 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/29/2019 14:05:11 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:05:32 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:11:53 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:18:32 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:24:48 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:38:56 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:44:09 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 14:44:38 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 14:45:45 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/29/2019 14:51:27 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/29/2019 14:51:27 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:51:59 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:56:33 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/29/2019 14:56:33 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:58:16 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:59:41 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:59:47 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:59:54 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 15:00:06 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 15:04:23 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:07:59 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 15:10:04 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:16:31 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:22:50 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:29:16 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:35:54 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:42:59 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:49:11 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:55:27 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:01:43 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:07:50 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:14:05 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:20:21 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:26:32 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:33:05 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:38:56 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:45:08 | Running 256803 (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:51:41 | Running 1dup256803 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:58:13 | Running 2dup256803 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:04:45 | Running 256767 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:11:17 | Running 256797 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:17:46 | Running lcss71590 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:24:24 | Running 255886 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:30:38 | Running 254602 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:37:17 | Running 254605 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:43:32 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:49:42 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:55:11 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 18:00:55 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 18:07:12 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/29/2019 18:07:12 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/29/2019 18:07:14 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 06:47:28 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/30/2019 06:47:33 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/30/2019 06:48:20 | D33534 - Debug:Wavelength check : x = 0.951, y =-0.262 | [redacted] | Analyst | |
| | 04/30/2019 13:31:32 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/30/2019 13:31:33 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:31:53 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:37:33 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:40:57 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:40:57 | Autosampler Run Started | [redacted] | Analyst | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13785 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV BASE STD |
| Date Received: | 04/19/2019 | Lot #: | P2-MEB678822 |
| Expiration Date (if any): | 04/19/2020 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13786 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE BASE STD |
| Date Received: | 04/19/2019 | Lot #: | P2-MEB678821 |
| Expiration Date (if any): | 04/19/2020 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13787 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13788 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13789 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13782 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/18/2019 | Expiration Date: | 04/18/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13783 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Matrix Mod. |
| Date Received: | 04/18/2019 | Lot #: | 9166009 |
| Expiration Date (if any): | 09/30/2020 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13784 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/18/2019 | Expiration Date: | 10/18/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13780 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/17/2019 | Expiration Date: | 10/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13781 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/17/2019 | Expiration Date: | 04/17/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13779 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/12/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13778 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 04/11/2019 | Expiration Date: | 04/11/2020 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13777 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/09/2019 | Expiration Date: | 04/09/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13775 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 04/02/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13776 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2019 | Expiration Date: | 04/03/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.676 with **1** part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13771 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13772 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13773 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13774 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 03/26/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13770 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/25/2019 | Expiration Date: | 03/25/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13768 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13769 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/21/2019 | Expiration Date: | 09/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13765 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13766 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13767 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13763 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13764 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13761 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 03/19/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13762 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 09/19/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13511 and 60 g hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13758 | Standard: | ICSA4_Ni_Ti |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ni and Ti |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13759 | Standard: | ICSA2_Ba_Be_Sn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ba, Be, and Sn |
| Prep Date: | 03/13/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13760 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg<br>10,000 V, Ce |
| Prep Date: | 03/13/2019 | Expiration Date: | 09/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13756 | Standard: | ICSA1_Mn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Mn |
| Prep Date: | 03/13/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13757 | Standard: | ICSA3_Cr_Cu_Co_Mo |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Cr, Cu, Co and Mo |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/20 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13751 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 998527-19 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13752 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 982185-12 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13753 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | As 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 166531-32 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400--10M31 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13754 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13755 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 172053-77 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13749 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.671 with **1** part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13750 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2020 |
| Prep: | Into a 1 L volumetric flask, added **400** g NaOH W45383 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13748 | Vendor: | Potters Ind. LLC (Gainger) |
| Analyst: | [redacted] | Chemical: | Glass beads Extra Fine |
| Date Received: | 03/07/2019 | Lot #: | |
| Expiration Date (if any): | XXXXXX | Catalog #: | 6ZC13 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13746 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13747 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| Standard Log #: | M13743 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 02/26/2019 | Expiration Date: | 10/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13458 | 1000 | 0.25 |
| Al | 10 | M13611 | **10000** | 0.05 |
| As | 20 | M13392 | 1000 | 1 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 0.5 | M13579 | 1000 | 0.025 |
| Ca | 50 | M13692 | **10000** | 0.25 |
| Cd | 0.5 | M13570 | 1000 | 0.025 |
| Co | 2.5 | M13575 | 1000 | 0.125 |
| Cr | 5.0 | M13617 | **10000** | 0.025 |
| Cu | 10 | M13618 | **10000** | 0.05 |
| Fe | 40 | M13609 | **10000** | 0.2 |
| Mg | 25 | M13694 | **10000** | 0.125 |
| Mn | 5 | M13616 | **10000** | 0.025 |
| Mo | 2.5 | M13697 | 1000 | 0.125 |
| Ni | 5 | M13569 | 1000 | 0.25 |
| Pb | 10 | M13615 | **10000** | 0.05 |
| Sb | 20 | M13459 | 1000 | 1 |
| Se | 20 | M13460 | 1000 | 1 |
| Tl | 20 | M13583 | 1000 | 1 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 5 | M13610 | **10000** | 0.025 |
| Na | 500 | M13605 | **10000** | 2.5 |
| K | 500 | M13733 | **10000** | 2.5 |
| B | 20 | M13531 | 1000 | 1 |
| Si | 100 | M13731 | 1000 | 5 |
| S | 200 | M13604 | **10000** | 1 |
| Li | 20 | M13537 | 1000 | 1 |
| Sr | 20 | M13572 | 1000 | 1 |
| Sn | 20 | M13580 | 1000 | 1 |
| Ti | 20 | M13573 | 1000 | 1 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13740 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 02/26/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13741 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 02-26-2019 | Lot #: | 3-153AB |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13742 | Vendor: | IKOHE Blasting Media |
| Analyst: | [redacted] | Chemical: | Glass Neads X-fine-20u |
| Date Received: | 02/26/2019 | Lot #: | 52-144 |
| Expiration Date (if any): | ********* | Catalog #: | UL-49/52-1544 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13739 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/22/2019 | Expiration Date: | 02/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13734 | Vendor: | SPEX CERTIPREP |
| Analyst: | [redacted] | Chemical: | HG 1000 ug/mL |
| Date Received: | 02/21/2019 | Lot #: | CL10-136HGY |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard Log #: | M13735 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13736 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13737 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 51-117CR |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13738 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 2-230SGX |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13730 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/14/2019 | Expiration Date: | 02/14/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13731 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 08/20 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13732 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13733 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 172053-36 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13727 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 02/08/2019 | Lot #: | 175511 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13728 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 02/08/2019 | Lot #: | 186819 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13729 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/11/2019 | Expiration Date: | 08/11/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13724 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13725 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13726 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/07/2019 | Expiration Date: | 08/07/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13721 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 02/05/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.671 with **1** part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13722 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13723 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13720 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/31/2019 | Expiration Date: | 01/31/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13716 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13717 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13718 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13719 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 01/30/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13713 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/29/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13714 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 01/29/2019 | Lot #: | A0391673 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13715 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 1/29/2019 | Lot #: | 51-013CR |
| Expiration Date (if any): | 01/30/2020 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13711 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13615<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13712 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13615<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13710 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/22/2019 | Expiration Date: | 01/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13709 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13705 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13706 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13707 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13708 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13703 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13704 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13701 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/13/2018 | Expiration Date: | 06/13/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13696 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 167967-42 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13697 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Moybdenum 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169424-59 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13698 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 175213-60 |
| Expiration Date (if any): | 06/20 | Catalog #: | S4400-10005044F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13699 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/11/2018 | Lot #: | 50-120CR |
| Expiration Date (if any): | 12/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13700 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/12/2018 | Expiration Date: | 12/12/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13689 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13690 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Aluminum 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13691 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 752887-32 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13692 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Calcium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13693 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13694 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Magnesium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13695 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Iron 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13686 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13687 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13688 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13684 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/04/2018 | Expiration Date: | 06/04/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13683 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 10000 mg/L |
| Date Received: | 11/30/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 5/31/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13681 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13531 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13682 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2018 | Expiration Date: | 11/29/2018 |

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood.

| | | | |
|---|---|---|---|
| Standard Log #: | M13679 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13517 | 1000 | 0.72 |
| Sn | 20 | M13572 | 1000 | 1 |
| Sr | 3.2 | M13586 | 1000 | 0.16 |
| Ti | 9.6 | M13573 | 1000 | 0.48 |
| W | 24 | xxxxxxxx | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13680 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 07/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13531 | 1000 | 0.8 |
| Si | 200 | M13394 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13677 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13562 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13579 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13570 | 1000 | 0.08 |
| Co | 9.6 | M13575 | 1000 | 0.48 |
| Cr | 5.6 | M13617 | **10000** | 0.028 |
| Cu | 16 | M13618 | **10000** | 0.08 |
| Fe | 72 | M13463 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13616 | **10000** | 0.03 |
| Mo | 9.6 | M13608 | 1000 | 0.48 |
| Ni | 4.8 | M13569 | 1000 | 0.24 |
| Pb | 10 | M13610 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13583 | 1000 | 0.95 |
| V | 3.2 | M13578 | 1000 | 0.16 |
| Zn | 12 | M13610 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| Standard Log #: | M13676 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13462 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13579 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13570 | 1000 | 0.1 |
| Co | 4 | M13575 | 1000 | 0.2 |
| Cr | 4 | M13617 | **10000** | 0.02 |
| Cu | 7 | M13618 | **10000** | 0.035 |
| Fe | 100 | M13463 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13616 | **10000** | 0.02 |
| Mo | 7 | M13608 | 1000 | 0.35 |
| Ni | 6 | M13569 | 1000 | 0.2 |
| Pb | 4 | M13610 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13583 | 1000 | 0.75 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 10 | M13610 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13675 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/26/2018 | Expiration Date: | 11/26/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13671 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13672 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13673 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13674 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13668 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13669 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13670 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13666 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/19/2018 | Expiration Date: | 07/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13667 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/19/2018 | Expiration Date: | 11/19/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13664 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13665 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13659 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/01/2018 | Expiration Date: | 11/01/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13660 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 11/01/2018 | Expiration Date: | 09/19 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13661 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 11/06/2018 | Expiration Date: | 10/19 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13657 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) XXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13658 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13655 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13656 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13651 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13652 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13653 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance std |
| Date Received: | 10/29/2018 | Lot #: | 2-036AB |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13648 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13649 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13650 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 10/27/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13645 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13646 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 10/25/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13647 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 10/24/2018 | Lot #: | H226-02 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13643 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13644 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13639 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13640 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13641 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13642 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13638 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 10/23/2018 | Expiration Date: | 07/2019 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13615 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13634 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,0000 mg/L |
| Date Received: | 10/18/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 04/20 | Catalog #: | 4400-10m671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13635 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/18/2018 | Lot #: | 2-230sgx |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13636 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/18/2018 | Expiration Date: | 10/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13637 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance standard |
| Date Received: | 10/18/2018 | Lot #: | 50-0007CR |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13633 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13632 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13630 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13631 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13629 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2018 | Expiration Date: | 10/05/2018 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.663 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13627 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13628 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

MRL BASE STD M13626

Analyst [redacted]

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13579 | 1000 | 0.2 | 02/20 |
| Cd | 5 | M13570 | 1000 | 0.25 | 01/20 |
| Co | 10 | M13575 | 1000 | 0.5 | 01/20 |
| Cr | 10 | M13617 | 10000 | 0.05 | 03/20 |
| Cu | 10 | M13618 | 10000 | 0.05 | 03/20 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/19 |
| Mn | 10 | M13616 | 10000 | 0.05 | 03/20 |
| Mo | 10 | M13608 | 1000 | 0.5 | 03/20 |
| Ni | 10 | M13569 | 1000 | 0.5 | 03/20 |
| Pb | 10 | M13610 | 10000 | 0.05 | 03/20 |
| Sb | 20 | M13459 | 1000 | 1 | 03/20 |
| V | 10 | M13578 | 1000 | 0.5 | 02/20 |
| Zn | 10 | M13610 | 10000 | 0.05 | 02/20 |
| K | 1000 | M13341 | 10000 | 5 | 05/19 |
| Na | 1000 | M13402 | 10000 | 5 | 08/19 |
| As | 20 | M13392 | 1000 | 1 | 07/19 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/19 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/19 |
| Se | 20 | M13460 | 1000 | 1 | 10/19 |
| Tl | 20 | M13583 | 1000 | 1 | 02/20 |
| Si | 100 | M13394 | 1000 | 5 | 07/19 |
| B | 20 | M13531 | 1000 | 1 | 07/19 |
| Li | 20 | M13517 | 1000 | 1 | 02/20 |
| W | 50 | xxxxxxx | 1000 | 2.5 | xxxxxxx |
| Ti | 10 | M13573 | 1000 | 0.5 | 02/20 |
| Sr | 10 | M13586 | 1000 | 0.5 | 02/20 |
| Sn | 50 | M13572 | 1000 | 2.5 | 02/20 |
| S | 300 | M13391 | 10000 | 1.5 | 07/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13625 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 10/03/2018 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13623 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13624 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 09/27/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.** |
| Prep Date: | 09/27/18 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 , **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M13576 , **2.5 mLs Na 10,000 ug/mL** M13461 ,**2.5 mLs k 10,000 ug/mL** M13581 **2.5 mLs S 10,000 ug/mL** M13530 , **0.5 mls Si 1000 ug/mL** M13571 and brought up to volume with milli-Q . | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13622 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/27/2018 | Expiration Date: | 09/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13618 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148796-39 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M141 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13619 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/19/2018 | Expiration Date: | 09/19/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.664 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13620 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 09/04/2018 | Lot #: | 177409 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13611 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169484-18 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13612 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 440010M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13613 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13614 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13615 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 168223-17 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13616 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167540-6 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13617 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158236-7 |
| Expiration Date (if any): | 03/2020 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13604 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167967-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13605 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 752887-3 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13606 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 144467-179 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000411-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13607 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158237-113 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000521-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13608 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169424-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13609 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 156651-53 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13610 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 979871-2 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13603 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 09/19/2018 | Expiration Date: | 10/20/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13601 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/12/2018 | Expiration Date: | 09/12/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13602 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09-12-2018 | Lot #: | 1-124AB |
| Expiration Date (if any): | 09-30-2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13600 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 1% Pd Matrix Modifier |
| Date Received: | 09/11/2018 | Lot #: | 1808015 |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13599 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/08/2018 | Expiration Date: | 09/08/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13595 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 08/29/2018 | Lot #: | 49-151CR |
| Expiration Date (if any): | 08/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13596 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/30/2018 | Expiration Date: | 08/30/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13597 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13598 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13591 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13592 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13593 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13594 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/23/2018 | Expiration Date: | 08/23/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13588 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13589 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13590 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | turbidity std 2.0 ntu |
| Date Received: | 08/21/2018 | Lot #: | 18272791 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13586 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) MXXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13587 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13584 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 08/20/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13585 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13577 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Li 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 751942-25 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13578 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | V 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 152207-68 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13579 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Be 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 660981-5 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13580 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sr 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 168227-29 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13581 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 02/2020 | Catalog #: | 4400-10411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13582 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 02/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13583 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Tl 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 148983-70 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13576 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/04/2018 | Lot #: | 49-045CR |
| Expiration Date (if any): | 07/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13569 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ni 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 166665-86 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13570 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cd 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 160499-32 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13571 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175213-28 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13572 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sn 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 144466-74 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13573 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ti 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 152616-55 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000623 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13574 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175191-22 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13575 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Co 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 161693-10 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000131 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13567 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$, $2\%$ HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13568 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13535, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **0.5 mL** Mo (1000 mg/L) M13393, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13129, **0.5 mL** Li (1000 mg/L) M13130, **0.5 mL** Sn (1000 mg/L) M13134, **0.5 mL** Ti (1000 mg/L) M13128, **0.5 mL** W (1000 mg/L) xxxxxx, **0.5 mL** Si (1000 mg/L) M13528, **0.5 mL** S (10000 mg/L) M13466, **0.5 mL** K (10000 mg/L) M13527, and **0.5 mL** Na (10000 mg/L) M13461 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13565 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/23/2018 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **15 mL** Fe (10,000 mg/L) M13463, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13564 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 07/20/2018 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13563 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13466 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13562 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13561 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13560 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13557 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 07/17/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13558 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 07/17/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13559 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/17/2018 | Expiration Date: | 01/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13559 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13556 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 07/13/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13554 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13390 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13555 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13466 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13553 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 07/12/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13550 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13551 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13547 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 07/09/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13548 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 07/10/2018 | Expiration Date: | 01/10/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13549 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13545 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13546 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13542 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13543 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/09/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13544 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 01/09/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13539 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13540 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13541 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13536 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/03/2018 | Expiration Date: | 01/03/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13537 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13538 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/05/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13534 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 07/02/2018 | Expiration Date: | 09/16/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13535 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 07/02/2018 | Lot #: | 48-179CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13533 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 06/29/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **2.5 mL** of K (10,000 mg/L) M13400, **2.5 mL** of Na (10,000 mg/L) M13402 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13526 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | YTTRIUM 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 138448-54 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13527 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | POTASSIUM 10,000 |
| Date Received: | 06/22/2018 | Lot #: | 172053-32 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-104411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13528 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 142610-115 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13529 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 156651-42 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13530 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | SULFUR 10,000ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 129880-46 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13531 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | BORON 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 158372-91 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13532 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | CUSTOM ASSURANCE STANDARD |
| Date Received: | 06/22/2018 | Lot #: | 48-146CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13525 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/20/2018 | Expiration Date: | 06/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13524 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/15/2018 | Expiration Date: | 06/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13522 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13523 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13520 | Vendor: | FRISCOLYT |
| Analyst: | [redacted] | Chemical: | Electrolyte Solution |
| Date Received: | 06/13/2018 | Lot #: | 1DO71H |
| Expiration Date (if any): | 12/03/2021 | Catalog #: | 51 340 053 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13521 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 06/13/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13518 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/11/2018 | Lot #: | 48-060CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13519 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 06/11/2018 | Expiration Date: | 06/30/2019 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13319 , **10 mL** of Fe (10,000 mg/L) M13463 , **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| Standard Log #: | M13513 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 12/06/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13514 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13515 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13516 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13510 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/01/2018 | Expiration Date: | 06/01/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13511 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 06/04/2018 | Lot #: | 176877 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13509 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 05/30/2018 | Expiration Date: | 11/30/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13506 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-042CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XCTWI-4-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13507 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-041CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13508 | Vendor: | RESTEK |
| Analyst: | [redacted] | Chemical: | Diatomaceous earth (Celite 566) |
| Date Received: | 05/22/2018 | Lot #: | 811030-BG |
| Expiration Date (if any): | N/A | Catalog #: | 26033 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13503 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13504 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13505 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13502 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 05/21/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13499 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13500 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13501 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13496 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 05/16/2018 | Expiration Date: | 05/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13497 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13498 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13495 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 05/15/2018 | Lot #: | H052-17 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13494 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Modifier |
| Date Received: | 05/11/2018 | Lot #: | 8130826 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13491 | Reagent/Standard: | Mehlich 3 Extractant |
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/18/2018 |

**PREP**

Into a 1000 mL V.F., filled with approximately 800 mL D.I. H2O, added 20g NH4NO3 (W43076), 4 mL Mehlich 3 Stock Solution (M13489), 11.5 mL Glacial Acetic Acid (AB 653), 820 µl HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13492 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| Standard Log #: | M13489 | Reagent/Standard: | Mehlich 3 Stock Solution |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 100 mL V.F., added 13.89g NH4F (W43077) and 7.305g EDTA (W43689). Brought to volume with D.I. H2O. Stirred and dissolved for 15 minutes. Stored in refrigerator.

| Standard Log #: | M13490 | Reagent/Standard: | Mehlich 3 Extractant |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 2000 mL V.F., filled with approximately 1500 mL D.I. H2O, added 40g NH4NO3 (W43076), 8 mL Mehlich 3 Stock Solution (M13489), 23 mL Glacial Acetic Acid (AB 653), 1.64 mL HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13485 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13486 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13487 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13488 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13484 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10,000 mg/L |
| Date Received: | 05/03/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13482 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13483 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305, **15 mL** Fe (10,000 mg/L) M13321, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) 13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13480 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 05/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13479 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13481 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

MRL BASE STD M13479

Analyst [redacted]

Prep Date 05/02/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/2018 |
| Cd | 5 | M13327 | 1000 | 0.25 | 09/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/2018 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/2018 |
| Sb | 20 | M13459 | 1000 | 1 | 10/2019 |
| V | 10 | M13125 | 1000 | 0.5 | 09/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13341 | 10000 | 5 | 05/2019 |
| Na | 1000 | M13402 | 10000 | 5 | 08/2019 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/2019 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/2019 |
| Se | 20 | M13460 | 1000 | 1 | 10/2019 |
| Tl | 20 | M13124 | 1000 | 1 | 09/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/2018 |
| W | 50 | xxxxxxxxxx | 1000 | 2.5 | xxxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2018

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13476 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg |
| Prep Date: | 05/02/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305 and **15 mL** Fe (10000 mg/L) M13321 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13477 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13478 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13475 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/30/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13474 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/27/2018 | Expiration Date: | 04/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13471 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13472 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13473 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13470 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 04/25/2018 | Expiration Date: | 10/25/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13043 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13467 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 147497-47 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13468 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 04/24/2018 | Lot #: | 174236 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13469 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/24/2018 | Expiration Date: | 04/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13462 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158058-23 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13463 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 156651-18 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13464 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 148250-67 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13465 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 172053-2 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13466 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | S 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 129880-37 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13457 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158364-3 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13458 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ag 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 162712-9 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13459 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sb 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 153992-1 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13460 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Se 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 154366-16 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13461 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 107139-108 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13455 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13456 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/20/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13452 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13453 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13454 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13450 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 04/20/2018 | Expiration Date: | 01/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13451 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 04/20/201 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13447 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13448 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13449 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13445 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/19/2018 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | Hach 2100 turbidity meter |
| Standard Log #: | M13446 | Standard: | Turbity ICAL |
| Analyst: | [redacted] | Concentrations: | 20, 100, 200 ntu |
| Prep Date: | 04/19/2018 | Expiration Date: | 12/2019 |
| Prep: | Using the hach vials , pipet the following:<br>*20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20.<br>*100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20.<br>*200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13444 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Hg Standard |
| Date Received: | 04/18/2018 | Lot #: | CL10-31HGY |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13443 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/16/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13341 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13440 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/12/2018 | Expiration Date: | 04/12/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13441 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13442 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

**LPMT1-04**
**Metals Reagents and Standards**
**Prep Logbook**
*Created: 12/19/17*

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

---

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13438 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 07/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* **-1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13439 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 01/19/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13437 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 04/10/2018 | Expiration Date: | 07/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13390 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

| | | | |
|---|---|---|---|
| Standard ID#: | M13436a | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal 200 NTU |
| Date Received: | 04/10/2018 | Lot #: | A7354 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 2660449 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13436 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13435 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std Spike |
| Date Received: | 04/10/2018 | Lot #: | 1-81YJ |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13434 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13433 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13431 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13432 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13430 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2018 | Expiration Date: | 04/03/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13429 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 04/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13362 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **0.5 mL** Mo (1000 mg/L) M13393 , **0.5 mL** B (1000 mg/L) M13390 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 , **0.5 mL** Ti (1000 mg/L) M13128 , **0.5 mL** W (1000 mg/L) MXXXXX , **0.5 mL** Si (1000 mg/L) M13394 ,**0.5 mL** S (10000 mg/L) M13391 , **0.5 mL** K (10000 mg/L) M13391 , and **0.5 mL** Na (10000 mg/L) M13342 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13428 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 03/29/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13427 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2018 | Expiration Date: | 03/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13426 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/23/2018 | Expiration Date: | 03/23/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13423 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13424 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13425 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13422 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/20/2018 | Expiration Date: | 03/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13418 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13419 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 09/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13420 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 03/15/2018 | Expiration Date: | 07/02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (2% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M13392 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | | |
| Standard Log #: | M13421 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2019 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13416 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 03/09/2018 | Expiration Date: | 07/02/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13417 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/09/2018 | Expiration Date: | 03/09/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13413 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13414 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13415 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13412 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 03/06/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **2.5 mL** of K (10,000 mg/L) M13323 , **2.5 mL** of Na (10,000 mg/L) M13342 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13411 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/02/2018 | Expiration Date: | 03/02/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13410 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Inerference_A |
| Date Received: | 02/28/2018 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 02/28/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13408 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/27/2018 | Expiration Date: | 02/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13409 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/27/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13048, **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13406 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13407 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

MRL BASE STD M13405

Analyst [redacted]

Prep Date 02/21/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2018 |
| Al | 400 | M13322 | 10000 | 2 | 04/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05/03/2018 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/2018 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/2018 |
| Mg | 500 | M13236 | 10000 | 2.5 | 01/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/2018 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/2018 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/2018 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/2018 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13237 | 10000 | 2.5 | 01/2019 |
| Fe | 300 | M13321 | 10000 | 1.5 | 01/30/2019 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/2018 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 50 | Mxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date:
05/03/2018

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13404 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/21/2018 | Expiration Date: | 02/21/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13403 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/19/2018 | Expiration Date: | 08/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13400 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 106958-116 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13401 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13402 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 107139-126 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13398 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13399 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13390, **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13396 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 01/31/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M13236 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13388 | Reagent: | SPLP EXTRACTION FLUID EAST # |
| Analyst: | [redacted] | pH: | 4.20 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13389 | Reagent: | SPLP EXTRACTION FLUID WEST # |
| Analyst: | [redacted] | pH: | 5.00 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13390 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Boron 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 158372-29 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13391 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 129880-28 |
| Expiration Date (if any): | 07/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13392 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Arsenic 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 143356-61 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100031 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13393 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Molybdenum 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 134169R-102 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13394 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 142610-58 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard Log #: | M13386 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13387 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13383 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13384 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13385 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13048 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13280 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13380 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M12958 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13347 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13049 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13379 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/20/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 2640 | M13341 | 10000 | 13.2 |
| Na | 960 | M13342 | 10000 | 4.8 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13377 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 500 | M13341 | 10000 | 2.5 |
| Na | 600 | M13342 | 10000 | 3 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13378 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 L2 Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 10/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 10 | M13130 | 1000 | 0.5 |
| Sn | 10 | M13134 | 1000 | 0.5 |
| Sr | 2 | M13129 | 1000 | 0.1 |
| Ti | 8 | M13128 | 1000 | 0.8 |
| W | 36 | M | 1000 | 1.8 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13376 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M12958 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13347 | **10000** | 0.5 |
| Mg | 40 | M13236 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13049 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13374 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/08/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) *Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13375 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M12958 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13372 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M12958<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13373 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M12958<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13369 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13370 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13371 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13368 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 01/05/2018 | Expiration Date: | 02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13083 | 1000 | 0.25 |
| Al | 10 | M13322 | **10000** | 0.05 |
| As | 20 | M12958 | 1000 | 1 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 0.5 | M13126 | 1000 | 0.025 |
| Ca | 50 | M13324 | **10000** | 0.25 |
| Cd | 0.5 | M13127 | 1000 | 0.025 |
| Co | 2.5 | M13132 | 1000 | 0.125 |
| Cr | 5.0 | M13165 | **10000** | 0.025 |
| Cu | 10 | M13166 | **10000** | 0.05 |
| Fe | 40 | M13397 | **10000** | 0.2 |
| Mg | 25 | M13319 | **10000** | 0.125 |
| Mn | 5 | M13167 | **10000** | 0.025 |
| Mo | 2.5 | M13049 | 1000 | 0.125 |
| Ni | 5 | M13133 | 1000 | 0.25 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 20 | M13084 | 1000 | 1 |
| Se | 20 | M13082 | 1000 | 1 |
| Tl | 20 | M13124 | 1000 | 1 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 5 | M13168 | **10000** | 0.025 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13366 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_Li_Sn_Sr_Ti Spiking _Solu |
| Prep Date: | 01/05/2018 | Expiration Date: | 09/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 20 | M13130 | 1000 | 1 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 20 | M13129 | 1000 | 1 |
| Ti | 20 | M13128 | 1000 | 1 |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13364 | Vendor: | Sprx CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Standard |
| Date Received: | 01/05/2018 | Lot #: | 46-183CR |
| Expiration Date (if any): | 01/30/2019 | Catalog #: | XCTW-5-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13365 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_B&Si&S_Spiking_Solution |
| Prep Date: | 01/05/2018 | Expiration Date: | 06/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 20 | M13048 | 1000 | 1 |
| Si | 100 | M13338 | 1000 | 5 |
| S | 200 | M13280 | 1000 | 1 |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13362 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/26/2017 | Lot #: | 46-162CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13361 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/22/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13356 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 12/018/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13357 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 12/18/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13358 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 06/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.651 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13359 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/18/2017 | Lot #: | 46-114CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13353 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13354 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13355 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13351 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/15/2017 | Expiration Date: | 06/15/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13350 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 12/12/2017 | Lot #: | 1729606 |
| Expiration Date (if any): | 06//2019 | Catalog #: | 10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13348 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190 , **0.05 mL** of B (1000 µg/mL) M12957 , **0.05 mL** of Si (1000 µg/mL) M12943 and **3 mL** of Fe (10,000 mg/L) M13235 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13349 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13346 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/07/2017 | Expiration Date: | 12/07/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13347 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 12/06/2017 | Lot #: | 156651-6 |
| Expiration Date (if any): | 06/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13344 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 12/01/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13050 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13338 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Silicon 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 142610-58 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13339 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 93655-174 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13340 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 144467-94 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 060020-04-03 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13341 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 106958-97 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13342 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 107139-106 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13343 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 12/01/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13335 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2017 | Expiration Date: | 11/29/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.649 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13336 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13337 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13333 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 11/17/2017 | Lot #: | 46-040CR |
| Expiration Date (if any): | 11/20/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13334 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/28/2017 | Expiration Date: | 11/28/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | HYDRA |
| Standard Log #: | M13331 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/15/2017 | Expiration Date: | 05/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **10 mL** hydrochloric acid AB.651 and dissolved **20 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13329 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/14/2017 | Expiration Date: | 05/14/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13330 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/14/2017 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12958 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13328 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As, Tl<br>8 µg/L Pb<br>14 µg/L Sb<br>20 µg/L Se<br>0.6 µg/L Ag |
| Prep Date: | 11/13/2017 | Expiration Date: | 02/23/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M12958 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.8 | 10,000 | 8 |
| Tl | 1.0 | 10,000 | 10 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.4 | 10,000 | 14 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13325 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2017 | Expiration Date: | 11/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.652 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13326 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/09/2017 | Expiration Date: | 08/30/2018 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13327 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/09/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **6 mL** of Fe (10,000 mg/L) M13235, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13318 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std |
| Date Received: | 11/07/2017 | Lot #: | 49-012CR |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13319 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 148250-15 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13320 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 139448-37 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13321 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 101593-91 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-101M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13322 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 103665-69 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13323 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 106958-82 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13324 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 147497-26 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13314 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 11/07/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M12947 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13315 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13316 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13317 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13308 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13309 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13310 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13304 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 10/19/2017 | Expiration Date: | 01/19/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13280 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* -**1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13305 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/19/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 10/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13306 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13307 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13303 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/17/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13163 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13301 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 10/10/17 | Expiration Date: | 04/10/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13299 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13300 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13297 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Palladium Matrix Modifier |
| Date Received: | 10/04/2017 | Lot #: | 1713238 |
| Expiration Date (if any): | 09/2018 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13298 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2017 | Expiration Date: | 10/05/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13295 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/02/2017 | Expiration Date: | 10/02/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13296 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 10/03/2017 | Lot #: | 7106463 |
| Expiration Date (if any): | 03/31/2019 | Catalog #: | 39043 |

| | | Instrument: | ICP 6500 |
|---|---|---|---|
| Standard Log #: | M13293 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13270 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 , **0.5 mL** Mo (1000 mg/L) M13049 , **0.5 mL** B (1000 mg/L) M13048 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 and **0.5 mL** Ti (1000 mg/L) M13128 . | | |

| | | Instrument: | ICP 6500 |
|---|---|---|---|
| Standard Log #: | M13294 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 10/02/2017 | Expiration Date: | 02/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$.<br>(5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13291 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13235 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13292 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13235, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13252 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13289 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | Turbidity 2.0 NTU standard |
| Date Received: | 09/29/2017 | Lot #: | C797951 |
| Expiration Date (if any): | 09/2018 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13290 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 10/02/2017 | Expiration Date: | 06/30/2018 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13252 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **1 mL** of Si (1000 mg/L) M13085 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13233 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13135 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13236 , **10 mL** of Fe (10,000 mg/L) M13235 , **10 mL** of Ca (10,000 mg/L) M13237 and **10 mL** Al (10,000 mg/L) M13232 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13286 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12873 and K (1000 µg/mL) M12874 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13287 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12873 and **0.5 mL** K (1000 µg/mL) M12874 and brought to volume with Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13288 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **2.5 mL** of K (10,000 mg/L) M13163, **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M13164 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13285 | Standard: | DOD MRL |
| Analyst: | [redacted] | Concentrations: | 4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na. |
| Prep Date: | 09/29/17 | Expiration Date: | 02/23/18 |
| Prep: | Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

MRL BASE STD M13284

Analyst [redacted]

Prep Date 09-26-2017

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2017 |
| Al | 400 | M13232 | 10000 | 2 | 01/30/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05//03/18 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/18 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/18 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/18 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/18 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/18 |
| Mg | 500 | M12947 | 10000 | 2.5 | 01/29/18 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/18 |
| Mo | 10 | M13049 | 1000 | 0.5 | 06/08/18 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/18 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/18 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/18 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/18 |
| Zn | 10 | M12989 | 10000 | 0.05 | 04/07/18 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/18 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/18 |
| As | 20 | M12958 | 1000 | 1 | 02/23/18 |
| Ca | 500 | M13032 | 10000 | 2.5 | 05/03/18 |
| Fe | 300 | M13235 | 10000 | 1.5 | 01/30/19 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/18 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/18 |
| Si | 100 | M13085 | 1000 | 5 | 07/02/18 |
| B | 20 | M12957 | 1000 | 1 | 02/23/2018 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/18 |
| W | 50 | Mxxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/18 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/18 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/18 |
| S | 300 | M13280 | 10000 | 1.5 | 03/30/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 02/23/18

| | | | |
|---|---|---|---|
| Standard ID#: | M13280 | Vendor: | SPC Science |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/25/2017 | Lot #: | S170526006 |
| Expiration Date (if any): | 03/2019 | Catalog #: | 140-060-16x |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13281 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13282 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13283 | Standard: | ICSA2 |
| Analyst: | [redacted] | Concentrations: | **10,000 ug/L** Cu, Ni |
| Prep Date: | 09/26/2017 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5 **mL** 1000 mg/L Ni M13133 and 0.5 **mL** 10000 mg/L Cu M13166 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13276 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13277 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13278 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13279 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 mg/L |
| Date Received: | 09/22/2017 | Lot #: | 1712902 |
| Expiration Date (if any): | 03/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13274 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M12957 | 1000 | 2.6 |
| Si | 192 | M13047 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13275 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M13131 | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13271 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13272 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13273 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13270 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09/15/2017 | Lot #: | 4-91MKB |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XSPIKE-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13265 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13266 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.646 with **1** part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13267 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W42226 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13268 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13269 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13262 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13263 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13264 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13263 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13261 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 09/12/2017 | Expiration Date: | 03/12/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added 70 mL hydrochloric acid AB.646 and dissolved 100 g Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13258 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13259 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13260 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13257 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 08/30/2017 | Expiration Date: | 11/11/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12958 **and 0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13255 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M13131 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13256 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 100/300 | M13131 | 1000 | 5 | 09/18/2018 |
| Ti | 10/30 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10/30 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 20/60 | M13134 | 1000 | 1 | 09/18/2018 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| Standard ID#: | M13252 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/23/2017 | Lot #: | 44-188CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13253 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 08/28/2017 | Expiration Date: | 04/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13172 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13254 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 08/28/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13164 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13251 | Reagent: | TCLP EXTRACTION FLUID #2 |
| Analyst: | [redacted] | pH: | 2.88 ± 0.05 |
| Prep Date: | 08/23/2017 | Expiration Date: | 08/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13247 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Phosphorus 10,000 ug/mL |
| Date Received: | 08/10/2017 | Lot #: | AN16-170PY |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | PLP-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13248 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/11/2017 | Lot #: | 44-152CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13245 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/09/2017 | Expiration Date: | 08/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.648 with 1 part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13246 | Vendor: | Lab Chem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 08/09/2017 | Lot #: | G137-04 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13242 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13243 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/02/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB. and dissolved **100 g** Stannous chloride M and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13239 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13240 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13241 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13232 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 103665-32 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13233 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 106958-39 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13234 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 139448-20 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-448-20 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13235 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 101593-51 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13236 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 119874R-57 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13237 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 120907-55 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13238 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | La 1000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 129369-6 |
| Expiration Date (if any): | 01/2019 | Catalog #: | S4400-1000271 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13226 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 07/21/2017 | Lot #: | 170229 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13219 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13220 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13221 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13164, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13214 | Vendor: | SpexCertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/26/2017 | Lot #: | 43-194CR |
| Expiration Date (if any): | 06/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13215 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/27/2017 | Expiration Date: | 06/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.642 with 1 part $HNO_3$ AB.640 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13207 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13172 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13208 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13172 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13202 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 22-46CEY |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | PLCE2-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13203 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 16K087 |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | S4400-1000101 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13204 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/05/2017 | Expiration Date: | 06/05/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13199 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana I soil |
| Date Received: | 05/15/2017 | Lot #: | 2710a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13200 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana II soil |
| Date Received: | 05/15/2017 | Lot #: | 2711a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13198 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 05/26/2017 | Expiration Date: | 11/26/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13198 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13193 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13194 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE Alt. Source |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13195 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13196 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13197 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13188 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13189 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13190 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 05/23/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13191 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom assurance Standard-100 ug/n |
| Date Received: | 05/23/2017 | Lot #: | 43-009CR |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13186 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 05/22/2017 | Lot #: | 166161 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13187 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 05/22/2017 | Lot #: | 1705408 |
| Expiration Date (if any): | 11/16/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13173 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13174 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.637 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13175 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13171 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std. |
| Date Received: | 05/01/2017 | Lot #: | 42-155CR |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13172 | Vendor: | [redacted] |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 05/01/2017 | Lot #: | AL16-158SY |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | PLS9-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13163 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 mg/L |
| Date Received: | 04/24/2017 | Lot #: | 1106963 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13164 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106960 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13165 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106998 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13166 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107000 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M141 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13167 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107001 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13168 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107003 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13169 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107081 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13160 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W40688 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13161 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13162 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13148 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13035 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13149 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **2.5 mL** of K (10,000 mg/L) M13035 , **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13150 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13135 and **0.15 mL** K (10,000 µg/mL) M13035 and brought to volume with Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13142 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13026 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13143 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13048 and Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13144 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **0.05 mL** of B (1000 µg/mL) M13048 , **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13140 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/04/2017 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13134 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tin 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105287 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13135 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105283 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13136 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2017 | Expiration Date: | 03/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.637 with 1 part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13129 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Strontium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105291 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13130 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Lithium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105286 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13131 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tungsten 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105285 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000633 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13132 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cobalt 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105296 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000131 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13133 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Nickel 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1104980 |
| Expiration Date (if any): | 09/14/2018 | Catalog #: | S4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13124 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Thallium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105132 |
| Expiration Date (if any): | 09/16/2017 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13125 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Vanadium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105293 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13126 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Beryllium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105295 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13127 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cadmium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105288 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13128 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Titanium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105290 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000623 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13109 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13110 | Standard: | Hg MRL |
| Analyst: | [redacted] | Concentration: | 0.2 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/18/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13111 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 03/03/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.637 with **1** part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13112 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 09/03/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.637 and dissolved **100 g** Stannous chloride M12998 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13106 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13107 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/2/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13108 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13103 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 02/28/2017 | Lot #: | CL-144HGY |
| Expiration Date (if any): | 02/28/2018 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13104 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 03/02/2017 | Lot #: | 17A006 |
| Expiration Date (if any): | 07/22/2018 | Catalog #: | S4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13105 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 03-02-2017 | Lot #: | 16I092 |
| Expiration Date (if any): | 07/24/2017 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13082 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Selenium |
| Date Received: | 02/08/2017 | Lot #: | 16I070 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13083 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silver |
| Date Received: | 02/08/2017 | Lot #: | 16K036 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13084 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Antimony |
| Date Received: | 02/08/2017 | Lot #: | 16I118 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13085 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silicon |
| Date Received: | 02/08/2017 | Lot #: | 16I001 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13080 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERMANGANATE |
| Date Received: | 01/30/2017 | Lot #: | 164080 |
| Expiration Date (if any): | | Catalog #: | P279-212 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13059 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 12/19/2016 | Lot #: | A0375670 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13047 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 |
| Date Received: | 12/15/2016 | Lot #: | 16I001 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13048 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | B 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16H060 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13049 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16I124 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13050 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16K094 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13036 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 11/10/2016 | Lot #: | 138905AH |
| Expiration Date (if any): | 05/31/2018 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13031 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13032 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13033 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13034 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16F134 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13035 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 11/09/2018 | Lot #: | 16I165 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10m411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13027 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2016 | Expiration Date: | 11/09/2016 |
| Prep: | Carefully mixed 3 parts HCl AB.631 with 1 part $HNO_3$ AB.628 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13028 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 1623223 |
| Expiration Date (if any): | 05/04/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13029 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16H058 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13030 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13024 | Vendor: | METTLER TOLEDO |
| Analyst: | [redacted] | Chemical: | FRISCOLYT |
| Date Received: | 11/01/2016 | Lot #: | 1B167D |
| Expiration Date (if any): | | Catalog #: | 51340053 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12992 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12993 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16B102 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12994 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12988 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I165 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12989 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn |
| Date Received: | 10/13/2016 | Lot #: | 16H186 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12990 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 1013/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12991 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12900 | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal Standard, 200 NTU or FNU |
| Date Received: | 06/17/2016 | Lot #: | A6036 |
| Expiration Date (if any): | 02/2018 | Catalog #: | 2660449 |

# INORGANIC
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.7 | Lab Sample ID: | 256797 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257643 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.3 | Lab Sample ID: | 256807 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256803 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU20**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257645 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU22**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 256805 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU24**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 256767 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU25**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 256795 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU26**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257655 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257656 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257658 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU30S3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257660 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU31**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255910 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU32**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 255880 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU33**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 255882 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU35**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255908 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU38**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255904 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU40**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255906 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 257647 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257649 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU44R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257651 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU46**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255901 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU48**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257653 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.4 | Lab Sample ID: | 256798 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257642 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.5 | Lab Sample ID: | 256808 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 256804 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU20**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.6 | Lab Sample ID: | 257646 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU22**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256806 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU24**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 256794 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU25**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 256796 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU26**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257644 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 257657 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257659 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU30S3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.7 | Lab Sample ID: | 257661 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU31**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.6 | Lab Sample ID: | 255911 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU32**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255881 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU33**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255883 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU35**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255909 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU38**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255905 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU40**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255907 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257648 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 257650 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU44R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257652 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU46**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 255903 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU48**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257654 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU2A-SU02R1**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 255916 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU02R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 255918 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU02R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255920 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.1 | Lab Sample ID: | 258276 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 97.4 | Lab Sample ID: | 258274 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.5 | Lab Sample ID: | 258272 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255860 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 255912 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 255914 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 97.8 | Lab Sample ID: | 258269 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 257662 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU02R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255917 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU02R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.4 | Lab Sample ID: | 255919 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU2B-SU02R3**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255921 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.9 | Lab Sample ID: | 258277 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.8 | Lab Sample ID: | 258275 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 258273 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.6 | Lab Sample ID: | 255861 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 255913 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 255915 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159407 | Analysis Date/Time | 04/10/2019 12:55 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.7 | Lab Sample ID: | 258271 |
| Analytical Method: | EPA 8000C | Date Received: | 03/29/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU18**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.2 | Lab Sample ID: | 257663 |
| Analytical Method: | EPA 8000C | Date Received: | 03/28/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159771 | Analysis Date/Time | 04/24/2019 13:31 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255833 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255856 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU03R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.1 | Lab Sample ID: | 255858 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255888 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256801 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.0 | Lab Sample ID: | 255854 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 98.6 | Lab Sample ID: | 256799 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255884 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3A-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255886 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255853 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.5 | Lab Sample ID: | 255857 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU03R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255859 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255889 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.7 | Lab Sample ID: | 256802 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU07**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255855 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 99.3 | Lab Sample ID: | 256800 |
| Analytical Method: | EPA 8000C | Date Received: | 03/27/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159770 | Analysis Date/Time | 04/24/2019 13:18 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255885 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU3B-SU10**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143765 |
| % Solids: | 100 | Lab Sample ID: | 255887 |
| Analytical Method: | EPA 8000C | Date Received: | 03/26/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159406 | Analysis Date/Time | 04/04/2019 13:52 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 100 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU3A-SU03R1**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 100

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 159406

ICAL Calibration #:

Sample #: 261504

Parent Sample #: 255833

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/04/2019 | 13:52 | 8 | 100 | | 99.5 | | 1 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU46**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143765
% Solid for Sample: 99.4
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 159407
ICAL Calibration #:
Sample #: 263892
Parent Sample #: 255901

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/10/2019 | 12:55 | 8 | 99.4 | | 99.3 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2B-SU02R3**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 99.2

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 159770

ICAL Calibration #:

Sample #: 270927

Parent Sample #: 255921

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/24/2019 | 13:18 | 8 | 99.2 | | 99.0 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU2A-SU10**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143765

% Solid for Sample: 97.8

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 159771

ICAL Calibration #:

Sample #: 270928

Parent Sample #: 258269

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/24/2019 | 13:31 | 8 | 97.8 | | 98.0 | | 0 | | GRA |

# INORGANICS
# RAW DATA
# DOCUMENTS

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255833

Analyst: [redacted]

Date: 03/26/2019

Time: 12:57

Initial Sample Wet Weight (g): 1209.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.9

Date: 03/29/2019

Time: 7:55

Weight Retained on #10 Sieve (g): 171.9
% Retained on #10 Sieve: 14.2
% Passing #10 Sieve: 85.8

Observations:

Roots and gravel.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 12:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255853

Analyst: [redacted]

Date: 03/26/2019

Time: 13:05

Initial Sample Wet Weight (g): 2571.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.2

Date: 03/28/2019

Time: 9:40

Weight Retained on #10 Sieve (g): 278.4
% Retained on #10 Sieve: 10.8
% Passing #10 Sieve: 89.2

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 12:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255854

Analyst: [redacted]

Date: 03/26/2019

Time: 13:10

Initial Sample Wet Weight (g): 3271.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.3

Date: 03/28/2019

Time: 9:50

Weight Retained on #10 Sieve (g): 102.1
% Retained on #10 Sieve: 3.1
% Passing #10 Sieve: 96.9

Observations:

Rocks/gravel and roots.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 12:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255855

Analyst: [redacted]

Date: 03/26/2019

Time: 13:14

Initial Sample Wet Weight (g): 3826.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.1

Date: 03/28/2019

Time: 11:10

Weight Retained on #10 Sieve (g): 178.7
% Retained on #10 Sieve: 4.7
% Passing #10 Sieve: 95.3

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 12:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255856

Analyst: [redacted]

Date: 03/26/2019

Time: 13:17

Initial Sample Wet Weight (g): 2784.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.5

Date: 03/29/2019

Time: 8:10

Weight Retained on #10 Sieve (g): 149.6
% Retained on #10 Sieve: 5.4
% Passing #10 Sieve: 94.6

Observations:

Rocks/gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 12:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255857

Analyst: [redacted]

Date: 03/26/2019

Time: 13:22

Initial Sample Wet Weight (g): 2848.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.2

Date: 03/28/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 307.3
% Retained on #10 Sieve: 10.8
% Passing #10 Sieve: 89.2

Observations:

Rocks/gravel, roots, and grass.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 12:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255858

Analyst: [redacted]

Date: 03/26/2019

Time: 13:26

Initial Sample Wet Weight (g): 2241

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 03/29/2019

Time: 12:30

Weight Retained on #10 Sieve (g): 121.9
% Retained on #10 Sieve: 5.4
% Passing #10 Sieve: 94.6

Observations:

Rocks/gravel, roots, and sticks.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 12:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255859

Analyst: [redacted]

Date: 03/26/2019

Time: 13:31

Initial Sample Wet Weight (g): 2623.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.3

Date: 03/28/2019

Time: 11:35

Weight Retained on #10 Sieve (g): 209.7
% Retained on #10 Sieve: 8.0
% Passing #10 Sieve: 92.0

Observations:

Large rocks and gravel.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 13:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255860

Analyst: [redacted]

Date: 03/26/2019

Time: 13:35

Initial Sample Wet Weight (g): 3241.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.2

Date: 03/29/2019

Time: 12:38

Weight Retained on #10 Sieve (g): 168.3
% Retained on #10 Sieve: 5.2
% Passing #10 Sieve: 94.8

Observations:

Grass, sticks, and gravel.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 13:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255861

Analyst: [redacted]

Date: 03/26/2019

Time: 13:44

Initial Sample Wet Weight (g): 2778.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 03/28/2019

Time: 11:45

Weight Retained on #10 Sieve (g): 187.8
% Retained on #10 Sieve: 6.8
% Passing #10 Sieve: 93.2

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 13:05

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470 Ambient Temp (˚C): 20

**Sample #:** 255880

Analyst: [redacted]

Date: 03/26/2019

Time: 13:47

Initial Sample Wet Weight (g): 2206.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.7

Date: 03/28/2019

Time: 12:30

Weight Retained on #10 Sieve (g): 393.1
% Retained on #10 Sieve: 17.8
% Passing #10 Sieve: 82.2

Observations:

Sticks and gravel.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 13:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255881

Analyst: [redacted]

Date: 03/26/2019

Time: 13:54

Initial Sample Wet Weight (g): 3244.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 03/28/2019

Time: 13:00

Weight Retained on #10 Sieve (g): 1114.1
% Retained on #10 Sieve: 34.3
% Passing #10 Sieve: 65.7

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 13:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255882

Analyst: TMG

Date: 03/26/2019

Time: 14:00

Initial Sample Wet Weight (g): 2467.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.7

Date: 03/28/2019

Time: 13:10

Weight Retained on #10 Sieve (g): 25.2

% Retained on #10 Sieve: 1.0

% Passing #10 Sieve: 99.0

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 13:20

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255883

Analyst: [redacted]

Date: 03/26/2019

Time: 14:02

Initial Sample Wet Weight (g): 4382.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 03/29/2019

Time: 12:38

Weight Retained on #10 Sieve (g): 18.6
% Retained on #10 Sieve: 0.4
% Passing #10 Sieve: 99.6

Observations:

Wood chips.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 14:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255884

Analyst: TMG

Date: 03/26/2019

Time: 14:10

Initial Sample Wet Weight (g): 7785.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.6

Date: 03/28/2019

Time: 13:25

Weight Retained on #10 Sieve (g): 1773.8

% Retained on #10 Sieve: 22.8

% Passing #10 Sieve: 77.2

Observations:

Rocks, gravel, sticks, and grass.

## Milling:

Analyst: [redacted]

Date: 03/28/2019

Time: 14:00

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470 Ambient Temp (˚C): 20

**Sample #:** 255885

Analyst: [redacted]

Date: 03/26/2019

Time: 14:08

Initial Sample Wet Weight (g): 6936.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 21.2

Date: 03/28/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 479.7
% Retained on #10 Sieve: 6.9
% Passing #10 Sieve: 93.1

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 9:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255886

Analyst: TMG

Date: 03/26/2019

Time: 14:15

Initial Sample Wet Weight (g): 9791

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.4

Date: 03/29/2019

Time: 7:30

Weight Retained on #10 Sieve (g): 765.6

% Retained on #10 Sieve: 7.8

% Passing #10 Sieve: 92.2

Observations:

Sticks and gravel.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 12:20

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470

Ambient Temp (˚C): 20

**Sample #:** 255887

Analyst: [redacted]

Date: 03/26/2019

Time: 14:38

Initial Sample Wet Weight (g): 9850

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17

Date: 03/31/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 2357.6
% Retained on #10 Sieve: 23.9
% Passing #10 Sieve: 76.1

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/01/2019

Time: 7:44

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470 Ambient Temp (˚C): 20

**Sample #:** 255888

Analyst: [redacted]

Date: 03/26/2019

Time: 14:49

Initial Sample Wet Weight (g): 11167.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/31/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 1888.9
% Retained on #10 Sieve: 16.9
% Passing #10 Sieve: 83.1

Observations:

Gravel, asphalt, sticks.

## Milling:

Analyst: [redacted]

Date: 04/01/2019

Time: 7:48

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159470 Ambient Temp (˚C): 20

**Sample #:** 255889

Analyst: [redacted]

Date: 03/26/2019

Time: 15:00

Initial Sample Wet Weight (g): 9986.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/31/2019

Time: 12:15

Weight Retained on #10 Sieve (g): 1961.4
% Retained on #10 Sieve: 19.6
% Passing #10 Sieve: 80.4

Observations:

Gravel, asphalt, twigs.

## Milling:

Analyst: [redacted]

Date: 04/01/2019

Time: 8:07

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/02/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20

**Sample #:** 255901

Analyst: [redacted]

Date: 03/26/2019

Time: 15:07

Initial Sample Wet Weight (g): 2616.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.2

Date: 04/02/2019

Time: 7:45

Weight Retained on #10 Sieve (g): 97

% Retained on #10 Sieve: 3.7

% Passing #10 Sieve: 96.3

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 7:55

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20

**Sample #:** 255903

Analyst: [redacted]

Date: 03/26/2019

Time: 15:08

Initial Sample Wet Weight (g): 4291.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.3

Date: 04/02/2019

Time: 8:23

Weight Retained on #10 Sieve (g): 688.5
% Retained on #10 Sieve: 16.0
% Passing #10 Sieve: 84.0

Observations:

Gravel and rocks.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 8:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20

**Sample #:** 255904

Analyst: [redacted]

Date: 03/26/2019

Time: 15:13

Initial Sample Wet Weight (g): 3564.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.6

Date: 04/02/2019

Time: 8:41

Weight Retained on #10 Sieve (g): 8.2
% Retained on #10 Sieve: 0.2
% Passing #10 Sieve: 99.8

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 8:44

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20

**Sample #:** 255905

Analyst: [redacted]

Date: 03/26/2019

Time: 15:18

Initial Sample Wet Weight (g): 4151.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/02/2019

Time: 9:13

Weight Retained on #10 Sieve (g): 59.3
% Retained on #10 Sieve: 1.4
% Passing #10 Sieve: 98.6

Observations:

Rocks, pebbles, and twigs.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 9:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20

**Sample #:** 255906

Analyst: [redacted]

Date: 03/26/2019

Time: 15:25

Initial Sample Wet Weight (g): 3397.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.4

Date: 04/02/2019

Time: 9:30

Weight Retained on #10 Sieve (g): 179.9
% Retained on #10 Sieve: 5.3
% Passing #10 Sieve: 94.7

Observations:

Rocks, pebbles, plant clumps.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 9:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255907

Analyst: [redacted]

Date: 03/28/2019

Time: 14:20

Initial Sample Wet Weight (g): 4904.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.6

Date: 04/02/2019

Time: 9:32

Weight Retained on #10 Sieve (g): 995.3
% Retained on #10 Sieve: 20.3
% Passing #10 Sieve: 79.7

Observations:

Rocks/gravel plus some clay clumps that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 10:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255908

Analyst: [redacted]

Date: 03/28/2019

Time: 14:40

Initial Sample Wet Weight (g): 2975.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.1

Date: 04/02/2019

Time: 10:09

Weight Retained on #10 Sieve (g): 29.3
% Retained on #10 Sieve: 1.0
% Passing #10 Sieve: 99.0

Observations:

Rocks and vegetation.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255909

Analyst: [redacted]

Date: 03/28/2019

Time: 14:45

Initial Sample Wet Weight (g): 4208.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.3

Date: 04/02/2019

Time: 10:50

Weight Retained on #10 Sieve (g): 59
% Retained on #10 Sieve: 1.4
% Passing #10 Sieve: 98.6

Observations:

Rocks, pebbles, and twigs.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 11:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255910

Analyst: [redacted]

Date: 03/28/2019

Time: 14:45

Initial Sample Wet Weight (g): 3328.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.3

Date: 04/02/2019

Time: 11:00

Weight Retained on #10 Sieve (g): 29.7
% Retained on #10 Sieve: 0.9
% Passing #10 Sieve: 99.1

Observations:

Pebbles and vegetation.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 11:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255911

Analyst: [redacted]

Date: 03/28/2019

Time: 14:55

Initial Sample Wet Weight (g): 4400.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.1

Date: 04/02/2019

Time: 12:03

Weight Retained on #10 Sieve (g): 38
% Retained on #10 Sieve: 0.9
% Passing #10 Sieve: 99.1

Observations:

Rocks, pebbles, and twigs.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 12:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255912

Analyst: [redacted]

Date: 03/28/2019

Time: 15:00

Initial Sample Wet Weight (g): 3523.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 04/02/2019

Time: 12:15

Weight Retained on #10 Sieve (g): 69.3
% Retained on #10 Sieve: 2.0
% Passing #10 Sieve: 98.0

Observations:

Rocks and vegetation.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 12:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255913

Analyst: [redacted]

Date: 03/28/2019

Time: 15:10

Initial Sample Wet Weight (g): 2775.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 04/02/2019

Time: 12:45

Weight Retained on #10 Sieve (g): 171.8
% Retained on #10 Sieve: 6.2
% Passing #10 Sieve: 93.8

Observations:

Rocks and pebbles.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 13:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255914

Analyst: [redacted]

Date: 03/28/2019

Time: 15:15

Initial Sample Wet Weight (g): 3373.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 04/02/2019

Time: 12:55

Weight Retained on #10 Sieve (g): 100.3
% Retained on #10 Sieve: 3.0
% Passing #10 Sieve: 97.0

Observations:

Rocks and twigs.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 14:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255915

Analyst: [redacted]

Date: 03/28/2019

Time: 15:20

Initial Sample Wet Weight (g): 2788.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 04/02/2019

Time: 15:00

Weight Retained on #10 Sieve (g): 177.1
% Retained on #10 Sieve: 6.4
% Passing #10 Sieve: 93.6

Observations:

Rocks and twigs.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 15:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255916

Analyst: [redacted]

Date: 03/28/2019

Time: 15:30

Initial Sample Wet Weight (g): 2235.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 04/02/2019

Time: 15:20

Weight Retained on #10 Sieve (g): 78.6
% Retained on #10 Sieve: 3.5
% Passing #10 Sieve: 96.5

Observations:

Rocks and grass.

## Milling:

Analyst: [redacted]

Date: 04/02/2019

Time: 15:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255917

Analyst: [redacted]

Date: 03/28/2019

Time: 15:35

Initial Sample Wet Weight (g): 3165.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.1

Date: 04/03/2019

Time: 9:25

Weight Retained on #10 Sieve (g): 188.7
% Retained on #10 Sieve: 6.0
% Passing #10 Sieve: 94.0

Observations:

Rocks and gravel.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 9:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255918

Analyst: [redacted]

Date: 03/28/2019

Time: 15:40

Initial Sample Wet Weight (g): 2145.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.5

Date: 03/29/2019

Time: 12:50

Weight Retained on #10 Sieve (g): 81.7
% Retained on #10 Sieve: 3.8
% Passing #10 Sieve: 96.2

Observations:

Gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 03/29/2019

Time: 14:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 21.2

**Sample #:** 255919

Analyst: [redacted]

Date: 03/28/2019

Time: 15:45

Initial Sample Wet Weight (g): 2493.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.5

Date: 04/03/2019

Time: 9:30

Weight Retained on #10 Sieve (g): 163
% Retained on #10 Sieve: 6.5
% Passing #10 Sieve: 93.5

Observations:

Rocks and gravel.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 9:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20.6

**Sample #:** 255920

Analyst: [redacted]

Date: 03/29/2019

Time: 13:50

Initial Sample Wet Weight (g): 1880

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.8

Date: 04/03/2019

Time: 9:40

Weight Retained on #10 Sieve (g): 103.4
% Retained on #10 Sieve: 5.5
% Passing #10 Sieve: 94.5

Observations:

Rocks, pebbles, and twigs.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 9:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159471

Ambient Temp (˚C): 20.6

**Sample #:** 255921

Analyst: [redacted]

Date: 03/29/2019

Time: 14:15

Initial Sample Wet Weight (g): 2542.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17.8

Date: 04/03/2019

Time: 9:45

Weight Retained on #10 Sieve (g): 222.9
% Retained on #10 Sieve: 8.8
% Passing #10 Sieve: 91.2

Observations:

Rocks and grass.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 10:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/04/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 20.5

**Sample #:** 256767

Analyst: [redacted]

Date: 03/29/2019

Time: 14:50

Initial Sample Wet Weight (g): 2894.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.4

Date: 04/03/2019

Time: 11:45

Weight Retained on #10 Sieve (g): 17.1
% Retained on #10 Sieve: 0.6
% Passing #10 Sieve: 99.4

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 12:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 20.4

**Sample #:** 256794

Analyst: [redacted]

Date: 03/29/2019

Time: 14:50

Initial Sample Wet Weight (g): 3096.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.7

Date: 04/03/2019

Time: 12:00

Weight Retained on #10 Sieve (g): 1.7
% Retained on #10 Sieve: 0.1
% Passing #10 Sieve: 99.9

Observations:

Grass.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 12:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 20.5

**Sample #:** 256795

Analyst: [redacted]

Date: 03/29/2019

Time: 15:00

Initial Sample Wet Weight (g): 2742

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 17

Date: 03/31/2019

Time: 8:20

Weight Retained on #10 Sieve (g): 508.6
% Retained on #10 Sieve: 18.5
% Passing #10 Sieve: 81.5

Observations:

Gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 04/01/2019

Time: 7:03

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 20.5

**Sample #:** 256796

Analyst: [redacted]

Date: 03/29/2019

Time: 15:10

Initial Sample Wet Weight (g): 2546.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/31/2019

Time: 8:55

Weight Retained on #10 Sieve (g): 408.7
% Retained on #10 Sieve: 16.1
% Passing #10 Sieve: 83.9

Observations:

Rocks, sticks, and a small amount of clay.

## Milling:

Analyst: [redacted]

Date: 04/01/2019

Time: 7:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 20.5

**Sample #:** 256797

Analyst: [redacted]

Date: 03/29/2019

Time: 15:15

Initial Sample Wet Weight (g): 14598.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17

Date: 03/31/2019

Time: 10:10

Weight Retained on #10 Sieve (g): 7316.1
% Retained on #10 Sieve: 50.1
% Passing #10 Sieve: 49.9

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/01/2019

Time: 7:34

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 19.1

**Sample #:** 256798

Analyst: [redacted]

Date: 03/30/2019

Time: 11:00

Initial Sample Wet Weight (g): 11910.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.7

Date: 04/03/2019

Time: 12:15

Weight Retained on #10 Sieve (g): 2658.1
% Retained on #10 Sieve: 22.3
% Passing #10 Sieve: 77.7

Observations:

Rocks/gravel and numerous small clumps of clay that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/03/2019

Time: 16:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 19.7

**Sample #:** 256799

Analyst: [redacted]

Date: 03/30/2019

Time: 10:10

Initial Sample Wet Weight (g): 9153

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.7

Date: 04/04/2019

Time: 10:10

Weight Retained on #10 Sieve (g): 2843.9
% Retained on #10 Sieve: 31.1
% Passing #10 Sieve: 68.9

Observations:

Rocks/gravel and numerous small clumps of clay that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/08/2019

Time: 9:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 19.4

**Sample #:** 256800

Analyst: [redacted]

Date: 03/30/2019

Time: 11:15

Initial Sample Wet Weight (g): 7960.1

Observations:

No observations made.

## Sieving:

Analyst: TMG Ambient Temp (˚C): 19

Date: 04/09/2019

Time: 9:15

Weight Retained on #10 Sieve (g): 833
% Retained on #10 Sieve: 10.5
% Passing #10 Sieve: 89.5

Observations:

Rocks and pebbles.

## Milling:

Analyst: TMG

Date: 04/09/2019

Time: 10:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 19.4

**Sample #:** 256801

Analyst: [redacted]

Date: 03/30/2019

Time: 11:33

Initial Sample Wet Weight (g): 9414.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.3

Date: 04/09/2019

Time: 10:10

Weight Retained on #10 Sieve (g): 1959
% Retained on #10 Sieve: 20.8
% Passing #10 Sieve: 79.2

Observations:

Rocks, pebbles, grass, twigs.

## Milling:

Analyst: TMG

Date: 04/09/2019

Time: 11:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 19.4

**Sample #:** 256802

Analyst: [redacted]

Date: 03/30/2019

Time: 11:41

Initial Sample Wet Weight (g): 8019.4

Observations:

No observations made.

## Sieving:

Analyst: TMG Ambient Temp (˚C): 20

Date: 04/09/2019

Time: 11:05

Weight Retained on #10 Sieve (g): 1237.8
% Retained on #10 Sieve: 15.4
% Passing #10 Sieve: 84.6

Observations:

Rocks, pebbles, and wood.

## Milling:

Analyst: TMG

Date: 04/09/2019

Time: 12:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 19

**Sample #:** 256803

Analyst: [redacted]

Date: 04/01/2019

Time: 13:00

Initial Sample Wet Weight (g): 13074.2

Observations:

Clay, dirt, and gravel.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.1

Date: 04/09/2019

Time: 12:15

Weight Retained on #10 Sieve (g): 1667.4
% Retained on #10 Sieve: 12.8
% Passing #10 Sieve: 87.2

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/09/2019

Time: 13:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 19

**Sample #:** 256804

Analyst: [redacted]

Date: 04/01/2019

Time: 13:30

Initial Sample Wet Weight (g): 11150

Observations:

Sand & clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 04/09/2019

Time: 13:40

Weight Retained on #10 Sieve (g): 2474.5
% Retained on #10 Sieve: 22.2
% Passing #10 Sieve: 77.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 19

**Sample #:** 256805

Analyst: [redacted]

Date: 04/01/2019

Time: 14:08

Initial Sample Wet Weight (g): 3622.8

Observations:

Wet dirt with grass clumps.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 04/09/2019

Time: 13:35

Weight Retained on #10 Sieve (g): 30.1
% Retained on #10 Sieve: 0.8
% Passing #10 Sieve: 99.2

Observations:

Fine gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313 Ambient Temp (˚C): 19

**Sample #:** 256806

Analyst: [redacted]

Date: 04/01/2019

Time: 14:20

Initial Sample Wet Weight (g): 3784.2

Observations:

Wet sand and dirt with a few grass clumps.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.6

Date: 04/09/2019

Time: 14:45

Weight Retained on #10 Sieve (g): 428.6
% Retained on #10 Sieve: 11.3
% Passing #10 Sieve: 88.7

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 19.5

**Sample #:** 256807

Analyst: [redacted]

Date: 04/01/2019

Time: 14:25

Initial Sample Wet Weight (g): 2885.5

Observations:

Damp clay with grass clumps.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 04/09/2019

Time: 13:50

Weight Retained on #10 Sieve (g): 280.9
% Retained on #10 Sieve: 9.7
% Passing #10 Sieve: 90.3

Observations:

Small rocks/pebbles.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:05

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160313

Ambient Temp (˚C): 19.6

**Sample #:** 256808

Analyst: [redacted]

Date: 04/01/2019

Time: 14:31

Initial Sample Wet Weight (g): 3452.6

Observations:

Damp clay with gravel.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 04/09/2019

Time: 14:10

Weight Retained on #10 Sieve (g): 770.1
% Retained on #10 Sieve: 22.3
% Passing #10 Sieve: 77.7

Observations:

Small rocks/pebbles.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:06

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257642

Analyst: [redacted]

Date: 04/02/2019

Time: 12:35

Initial Sample Wet Weight (g): 3776.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18

Date: 04/10/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 193.9
% Retained on #10 Sieve: 5.1
% Passing #10 Sieve: 94.9

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 7:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257643

Analyst: [redacted]

Date: 04/02/2019

Time: 12:45

Initial Sample Wet Weight (g): 4562.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 11:15

Weight Retained on #10 Sieve (g): 109.6
% Retained on #10 Sieve: 2.4
% Passing #10 Sieve: 97.6

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 7:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257644

Analyst: [redacted]

Date: 04/02/2019

Time: 12:50

Initial Sample Wet Weight (g): 2743.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 51.2
% Retained on #10 Sieve: 1.9
% Passing #10 Sieve: 98.1

Observations:

Gravel and plastic.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 7:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257645

Analyst: [redacted]

Date: 04/02/2019

Time: 12:50

Initial Sample Wet Weight (g): 2813.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.4

Date: 04/10/2019

Time: 12:00

Weight Retained on #10 Sieve (g): 195.9
% Retained on #10 Sieve: 7.0
% Passing #10 Sieve: 93.0

Observations:

Gravel, roots, and sticks.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257646

Analyst: [redacted]

Date: 04/02/2019

Time: 12:51

Initial Sample Wet Weight (g): 2274.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 12:30

Weight Retained on #10 Sieve (g): 6.6
% Retained on #10 Sieve: 0.3
% Passing #10 Sieve: 99.7

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:05

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257647

Analyst: [redacted]

Date: 04/02/2019

Time: 12:58

Initial Sample Wet Weight (g): 2852.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 12:40

Weight Retained on #10 Sieve (g): 7

% Retained on #10 Sieve: 0.2

% Passing #10 Sieve: 99.8

Observations:

Sticks and straw.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:10

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257648

Analyst: [redacted]

Date: 04/02/2019

Time: 12:55

Initial Sample Wet Weight (g): 3002.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 12:45

Weight Retained on #10 Sieve (g): 87.5
% Retained on #10 Sieve: 2.9
% Passing #10 Sieve: 97.1

Observations:

Sticks, straw, gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257649

Analyst: [redacted]

Date: 04/02/2019

Time: 13:02

Initial Sample Wet Weight (g): 2912.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 12:55

Weight Retained on #10 Sieve (g): 34.1
% Retained on #10 Sieve: 1.2
% Passing #10 Sieve: 98.8

Observations:

Sticks, straw, gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257650

Analyst: [redacted]

Date: 04/02/2019

Time: 13:05

Initial Sample Wet Weight (g): 3420.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.5

Date: 04/10/2019

Time: 13:10

Weight Retained on #10 Sieve (g): 5.6
% Retained on #10 Sieve: 0.2
% Passing #10 Sieve: 99.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257651

Analyst: [redacted]

Date: 04/02/2019

Time: 13:10

Initial Sample Wet Weight (g): 3069.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 13:25

Weight Retained on #10 Sieve (g): 7.3
% Retained on #10 Sieve: 0.2
% Passing #10 Sieve: 99.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729 Ambient Temp (˚C): 20.2

**Sample #:** 257652

Analyst: [redacted]

Date: 04/02/2019

Time: 14:20

Initial Sample Wet Weight (g): 4147.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.5

Date: 04/10/2019

Time: 13:30

Weight Retained on #10 Sieve (g): 4.9
% Retained on #10 Sieve: 0.1
% Passing #10 Sieve: 99.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257653

Analyst: [redacted]

Date: 04/02/2019

Time: 14:30

Initial Sample Wet Weight (g): 3342.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.5

Date: 04/10/2019

Time: 13:35

Weight Retained on #10 Sieve (g): 5.6
% Retained on #10 Sieve: 0.2
% Passing #10 Sieve: 99.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:33

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257654

Analyst: [redacted]

Date: 04/02/2019

Time: 14:35

Initial Sample Wet Weight (g): 4379.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.6

Date: 04/10/2019

Time: 13:45

Weight Retained on #10 Sieve (g): 38

% Retained on #10 Sieve: 0.9

% Passing #10 Sieve: 99.1

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:45

# of Grinds: 1

# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257655

Analyst: [redacted]

Date: 04/02/2019

Time: 14:38

Initial Sample Wet Weight (g): 2369.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.6

Date: 04/10/2019

Time: 13:50

Weight Retained on #10 Sieve (g): 2.8
% Retained on #10 Sieve: 0.1
% Passing #10 Sieve: 99.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 9:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257656

Analyst: [redacted]

Date: 04/02/2019

Time: 14:55

Initial Sample Wet Weight (g): 4231.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.6

Date: 04/10/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 1441.7
% Retained on #10 Sieve: 34.1
% Passing #10 Sieve: 65.9

Observations:

Rocks and gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257657

Analyst: [redacted]

Date: 04/02/2019

Time: 15:05

Initial Sample Wet Weight (g): 4438.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/10/2019

Time: 14:10

Weight Retained on #10 Sieve (g): 1089.4
% Retained on #10 Sieve: 24.5
% Passing #10 Sieve: 75.5

Observations:

Rocks and gravel.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 20.2

**Sample #:** 257658

Analyst: [redacted]

Date: 04/02/2019

Time: 15:10

Initial Sample Wet Weight (g): 3239.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18

Date: 04/11/2019

Time: 7:00

Weight Retained on #10 Sieve (g): 1502.4
% Retained on #10 Sieve: 46.4
% Passing #10 Sieve: 53.6

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729 Ambient Temp (˚C): 20.6

**Sample #:** 257659

Analyst: [redacted]

Date: 04/03/2019

Time: 16:45

Initial Sample Wet Weight (g): 3383.7

Observations:

Light brown soil with some pieces of clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 7:30

Weight Retained on #10 Sieve (g): 606.2
% Retained on #10 Sieve: 17.9
% Passing #10 Sieve: 82.1

Observations:

Small clay clumps that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729 Ambient Temp (˚C): 18.9

**Sample #:** 257660

Analyst: [redacted]

Date: 04/04/2019

Time: 9:40

Initial Sample Wet Weight (g): 3672.5

Observations:

Light brown soil with some pieces of clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 8:00

Weight Retained on #10 Sieve (g): 1592.4
% Retained on #10 Sieve: 43.4
% Passing #10 Sieve: 56.6

Observations:

Small clay clumps that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:26

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729 Ambient Temp (˚C): 18.1

**Sample #:** 257661

Analyst: [redacted]

Date: 04/04/2019

Time: 9:45

Initial Sample Wet Weight (g): 4227.5

Observations:

Light brown soil with some pieces of clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 8:30

Weight Retained on #10 Sieve (g): 890.4
% Retained on #10 Sieve: 21.1
% Passing #10 Sieve: 78.9

Observations:

Small clay clumps that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 8:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 18.4

**Sample #:** 257662

Analyst: [redacted]

Date: 04/04/2019

Time: 9:50

Initial Sample Wet Weight (g): 3692.5

Observations:

Brown and orange clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.4

Date: 04/11/2019

Time: 9:00

Weight Retained on #10 Sieve (g): 614.7
% Retained on #10 Sieve: 16.6
% Passing #10 Sieve: 83.4

Observations:

Small clay clumps that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:37

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159729

Ambient Temp (˚C): 19

**Sample #:** 257663

Analyst: [redacted]

Date: 04/04/2019

Time: 10:00

Initial Sample Wet Weight (g): 3816.7

Observations:

Gray, brown, and orange clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.5

Date: 04/11/2019

Time: 10:10

Weight Retained on #10 Sieve (g): 153.2
% Retained on #10 Sieve: 4.0
% Passing #10 Sieve: 96.0

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:32

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730

Ambient Temp (˚C): 20.7

**Sample #:** 258269

Analyst: [redacted]

Date: 04/09/2019

Time: 15:40

Initial Sample Wet Weight (g): 3216.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 04/11/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 550
% Retained on #10 Sieve: 17.1
% Passing #10 Sieve: 82.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730

Ambient Temp (˚C): 20.7

**Sample #:** 258271

Analyst: [redacted]

Date: 04/09/2019

Time: 15:45

Initial Sample Wet Weight (g): 3011.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 04/11/2019

Time: 10:35

Weight Retained on #10 Sieve (g): 226.1
% Retained on #10 Sieve: 7.5
% Passing #10 Sieve: 92.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730 Ambient Temp (˚C): 20.7

**Sample #:** 258272

Analyst: [redacted]

Date: 04/09/2019

Time: 15:50

Initial Sample Wet Weight (g): 2041.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 18.8

Date: 04/11/2019

Time: 10:55

Weight Retained on #10 Sieve (g): 121
% Retained on #10 Sieve: 5.9
% Passing #10 Sieve: 94.1

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:47

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730

Ambient Temp (˚C): 20.7

**Sample #:** 258273

Analyst: [redacted]

Date: 04/09/2019

Time: 16:00

Initial Sample Wet Weight (g): 2389.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 04/11/2019

Time: 11:00

Weight Retained on #10 Sieve (g): 120.9
% Retained on #10 Sieve: 5.1
% Passing #10 Sieve: 94.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730

Ambient Temp (˚C): 20.7

**Sample #:** 258274

Analyst: [redacted]

Date: 04/09/2019

Time: 16:05

Initial Sample Wet Weight (g): 3063.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 11:20

Weight Retained on #10 Sieve (g): 239.7
% Retained on #10 Sieve: 7.8
% Passing #10 Sieve: 92.2

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:57

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730

Ambient Temp (˚C): 20.7

**Sample #:** 258275

Analyst: [redacted]

Date: 04/09/2019

Time: 16:10

Initial Sample Wet Weight (g): 3273.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 04/11/2019

Time: 11:40

Weight Retained on #10 Sieve (g): 82.5
% Retained on #10 Sieve: 2.5
% Passing #10 Sieve: 97.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730

Ambient Temp (˚C): 20.7

**Sample #:** 258276

Analyst: [redacted]

Date: 04/09/2019

Time: 16:10

Initial Sample Wet Weight (g): 2129.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 12:00

Weight Retained on #10 Sieve (g): 527.2
% Retained on #10 Sieve: 24.8
% Passing #10 Sieve: 75.2

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 159730 Ambient Temp (˚C): 20.7

**Sample #:** 258277

Analyst: [redacted]

Date: 04/09/2019

Time: 16:15

Initial Sample Wet Weight (g): 1679.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 13:00

Weight Retained on #10 Sieve (g): 136.2
% Retained on #10 Sieve: 8.1
% Passing #10 Sieve: 91.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/15/2019

# TOTAL SOLIDS (PERCENT)

LIMS #: 159406

| Start Date: | 04/04/2019 | Start Time: | 13:52 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 255853 | T186 | 2.59 | 4.71 | 4.71 | 100.0% |
| 2) | 255854 | T187 | 2.59 | 5.66 | 5.63 | 99.0% |
| 3) | 255855 | T188 | 2.57 | 5.08 | 5.08 | 100.0% |
| 4) | 255856 | T189 | 2.56 | 4.48 | 4.47 | 99.5% |
| 5) | 255857 | T190 | 2.58 | 4.51 | 4.50 | 99.5% |
| 6) | 255858 | T191 | 2.60 | 4.73 | 4.71 | 99.1% |
| 7) | 255859 | T192 | 2.53 | 4.30 | 4.30 | 100.0% |
| 8) | 255860 | T193 | 2.57 | 4.26 | 4.25 | 99.4% |
| 9) | 255861 | T837 | 2.56 | 4.79 | 4.78 | 99.6% |
| 10) | 255880 | T255 | 2.52 | 4.27 | 4.25 | 98.9% |
| 11) | 255881 | T040 | 2.58 | 4.55 | 4.54 | 99.5% |
| 12) | 255882 | T041 | 2.58 | 4.26 | 4.24 | 98.8% |
| 13) | 255883 | T042 | 2.58 | 4.58 | 4.57 | 99.5% |
| 14) | 255884 | T206 | 2.57 | 4.68 | 4.67 | 99.5% |
| 15) | 255885 | T205 | 2.59 | 4.42 | 4.43 | 100.5% |
| 16) | 255886 | T202 | 2.55 | 4.36 | 4.37 | 100.6% |
| 17) | 255887 | T203 | 2.59 | 5.20 | 5.20 | 100.0% |
| 18) | 255888 | T204 | 2.59 | 4.44 | 4.44 | 100.0% |
| 19) | 255889 | T194 | 2.59 | 4.64 | 4.64 | 100.0% |
| *20) | 255833 | T195 | 2.59 | 4.25 | 4.25 | 100.0% |
| Dup 20) | 255833 | T196 | 2.57 | 4.76 | 4.75 | 99.5% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 4.25 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.5% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/05/2019 |
| **Stop Time:** | 11:45 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 159407

| Start Date: | 04/10/2019 | Start Time: | 12:55 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 255903 | T197 | 2.56 | 5.70 | 5.67 | 99.0% |
| 2) | 255904 | T198 | 2.58 | 5.84 | 5.82 | 99.4% |
| 3) | 255905 | T199 | 2.59 | 5.91 | 5.89 | 99.4% |
| 4) | 255906 | T200 | 2.54 | 5.00 | 4.98 | 99.2% |
| 5) | 255907 | T889 | 2.55 | 5.20 | 5.18 | 99.2% |
| 6) | 255908 | T890 | 2.58 | 5.66 | 5.64 | 99.4% |
| 7) | 255909 | T891 | 2.56 | 7.90 | 7.87 | 99.4% |
| 8) | 255910 | T892 | 2.56 | 6.12 | 6.09 | 99.2% |
| 9) | 255911 | T478 | 2.55 | 7.32 | 7.30 | 99.6% |
| 10) | 255912 | T482 | 2.52 | 6.20 | 6.16 | 98.9% |
| 11) | 255913 | T065 | 2.55 | 5.40 | 5.38 | 99.3% |
| 12) | 255914 | T064 | 2.59 | 4.89 | 4.87 | 99.1% |
| 13) | 255915 | T063 | 2.57 | 6.26 | 6.23 | 99.2% |
| 14) | 255916 | T057 | 2.57 | 6.25 | 6.21 | 98.9% |
| 15) | 255917 | T062 | 2.55 | 7.39 | 7.35 | 99.2% |
| 16) | 255918 | T056 | 2.57 | 6.66 | 6.61 | 98.8% |
| 17) | 255919 | T061 | 2.56 | 5.82 | 5.80 | 99.4% |
| 18) | 255920 | T055 | 2.55 | 5.08 | 5.06 | 99.2% |
| 19) | 256795 | T904 | 2.57 | 5.23 | 5.21 | 99.2% |
| *20) | 255901 | T059 | 2.55 | 4.28 | 4.27 | 99.4% |
| Dup 20) | 255901 | T058 | 2.54 | 5.47 | 5.45 | 99.3% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 4.27 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.1% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/11/2019 |
| **Stop Time:** | 10:58 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 159770

| Start Date: | 04/24/2019 | Start Time: | 13:18 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 256767 | T300 | 2.54 | 10.81 | 10.77 | 99.5% |
| 2) | 256794 | T251 | 2.55 | 11.71 | 11.66 | 99.5% |
| 3) | 256796 | T252 | 2.54 | 10.76 | 10.68 | 99.0% |
| 4) | 256797 | T253 | 2.56 | 8.57 | 8.55 | 99.7% |
| 5) | 256798 | T254 | 2.55 | 7.56 | 7.48 | 98.4% |
| 6) | 256799 | T255 | 2.57 | 11.81 | 11.68 | 98.6% |
| 7) | 256800 | T256 | 2.53 | 16.09 | 16.00 | 99.3% |
| 8) | 256801 | T257 | 2.52 | 8.32 | 8.28 | 99.3% |
| 9) | 256802 | T258 | 2.54 | 11.69 | 11.66 | 99.7% |
| 10) | 256803 | T259 | 2.56 | 11.46 | 11.40 | 99.3% |
| 11) | 256804 | T260 | 2.55 | 7.48 | 7.43 | 99.0% |
| 12) | 256805 | T261 | 2.56 | 8.49 | 8.44 | 99.2% |
| 13) | 256806 | T214 | 2.54 | 8.04 | 8.00 | 99.3% |
| 14) | 256807 | T215 | 2.54 | 11.02 | 10.88 | 98.3% |
| 15) | 256808 | T216 | 2.54 | 7.35 | 7.28 | 98.5% |
| 16) | 257642 | T217 | 2.53 | 7.68 | 7.62 | 98.8% |
| 17) | 257643 | T218 | 2.53 | 7.59 | 7.55 | 99.2% |
| 18) | 257644 | T219 | 2.55 | 8.19 | 8.15 | 99.3% |
| 19) | 257645 | T220 | 2.54 | 9.07 | 8.99 | 98.8% |
| *20) | 255921 | T221 | 2.55 | 7.31 | 7.27 | 99.2% |
| Dup 20) | 255921 | T222 | 2.55 | 8.60 | 8.54 | 99.0% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 7.27 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.2% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/25/2019 |
| **Stop Time:** | 09:36 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 159771

| Start Date: | 04/24/2019 | Start Time: | 13:31 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 257646 | T223 | 2.54 | 9.44 | 9.34 | 98.6% |
| 2) | 257647 | T224 | 2.55 | 7.82 | 7.77 | 99.1% |
| 3) | 257648 | T225 | 2.54 | 8.45 | 8.40 | 99.2% |
| 4) | 257649 | T276 | 2.53 | 8.74 | 8.69 | 99.2% |
| 5) | 257650 | T277 | 2.56 | 9.42 | 9.37 | 99.3% |
| 6) | 257651 | T278 | 2.55 | 7.71 | 7.66 | 99.0% |
| 7) | 257652 | T279 | 2.56 | 7.62 | 7.58 | 99.2% |
| 8) | 257653 | T280 | 2.54 | 7.62 | 7.58 | 99.2% |
| 9) | 257654 | T281 | 2.57 | 14.19 | 14.10 | 99.2% |
| 10) | 257655 | T282 | 2.55 | 9.61 | 9.55 | 99.2% |
| 11) | 257656 | T283 | 2.54 | 9.64 | 9.57 | 99.0% |
| 12) | 257657 | T284 | 2.55 | 8.43 | 8.36 | 98.8% |
| 13) | 257658 | T285 | 2.57 | 8.68 | 8.63 | 99.2% |
| 14) | 257659 | T286 | 2.53 | 8.31 | 8.25 | 99.0% |
| 15) | 257660 | T287 | 2.56 | 9.36 | 9.31 | 99.3% |
| 16) | 257661 | T288 | 2.54 | 8.85 | 8.77 | 98.7% |
| 17) | 257662 | T289 | 2.57 | 10.90 | 10.82 | 99.0% |
| 18) | 257663 | T290 | 2.53 | 9.04 | 8.99 | 99.2% |
| 19) | 258271 | T291 | 2.54 | 11.26 | 11.15 | 98.7% |
| *20) | 258269 | T292 | 2.54 | 7.91 | 7.79 | 97.8% |
| Dup 20) | 258269 | T293 | 2.53 | 8.94 | 8.81 | 98.0% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 7.79 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.2% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/25/2019 |
| **Stop Time:** | 09:39 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 159772

| Start Date: | 04/24/2019 | Start Time: | 13:47 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 258272 | T921 | 2.61 | 8.56 | 8.47 | 98.5% |
| 2) | 258273 | T922 | 2.59 | 11.86 | 11.78 | 99.1% |
| 3) | 258274 | T920 | 2.59 | 8.71 | 8.55 | 97.4% |
| 4) | 258275 | T923 | 2.57 | 9.31 | 9.23 | 98.8% |
| 5) | 258276 | T919 | 2.56 | 8.35 | 8.24 | 98.1% |
| 6) | 258277 | T925 | 2.58 | 9.00 | 8.93 | 98.9% |
| 7) | 259434 | T924 | 2.55 | 8.52 | 8.47 | 99.2% |
| 8) | 259435 | T927 | 2.56 | 8.45 | 8.36 | 98.5% |
| 9) | 259436 | T926 | 2.56 | 8.26 | 8.18 | 98.6% |
| 10) | 259437 | T928 | 2.59 | 7.64 | 7.57 | 98.6% |
| 11) | 259459 | T931 | 2.58 | 7.63 | 7.57 | 98.8% |
| 12) | 259460 | T932 | 2.55 | 6.77 | 6.70 | 98.3% |
| 13) | 259462 | T930 | 2.58 | 9.48 | 9.38 | 98.6% |
| 14) | 259463 | T929 | 2.56 | 7.91 | 7.84 | 98.7% |
| 15) | 259464 | T933 | 2.57 | 10.50 | 10.41 | 98.9% |
| 16) | 259465 | T793 | 2.56 | 7.99 | 7.90 | 98.3% |
| 17) | 259466 | T792 | 2.56 | 7.67 | 7.61 | 98.8% |
| 18) | 259467 | T791 | 2.59 | 7.04 | 7.00 | 99.1% |
| 19) | 259468 | T790 | 2.59 | 9.29 | 9.23 | 99.1% |
| *20) | 259433 | T359 | 2.58 | 7.89 | 7.84 | 99.1% |
| Dup 20) | 259433 | T360 | 2.55 | 8.31 | 8.26 | 99.1% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 7.84 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.0% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/25/2019 |
| **Stop Time:** | 09:42 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# INORGANICS
# LOGBOOK
# DOCUMENTS

# SOIL PREP/MIX KREJCI Analytical Run
# 159470 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255833 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3A-SU03R1 | | | | | | | | | |
| 143765 | 255853 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3B-SU03R1 | | | | | | | | | |
| 143765 | 255854 | | 03/21/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3A-SU07 | | | | | | | | | |
| 143765 | 255855 | | 03/21/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3B-SU07 | | | | | | | | | |
| 143765 | 255856 | | 03/22/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3A-SU03R2 | | | | | | | | | |
| 143765 | 255857 | | 03/22/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3B-SU03R2 | | | | | | | | | |
| 143765 | 255858 | | 03/22/2019 0850 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3A-SU03R3 | | | | | | | | | |
| 143765 | 255859 | | 03/22/2019 0850 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3B-SU03R3 | | | | | | | | | |
| 143765 | 255860 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU2A-SU07R1 | | | | | | | | | |
| 143765 | 255861 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU2B-SU07R1 | | | | | | | | | |
| 143765 | 255880 | | 03/25/2019 1505 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU32 | | | | | | | | | |
| 143765 | 255881 | | 03/25/2019 1505 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU32 | | | | | | | | | |
| 143765 | 255882 | | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU33 | | | | | | | | | |
| 143765 | 255883 | | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU33 | | | | | | | | | |
| 143765 | 255884 | | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU3A-SU09 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: Semi [redacted]ANALYTICALRUN.RPT

# SOIL PREP/MIX KREJCI Analytical Run
# 159470 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255885 | DU3B-SU09 | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255886 | DU3A-SU10 | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255887 | DU3B-SU10 | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255888 | DU3A-SU05 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255889 | DU3B-SU05 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**20** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159470 | 03/28/2019 - 04/01/2019 | [redacted] | [redacted] | 04/02/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

SOIL PREP/MIX KREJCI Analytical Run
# 159471 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255901 | | 03/25/2019 0805 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255903 | DU1A-SU46 | 03/25/2019 0805 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255904 | DU1B-SU46 | 03/25/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255905 | DU1A-SU38 | 03/25/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255906 | DU1B-SU38 | 03/25/2019 1305 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255907 | DU1A-SU40 | 03/25/2019 1305 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255908 | DU1B-SU40 | 03/25/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255909 | DU1A-SU35 | 03/25/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255910 | DU1B-SU35 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255911 | DU1A-SU31 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255912 | DU1B-SU31 | 03/22/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255913 | DU2A-SU07R2 | 03/22/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255914 | DU2B-SU07R2 | 03/22/2019 1255 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255915 | DU2A-SU07R3 | 03/22/2019 1255 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143765 | 255916 | DU2B-SU07R3 | 03/22/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| | | DU2A-SU02R1 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Semi [redacted]ANALYTICALRUN.RPT

# SOIL PREP/MIX KREJCI Analytical Run
# 159471 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255917 | DU2B-SU02R1 | 03/22/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255918 | DU2A-SU02R2 | 03/22/2019 1625 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255919 | DU2B-SU02R2 | 03/22/2019 1625 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255920 | DU2A-SU02R3 | 03/22/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143765 | 255921 | DU2B-SU02R3 | 03/22/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**20** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159471 | 03/29/2019 - 04/02/2019 | [redacted] | [redacted] | 04/04/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 159729 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257642 | | 03/27/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257643 | DU1B-SU16 | 03/27/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257644 | DU1A-SU16 | 03/27/2019 1401 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257645 | DU1B-SU26 | 03/27/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257646 | DU1A-SU20 | 03/27/2019 1511 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257647 | DU1B-SU20 | 03/27/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257648 | DU1A-SU44R1 | 03/27/2019 0926 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257658 | DU1B-SU44R1 | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257661 | DU1A-SU30S2 | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257649 | DU1B-SU30S3 | 03/27/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257651 | DU1A-SU44R2 | 03/27/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257650 | DU1A-SU44R3 | 03/27/2019 1011 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257653 | DU1B-SU44R2 | 03/27/2019 1225 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257652 | DU1A-SU48 | 03/27/2019 1106 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143856 | 257654 | DU1B-SU44R3 | 03/27/2019 1226 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU48 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# SOIL PREP/MIX KREJCI Analytical Run
# 159729 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257655 | | 03/27/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU26 | | | | | | | | | |
| 143856 | 257657 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU30S1 | | | | | | | | | |
| 143856 | 257656 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU30S1 | | | | | | | | | |
| 143856 | 257660 | | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU30S3 | | | | | | | | | |
| 143856 | 257659 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU30S2 | | | | | | | | | |
| 143856 | 257663 | | 03/27/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU2B-SU18 | | | | | | | | | |
| 143856 | 257662 | | 03/27/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU2A-SU18 | | | | | | | | | |

**22** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159729 | 04/13/2019 | [redacted] | [redacted] | 04/15/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 159730 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143900 | 258271 | DU2B-SU10 | 03/28/2019 0935 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258272 | DU2A-SU05 | 03/28/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258273 | DU2B-SU05 | 03/28/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258275 | DU2B-SU04 | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258274 | DU2A-SU04 | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258269 | DU2A-SU10 | 03/28/2019 0935 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258276 | DU2A-SU03 | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143900 | 258277 | DU2B-SU03 | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**8** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159730 | 04/13/2019 | [redacted] | [redacted] | 04/15/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 160313 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143811 | 256795 | | 03/26/2019 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256796 | DU1A-SU25 | 03/26/2019 1345 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256797 | DU1B-SU25 | 03/26/2019 1420 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256804 | DU1A-SU15 | 03/26/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256805 | DU1B-SU18 | 03/26/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256806 | DU1A-SU22 | 03/26/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256807 | DU1B-SU22 | 03/26/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256808 | DU1A-SU17 | 03/26/2019 1545 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256799 | DU1B-SU17 | 03/26/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256800 | DU3A-SU08 | 03/26/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256801 | DU3B-SU08 | 03/26/2019 1120 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256802 | DU3A-SU06 | 03/26/2019 1120 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256767 | DU3B-SU06 | 03/26/2019 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256794 | DU1A-SU24 | 03/26/2019 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143811 | 256803 | DU1B-SU24 | 03/26/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| | | DU1A-SU18 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Semi [redacted]ANALYTICALRUN.RPT

# SOIL PREP/MIX KREJCI Analytical Run
# 160313 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143811 | 256798 | | 03/26/2019 1420 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU15 | | | | | | | | | |

**16** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160313 | 04/01/2019 - 04/13/2019 | [redacted] | [redacted] | 04/15/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# WSOLIDS Analytical Run
# 159406 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255833 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3A-SU03R1 | | | | | | | | | |
| 143765 | 255853 | | 03/21/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3B-SU03R1 | | | | | | | | | |
| 143765 | 255854 | | 03/21/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3A-SU07 | | | | | | | | | |
| 143765 | 255855 | | 03/21/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3B-SU07 | | | | | | | | | |
| 143765 | 255856 | | 03/22/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3A-SU03R2 | | | | | | | | | |
| 143765 | 255857 | | 03/22/2019 0845 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3B-SU03R2 | | | | | | | | | |
| 143765 | 255858 | | 03/22/2019 0850 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3A-SU03R3 | | | | | | | | | |
| 143765 | 255859 | | 03/22/2019 0850 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3B-SU03R3 | | | | | | | | | |
| 143765 | 255860 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU07R1 | | | | | | | | | |
| 143765 | 255861 | | 03/22/2019 1245 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU07R1 | | | | | | | | | |
| 143765 | 255880 | | 03/25/2019 1505 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU32 | | | | | | | | | |
| 143765 | 255881 | | 03/25/2019 1505 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU32 | | | | | | | | | |
| 143765 | 255882 | | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU33 | | | | | | | | | |
| 143765 | 255883 | | 03/25/2019 1600 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU33 | | | | | | | | | |
| 143765 | 255884 | | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU3A-SU09 | | | | | | | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# WSOLIDS Analytical Run
# 159406 on 04/05/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255885 | DU3B-SU09 | 03/25/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143765 | 255886 | DU3A-SU10 | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143765 | 255887 | DU3B-SU10 | 03/25/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143765 | 255888 | DU3A-SU05 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143765 | 255889 | DU3B-SU05 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | 261504 | DU3A-SU03R1 | 03/21/2019 0845 | DUP 255833 | | | SOLIDS,PERCENT | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159406 | 04/04/2019 | [redacted] | [redacted] | 04/05/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

WSOLIDS Analytical Run
# 159407 on 04/11/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255901 | | 03/25/2019 0805 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255903 | DU1A-SU46 | 03/25/2019 0805 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255904 | DU1B-SU46 | 03/25/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255905 | DU1A-SU38 | 03/25/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255906 | DU1B-SU38 | 03/25/2019 1305 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255907 | DU1A-SU40 | 03/25/2019 1305 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255908 | DU1B-SU40 | 03/25/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255909 | DU1A-SU35 | 03/25/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255910 | DU1B-SU35 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255911 | DU1A-SU31 | 03/25/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255912 | DU1B-SU31 | 03/22/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255913 | DU2A-SU07R2 | 03/22/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255914 | DU2B-SU07R2 | 03/22/2019 1255 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255915 | DU2A-SU07R3 | 03/22/2019 1255 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143765 | 255916 | DU2B-SU07R3 | 03/22/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU02R1 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# WSOLIDS Analytical Run
# 159407 on 04/11/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255917 | | 03/22/2019 1620 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2B-SU02R1 | | | | | | | | | |
| 143765 | 255918 | | 03/22/2019 1625 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2A-SU02R2 | | | | | | | | | |
| 143765 | 255919 | | 03/22/2019 1625 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2B-SU02R2 | | | | | | | | | |
| 143765 | 255920 | | 03/22/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2A-SU02R3 | | | | | | | | | |
| 143811 | 256795 | | 03/26/2019 1340 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU25 | | | | | | | | | |
| | 263892 | | 03/25/2019 0805 | | | | SOLIDS,PERCENT | | | | |
| | | DU1A-SU46 | | DUP 255901 | | | | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159407 159572 159573 159574 159575 159576 | 04/10/2019 | [redacted] AGK | [redacted] | 04/11/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question. Each "No" response requires an explanation in the "Comments" section and may require the initiation of a non-conformance report.

| **Requirement** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (Indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

WSOLIDS Analytical Run
# 159770 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143765 | 255921 | | 03/22/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256767 | DU2B-SU02R3 | 03/26/2019 0915 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256794 | DU1A-SU24 | 03/26/2019 0920 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256796 | DU1B-SU24 | 03/26/2019 1345 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256797 | DU1B-SU25 | 03/26/2019 1420 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256798 | DU1A-SU15 | 03/26/2019 1420 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256799 | DU1B-SU15 | 03/26/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256800 | DU3A-SU08 | 03/26/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256801 | DU3B-SU08 | 03/26/2019 1120 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256802 | DU3A-SU06 | 03/26/2019 1120 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256803 | DU3B-SU06 | 03/26/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256804 | DU1A-SU18 | 03/26/2019 1630 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256805 | DU1B-SU18 | 03/26/2019 1045 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256806 | DU1A-SU22 | 03/26/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143811 | 256807 | DU1B-SU22 | 03/26/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU17 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: WetChem [redacted]ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 159770 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143811 | 256808 | | 03/26/2019 1545 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU17 | | | | | | | | | |
| 143856 | 257642 | | 03/27/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU16 | | | | | | | | | |
| 143856 | 257643 | | 03/27/2019 1540 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU16 | | | | | | | | | |
| 143856 | 257644 | | 03/27/2019 1401 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU26 | | | | | | | | | |
| 143856 | 257645 | | 03/27/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU20 | | | | | | | | | |
| | 270927 | | 03/22/2019 1630 | | | | SOLIDS,PERCENT | | | | |
| | | DU2B-SU02R3 | | DUP 255921 | | | | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

WSOLIDS Analytical Run
# 159771 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257646 | | 03/27/2019 1511 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU20 | | | | | | | | | |
| 143856 | 257647 | | 03/27/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU44R1 | | | | | | | | | |
| 143856 | 257648 | | 03/27/2019 0926 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU44R1 | | | | | | | | | |
| 143856 | 257649 | | 03/27/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU44R2 | | | | | | | | | |
| 143856 | 257650 | | 03/27/2019 1011 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU44R2 | | | | | | | | | |
| 143856 | 257651 | | 03/27/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU44R3 | | | | | | | | | |
| 143856 | 257652 | | 03/27/2019 1106 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU44R3 | | | | | | | | | |
| 143856 | 257653 | | 03/27/2019 1225 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU48 | | | | | | | | | |
| 143856 | 257654 | | 03/27/2019 1226 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU48 | | | | | | | | | |
| 143856 | 257655 | | 03/27/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU26 | | | | | | | | | |
| 143856 | 257656 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU30S1 | | | | | | | | | |
| 143856 | 257657 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU30S1 | | | | | | | | | |
| 143856 | 257658 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU30S2 | | | | | | | | | |
| 143856 | 257659 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU30S2 | | | | | | | | | |
| 143856 | 257660 | | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU30S3 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: WetChem [redacted] ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 159771 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257661 | DU1B-SU30S3 | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143856 | 257662 | DU2A-SU18 | 03/27/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143856 | 257663 | DU2B-SU18 | 03/27/2019 1415 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143900 | 258269 | DU2A-SU10 | 03/28/2019 0935 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143900 | 258271 | DU2B-SU10 | 03/28/2019 0935 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | 270928 | DU2A-SU10 | 03/28/2019 0935 | DUP 258269 | | | | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

WSOLIDS Analytical Run
# 159772 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143900 | 258272 | | 03/28/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258273 | DU2A-SU05 | 03/28/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258274 | DU2B-SU05 | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258275 | DU2A-SU04 | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258276 | DU2B-SU04 | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258277 | DU2A-SU03 | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259433 | DU2B-SU03 | 03/28/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259434 | DU1A-SU13 | 03/28/2019 0831 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259435 | DU1B-SU13 | 03/28/2019 1017 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259436 | DU1A-SU14 | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259437 | DU1B-SU14 | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259459 | DU1A-SU19 | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259460 | DU1B-SU19 | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259462 | DU1A-SU12 | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259463 | DU1B-SU12 | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU36R1 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: WetChem [redacted]ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 159772 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259464 | DU1B-SU36R1 | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259465 | DU1A-SU36R2 | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259466 | DU1B-SU36R2 | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259467 | DU1A-SU36R3 | 03/29/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259468 | DU1B-SU36R3 | 03/29/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | 270929 | DU1A-SU13 | 03/28/2019 0830 | DUP 259433 | | | SOLIDS,PERCENT | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159770, 159771, 159772, 159859, 160070, 160071, 160074, 160075 | 04/24/2019 | [redacted] | [redacted] | 04/25/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

# CHAIN OF CUSTODY,
# PM CONFIRMATION
# AND
# SAMPLE CONDITION FORMS
# DOCUMENTS

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contact: Michelle Chesnut
Telephone: 301.325.1456
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: M. WATSON

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143765
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chesnut@ertcorp.com
Company: ERT
Address: 14401 Sweitzer Ln Suite 300 Laurel, MD 20707

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/21/19 | 0845 | S | C | | DU3A-SU03R1 | N | 1 | 1 | | 255833 |
| 3/21/19 | 0845 | S | C | | DU3B-SU03R1 | N | 1 | 1 | | 255853 |
| 3/21/19 | 1045 | S | C | | DU3A-SU07 | N | 1 | 1 | | 255854 |
| 3/21/19 | 1045 | S | C | | DU3B-SU07 | N | 1 | 1 | | 255855 |
| 3/22/19 | 0845 | S | C | | DU3A-SU03R2 | N | 1 | 1 | | 255856 |
| 3/22/19 | 0845 | S | C | | DU3B-SU03R2 | N | 1 | 1 | | 255857 |
| 3/22/19 | 0850 | S | C | | DU3A-SU03R3 | N | 1 | 1 | | 255858 |
| 3/22/19 | 0850 | S | C | | DU3B-SU03R3 | N | 1 | 1 | | 255859 |
| 3/22/19 | 1245 | S | C | | DU2A-SU07R1 | N | 1 | 1 | | 255860 |
| 3/22/19 | 1245 | S | C | | DU2B-SU07R1 | N | 1 | 1 | | 255861 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Relinquished By: Mike Watson
Date/Time: 03/25/19 1700
Received by:
Date/Time

Received By: JRB
Date/Time: 3/26/19 1042
Received for Laboratory by: JRB
Date/Time: 3/26/19 1142

Lab Use Only
Ice Present Yes No
Temp 0.9 IR Gun 24
Cooler # XXXX

Page 27 of 220

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: Michelle Chesnut
Telephone: 301.323.1469
Project Name: CURTIS BAY
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143767
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chesnut@ertcorp.com
Company: ERT
Address:

Invoice To:*
EMAIL: 14401 Sweitzer Ln
Company: Suite 300
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

**Turnaround Time**
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/25/19 | 1505 | S | C | | DU1A - SU32 | N | 1 | 1 | | 255880 |
| | 1505 | | | | DU1B - SU32 | | 1 | 1 | | 255881 |
| | 1600 | | | | DU1A - SU33 | | 1 | 1 | | 255882 |
| | 1600 | | | | DU1B - SU33 | | 1 | 1 | | 255883 |
| | 1620 | | | | DU3A - SU09 | | 1 | 1 | | 255884 |
| | 1620 | | | | DU3B - SU09 | | 1 | 1 | | 255885 |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Mike Watson | 03/25/19 1700 | JRB | 3/26/19 1057 |
| Received by: | Date/Time | Received for Laboratory by: | Date/Time |
| | | JRB | 3/26/19 1148 |

Lab Use Only
Ice Present Yes No
Temp 1.0 IR Gun 24
Cooler # 4030

Page 2721

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: Ert
Project Contact: Michelle Chesnit
Telephone: 301.323.1469
Project Name: CURTIS BAY
Project #:
Location: Baltimore MD
Sampled By: M. Watson

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143768
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

Program:
~~QSM~~ RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chesnut@ertcorp.com
Company:
Address:

Invoice To:* ERT
EMAIL: 14401 Sweitzer Ln
Company: Suite 300
Address: Laurel MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
~~Date~~ Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/25/19 | 1415 | S | C | | DU3A - SU10 | N | 1 | 1 | | 255886 |
| " | 1415 | " | " | | DU3B - SU10 | " | 1 | 1 | | 255887 |
| " | 1130 | " | " | | DU3A - SU05 | " | 1 | 1 | | 255888 |
| " | 1130 | " | " | | DU3B - SU05 | " | 1 | 1 | | 255889 |

Relinquished By: Mike Watson
Date/Time: 03/25/19 1700
Received by:
Date/Time

Received By: JRB
Date/Time: 3/26/19 1103
Received for Laboratory by: JRB
Date/Time: 3/26/19 1152

Lab Use Only
Ice Present Yes No
Temp 2.1 IR Gun 24
Cooler # 6178

Page 2722

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: Ert
Project Contact: Michelle Chesnut
Telephone: 301-323-1496
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143771
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

Program: (OSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chesnut@ertcorp.com
Company:
Address:

Invoice To:*
EMAIL: ERT
Company: 14401 Sweitzer Ln
Address: Suite 300 Laurel MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/25/19 | 0805 | S | C | | DU1A-SU46 | N | 1 | | | 255901 |
| 03/25/19 | 0805 | S | C | | DU1B-SU46 | N | 1 | | | 255903 |
| | 1400 | | | | DU1A-SU38 | | 1 | | | 255904 |
| | 1400 | | | | DU1B-SU38 | | 1 | | | 255905 |
| | 1305 | | | | DU1A-SU40 | | 1 | | | 255906 |
| | 1305 | | | | DU1B-SU40 | | 1 | | | 255907 |
| | 1005 | | | | DU1A-SU35 | | 1 | | | 255908 |
| | 1005 | | | | DU1B-SU35 | | 1 | | | 255909 |
| | 1130 | | | | DU1A-SU31 | | 1 | | | 255910 |
| | 1130 | | | | DU1B-SU31 | | 1 | | | 255911 |

Turnaround Time
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| M. Watson | 03/25/19 1700 | JRB | 3/26/19 1113 |
| Received by: | Date/Time | Received for Laboratory by: | Date/Time |
| | | JRB | 3/26/19 1232 |

Lab Use Only
Ice Present (Yes) No
Temp 0.4 IR Gun 24
Cooler # 5997

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: Michelle Chesnut
Telephone: 301.323.1496
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*
143771

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chesnut@ertcorp.com
Company:
Address:

Invoice To:* ERT
EMAIL: 14401 Sweitzer Ln
Company: Suite 300
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/22/19 | 1250 | S | C | | DU2A-SU07R2 | N | 1 | 1 | | 255912 |
| 03/22/19 | 1250 | S | C | | DU2B-SU07R2 | N | 1 | 1 | | 255913 |
| 03/22/19 | 1255 | S | C | | DU2A-SU07R3 | N | 1 | 1 | | 255914 |
| 03/22/19 | 1255 | S | C | | DU2B-SU07R3 | N | 1 | 1 | | 255915 |
| 03/22/19 | 1620 | S | C | | DU2A-SU02R1 | N | 1 | 1 | | 255916 |
| 03/22/19 | 1620 | S | C | | DU2B-SU02R1 | N | 1 | 1 | | 255917 |
| 03/22/19 | 1625 | S | C | | DU2A-SU02R2 | N | 1 | 1 | | 255918 |
| 03/22/19 | 1625 | S | C | | DU2B-SU02R2 | N | 1 | 1 | | 255919 |
| 03/22/19 | 1630 | S | C | | DU2A-SU02R3 | N | 1 | 1 | | 255920 |
| 03/22/19 | 1630 | S | C | | DU2B-SU02R3 | N | 1 | 1 | | 255921 |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Matthew Watson | 03/25/19 1700 | JDB | 3/26/19 1122 |
| Received by: | Date/Time | Received for Laboratory by: | Date/Time |
| | | JRM | 3/26/19 1232 |

*Lab Use Only*
Ice Present (Yes) No
Temp 1.4 IR Gun 24
Cooler # 4000

Page 2724

# CT Laboratories Terms and Conditions



Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified.
(b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.
1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.
1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.
1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.
1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.
1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).
1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.
3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.
3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.
4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.
4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.
4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.
4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.
4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.
4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.
5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.
5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.
5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

# Cooler Receipt Form

Ice Present (YES) NO

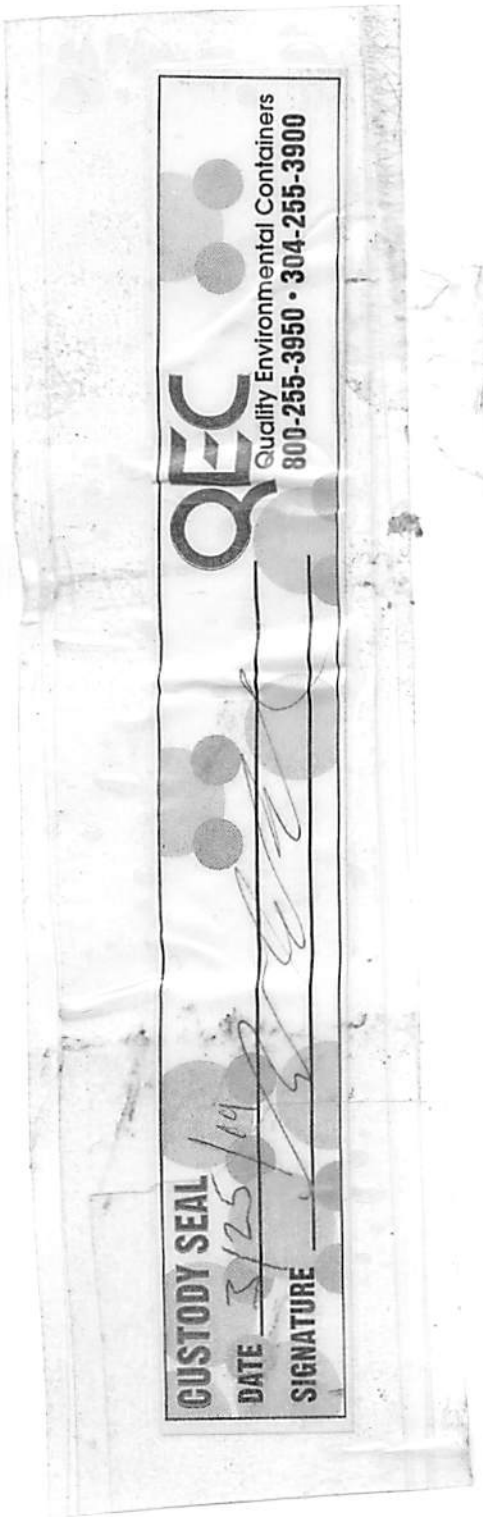
Temperature 0.9

IR Gun # 24

Initials JRB

Date 3/26/19 Time 1042

Cooler #: XXXX






# Cooler Receipt Form

Ice Present YES NO

Temperature 1.1

IR Gun # 24

Initials JPB

Date 3/26/19 Time 1057

Cooler #: 0030






Ice Present (YES) NO

Temperature 2.1

IR Gun # 24

Initials MRB

Date 3/24/19 Time 1103

Cooler #: 6178

## Cooler Receipt Form

DAVE COTE
ERT
14401 SWEITZER LANE
LAUREL MD 20707

50 LBS

RS

SHIP TO:
SHIPPING DEPT
(608) 356 – 2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0 – 10

UPS NEXT DAY AIR 1

TRACKING #: 1Z 1A4 A85 84 4287 4474

BILLING: P/P
DESC: CURTIS BAY SAMPLES
RETURN SERVICE

REF 1:2140208

WS 21.0.23 Zebra ZP 450 09.0A 01/2019

WI 539 0 - 10

(420) 53913

UPS NEXT DAY AIR 1

TRACKING #: 1Z 1A4 A85 84 4287 4474

SDFAS 400 N SEA154009 W3916145 00425 05:16:43 03/26/19

CUSTODY SEAL
DATE 3/25/19
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-4900

Ice Present YES NO

Temperature 1.4

IR Gun # 24

Initials SRB

Date 3/26/19 Time 1122

Cooler #: 6000

Cooler Receipt F

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A858442846030

CUSTODY SEAL
DATE 3/25/19
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DAVE COTE
ERT
14401 SWEITZER LANE
LAUREL MD 20707

1 LBS

RS

DWT: 23,12,14

SHIP TO:
SHIPPING DEPT
(608) 356-2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0-10

UPS NEXT DAY AIR 1
TRACKING #: 1Z 1A4 A85 84 4284 6030

BILLING: P/P
DESC: ENVIRONMENTAL SAMPLES
RETURN SERVICE

WS 21.0.23 Zebra ZP 450 09.0A 01/2019

SEE NOTICE ON REVERSE regarding UPS Terms and notice of limitation of liability. Where allowed by law, shipper authorizes UPS to act as forwarding agent for export control and customs purposes. If exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.

# Cooler Receipt Form

Ice Present (YES) NO

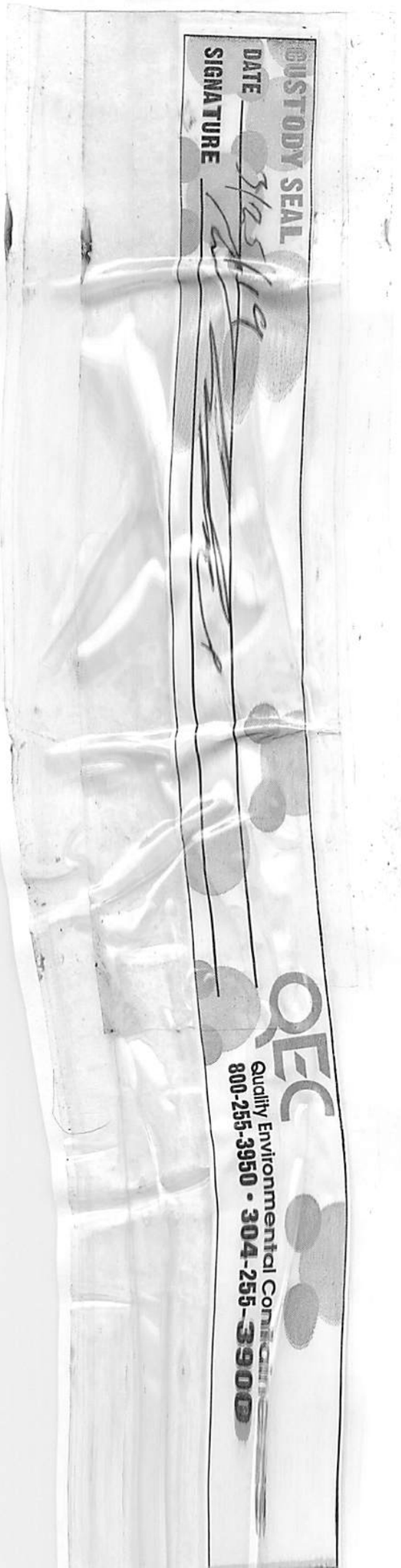
Temperature 0.4

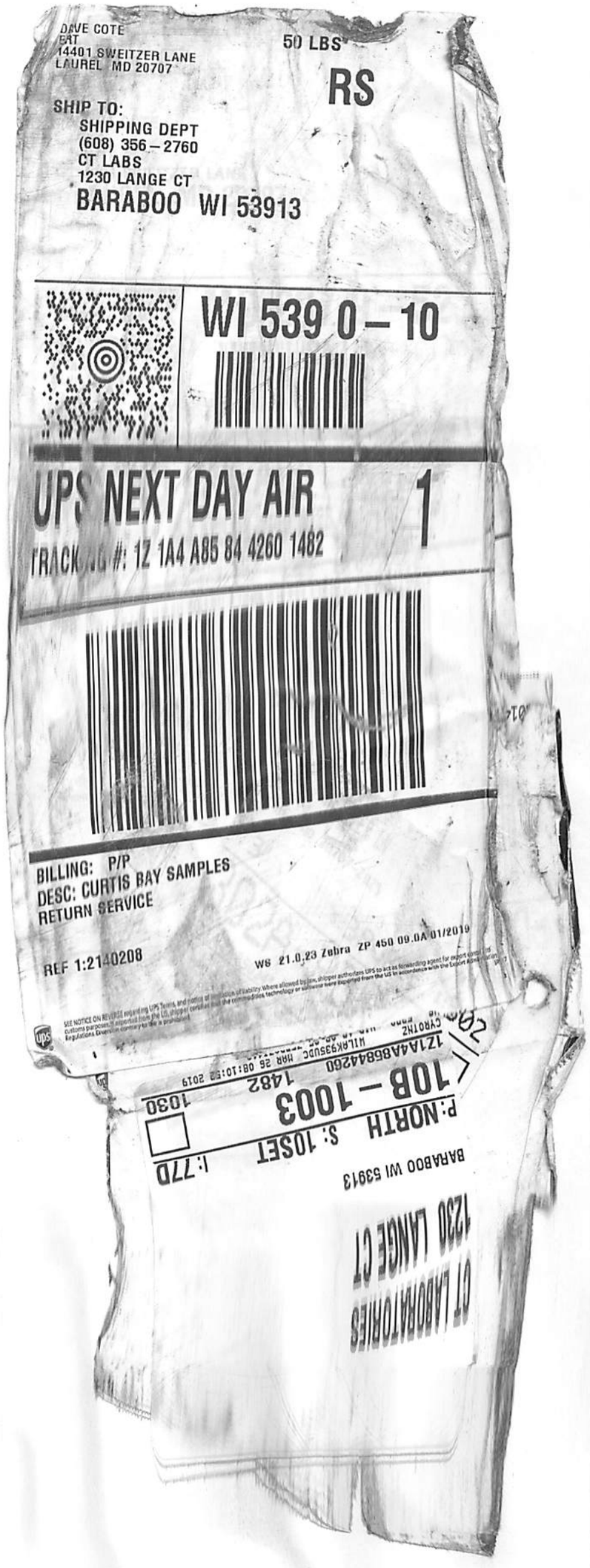
IR Gun # 24

Initials HRB

Date 3/26/19 Time 1113

Cooler #: 5997



**Folder #: 143765**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144390

**Project Manager:** [redacted] **Date Received:** 03/26/19 **Log Date:** 03/26/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 0.9 oC

**SAMPLE #: 255833 DESCR: DU3A-SU03R1** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/21/2019 Time: 0845**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/04/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/17/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 255853 DESCR: DU3B-SU03R1** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/21/2019 Time: 0845**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/04/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/17/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255853 **DESCR:** DU3B-SU03R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/21/2019 **Time:** 0845

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 255854 **DESCR:** DU3A-SU07 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/21/2019 **Time:** 1045

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/04/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/17/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255855 **DESCR:** DU3B-SU07 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/21/2019 **Time:** 1045

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/04/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/17/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255856 **DESCR:** DU3A-SU03R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 0845

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |

**SAMPLE #:** 255856 **DESCR:** DU3A-SU03R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 0845

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255857 **DESCR:** DU3B-SU03R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 0845

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255858 **DESCR:** DU3A-SU03R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 0850

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255859 **DESCR:** DU3B-SU03R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 0850

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255859 **DESCR:** DU3B-SU03R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 0850

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255860 **DESCR:** DU2A-SU07R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1245

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255861 **DESCR:** DU2B-SU07R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1245

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255880 **DESCR:** DU1A-SU32 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1505

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255880 **DESCR:** DU1A-SU32 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1505

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255881 **DESCR:** DU1B-SU32 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1505

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255882 **DESCR:** DU1A-SU33 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1600

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255883 **DESCR:** DU1B-SU33 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1600

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255883 **DESCR:** DU1B-SU33 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1600

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255884 **DESCR:** DU3A-SU09 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1620

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255885 **DESCR:** DU3B-SU09 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1620

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255886 **DESCR:** DU3A-SU10 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1415

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255887 **DESCR:** DU3B-SU10 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1415

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255888 **DESCR:** DU3A-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255889 **DESCR:** DU3B-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255901 **DESCR:** DU1A-SU46 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 0805

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255903 **DESCR:** DU1B-SU46 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 0805

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255904 **DESCR:** DU1A-SU38 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1400

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255905 **DESCR:** DU1B-SU38 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1400

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255906 **DESCR:** DU1A-SU40 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1305

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255907 **DESCR:** DU1B-SU40 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1305

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255908 **DESCR:** DU1A-SU35 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255909 **DESCR:** DU1B-SU35 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255910 **DESCR:** DU1A-SU31 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255911 **DESCR:** DU1B-SU31 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/25/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/08/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/21/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255912 **DESCR:** DU2A-SU07R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1250

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255913 **DESCR:** DU2B-SU07R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1250

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255914 **DESCR:** DU2A-SU07R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1255

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255915 **DESCR:** DU2B-SU07R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1255

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255916 **DESCR:** DU2A-SU02R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1620

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255917 **DESCR:** DU2B-SU02R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1620

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255918 **DESCR:** DU2A-SU02R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1625

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 255919 **DESCR:** DU2B-SU02R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1625

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255920 **DESCR:** DU2A-SU02R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 255921 **DESCR:** DU2B-SU02R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/22/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/05/2019 | 04/07/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/07/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/18/2019 | 04/07/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143765 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**Invoice Number:** 144390 **Preliminary Invoice Estimate:** $ 2,960.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 40 | $ 50.00 | 0.00 | $ 2000.00 |
| ICP QSM 5.0 Arsenic | SOIL | 40 | $ 12.00 | 0.00 | $ 480.00 |
| ICP QSM 5.0 Manganese | SOIL | 40 | $ 12.00 | 0.00 | $ 480.00 |
| SOLIDS,PERCENT | SOIL | 40 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **20** | SOIL PREP/MIX |
| **SOLIDS** | **20** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143765
Client: ERT

Print Date / Time: 03/26/2019 11:42
Received Date / Time / By: 03/26/2019 10:42 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/26/2019 11:42 [redacted]
Project #: PM: [redacted]

Coolers: XXXX,6030,6178,5997,6000
Custody Seals Present : **Y**

Temperature: 2.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS NEXT DAY AIR
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858442978022
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER UPON RECEIPT- ALL WERE DATED 3/25/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255833** DU3A-SU03R1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **255833** DU3A-SU03R1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **255853** DU3B-SU03R1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **255853** DU3B-SU03R1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **255854** DU3A-SU07 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **255854** DU3A-SU07 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**255855** DU3B-SU07

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255855** DU3B-SU07

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255856** DU3A-SU03R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255856** DU3A-SU03R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255857** DU3B-SU03R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255857** DU3B-SU03R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255858** DU3A-SU03R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255858** DU3A-SU03R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255859** DU3B-SU03R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255859** DU3B-SU03R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255860** DU2A-SU07R1

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**255860** DU2A-SU07R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255861** DU2B-SU07R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**255861** DU2B-SU07R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255880** DU1A-SU32

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**255880** DU1A-SU32

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255881** DU1B-SU32

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**255881** DU1B-SU32

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255882** DU1A-SU33

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**255882** DU1A-SU33

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255883** DU1B-SU33

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255883** DU1B-SU33

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255884** DU3A-SU09

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255884** DU3A-SU09

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255885** DU3B-SU09

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255885** DU3B-SU09

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255886** DU3A-SU10

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255886** DU3A-SU10

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255887** DU3B-SU10

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255887** DU3B-SU10

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255888** DU3A-SU05

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255888** DU3A-SU05

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255889** DU3B-SU05

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255889** DU3B-SU05

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255901** DU1A-SU46

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255901** DU1A-SU46

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255903** DU1B-SU46

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255903** DU1B-SU46

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255904** DU1A-SU38

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255904** DU1A-SU38

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255905** DU1B-SU38

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255905** DU1B-SU38

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

| | | | | |
|---|---|---|---|---|
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255906** DU1A-SU40 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255906** DU1A-SU40 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255907** DU1B-SU40 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255907** DU1B-SU40 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255908** DU1A-SU35 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255908** DU1A-SU35 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255909** DU1B-SU35 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255909** DU1B-SU35 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255910** DU1A-SU31 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255910** DU1A-SU31 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **255911** DU1B-SU31 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255911** DU1B-SU31 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **255912** DU2A-SU07R2 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255912** DU2A-SU07R2 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **255913** DU2B-SU07R2 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255913** DU2B-SU07R2 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **255914** DU2A-SU07R3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255914** DU2A-SU07R3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **255915** DU2B-SU07R3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |
| **255915** DU2B-SU07R3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**255916** DU2A-SU02R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255916** DU2A-SU02R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255917** DU2B-SU02R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255917** DU2B-SU02R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255918** DU2A-SU02R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255918** DU2A-SU02R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255919** DU2B-SU02R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255919** DU2B-SU02R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255920** DU2A-SU02R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255920** DU2A-SU02R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**255921** DU2B-SU02R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**255921** DU2B-SU02R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

143765

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: Michelle Chesnut
Telephone: 303-323-1469
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143811
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JLS PM: BM

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chestnut@ertcorp.com
Company:
Address:

Invoice To:* ERT
EMAIL: 14401 Sweitzer Ln.
Company: Suite 300
Address: Laurel MD, 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/26/19 | 0915 | SS | C | | DU1A-SU24 | N | 1 | | | 256767 |
| 3/26/19 | 0920 | S | C | | DU1B-SU24 | N | 1 | | | 256794 |
| 3/26/19 | 1340 | S | C | | DU1A-SU25 | N | 1 | | | 256795 |
| 3/26/19 | 1345 | S | C | | DU1B-SU25 | N | 1 | | | 256796 |
| 3/26/19 | 1420 | S | C | | DU1A-SU15 | N | 1 | | | 256797 |
| 3/26/19 | 1420 | S | C | | DU1B-SU15 | N | 1 | | | 256798 |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 03/26/2019 0700 | JLS for CHB | 3/27/19 1320 |
| Received by: | Date/Time | Received for Laboratory by: [signature] | Date/Time 3/27/19 1447 |

Lab Use Only
Ice Present (Yes) No
Temp 1.6 IR Gun 23
Cooler # 5996

Rev. 02/2017

# CHAIN OF CUSTODY



Company: ERT
Project Contact: Michelle Chesnut
Telephone: 303-323-1469
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*
143811

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: michelle.chesnut@ertcorp.com
Company:
Address:

Invoice To:* ERT
EMAIL:
Company: 14401 Sweitzer Ln. Suite 300
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/26/19 | 0955 | S | C | | DU3A-SU08 | N | 1 | | | 256799 |
| 3/26/19 | 0955 | S | C | | DU3B-SU08 | N | 1 | | | 256800 |
| 3/26/19 | 1120 | S | C | | DU3A-SU06 | N | 1 | | | 256801 |
| 3/26/19 | 1120 | S | C | | DU3B-SU06 | N | 1 | | | 256802 |

Relinquished By: Mike Watson — Date/Time: 1700 03/26/19 — Received By: for CHB — Date/Time: 3/27/19 0320

Received by: — Date/Time: — Received for Laboratory by: — Date/Time: 3/27/19 1447

*Lab Use Only*
Ice Present (Yes) No
Temp 2.3 IR Gun 24
Cooler # 5959

Rev. 02/2017

# CHAIN OF CUSTODY



Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

143811

Program:
(OSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: Certcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/26/19 | 1430 | S | C | | DU1A - SU18 | N | 1 | 1 | | 256803 |
| 3/26/19 | 1638 | S | C | | DU1B - SU18 | N | 1 | 1 | | 256804 |
| 3/26/19 | 1045 | S | C | | DU1A - SU22 | N | 1 | 1 | | 256805 |
| 3/26/19 | 1050 | S | C | | DU1B - SU22 | N | 1 | 1 | | 256806 |
| 3/26/19 | 1540 | S | C | | DU1A - SU17 | N | 1 | 1 | | 256807 |
| 3/26/19 | 1545 | S | C | | DU1B - SU17 | N | 1 | 1 | | 256808 |
| | | | | | | | | 1 | | |

Relinquished By: [redacted]
Date/Time 03/26/19 1700
Received by:
Date/Time

Received By: [redacted]
Date/Time 3/27/19 1320
Received for Laboratory by: [redacted]
Date/Time 3/27/19 1447

*Lab Use Only*
Ice Present (Yes) No
Temp 4.3 IR Gun 23
Cooler # 5376

# CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.



**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

FORM #: FPM3-02
Rev. #: 1.0
Effective Date: 05/27/2014
Page 1 of 1

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 1.6

IR Gun # 23

Initials [redacted]

Date 3/20/19 Time 1:20

3/27/19 JG

Cooler #: 5996



FORM #: FPM3-02
Rev. #: 1.0
Effective Date: 05/27/2014
Page 1 of 1

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.3

IR Gun # 24

Initials [redacted]

Date 3/27/19 Time 1:20

Cooler #: 5959



# Cooler Receipt Form

Ice Present (YES) NO

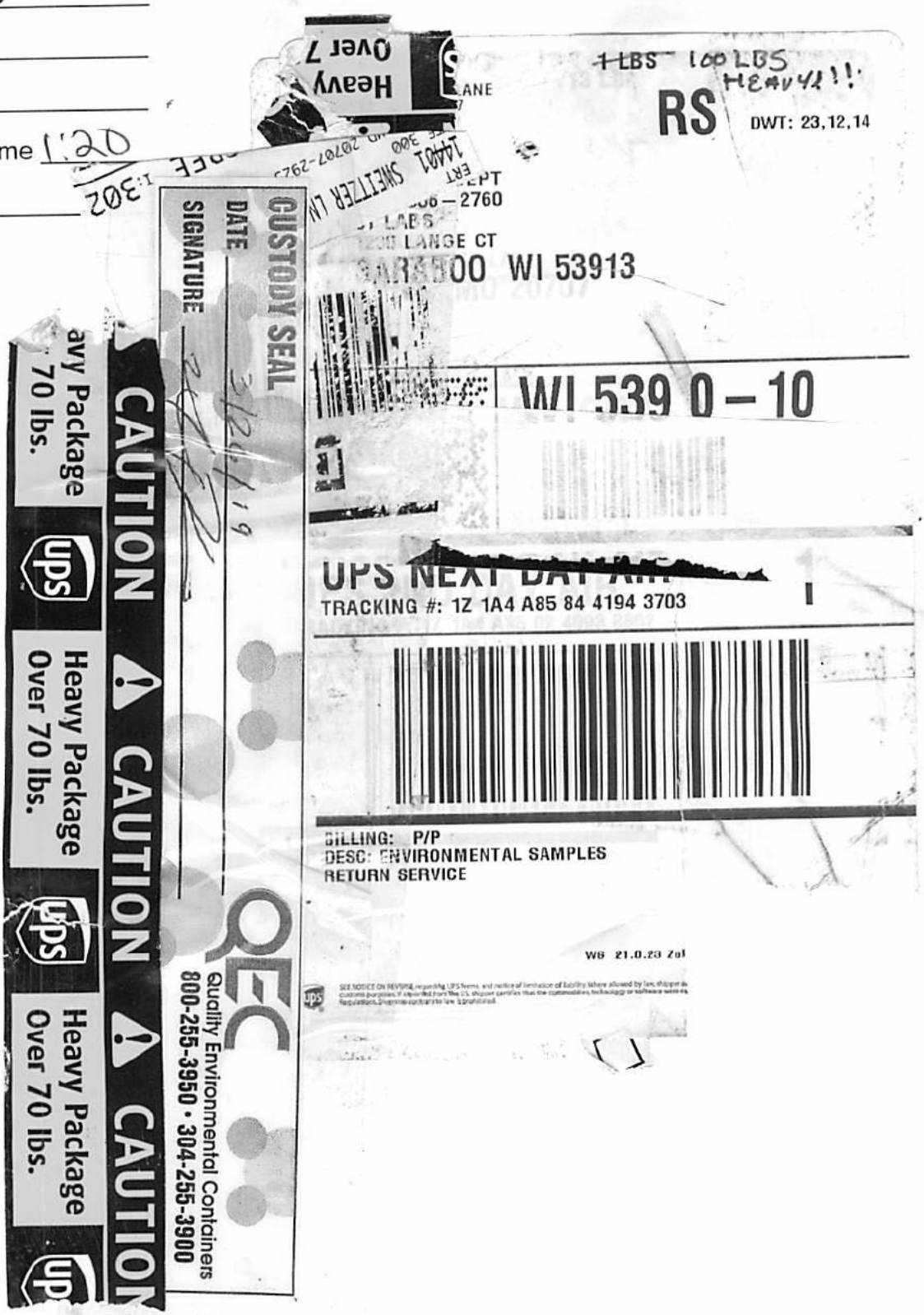
Temperature 4.3

IR Gun # 23

Initials [redacted]

Date 3/27/19 Time 1:20

Cooler #: 5376



**Folder #: 143811**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144436

**Project Manager:** [redacted] **Date Received:** 03/27/19 **Log Date:** 03/27/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 4.3 oC

**SAMPLE #: 256767 DESCR: DU1A-SU24** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/26/2019 Time: 0915**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 256794 DESCR: DU1B-SU24** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/26/2019 Time: 0920**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |



[redacted]CONFIRMATION.RPT

**Folder #:** 143811 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 256794 **DESCR:** DU1B-SU24 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 0920

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 256795 **DESCR:** DU1A-SU25 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1340

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256796 **DESCR:** DU1B-SU25 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1345

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256797 **DESCR:** DU1A-SU15 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1420

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |

**Folder #:** 143811 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 256797 **DESCR:** DU1A-SU15 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1420

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256798 **DESCR:** DU1B-SU15 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1420

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256799 **DESCR:** DU3A-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 0955

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256800 **DESCR:** DU3B-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 0955

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |

**Folder #:** 143811 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 256800 **DESCR:** DU3B-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 0955

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256801 **DESCR:** DU3A-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1120

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256802 **DESCR:** DU3B-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1120

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256803 **DESCR:** DU1A-SU18 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |

**Folder #:** 143811 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 256803 **DESCR:** DU1A-SU18 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256804 **DESCR:** DU1B-SU18 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1630

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256805 **DESCR:** DU1A-SU22 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1045

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256806 **DESCR:** DU1B-SU22 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 143811 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 256806 **DESCR:** DU1B-SU22 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256807 **DESCR:** DU1A-SU17 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1540

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 256808 **DESCR:** DU1B-SU17 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/26/2019 **Time:** 1545

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/09/2019 | 04/08/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/08/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/22/2019 | 04/08/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143811 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**Invoice Number:** 144436 **Preliminary Invoice Estimate:** $ 1,184.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 16 | $ 50.00 | 0.00 | $ 800.00 |
| ICP QSM 5.0 Arsenic | SOIL | 16 | $ 12.00 | 0.00 | $ 192.00 |
| ICP QSM 5.0 Manganese | SOIL | 16 | $ 12.00 | 0.00 | $ 192.00 |
| SOLIDS,PERCENT | SOIL | 16 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **32** | SOIL PREP/MIX |
| **SOLIDS** | **32** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143811
Client: ERT

Print Date / Time: 03/28/2019 08:49
Received Date / Time / By: 03/27/2019 13:20 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/27/2019 14:47 JLS
Project #:
PM: [redacted]

Coolers: 5996,5959,5376
Custody Seals Present : **Y**

Temperature: <4.3 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858440672294
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - ALL WERE DATED 3/26/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **256767** DU1A-SU24 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **256767** DU1A-SU24 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **256794** DU1B-SU24 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **256794** DU1B-SU24 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **256795** DU1A-SU25 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **256795** DU1A-SU25 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**256796** DU1B-SU25

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256796** DU1B-SU25

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256797** DU1A-SU15

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256797** DU1A-SU15

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256798** DU1B-SU15

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256798** DU1B-SU15

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256799** DU3A-SU08

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256799** DU3A-SU08

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256800** DU3B-SU08

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256800** DU3B-SU08

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256801** DU3A-SU06

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256801** DU3A-SU06

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256802** DU3B-SU06

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256802** DU3B-SU06

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256803** DU1A-SU18

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256803** DU1A-SU18

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256804** DU1B-SU18

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256804** DU1B-SU18

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256805** DU1A-SU22

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**256805** DU1A-SU22

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256806** DU1B-SU22

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**256806** DU1B-SU22

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256807** DU1A-SU17

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**256807** DU1A-SU17

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**256808** DU1B-SU17

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**256808** DU1B-SU17

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 143856
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JLS PM: BM

Program: (QSM) RCRA SDWA NPDES
Solid Waste Other _____
PO #

Report To:
EMAIL: [redacted] ertcorp.com
Company:
Address: ERT

Invoice To:*
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

**Matrix:**
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

**ANALYSES REQUESTED**

Turnaround Time: (Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | TC PMetals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/27/19 | 1540 | S | C | | DU1B-SU16 | N | 1 | | | 257642 |
| 3/27/19 | 1540 | S | C | | DU1A-SU16 | N | 1 | | | 257643 |
| 3/27/19 | 1401 | S | C | | DU1B-SU26 | N | 1 | | | 257644 |
| 3/27/19 | 1510 | S | C | | DU1A-SU20 | N | 1 | | | 257645 |
| 3/27/19 | 1511 | S | C | | DU1B-SU20 | N | 1 | | | 257646 |

Relinquished By: [redacted] Date/Time 3/27/2019@1700 Received By: [redacted] Date/Time 3/28/19 1701

Received by: [redacted] Date/Time 3/28/19 3:30

Lab Use Only
Ice Present (Yes) No
Temp 2.5 IR Gun 23
Cooler # 6183

Page 2774

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

1438564

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: [redacted]@ertcorp.com
EMAIL:
Company: ERT
Address:

Invoice To:* [redacted]
EMAIL:
Company:
Address: Laurel, MD 20707

***Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions***

**Client Special Instructions**

**Matrix:**
**GW** – groundwater **SW** - surface water **WW** - wastewater **DW** - drinking water
**S** - soil/sediment **SL** - sludge **A** - air **M** - misc/waste

**Turnaround Time**
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/27/19 | 0925 | S | C | | DU1A-SU44R1 | N | 1 | | | 257647 |
| 03/27/19 | 0926 | S | C | | DU1B-SU44R1 | N | 1 | | | 257648 |
| 03/27/19 | 1016 | S | C | | DU1A-SU44R2 | N | 1 | | | 257649 |
| 03/27/19 | 1011 | S | C | | DU1B-SU44R2 | N | 1 | | | 257650 |
| 03/27/19 | 1105 | S | C | | DU1A-SU44R3 | N | 1 | | | 257651 |
| 03/27/19 | 1106 | S | C | | DU1B-SU44R3 | N | 1 | | | 257652 |
| 03/27/19 | 1225 | S | C | | DU1A-SU48 | N | 1 | | | 257653 |
| 03/27/19 | 1226 | S | C | | DU1B-SU48 | N | 1 | | | 257654 |
| 03/27/19 | 1400 | S | C | | DU1A-SU26 | N | 1 | | | 257655 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Relinquished By: [redacted]
Date/Time 03/27/2019 @1700

Received By: [redacted]
Date/Time 3/28/19 1700

Relinquished By: [redacted]
Date/Time 3/28/19 8:30

Received by: [redacted]
Date/Time

*Lab Use Only*
Ice Present (Yes) No
Temp 4.1 IR Gun 23
Cooler # 5488

Page 2 of 4

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

143856

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]@ertcorp.com
Company:
Address: ERT

Invoice To:*
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/27/19 | 1050 | S | C | | DU1A-SU3051 | N | 1 | 1 | | 257656 |
| 3/27/19 | 1050 | S | C | | DU1B-SU3051 | N | 1 | 1 | | 257657 |
| 3/27/19 | 1055 | S | C | | DU1A-SU3052 | N | 1 | 1 | | 257658 |
| 3/27/19 | 1055 | S | C | | DU1B-SU3052 | N | 1 | 1 | | 257659 |
| 3/27/19 | 1100 | S | C | | DU1A-SU3053 | N | 1 | 1 | | 257660 |
| 3/27/19 | 1100 | S | C | | DU1B-SU3053 | N | 1 | 1 | | 257661 |
| 3/27/19 | 1415 | S | C | | ~~DU2~~A-SU18 | N | 1 | 1 | | 257662 |
| 3/27/19 | 1415 | S | C | | DU2B-SU18 | N | 1 | 1 | | 257663 |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By: [redacted] Date/Time 03/27/19 1700
Received By: [redacted]

Received By: [redacted] Date/Time 3/28/19 1701
Date/Time 3/28/19 3:30

*Lab Use Only*
Ice Present (Yes) No
Temp 2.5 IR Gun 23
Cooler # _____

Page 2775

# Cooler Receipt Form

Ice Present (YES) NO

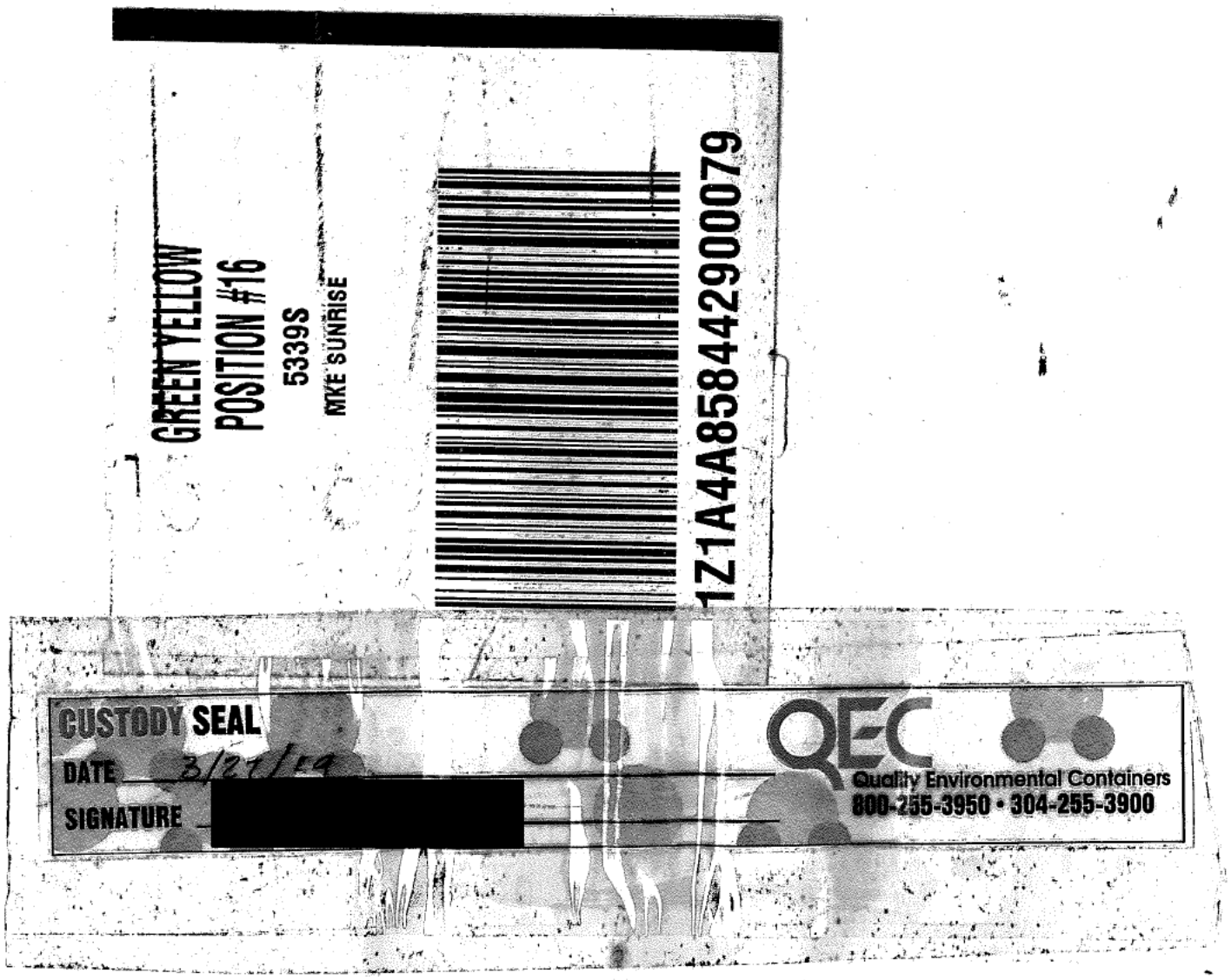
Temperature 2.5

IR Gun # 23

Initials [redacted]

Date 3/25/19 Time 3:30

Cooler #: —



# Cooler Receipt Form

Ice Present (YES) NO

Temperature 4.1

IR Gun # 23

Initials [redacted]

Date 3/28/19 Time 3:30

Cooler #: 5488



# Cooler Receipt Form

Ice Present (YES) NO

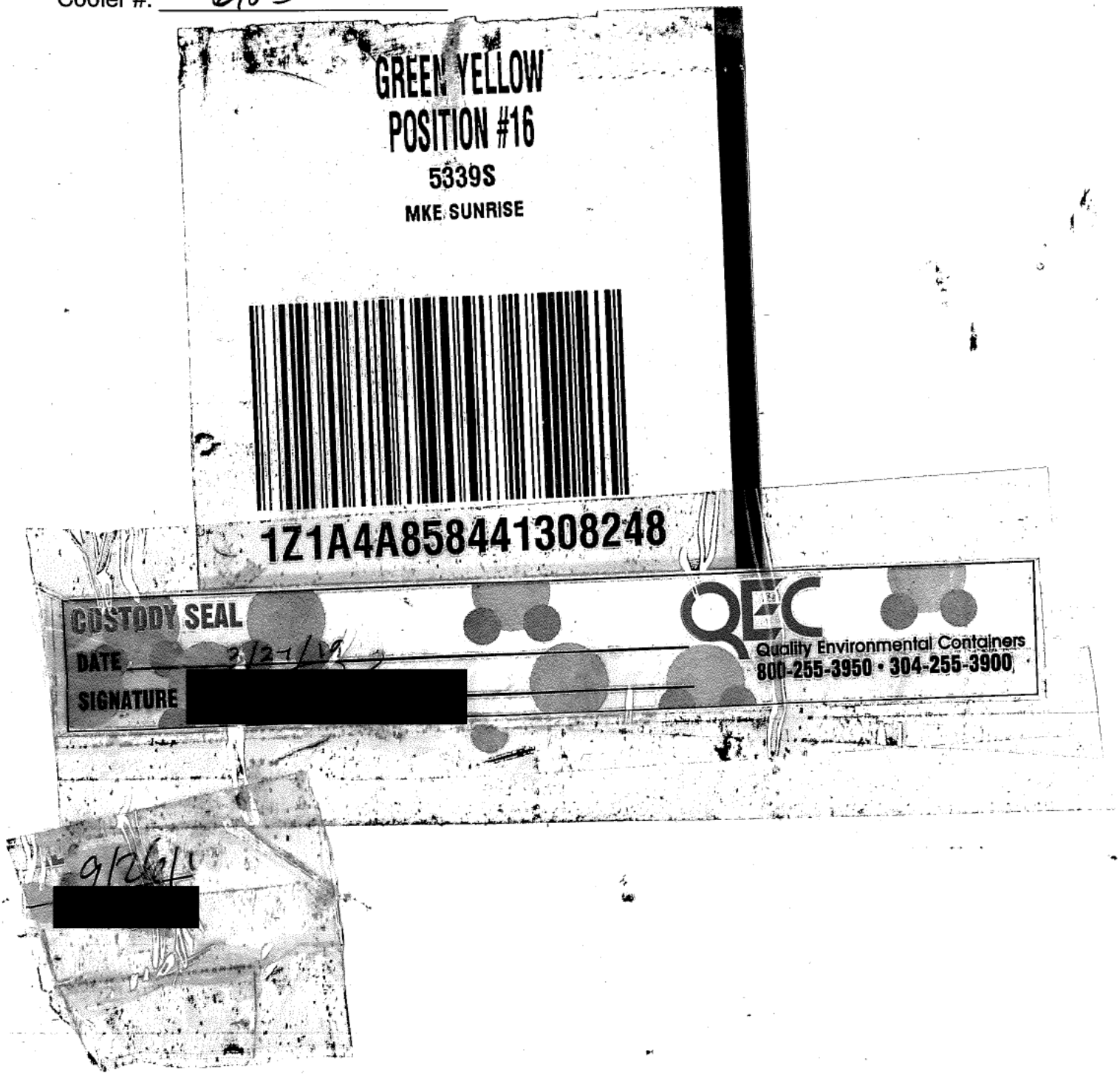
Temperature 2.8

IR Gun # 23

Initial [redacted]

Date 3/28/19 Time 3:30

Cooler #: 6183



**Folder #: 143856**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144483

**Project Manager:** [redacted] **Date Received:** 03/28/19 **Log Date:** 03/28/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 4.1 oC

**SAMPLE #: 257642 DESCR: DU1B-SU16** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/27/2019 Time: 1540**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 257643 DESCR: DU1A-SU16** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/27/2019 Time: 1540**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257643 **DESCR:** DU1A-SU16 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1540

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 257644 **DESCR:** DU1B-SU26 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1401

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257645 **DESCR:** DU1A-SU20 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1510

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257646 **DESCR:** DU1B-SU20 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1511

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257646 **DESCR:** DU1B-SU20 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1511

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257647 **DESCR:** DU1A-SU44R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 0925

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257648 **DESCR:** DU1B-SU44R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 0926

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257649 **DESCR:** DU1A-SU44R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1010

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257649 **DESCR:** DU1A-SU44R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1010

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257650 **DESCR:** DU1B-SU44R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1011

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257651 **DESCR:** DU1A-SU44R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1105

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257652 **DESCR:** DU1B-SU44R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1106

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257652 **DESCR:** DU1B-SU44R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1106

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257653 **DESCR:** DU1A-SU48 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1225

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257654 **DESCR:** DU1B-SU48 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1226

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257655 **DESCR:** DU1A-SU26 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1400

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257655 **DESCR:** DU1A-SU26 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1400

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257656 **DESCR:** DU1A-SU30S1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257657 **DESCR:** DU1B-SU30S1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257658 **DESCR:** DU1A-SU30S2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1055

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257659 **DESCR:** DU1B-SU30S2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1055

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257660 **DESCR:** DU1A-SU30S3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143856 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 257661 **DESCR:** DU1B-SU30S3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257662 **DESCR:** DU2A-SU18 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1415

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 257663 **DESCR:** DU2B-SU18 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/27/2019 **Time:** 1415

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/10/2019 | 04/09/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/09/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/23/2019 | 04/09/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** **143856** **Company:** ***ERT*** **Project:** **CURTIS BAY ORDNANCE DEPOT**

**Invoice Number:** 144483 **Preliminary Invoice Estimate:** $ 1,408.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 22 | $ 40.00 | 0.00 | $ 880.00 |
| ICP QSM 5.0 Arsenic | SOIL | 22 | $ 12.00 | 0.00 | $ 264.00 |
| ICP QSM 5.0 Manganese | SOIL | 22 | $ 12.00 | 0.00 | $ 264.00 |
| SOLIDS,PERCENT | SOIL | 22 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **66** | SOIL PREP/MIX |
| **SOLIDS** | **66** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143856
Client: ERT

Print Date / Time: 03/28/2019 17:06
Received Date / Time / By: 03/28/2019 15:30 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/28/2019 17:01 JLS
Project #: PM: [redacted]

Coolers: 6183,5488,XXXX
Custody Seals Present : **Y**

Temperature: <4.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 1Z1A4A858442900079, "528651,"30824
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER - ALL WERE DATED 3/27/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257642** DU1B-SU16 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 3** | | |
| **257642** DU1B-SU16 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 3** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257643** DU1A-SU16 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 3** | | |
| **257643** DU1A-SU16 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 3** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257644** DU1B-SU26 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 3** | | |
| **257644** DU1B-SU26 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

| | | | | |
|---|---|---|---|---|
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257645** DU1A-SU20 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257645** DU1A-SU20 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257646** DU1B-SU20 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257646** DU1B-SU20 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257647** DU1A-SU44R1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257647** DU1A-SU44R1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257648** DU1B-SU44R1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257648** DU1B-SU44R1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257649** DU1A-SU44R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257649** DU1A-SU44R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257650** DU1B-SU44R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257650** DU1B-SU44R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257651** DU1A-SU44R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257651** DU1A-SU44R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257652** DU1B-SU44R3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257652** DU1B-SU44R3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257653** DU1A-SU48

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257653** DU1A-SU48

| | | | | |
|---|---|---|---|---|
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257654** DU1B-SU48 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257654** DU1B-SU48 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257655** DU1A-SU26 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257655** DU1A-SU26 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257656** DU1A-SU30S1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257656** DU1A-SU30S1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257657** DU1B-SU30S1 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **3** | |
| **257657** DU1B-SU30S1 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **3** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257658** DU1A-SU30S2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257658** DU1A-SU30S2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257659** DU1B-SU30S2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257659** DU1B-SU30S2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257660** DU1A-SU30S3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257660** DU1A-SU30S3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257661** DU1B-SU30S3

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

**257661** DU1B-SU30S3

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 3**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**257662** DU2A-SU18

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 3**

| | | | | | |
|---|---|---|---|---|---|
| **257662** | DU2A-SU18 | | | | |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 3** | | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **257663** DU2B-SU18 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 3** | | |
| **257663** DU2B-SU18 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 3** | | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

Folder #: 143900
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: MSR PM: BM

143900

230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

gram:
RCRA SDWA NPDES
d Waste Other _____

PO#

Report To
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:*
EMAIL: [redacted]
Company: ERT
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 3/28/19 | 0935 | S | C | | DU2A - SU10 | N | 1 | 1 | X | 258269 |
| 3/28/19 | 0935 | S | C | | DU2B - SU10 | N | 1 | 1 | X | 258271 |
| 3/28/19 | 1105 | S | C | | DU2A - SU05 | N | 1 | 1 | | 258272 |
| 3/28/19 | 1105 | S | C | | DU2B - SU05 | N | 1 | 1 | | 258273 |
| 3/28/19 | 1310 | S | C | | DU2A - SU04 | N | 1 | 1 | | 258274 |
| 3/28/19 | 1310 | S | C | | DU2B - SU04 | N | 1 | 1 | | 258275 |
| 3/28/19 | 1515 | S | C | | DU2A - SU03 | N | 1 | 1 | | 258276 |
| 3/28/19 | 1515 | S | C | | DU2B - SU03 | N | 1 | 1 | | 258277 |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By: [redacted]
Date/Time: 03/28/19 1700
Received By: [redacted]
Date/Time: 3-29-19 1428

Received By:
Date/Time
Received for Laboratory by: [redacted]
Date/Time: 3-29-19 1431

Lab Use Only
Ice Present (Yes) No
Temp 1.2 IR Gun 24
Cooler # 3621

Page 2794

# CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.



**1. ORDERS AND RECEIPT OF SAMPLES** (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified.
(b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.
1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.
1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.
1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.
1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.
1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).
1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

**2. PAYMENT TERMS**

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

**3. CHANGE ORDERS, TERMINATION**

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.
3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.
3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

**4. WARRANTIES AND LIABILITY**

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.
4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.
4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.
4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.
4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.
4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.
4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

**5. RESULTS, WORK PRODUCT**

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.
5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.
5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.
5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

**6. INSURANCE**

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

**7. AUDIT**

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

# Cooler Receipt Form

Ice Present (YES) NO

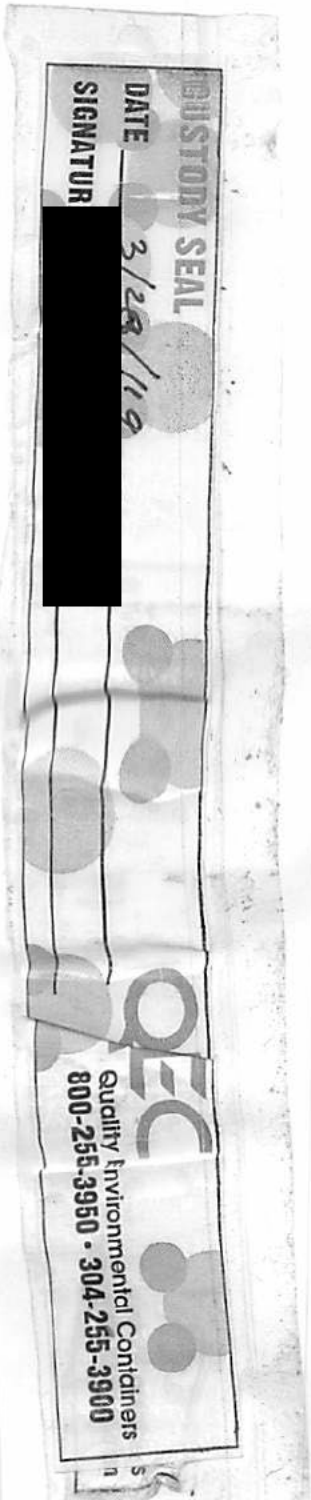
Temperature 1.2

IR Gun # 24

Initials [redacted]

Date 3-29-19 Time 1425

Cooler #: 3621






**Folder #: 143900**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144527

**Project Manager:** [redacted] **Date Received:** 03/29/19 **Log Date:** 03/29/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 1.2 oC

**SAMPLE #: 258269 DESCR: DU2A-SU10** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/28/2019 Time: 0935**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 258271 DESCR: DU2B-SU10** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/28/2019 Time: 0935**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143900 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 258271 **DESCR:** DU2B-SU10 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 0935

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 258272 **DESCR:** DU2A-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1105

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 258273 **DESCR:** DU2B-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1105

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 258274 **DESCR:** DU2A-SU04 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1310

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/10/2019 | | NeedPrep |

**Folder #:** 143900 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 258274 **DESCR:** DU2A-SU04 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1310

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 258275 **DESCR:** DU2B-SU04 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1310

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 258276 **DESCR:** DU2A-SU03 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/10/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 258277 **DESCR:** DU2B-SU03 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/10/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/10/2019 | | Logged |

**Folder #:** 143900 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 258277 **DESCR:** DU2B-SU03 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/10/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144527 **Preliminary Invoice Estimate:** $ 592.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 8 | $ 50.00 | 0.00 | $ 400.00 |
| ICP QSM 5.0 Arsenic | SOIL | 8 | $ 12.00 | 0.00 | $ 96.00 |
| ICP QSM 5.0 Manganese | SOIL | 8 | $ 12.00 | 0.00 | $ 96.00 |
| SOLIDS,PERCENT | SOIL | 8 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **16** | SOIL PREP/MIX |
| **SOLIDS** | **16** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143900
Client: ERT

Print Date / Time: 03/29/2019 14:34
Received Date / Time / By: 03/29/2019 14:25 MSR

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 03/29/2019 14:31 MSR
Project #:
PM: [redacted]

Coolers: 3621
Custody Seals Present : **Y**

Temperature: 1.2 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS NEXT DAY AIR
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 1Z1A4A8540179087
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT UPON RECEIPT - DATED 3/28/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **258269** DU2A-SU10 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **258269** DU2A-SU10 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **258271** DU2B-SU10 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **258271** DU2B-SU10 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **258272** DU2A-SU05 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **258272** DU2A-SU05 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**258273** DU2B-SU05

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**258273** DU2B-SU05

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**258274** DU2A-SU04

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**258274** DU2A-SU04

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**258275** DU2B-SU04

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**258275** DU2B-SU04

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**258276** DU2A-SU03

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**258276** DU2A-SU03

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**258277** DU2B-SU03

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**258277** DU2B-SU03

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

[redacted]

**From:** [redacted] <[redacted]ertcorp.com>
**Sent:** 03/12/2019 11:35
**To:** [redacted]
**Subject:** Fwd: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
**Attachments:** MFR Response to ERT Email for Use of Puck Mill-Curtis Bay RI-FS for Mn_1....docx

FYI - we are good to go with the puck mill see the attached and email below.

---------- Forwarded message ---------
From: [redacted] **CIV USARMY CENAB (US)** <[redacted]usace.army.mil>
Date: Tue, Mar 12, 2019 at 12:26 PM
Subject: RE: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
To: [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>

CLASSIFICATION: UNCLASSIFIED

From the chemist, [redacted]

"Based on the Method Blank and LCS QC data provided and justification for switching from use of a Teflon-Coated Ball Mill to using a Puck Mill to process the Curtis Bay RI/FS ISM Soil Samples, I find the request for the change to the sample prep to be acceptable. I have a more detailed response in the form of an MFR which I have attached as a file to this email response."

[redacted] PMP
Project Manager
USACE Baltimore District
[redacted]
Attn: CENAB-ENE-M, Room 09-F-08
Baltimore, MD 21201
W: [redacted]

-----Original Message-----
From: [redacted] [mailto:[redacted]ertcorp.com]
Sent: Monday, March 11, 2019 4:26 PM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>

Subject: [Non-DoD Source] Sample preparation for the Curtis Bay Depot

All,

ERT has contracted CT Laboratories, LLC (CT) to perform the sample preparation and analysis required for the Curtis Bay Ordnance Depot arsenic and manganese RI. After reviewing the Final UFP-QAPP, CT is concerned with processing the sample mass that will be submitted for each of the ISM soil samples collected (approximately 5-10 kg) using the Teflon-coated ball mill specified in the UFP-QAPP. CT indicates that they can process three 1-2 kg masses of soil at a time using the Teflon-coated ball mill. Each of these grind processes will take from 20-30 minutes for clay, and up to one week for sand. Soil samples collected for the RI are expected to be a mixture of sands and clays. Given the large number of soil samples that will be submitted (220+ [surface, subsurface, and QC replicates]) and the need to divide the samples into 5-10 processing masses, the sample processing using the Teflon-coated ball mill is impracticable.

In order to process the soil samples collected at the Curtis Bay Ordnance Depot, ERT and CT propose use of the puck mill for sample grinding. The puck mill is expected to grind the soil samples to the required specification in one minute or less. Use of the puck mill for soil sample grinding will allow the laboratory to process and analyze the submitted soil samples so that the project schedule is not impacted.

To validate use of the puck mill grinding method, CT performed a puck mill grind test on method blank sand materials, both as a blank and arsenic and manganese spiked laboratory control samples and analyzed all for arsenic and manganese using USEPA Method SW846 6010C with the following results:

Puck Mill Grind Test for Analytical Method SW846 6010C (one minute grind time)

Replicate

Method Blank (mg/kg)

Laboratory Control Sample

Percent Recovery

Arsenic

Manganese

Arsenic QC Limit (82-118)

Manganese QC Limit (85-116)

1

0.425

4.375

98

103

2

0.435

4.525

92

96

3

<LOD

2.9

95

97.5

4

0.156

3.15

94.5

96

5

<LOD

2.8

93

98

6

<LOD

3.175

87

91

7

<LOD

2.725

87

96

8

0.0575

2.975

82.5

80

9

<LOD

3.1

91.5

94

10

<LOD

3.1

92.5

97

The concern with use of the puck mill with soil sample submitted for analysis of manganese is adding a high bias to the sample results due to the metals makeup of the puck mill. Although low levels of manganese are detected in the method blank sample, these low levels are not expected to affect project decisions due to the magnitude of the lowest screening level (300 mg/kg, USEPA BTAG) as compared to the detected concentration in the method blank. Also note that all but one LCS recovery was within the DoD QSM QC limit.

The concern with use of the puck mill with soil sample submitted for analysis of arsenic is adding a low bias to the sample results due to volatilization of arsenic during the grinding process. Based on the LCS recoveries (all recoveries were within the DoD QSM QC limit) for arsenic, use of the puck mill for a one-minute grind cycle is not expected to adversely affect the concentrations measured in site soil samples.

Please let me know if sample preparation using the puck mill will be acceptable.

Thank you,

--

[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

CLASSIFICATION: UNCLASSIFIED

--
[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

This email was scanned by Bitdefender

12 March 2019

Memorandum for Record

Subject: Response to Email Message, sent 11 March 2019 from ERT on Sample Preparation on the Curtis Bay Depot RI/FS Project for Mn and As to change from processing of ISM Soil Samples from using a Teflon-Coated Ball Mill to a Puck Mill

Your request to use the puck mill for soil sample grinding in order to more efficiently process the large volume and quantities of soil samples consisting of a clay and sand mix is acceptable based on the method QC data provide for the 10 replicate method blanks and the LCS samples processed using the puck mill and analyzed for arsenic and manganese.

Based on an evaluation of the listed Measurement Performance Criteria (MPC) for the two metals in QAPP Worksheet #12, the method blank result for manganese needs to be < 1/10 the regulatory limit (or < 1/10$^{th}$ the amount measure in any sample [whichever is greater] per the DoD QSM). Between the writing of the Draft QAPP and then the Final version of the QAPP, two additional regulatory criteria were added to Worksheet #15: the USEPA Residential and the USEPA BTAG, with the BTAG regulatory value for Mn being the lowest at 330 mg/kg. A tenth of that value is 33 mg/kg, therefore any Method Blank analysis needs to be < 33 mg/kg for Mn. The Method Blank results presented for Mn range from 2.8 to 4.5 mg/kg which is a factor of 7x below 1/10$^{th}$ the Regulatory Limit. Also 9 of the 10 LCS samples spiked for Mn were within acceptable percent recovery limits with the one falling outside the QC limit at 80% which was slightly below the 85% Lower Limit.

For the Arsenic analysis, using the puck mill with a limit of a one-minute grind cycle is acceptable to prevent the puck mill from getting too hot. If another grinding cycle will be done, several minutes should be allowed for the puck mill to cool down. The puck mill should not contain arsenic as part of its elemental makeup, so that shouldn't be a contributing factor in the method blank analysis. The lowest regulatory action level listed for Arsenic in QAPP Worksheet #15 is 0.68 mg/kg, the EPA Residential value. Based on the reported method blank results, the values for arsenic are below the EPA Residential Action Limit or are non-detect.

[redacted]
Chemist
USACE, Baltimore District

CT LABORATORIES

*delivering more than data from your environmental analyses*

***ANALYTICAL RESULTS FOR:***

[redacted]
**ERT INC.**
[redacted]
**SUITE 300**
**LAUREL, MD 20707**

| | |
|---|---|
| PROJECT SITE: | Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD |
| DOD CONTRACT #: | [redacted] DO [redacted] |
| PROJECT #: | 3756 |
| SDG: | **143965** |
| FOLDERS: | 143965, 144004, & 144017 |
| PREPARED: | May 8, 2019 |
| TOTAL # OF PAGES: | 1504 |

*The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.*

**APPROVED BY:** [redacted] PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents


| Section | Page |
|---|---|
| Cover Page | 1 |
| Table of Contents | 2 |
| Case Narrative and Summary of Detects (if applicable) | 3 |
| Data Qualifier Sheet | 6 |
| Sample Delivery Group Summary | 8 |
| QC Batch Cross Reference | 11 |
| Metals CLP Forms Documents | 18 |
| Metals Raw Data Documents | 329 |
| Metals Logbook Documents | 934 |
| Inorganic CLP Forms Documents | 1260 |
| Inorganic Raw Data Documents | 1337 |
| Inorganic Logbook Documents | 1414 |
| Chain of Custody, PM Confirmation and Sample Condition Forms | 1438 |

CT LABORATORIES

delivering more than data from your environmental analyses

## *Case Narrative*

**Client:** ERT, Inc.
**Project:** Former Curtis Bay Ordnance Depot – Arsenic & Manganese RI/FS; Anne Arundel County, MD
**Sample Receipt Dates:** 04/02/2019, 04/03/2019, & 04/04/2019
**SDG #:** 143965 (Folders 143965, 144004, & 144017)

Seventy-two ISM samples were received and analyzed for Arsenic and Manganese. Prior to analysis, the ISM samples were dried, sieved, and ground following the homogenization procedure outlined by the client. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale". The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

**Sample Analysis and Quality Control**

***Metals Analysis:***

The samples were analyzed using US EPA Method 6010C (ICP Metals). Any samples that had an Arsenic result less than the LOQ on the ICP (6010C) analysis were re-logged for GFAA (7010) Arsenic analysis in order to meet the RSL. Per the client's request, both the GFAA and the ICP Arsenic results were reported when both procedures were performed. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

**ICP Arsenic & Manganese (6010C) Soil Analysis**

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 159931

Manganese was detected in the Method Blank (MB) above the Method Detection Limit (MDL) and greater than ½ the Reporting Limit (RL). The samples were reported and not qualified because the MB result was less than 1/10$^{th}$ of the sample results.

The Duplicate (DUP) for sample # 259433 was not acceptable for arsenic and manganese because the results exceeded the Relative Percent Difference (RPD) limit. The parent sample was reported and qualified with a "Y" flag for the failing elements.

The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for sample # 259433 had outside recoveries for manganese. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP and Triplicate (TRIP) for sample # 259434 were not acceptable for manganese because the results exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The MS and MSD for sample # 259434 had outside recoveries for manganese. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP and TRIP for sample # 259465 were not applicable for arsenic because the parent sample result was less than five times the Limit of Quantitation (LOQ). The parent sample was reported and not qualified.

Analytical Run # 160109

The Laboratory Control Sample (LCS) was reanalyzed for manganese and was acceptable.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The affected samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

The DUP and TRIP for sample # 260924 were not applicable for arsenic because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The DUP and TRIP for sample # 260925 were not applicable for arsenic because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The TRIP for sample # 260925 was not acceptable for manganese because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

Analytical Run # 160126

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The affected samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

The TRIP for sample # 259469 was not acceptable for arsenic because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

The TRIP for sample # 259470 was not acceptable for arsenic because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

Analytical Run # 160127

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The samples were reported and not qualified because the MB arsenic result was less than 1/10$^{th}$ of the results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The affected samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

**GFAA Arsenic (7010) Soil Analysis**

Analytical Run # 160412

Arsenic was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and qualified with a "B" flag when the MB result was greater than 1/10$^{th}$ of the sample results.

The DUP and TRIP for sample # 259436 were not applicable for arsenic because the parent sample result was less than five times the LOQ. The parent sample was reported and not qualified.

The samples were diluted for analysis to reduce the background signal to less than 1.0. The samples were reported and qualified with a "V" flag when the final results were less than the adjusted RL.

CT LABORATORIES

delivering more than data from your environmental analyses

## Data Qualifiers

| Code | Description |
|---|---|
| A | Analyte averaged calibration criteria within acceptable limits. |
| B | Analyte detected in associated Method Blank. |
| C | Toxicity present in BOD sample. |
| D | Diluted Out. |
| E | Safe, No Total Coliform detected. |
| F | Unsafe, Total Coliform detected, no E. Coli detected. |
| G | Unsafe, Total Coliform detected and E. Coli detected. |
| H | Holding time exceeded. |
| J | Estimated value. |
| L | Significant peaks were detected outside the chromatographic window. |
| M | Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits. |
| N | Insufficient BOD oxygen depletion. |
| O | Complete BOD oxygen depletion. |
| P | Concentration of analyte differs more than 40% between primary and confirmation analysis. |
| Q | Laboratory Control Sample outside acceptance limits. |
| R | See Narrative at end of report. |
| S | Surrogate standard recovery outside acceptance limits due to apparent matrix effects. |
| T | Sample received with improper preservation or temperature. |
| U | Analyte concentration was not above the detection level. |
| V | Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference. |
| W | Sample amount received was below program minimum. |
| X | Analyte exceeded calibration range. |
| Y | Replicate/Duplicate precision outside acceptance limits. |
| Z | Calibration criteria exceeded. |

CT LABORATORIES

delivering more than data from your environmental analyses

## MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

**#1**: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

**#2**: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

**#3: Improperly Integrated Isomers and/or coeluting compounds.**
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

**#4: System Established Incorrect Baseline.**
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

**#5: Miscellaneous.**
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143965

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 1 | 259433 | 143965 | | DU1A-SU13 | SOIL | 03/28/2019 | 04/02/2019 |
| 2 | 259434 | 143965 | | DU1B-SU13 | SOIL | 03/28/2019 | 04/02/2019 |
| 3 | 259435 | 143965 | | DU1A-SU14 | SOIL | 03/28/2019 | 04/02/2019 |
| 4 | 259436 | 143965 | | DU1B-SU14 | SOIL | 03/28/2019 | 04/02/2019 |
| 5 | 259437 | 143965 | | DU1A-SU19 | SOIL | 03/28/2019 | 04/02/2019 |
| 6 | 259459 | 143965 | | DU1B-SU19 | SOIL | 03/28/2019 | 04/02/2019 |
| 7 | 259460 | 143965 | | DU1A-SU12 | SOIL | 03/28/2019 | 04/02/2019 |
| 8 | 259462 | 143965 | | DU1B-SU12 | SOIL | 03/28/2019 | 04/02/2019 |
| 9 | 259463 | 143965 | | DU1A-SU36R1 | SOIL | 03/29/2019 | 04/02/2019 |
| 10 | 259464 | 143965 | | DU1B-SU36R1 | SOIL | 03/29/2019 | 04/02/2019 |
| 11 | 259465 | 143965 | | DU1A-SU36R2 | SOIL | 03/29/2019 | 04/02/2019 |
| 12 | 259466 | 143965 | | DU1B-SU36R2 | SOIL | 03/29/2019 | 04/02/2019 |
| 13 | 259467 | 143965 | | DU1A-SU36R3 | SOIL | 03/29/2019 | 04/02/2019 |
| 14 | 259468 | 143965 | | DU1B-SU36R3 | SOIL | 03/29/2019 | 04/02/2019 |
| 15 | 259469 | 143965 | | DU1A-SU34 | SOIL | 03/29/2019 | 04/02/2019 |
| 16 | 259470 | 143965 | | DU1B-SU34 | SOIL | 03/29/2019 | 04/02/2019 |
| 17 | 259471 | 143965 | | DU1A-SU10R1 | SOIL | 03/29/2019 | 04/02/2019 |
| 18 | 259472 | 143965 | | DU1B-SU10R1 | SOIL | 03/29/2019 | 04/02/2019 |
| 19 | 259473 | 143965 | | DU2A-SU09 | SOIL | 04/01/2019 | 04/02/2019 |
| 20 | 259474 | 143965 | | DU2B-SU09 | SOIL | 04/01/2019 | 04/02/2019 |
| 21 | 259475 | 143965 | | DU2A-SU08 | SOIL | 04/01/2019 | 04/02/2019 |
| 22 | 259477 | 143965 | | DU2B-SU08 | SOIL | 04/01/2019 | 04/02/2019 |
| 23 | 259478 | 143965 | | DU1A-SU21 | SOIL | 04/01/2019 | 04/02/2019 |
| 24 | 259479 | 143965 | | DU1B-SU21 | SOIL | 04/01/2019 | 04/02/2019 |
| 25 | 259480 | 143965 | | DU2A-SU16 | SOIL | 04/01/2019 | 04/02/2019 |
| 26 | 259481 | 143965 | | DU2B-SU16 | SOIL | 04/01/2019 | 04/02/2019 |
| 27 | 259482 | 143965 | | DU2A-SU15 | SOIL | 03/29/2019 | 04/02/2019 |
| 28 | 259483 | 143965 | | DU2B-SU15 | SOIL | 03/29/2019 | 04/02/2019 |
| 29 | 259484 | 143965 | | DU2A-SU01 | SOIL | 03/29/2019 | 04/02/2019 |
| 30 | 259485 | 143965 | | DU2B-SU01 | SOIL | 03/29/2019 | 04/02/2019 |
| 31 | 259487 | 143965 | | DU2A-SU17 | SOIL | 03/29/2019 | 04/02/2019 |
| 32 | 259492 | 143965 | | DU2B-SU17 | SOIL | 03/29/2019 | 04/02/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143965

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 33 | 259493 | 143965 | | DU1A-SU10R2 | SOIL | 03/29/2019 | 04/02/2019 |
| 34 | 259494 | 143965 | | DU1B-SU10R2 | SOIL | 03/29/2019 | 04/02/2019 |
| 35 | 259495 | 143965 | | DU1A-SU10R3 | SOIL | 03/29/2019 | 04/02/2019 |
| 36 | 259496 | 143965 | | DU1B-SU10R3 | SOIL | 03/29/2019 | 04/02/2019 |
| 37 | 259497 | 143965 | | DU1A-SU39 | SOIL | 04/01/2019 | 04/02/2019 |
| 38 | 259498 | 143965 | | DU1B-SU39 | SOIL | 04/01/2019 | 04/02/2019 |
| 39 | 259499 | 143965 | | DU1A-SU23 | SOIL | 04/01/2019 | 04/02/2019 |
| 40 | 259500 | 143965 | | DU1B-SU23 | SOIL | 04/01/2019 | 04/02/2019 |
| 41 | 259501 | 143965 | | DU1A-SU29 | SOIL | 04/01/2019 | 04/02/2019 |
| 42 | 259502 | 143965 | | DU1B-SU29 | SOIL | 04/01/2019 | 04/02/2019 |
| 43 | 259503 | 143965 | | DU1A-SU52 | SOIL | 04/01/2019 | 04/02/2019 |
| 44 | 259504 | 143965 | | DU1B-SU52 | SOIL | 04/01/2019 | 04/02/2019 |
| 45 | 259505 | 143965 | | DU2A-SU06 | SOIL | 04/01/2019 | 04/02/2019 |
| 46 | 259506 | 143965 | | DU2B-SU06 | SOIL | 04/01/2019 | 04/02/2019 |
| 47 | 260386 | 144004 | | DU2A-SU14 | SOIL | 04/02/2019 | 04/03/2019 |
| 48 | 260459 | 144004 | | DU2B-SU14 | SOIL | 04/02/2019 | 04/03/2019 |
| 49 | 260460 | 144004 | | DU2A-SU13 | SOIL | 04/02/2019 | 04/03/2019 |
| 50 | 260461 | 144004 | | DU2B-SU13 | SOIL | 04/02/2019 | 04/03/2019 |
| 51 | 260462 | 144004 | | DU2A-SU12 | SOIL | 04/02/2019 | 04/03/2019 |
| 52 | 260463 | 144004 | | DU2B-SU12 | SOIL | 04/02/2019 | 04/03/2019 |
| 53 | 260464 | 144004 | | DU2A-SU11 | SOIL | 04/02/2019 | 04/03/2019 |
| 54 | 260465 | 144004 | | DU2B-SU11 | SOIL | 04/02/2019 | 04/03/2019 |
| 55 | 260466 | 144004 | | DU4A-SU06 | SOIL | 04/02/2019 | 04/03/2019 |
| 56 | 260467 | 144004 | | DU4B-SU06 | SOIL | 04/02/2019 | 04/03/2019 |
| 57 | 260468 | 144004 | | DU4A-SU07R1 | SOIL | 04/02/2019 | 04/03/2019 |
| 58 | 260469 | 144004 | | DU4B-SU07R1 | SOIL | 04/02/2019 | 04/03/2019 |
| 59 | 260470 | 144004 | | DU4A-SU07R2 | SOIL | 04/02/2019 | 04/03/2019 |
| 60 | 260471 | 144004 | | DU4B-SU07R2 | SOIL | 04/02/2019 | 04/03/2019 |
| 61 | 260472 | 144004 | | DU4A-SU07R3 | SOIL | 04/02/2019 | 04/03/2019 |
| 62 | 260473 | 144004 | | DU4B-SU07R3 | SOIL | 04/02/2019 | 04/03/2019 |
| 63 | 260474 | 144004 | | DU4A-SU05 | SOIL | 04/02/2019 | 04/03/2019 |
| 64 | 260475 | 144004 | | DU4B-SU05 | SOIL | 04/02/2019 | 04/03/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# Sample Delivery Group

## 143965

ERT
[redacted]
SUITE 300
LAUREL, MD 20707

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756

| | CT Sample # | Folder # | Client Sample # | Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|---|---|---|
| 65 | 260924 | 144017 | | DU4A-SU04 | SOIL | 04/03/2019 | 04/04/2019 |
| 66 | 260925 | 144017 | | DU4B-SU04 | SOIL | 04/03/2019 | 04/04/2019 |
| 67 | 260926 | 144017 | | DU4A-SU03 | SOIL | 04/03/2019 | 04/04/2019 |
| 68 | 260927 | 144017 | | DU4B-SU03 | SOIL | 04/03/2019 | 04/04/2019 |
| 69 | 260928 | 144017 | | DU4A-SU02 | SOIL | 04/03/2019 | 04/04/2019 |
| 70 | 260929 | 144017 | | DU4B-SU02 | SOIL | 04/03/2019 | 04/04/2019 |
| 71 | 260930 | 144017 | | DU4A-SU01 | SOIL | 04/03/2019 | 04/04/2019 |
| 72 | 260931 | 144017 | | DU4B-SU01 | SOIL | 04/03/2019 | 04/04/2019 |

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

# QC Batch Cross Reference Summary



ERT
[redacted]
SUITE 300
LAUREL, MD 20707

| | |
|---|---|
| Project Name: | CURTIS BAY ORDNANCE DEPOT |
| Project #: | 3756 |
| Report Date: | 05/08/2019 |
| Date Received: | 04/02/2019 |
| SDG #: | 143965 |

## *Inorganic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259433 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259434 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259435 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259436 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259437 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259459 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259460 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259462 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259463 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259464 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259465 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259466 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259467 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259468 | Solids, Percent | EPA 8000C | SOIL | | 159772 |
| 259469 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259470 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259471 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259472 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259473 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259474 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259475 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259477 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259478 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259479 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259480 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259481 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259482 | Solids, Percent | EPA 8000C | SOIL | | 160063 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143965

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259483 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259484 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259485 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259487 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259492 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259493 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259494 | Solids, Percent | EPA 8000C | SOIL | | 160063 |
| 259495 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259496 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259497 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259498 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259499 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259500 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259501 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259502 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259503 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259504 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259505 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 259506 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260386 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260459 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260460 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260461 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260462 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260463 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260464 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260465 | Solids, Percent | EPA 8000C | SOIL | | 160064 |
| 260466 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260467 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260468 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260469 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260470 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260471 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260472 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260473 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260474 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260475 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260924 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260925 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260926 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260927 | Solids, Percent | EPA 8000C | SOIL | | 160065 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143965

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 260928 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260929 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260930 | Solids, Percent | EPA 8000C | SOIL | | 160065 |
| 260931 | Solids, Percent | EPA 8000C | SOIL | | 160065 |

## *Metal Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259436 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |
| 260475 | Arsenic QSM | EPA 7010 | SOIL | 71761 | 160412 |

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259433 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259434 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259435 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259436 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259437 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259459 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259460 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259462 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259463 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259464 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259465 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259466 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259467 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259468 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259469 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259470 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259471 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259472 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259473 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259474 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259475 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259477 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259478 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259479 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259480 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259481 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259482 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259483 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143965

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259484 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259485 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259487 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259492 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259493 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259494 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71586 | 160126 |
| 259495 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259496 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259497 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259498 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259499 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259500 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259501 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259502 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259503 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259504 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259505 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259506 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260386 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260459 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260460 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260461 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260462 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260463 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260464 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260465 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260466 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260467 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260468 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260469 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260470 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260471 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260472 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260473 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260474 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260475 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260924 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260925 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260926 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260927 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260928 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143965

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 260929 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260930 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 260931 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71590 | 160109 |
| 259433 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259460 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259462 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71473 | 159931 |
| 259499 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 259500 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260462 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |
| 260464 | ICP Metals QSM 5.0 | EPA 6010C | SOIL | 71588 | 160127 |

## *Organic Parameters*

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259433 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259434 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259435 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259436 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259437 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259459 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259460 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259462 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259463 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259464 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259465 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259466 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259467 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259468 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259469 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259470 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259471 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259472 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259473 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259474 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160354 |
| 259475 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259477 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259478 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259479 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259480 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143965

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 259481 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259482 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259483 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259484 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259485 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259487 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259492 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259493 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259494 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259495 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259496 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259497 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259498 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259499 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259500 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160355 |
| 259501 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160356 |
| 259502 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160356 |
| 259503 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160356 |
| 259504 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160356 |
| 259505 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160356 |
| 259506 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160356 |
| 260386 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260459 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260460 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260461 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260462 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260463 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260464 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260465 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260466 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260467 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260468 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260469 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260470 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260471 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260472 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260473 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260474 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260475 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160399 |
| 260924 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |
| 260925 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: CURTIS BAY ORDNANCE DEPOT
Project #: 3756
SDG #: 143965

| CTI LAB#: | Parameter | Method | Matrix | Prep Batch # | Analytical Run # |
|---|---|---|---|---|---|
| 260926 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |
| 260927 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |
| 260928 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |
| 260929 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |
| 260930 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |
| 260931 | Homogenization/Multi Incremental P | LAB SOP | SOIL | | 160404 |

# METALS
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

**DU1A-SU10R1**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259471 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:02 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.4 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 563 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU1A-SU10R2**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259493 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:46 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.4 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 459 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259495 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 18:23 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 11.0 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 672 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 259460 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 30.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/26/2019 01:26 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 27700 | | 0.78 | 2.3 | 4.7 | 4.7 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 259460 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:35 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 11.5 | | 0.14 | 0.42 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259433 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/25/2019 13:07 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 10700 | Y | 0.26 | 0.79 | 1.6 | 1.6 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU1A-SU13**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259433 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 18:29 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 18.2 | Y | 0.14 | 0.42 | 0.85 | 0.85 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 259435 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 19:58 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.9 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1140 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU19**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259437 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:24 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 39.6 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 432 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU21**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259478 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:35 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.1 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 746 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU23**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259499 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 19:44 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 37.2 | | 0.13 | 0.41 | 0.83 | 0.83 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU23**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259499 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/26/2019 20:12 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 10300 | | 0.26 | 0.77 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU29**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.4 | Lab Sample ID: | 259501 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 19:55 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.1 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 781 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259469 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 14:16 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 18.9 | Y | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 630 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU36R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259463 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:46 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.9 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 508 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU36R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 259465 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:57 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.1 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 418 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU36R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259467 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 21:35 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.5 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 460 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU39**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259497 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 19:33 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.0 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 637 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU52**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.0 | Lab Sample ID: | 259503 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:06 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.6 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 107 | B | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU10R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259472 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:08 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.8 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 513 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU10R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259494 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:51 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.1 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 363 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259496 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 18:39 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.7 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 574 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259462 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/25/2019 14:00 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 9660 | | 0.25 | 0.76 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259462 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:41 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.9 | | 0.13 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 259434 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 19:18 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.9 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 2410 | Y | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259436 |
| Analytical Method: | EPA 7010 | Date Received: | 04/02/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 16:54 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.6 | B | 0.20 | 0.39 | 0.78 | 0.78 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259436 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:03 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.47 | J | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 771 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU19**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259459 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:30 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 38.9 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 316 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU21**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259479 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:40 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.6 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 300 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU23**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 259500 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 19:50 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.3 | | 0.14 | 0.42 | 0.84 | 0.84 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU23**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 259500 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/26/2019 20:19 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 4660 | | 0.13 | 0.40 | 0.79 | 0.79 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU29**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259502 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:01 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 18.3 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 406 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259470 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 15:09 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 9.4 | Y | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 324 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU36R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259464 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 20:52 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.9 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 324 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU36R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259466 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 21:14 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.4 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 367 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU36R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259468 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159931 | Analysis Date/Time | 04/23/2019 21:40 |
| Analytical Prep Batch #: | 71473 | Prep. Date/Time: | 04/21/2019 14:36 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.1 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 360 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU39**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259498 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 19:38 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.9 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 571 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU52**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.0 | Lab Sample ID: | 259504 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:12 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.4 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 89.8 | B | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.4 | Lab Sample ID: | 259484 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:24 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.1 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 186 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 259505 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:17 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 92.5 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 1700 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259475 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:24 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 88.0 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1710 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259473 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:13 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 13.5 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 864 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU11**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260464 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/26/2019 20:32 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 5890 | | 0.26 | 0.77 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU11**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260464 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 21:18 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 43.0 | | 0.13 | 0.41 | 0.82 | 0.82 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 260462 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 10.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/26/2019 20:26 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese | 7010 | | 0.24 | 0.73 | 1.5 | 1.5 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 260462 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 21:07 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 21.3 | | 0.13 | 0.39 | 0.78 | 0.78 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.4 | Lab Sample ID: | 260460 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:55 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.6 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 2440 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.0 | Lab Sample ID: | 260386 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:44 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 74.5 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 2100 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259482 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:13 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 29.4 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 1950 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259480 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:46 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.9 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 1530 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259487 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:35 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 23.1 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 1120 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259485 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:30 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.1 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 106 | B | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259506 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:39 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 114 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 926 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259477 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:29 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 44.6 | | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 519 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259474 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 16:19 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.0 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 378 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU11**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 260465 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 21:24 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 12.0 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 894 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 260463 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 21:12 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10.6 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 784 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 260461 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 21:01 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.4 | | 0.13 | 0.41 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 312 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260459 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160127 | Analysis Date/Time | 04/25/2019 20:50 |
| Analytical Prep Batch #: | 71588 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 51.9 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 531 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 259483 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:18 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 11.5 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 1100 | | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 259481 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:07 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.9 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 293 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 259492 |
| Analytical Method: | EPA 6010C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160126 | Analysis Date/Time | 04/25/2019 17:40 |
| Analytical Prep Batch #: | 71586 | Prep. Date/Time: | 04/24/2019 09:05 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 15.8 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 409 | | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 97.8 | Lab Sample ID: | 260930 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/26/2019 00:59 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.2 | | 0.14 | 0.43 | 0.86 | 0.86 |
| 7439-96-5 | Manganese | 334 | | 0.027 | 0.081 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 97.2 | Lab Sample ID: | 260928 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/26/2019 00:48 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.4 | | 0.14 | 0.43 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 328 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 96.9 | Lab Sample ID: | 260926 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/26/2019 00:37 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.5 | | 0.14 | 0.43 | 0.87 | 0.87 |
| 7439-96-5 | Manganese | 260 | | 0.027 | 0.081 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 260924 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 23:06 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.6 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 168 | | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 260474 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:39 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.2 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 180 | | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260466 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 21:56 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.4 | | 0.13 | 0.39 | 0.78 | 0.78 |
| 7439-96-5 | Manganese | 85.9 | B | 0.024 | 0.073 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260468 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:06 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.5 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 104 | B | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 260470 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:17 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.7 | | 0.13 | 0.39 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 111 | B | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 260472 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:28 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.1 | | 0.13 | 0.41 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 123 | B | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260931 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/26/2019 01:20 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 7.2 | | 0.14 | 0.42 | 0.85 | 0.85 |
| 7439-96-5 | Manganese | 308 | | 0.027 | 0.080 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 260929 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/26/2019 00:53 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.8 | | 0.13 | 0.41 | 0.82 | 0.82 |
| 7439-96-5 | Manganese | 225 | | 0.026 | 0.077 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.0 | Lab Sample ID: | 260927 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/26/2019 00:43 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 3.0 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 327 | | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 96.8 | Lab Sample ID: | 260925 |
| Analytical Method: | EPA 6010C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 23:43 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 2.3 | | 0.14 | 0.43 | 0.86 | 0.86 |
| 7439-96-5 | Manganese | 90.1 | B,Y | 0.027 | 0.081 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260475 |
| Analytical Method: | EPA 7010 | Date Received: | 04/03/2019 |
| Dilution Factor: | 5.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160412 | Analysis Date/Time | 05/02/2019 17:12 |
| Analytical Prep Batch #: | 71761 | Prep. Date/Time: | 05/01/2019 12:35 |
| ICAL Calibration #: | 05022019 | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.79 | J V,B | 0.21 | 0.42 | 0.85 | 0.85 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260475 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 23:00 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 0.81 | J | 0.14 | 0.42 | 0.83 | 0.83 |
| 7439-96-5 | Manganese | 218 | | 0.026 | 0.078 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 260467 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:01 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.2 | | 0.13 | 0.40 | 0.81 | 0.81 |
| 7439-96-5 | Manganese | 72.3 | B | 0.025 | 0.076 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.5 | Lab Sample ID: | 260469 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:12 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.6 | | 0.13 | 0.40 | 0.80 | 0.80 |
| 7439-96-5 | Manganese | 76.9 | B | 0.025 | 0.075 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 260471 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:23 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.3 | | 0.13 | 0.40 | 0.79 | 0.79 |
| 7439-96-5 | Manganese | 77.3 | B | 0.025 | 0.074 | 0.15 | 0.15 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 260473 |
| Analytical Method: | EPA 6010C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160109 | Analysis Date/Time | 04/25/2019 22:34 |
| Analytical Prep Batch #: | 71590 | Prep. Date/Time: | 04/24/2019 14:28 |
| ICAL Calibration #: | | Concentration Units: | mg/kg |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.6 | | 0.14 | 0.42 | 0.84 | 0.84 |
| 7439-96-5 | Manganese | 80.3 | B | 0.026 | 0.079 | 0.16 | 0.16 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 276544

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 14:11 | 10.00 | 10.35 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270958

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 16:24 | 60.00 | 67.80 | 113 | 80 | 120 |
| Manganese | 4/23/19 | 16:24 | 30.00 | 32.20 | 107 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271472

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 16:19 | 2000 | 2170 | 108 | 90 | 110 |
| Manganese | 4/23/19 | 16:19 | 500.0 | 518.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271952

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 11:56 | 2000 | 2110 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 11:56 | 500.0 | 511.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271953

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:02 | 60.00 | 69.50 | 116 | 80 | 120 |
| Manganese | 4/25/19 | 12:02 | 30.00 | 33.70 | 112 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271970

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 11:56 | 2000 | 2110 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 11:56 | 500.0 | 511.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271971

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:02 | 60.00 | 69.50 | 116 | 80 | 120 |
| Manganese | 4/25/19 | 12:02 | 30.00 | 33.70 | 112 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 271996

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 11:56 | 2000 | 2110 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 11:56 | 500.0 | 511.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 271997

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:02 | 60.00 | 69.50 | 116 | 80 | 120 |
| Manganese | 4/25/19 | 12:02 | 30.00 | 33.70 | 112 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272019

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 11:56 | 2000 | 2110 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 11:56 | 500.0 | 511.0 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272020

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:02 | 60.00 | 69.50 | 116 | 80 | 120 |
| Manganese | 4/25/19 | 12:02 | 30.00 | 33.70 | 112 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273140

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 16:28 | 2000 | 2010 | 100 | 90 | 110 |
| Manganese | 4/26/19 | 16:28 | 500.0 | 479.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**LLQC**

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273141

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 16:35 | 60.00 | 60.30 | 100 | 80 | 120 |
| Manganese | 4/26/19 | 16:35 | 30.00 | 36.00 | 120 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**ICV**

**2A-1**

***INITIAL CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 273368

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 15:55 | 2000 | 1980 | 99 | 90 | 110 |
| Manganese | 4/29/19 | 15:55 | 500.0 | 521.0 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

**2A-1**

***LOWER LIMIT OF QUANTITATION CHECK (LLQC)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 273369

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 16:01 | 60.00 | 62.90 | 105 | 80 | 120 |
| Manganese | 4/29/19 | 16:01 | 30.00 | 31.30 | 104 | 80 | 120 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931 Lab Sample ID: 270964

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 17:46 | 5000 | 5260 | 105 | 90 | 110 |
| Manganese | 4/23/19 | 17:46 | 5000 | 5110 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270965

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 17:51 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 17:51 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270968

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 18:56 | 5000 | 5140 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 18:56 | 5000 | 4840 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270969

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 19:02 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 19:02 | 500.0 | 479.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931 Lab Sample ID: 270974

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 20:08 | 5000 | 5150 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 20:08 | 5000 | 4870 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270975

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 20:13 | 500.0 | 512.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 20:13 | 500.0 | 474.0 | 95 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270977

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 21:19 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 21:19 | 5000 | 4850 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270978

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 21:24 | 500.0 | 511.0 | 102 | 90 | 110 |
| Manganese | 4/23/19 | 21:24 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270980

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 22:29 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/23/19 | 22:29 | 5000 | 4780 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270981

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/23/19 | 22:34 | 500.0 | 514.0 | 103 | 90 | 110 |
| Manganese | 4/23/19 | 22:34 | 500.0 | 470.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271958

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:22 | 5000 | 4990 | 100 | 90 | 110 |
| Manganese | 4/25/19 | 13:22 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271959

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:28 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 13:28 | 500.0 | 486.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931 Lab Sample ID: 271961

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 14:32 | 5000 | 5090 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 14:32 | 5000 | 5060 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271962

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 14:37 | 500.0 | 512.0 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 14:37 | 500.0 | 495.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271964

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:04 | 5000 | 5320 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:04 | 5000 | 4930 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271965

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:09 | 500.0 | 528.0 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:09 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271967

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:36 | 5000 | 5270 | 105 | 90 | 110 |
| Manganese | 4/26/19 | 01:36 | 5000 | 4910 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271968

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:41 | 500.0 | 528.0 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:41 | 500.0 | 484.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271976

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:22 | 5000 | 4990 | 100 | 90 | 110 |
| Manganese | 4/25/19 | 13:22 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271977

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 13:28 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 13:28 | 500.0 | 486.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126 Lab Sample ID: 271980

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 14:32 | 5000 | 5090 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 14:32 | 5000 | 5060 | 101 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271981

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 14:37 | 500.0 | 512.0 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 14:37 | 500.0 | 495.0 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126 Lab Sample ID: 271985

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:41 | 5000 | 5040 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 15:41 | 5000 | 4880 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271986

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 15:46 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 15:46 | 500.0 | 483.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271989

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 16:51 | 5000 | 5090 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 16:51 | 5000 | 4970 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271990

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 16:56 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 16:56 | 500.0 | 480.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271992

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 18:02 | 5000 | 5120 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 18:02 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271993

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 18:07 | 500.0 | 506.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 18:07 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272002

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 16:51 | 5000 | 5090 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 16:51 | 5000 | 4970 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272003

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 16:56 | 500.0 | 505.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 16:56 | 500.0 | 480.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127 Lab Sample ID: 272005

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 18:02 | 5000 | 5120 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 18:02 | 5000 | 4940 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272006

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 18:07 | 500.0 | 506.0 | 101 | 90 | 110 |
| Manganese | 4/25/19 | 18:07 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127 Lab Sample ID: 272009

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:12 | 5000 | 5120 | 102 | 90 | 110 |
| Manganese | 4/25/19 | 19:12 | 5000 | 4860 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272010

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 19:17 | 500.0 | 515.0 | 103 | 90 | 110 |
| Manganese | 4/25/19 | 19:17 | 500.0 | 480.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272013

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:23 | 5000 | 5180 | 104 | 90 | 110 |
| Manganese | 4/25/19 | 20:23 | 5000 | 4880 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272014

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:28 | 500.0 | 513.0 | 103 | 90 | 110 |
| Manganese | 4/25/19 | 20:28 | 500.0 | 480.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272016

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:35 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/25/19 | 21:35 | 5000 | 4890 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272017

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:40 | 500.0 | 521.0 | 104 | 90 | 110 |
| Manganese | 4/25/19 | 21:40 | 500.0 | 478.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272025

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:23 | 5000 | 5180 | 104 | 90 | 110 |
| Manganese | 4/25/19 | 20:23 | 5000 | 4880 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272026

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 20:28 | 500.0 | 513.0 | 103 | 90 | 110 |
| Manganese | 4/25/19 | 20:28 | 500.0 | 480.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272028

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:35 | 5000 | 5190 | 104 | 90 | 110 |
| Manganese | 4/25/19 | 21:35 | 5000 | 4890 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272029

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 21:40 | 500.0 | 521.0 | 104 | 90 | 110 |
| Manganese | 4/25/19 | 21:40 | 500.0 | 478.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272031

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 22:44 | 5000 | 5290 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 22:44 | 5000 | 4960 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272032

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 22:50 | 500.0 | 529.0 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 22:50 | 500.0 | 489.0 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272037

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 23:54 | 5000 | 5290 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 23:54 | 5000 | 4900 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272038

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 23:59 | 500.0 | 532.0 | 106 | 90 | 110 |
| Manganese | 4/25/19 | 23:59 | 500.0 | 485.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272041

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:04 | 5000 | 5320 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:04 | 5000 | 4930 | 99 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272042

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:09 | 500.0 | 528.0 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:09 | 500.0 | 482.0 | 96 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272044

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:36 | 5000 | 5270 | 105 | 90 | 110 |
| Manganese | 4/26/19 | 01:36 | 5000 | 4910 | 98 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272045

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 01:41 | 500.0 | 528.0 | 106 | 90 | 110 |
| Manganese | 4/26/19 | 01:41 | 500.0 | 484.0 | 97 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273145

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 19:41 | 5000 | 4950 | 99 | 90 | 110 |
| Manganese | 4/26/19 | 19:41 | 5000 | 4620 | 92 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273146

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 19:47 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/26/19 | 19:47 | 500.0 | 517.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273148

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 21:03 | 5000 | 4930 | 99 | 90 | 110 |
| Manganese | 4/26/19 | 21:03 | 5000 | 4630 | 93 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273149

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/26/19 | 21:08 | 500.0 | 492.0 | 98 | 90 | 110 |
| Manganese | 4/26/19 | 21:08 | 500.0 | 517.0 | 103 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV High Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 273373

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:49 | 5000 | 5450 | 109 | 90 | 110 |
| Manganese | 4/29/19 | 17:49 | 5000 | 5320 | 106 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**CCV Low Level**

**2A-2**

***CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 273374

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/29/19 | 17:55 | 500.0 | 485.0 | 97 | 90 | 110 |
| Manganese | 4/29/19 | 17:55 | 500.0 | 472.0 | 94 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

**2A-2**

***CONTINUING CALIBRATION VERIFICATION***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 276546

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 15:19 | 10.00 | 10.38 | 104 | 90 | 110 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

**2A-2**

***CONTINUING CALIBRATION VERIFICATION***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412 Lab Sample ID: 276548

ICAL Calibration #: 05022019 Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 16:19 | 10.00 | 10.75 | 108 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

**2A-2**

***CONTINUING CALIBRATION VERIFICATION***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412 Lab Sample ID: 276550

ICAL Calibration #: 05022019 Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Arsenic | 5/2/19 17:30 | 10.00 | 10.17 | 102 | 90 | 110 |

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

**2B**

***MRL STANDARD CHECK***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271955

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:12 | 20.00 | 17.00 | 85 | 70 | 130 |
| Manganese | 4/25/19 | 12:12 | 10.00 | 10.50 | 105 | 70 | 130 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

**2B**

***MRL STANDARD CHECK***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271973

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:12 | 20.00 | 17.00 | 85 | 70 | 130 |
| Manganese | 4/25/19 | 12:12 | 10.00 | 10.50 | 105 | 70 | 130 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

**2B**

***MRL STANDARD CHECK***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 271999

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:12 | 20.00 | 17.00 | 85 | 70 | 130 |
| Manganese | 4/25/19 | 12:12 | 10.00 | 10.50 | 105 | 70 | 130 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

**MRL**

**2B**

***MRL STANDARD CHECK***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272022

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | | Spiked Conc. | Measured Conc. | %R** | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|---|
| Arsenic | 4/25/19 | 12:12 | 20.00 | 17.00 | 85 | 70 | 130 |
| Manganese | 4/25/19 | 12:12 | 10.00 | 10.50 | 105 | 70 | 130 |

Default Limits (not applicable to MDL Check)  **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270959

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 16:29 | -6.02 | U | 4 | 16 |
| Manganese | 04/23/2019 16:29 | -3.20 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271954

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 12:07 | -2.12 | U | 4 | 16 |
| Manganese | 04/25/2019 12:07 | -0.816 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271972

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 12:07 | -2.12 | U | 4 | 16 |
| Manganese | 04/25/2019 12:07 | -0.816 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 271998

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 12:07 | -2.12 | U | 4 | 16 |
| Manganese | 04/25/2019 12:07 | -0.816 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**ICB**

**3-1**

***INITIAL CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272021

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 12:07 | -2.12 | U | 4 | 16 |
| Manganese | 04/25/2019 12:07 | -0.816 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**3-1**

***INITIAL CALIBRATION BLANKS***

**ICB**

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273142

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 16:47 | -2.91 | U | 4 | 16 |
| Manganese | 04/26/2019 16:47 | -0.252 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**3-1**

***INITIAL CALIBRATION BLANKS***

**ICB**

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 273370

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 16:14 | -3.49 | U | 4 | 16 |
| Manganese | 04/29/2019 16:14 | -2.33 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270966

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 17:56 | -5.62 | U | 4 | 16 |
| Manganese | 04/23/2019 17:56 | -3.21 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270970

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 19:07 | -6.17 | U | 4 | 16 |
| Manganese | 04/23/2019 19:07 | -3.43 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270976

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 20:19 | -6.32 | U | 4 | 16 |
| Manganese | 04/23/2019 20:19 | -3.08 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270979

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 21:29 | -6.79 | U | 4 | 16 |
| Manganese | 04/23/2019 21:29 | -2.83 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 270982

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/23/2019 22:39 | -7.86 | U | 4 | 16 |
| Manganese | 04/23/2019 22:39 | -2.77 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271960

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 13:33 | -6.15 | U | 4 | 16 |
| Manganese | 04/25/2019 13:33 | -1.16 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271963

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 14:42 | -3.15 | U | 4 | 16 |
| Manganese | 04/25/2019 14:42 | -0.814 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271966

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 01:15 | -3.48 | U | 4 | 16 |
| Manganese | 04/26/2019 01:15 | -0.791 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 271969

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 01:47 | -2.35 | U | 4 | 16 |
| Manganese | 04/26/2019 01:47 | -0.612 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271978

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 13:33 | -6.15 | U | 4 | 16 |
| Manganese | 04/25/2019 13:33 | -1.16 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271982

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 14:42 | -3.15 | U | 4 | 16 |
| Manganese | 04/25/2019 14:42 | -0.814 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271987

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 15:52 | -2.97 | U | 4 | 16 |
| Manganese | 04/25/2019 15:52 | -1.05 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271991

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 17:02 | -2.73 | U | 4 | 16 |
| Manganese | 04/25/2019 17:02 | -0.624 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 271994

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 18:12 | -2.13 | U | 4 | 16 |
| Manganese | 04/25/2019 18:12 | -0.299 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272004

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 17:02 | -2.73 | U | 4 | 16 |
| Manganese | 04/25/2019 17:02 | -0.624 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272007

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 18:12 | -2.13 | U | 4 | 16 |
| Manganese | 04/25/2019 18:12 | -0.299 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272011

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 19:22 | -3.46 | U | 4 | 16 |
| Manganese | 04/25/2019 19:22 | -0.281 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272015

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 20:33 | -3.04 | U | 4 | 16 |
| Manganese | 04/25/2019 20:33 | -1.26 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 272018

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 21:45 | -3.44 | U | 4 | 16 |
| Manganese | 04/25/2019 21:45 | -0.932 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272027

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 20:33 | -3.04 | U | 4 | 16 |
| Manganese | 04/25/2019 20:33 | -1.26 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272030

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 21:45 | -3.44 | U | 4 | 16 |
| Manganese | 04/25/2019 21:45 | -0.932 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272033

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/25/2019 22:55 | -1.81 | U | 4 | 16 |
| Manganese | 04/25/2019 22:55 | -0.862 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272039

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 00:05 | -1.33 | U | 4 | 16 |
| Manganese | 04/26/2019 00:05 | -0.908 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272043

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 01:15 | -3.48 | U | 4 | 16 |
| Manganese | 04/26/2019 01:15 | -0.791 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 272046

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 01:47 | -2.35 | U | 4 | 16 |
| Manganese | 04/26/2019 01:47 | -0.612 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273147

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 19:53 | -2.71 | U | 4 | 16 |
| Manganese | 04/26/2019 19:53 | 0.162 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 273150

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/26/2019 21:14 | 0.960 | U | 4 | 16 |
| Manganese | 04/26/2019 21:14 | 0.421 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 273375

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #:  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 04/29/2019 18:00 | -4.13 | U | 4 | 16 |
| Manganese | 04/29/2019 18:00 | -1.73 | U | 0.7 | 3.0 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 276545

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:17 | -0.102 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 276547

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 15:25 | -0.298 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**CCB**

**3-2**

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 276549

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 16:25 | -0.0617 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

***CONTINUING CALIBRATION BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 276551

Analytical Prep Batch # 0  Preparation Date/Time:

ICAL Calibration #: 05022019  Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit |
|---|---|---|---|---|---|
| Arsenic | 05/02/2019 17:36 | -0.0859 | U | 0.8 | 3.2 |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 159931  Lab Sample ID: 265276

Analytical Prep Batch # 71473  Preparation Date/Time: 04/21/2019 14:36

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 17:08 | -0.27 | U | 0.13 | 0.40 | |
| Manganese | 04/23/2019 17:08 | 4.8 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160126  Lab Sample ID: 268928

Analytical Prep Batch # 71586  Preparation Date/Time: 04/24/2019 09:05

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 14:10 | 0.13 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/25/2019 14:10 | 14.3 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160127  Lab Sample ID: 268941

Analytical Prep Batch # 71588  Preparation Date/Time: 04/24/2019 09:05

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 18:18 | 0.13 | | 0.13 | 0.40 | FAIL |
| Manganese | 04/25/2019 18:18 | 14.2 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160109  Lab Sample ID: 268964

Analytical Prep Batch # 71590  Preparation Date/Time: 04/24/2019 14:28

ICAL Calibration #:  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 21:51 | 0.036 | U | 0.13 | 0.40 | |
| Manganese | 04/25/2019 21:51 | 12.8 | | 0.025 | 0.075 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

**MB**

**3-3**

***METHOD BLANKS***

Lab Name: CT Laboratories  Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Analytical Run #: 160412  Lab Sample ID: 274294

Analytical Prep Batch # 71761  Preparation Date/Time: 05/01/2019 12:35

ICAL Calibration #: 05022019  Concentration Units: mg/kg

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Measured Concentration | C*** | Detection Limit** | Control Limit | |
|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:29 | 0.15 | | 0.04 | 0.08 | FAIL |

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 159931
Lab Sample ID: 270960
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/23/2019 16:40 | 500000 | 469000 | 94 | 80 | 120 |
| Arsenic | 04/23/2019 16:40 | 0 | -0.00100 | | -16 | 16 |
| Calcium | 04/23/2019 16:40 | 500000 | 443000 | 89 | 80 | 120 |
| Iron | 04/23/2019 16:40 | 500000 | 466000 | 93 | 80 | 120 |
| Magnesium | 04/23/2019 16:40 | 500000 | 454000 | 91 | 80 | 120 |
| Manganese | 04/23/2019 16:40 | 0 | -0.00600 | | -3 | 3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 159931
Lab Sample ID: 271956
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:18 | 500000 | 465000 | 93 | 80 | 120 |
| Arsenic | 04/25/2019 12:18 | 0 | 0.00600 | | -16 | 16 |
| Calcium | 04/25/2019 12:18 | 500000 | 448000 | 90 | 80 | 120 |
| Iron | 04/25/2019 12:18 | 500000 | 463000 | 93 | 80 | 120 |
| Magnesium | 04/25/2019 12:18 | 500000 | 459000 | 92 | 80 | 120 |
| Manganese | 04/25/2019 12:18 | 0 | -3.69 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 160126
Lab Sample ID: 271974
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:18 | 500000 | 465000 | 93 | 80 | 120 |
| Arsenic | 04/25/2019 12:18 | 0 | 0.00600 | | -16 | 16 |
| Calcium | 04/25/2019 12:18 | 500000 | 448000 | 90 | 80 | 120 |
| Iron | 04/25/2019 12:18 | 500000 | 463000 | 93 | 80 | 120 |
| Magnesium | 04/25/2019 12:18 | 500000 | 459000 | 92 | 80 | 120 |
| Manganese | 04/25/2019 12:18 | 0 | -3.69 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 160127
Lab Sample ID: 272000
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:18 | 500000 | 465000 | 93 | 80 | 120 |
| Arsenic | 04/25/2019 12:18 | 0 | 0.00600 | | -16 | 16 |
| Calcium | 04/25/2019 12:18 | 500000 | 448000 | 90 | 80 | 120 |
| Iron | 04/25/2019 12:18 | 500000 | 463000 | 93 | 80 | 120 |
| Magnesium | 04/25/2019 12:18 | 500000 | 459000 | 92 | 80 | 120 |
| Manganese | 04/25/2019 12:18 | 0 | -3.69 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 160109
Lab Sample ID: 272023
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:18 | 500000 | 465000 | 93 | 80 | 120 |
| Arsenic | 04/25/2019 12:18 | 0 | 0.00600 | | -16 | 16 |
| Calcium | 04/25/2019 12:18 | 500000 | 448000 | 90 | 80 | 120 |
| Iron | 04/25/2019 12:18 | 500000 | 463000 | 93 | 80 | 120 |
| Magnesium | 04/25/2019 12:18 | 500000 | 459000 | 92 | 80 | 120 |
| Manganese | 04/25/2019 12:18 | 0 | -3.69 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-1**

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 160127
Lab Sample ID: 273143
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/26/2019 16:59 | 500000 | 534000 | 107 | 80 | 120 |
| Arsenic | 04/26/2019 16:59 | 0 | 0.0810 | | -16 | 16 |
| Calcium | 04/26/2019 16:59 | 500000 | 525000 | 105 | 80 | 120 |
| Iron | 04/26/2019 16:59 | 500000 | 481000 | 96 | 80 | 120 |
| Magnesium | 04/26/2019 16:59 | 500000 | 509000 | 102 | 80 | 120 |
| Manganese | 04/26/2019 16:59 | 0 | -4.32 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

**ICP INTERFERENCE CHECK SAMPLE (SOL. A)**

**ICSA**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX

Analytical Run #: 160109
Lab Sample ID: 273371
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:26 | 500000 | 526000 | 105 | 80 | 120 |
| Arsenic | 04/29/2019 16:26 | 0 | 0.00400 | | -16 | 16 |
| Calcium | 04/29/2019 16:26 | 500000 | 500000 | 100 | 80 | 120 |
| Iron | 04/29/2019 16:26 | 500000 | 542000 | 108 | 80 | 120 |
| Magnesium | 04/29/2019 16:26 | 500000 | 473000 | 95 | 80 | 120 |
| Manganese | 04/29/2019 16:26 | 0 | -5.48 | | -7.3 | 7.3 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 159931
Lab Sample ID: 270961
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/23/2019 16:46 | 500000 | 530000 | 106 | 80 | 120 |
| Arsenic | 04/23/2019 16:46 | 500.0 | 581.0 | 116 | 80 | 120 |
| Calcium | 04/23/2019 16:46 | 500000 | 497000 | 99 | 80 | 120 |
| Iron | 04/23/2019 16:46 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/23/2019 16:46 | 500000 | 515000 | 103 | 80 | 120 |
| Manganese | 04/23/2019 16:46 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 159931
Lab Sample ID: 271957
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:23 | 500000 | 537000 | 107 | 80 | 120 |
| Arsenic | 04/25/2019 12:23 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/25/2019 12:23 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 12:23 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/25/2019 12:23 | 500000 | 526000 | 105 | 80 | 120 |
| Manganese | 04/25/2019 12:23 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 160126
Lab Sample ID: 271975
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:23 | 500000 | 537000 | 107 | 80 | 120 |
| Arsenic | 04/25/2019 12:23 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/25/2019 12:23 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 12:23 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/25/2019 12:23 | 500000 | 526000 | 105 | 80 | 120 |
| Manganese | 04/25/2019 12:23 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 160127
Lab Sample ID: 272001
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:23 | 500000 | 537000 | 107 | 80 | 120 |
| Arsenic | 04/25/2019 12:23 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/25/2019 12:23 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 12:23 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/25/2019 12:23 | 500000 | 526000 | 105 | 80 | 120 |
| Manganese | 04/25/2019 12:23 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 160109
Lab Sample ID: 272024
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/25/2019 12:23 | 500000 | 537000 | 107 | 80 | 120 |
| Arsenic | 04/25/2019 12:23 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/25/2019 12:23 | 500000 | 511000 | 102 | 80 | 120 |
| Iron | 04/25/2019 12:23 | 500000 | 527000 | 105 | 80 | 120 |
| Magnesium | 04/25/2019 12:23 | 500000 | 526000 | 105 | 80 | 120 |
| Manganese | 04/25/2019 12:23 | 500.0 | 589.0 | 118 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 160127
Lab Sample ID: 273144
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/26/2019 17:06 | 500000 | 445000 | 89 | 80 | 120 |
| Arsenic | 04/26/2019 17:06 | 500.0 | 521.0 | 104 | 80 | 120 |
| Calcium | 04/26/2019 17:06 | 500000 | 437000 | 87 | 80 | 120 |
| Iron | 04/26/2019 17:06 | 500000 | 405000 | 81 | 80 | 120 |
| Magnesium | 04/26/2019 17:06 | 500000 | 424000 | 85 | 80 | 120 |
| Manganese | 04/26/2019 17:06 | 500.0 | 479.0 | 96 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

**4-2**

**ICP INTERFERENCE CHECK SAMPLE (SOL. AB)**

**ICSAB**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
ICP ID Number: TJA 6000
SDG No.: 143965
ICS Source: SPEX, Ultra

Analytical Run #: 160109
Lab Sample ID: 273372
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

| Analyte | Analysis Date/Time | Spiked Conc. | Measured Conc. | %R | Lower Limit (1) | Upper Limit (1) |
|---|---|---|---|---|---|---|
| Aluminum | 04/29/2019 16:33 | 500000 | 431000 | 86 | 80 | 120 |
| Arsenic | 04/29/2019 16:33 | 500.0 | 577.0 | 115 | 80 | 120 |
| Calcium | 04/29/2019 16:33 | 500000 | 407000 | 81 | 80 | 120 |
| Iron | 04/29/2019 16:33 | 500000 | 446000 | 89 | 80 | 120 |
| Magnesium | 04/29/2019 16:33 | 500000 | 402000 | 80 | 80 | 120 |
| Manganese | 04/29/2019 16:33 | 500.0 | 521.0 | 104 | 80 | 120 |

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.2 | Concentration Units: | mg/kg |
| Sample No | 265280 | Parent Sample No.: | 259434 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/23/2019 Analysis Time: -------- 19:40

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 494 | | 6.9 | | 514 | 95 | | P | |
| Manganese | 84-114 | 2280 | | 2410 | | 514 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 265293 | Parent Sample No.: | 259433 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/23/2019 Analysis Time: -------- 18:45

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 528 | | 18.2 | | 528 | 97 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 265293 | Parent Sample No.: | 259433 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 13:38

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 7660 | | 10700 | | 528 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.9 | Concentration Units: | mg/kg |
| Sample No | 268934 | Parent Sample No.: | 259469 |
| Analytical Prep Batch # | 71586 | Analytical Preparation Date/Time: | 04/24/2019 09:05 |
| Analytical Run #: | 160126 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 14:53

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 510 | | 18.7 | | 524 | 94 | | P |
| Manganese | 84-114 | 1150 | | 623 | | 524 | 101 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.8 | Concentration Units: | mg/kg |
| Sample No | 268938 | Parent Sample No.: | 259470 |
| Analytical Prep Batch # | 71586 | Analytical Preparation Date/Time: | 04/24/2019 09:05 |
| Analytical Run #: | 160126 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 15:30

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 446 | | 9.3 | | 490 | 89 | | P |
| Manganese | 84-114 | 836 | | 320 | | 490 | 105 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.8 | Concentration Units: | mg/kg |
| Sample No | 268947 | Parent Sample No.: | 259496 |
| Analytical Prep Batch # | 71588 | Analytical Preparation Date/Time: | 04/24/2019 09:05 |
| Analytical Run #: | 160127 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 19:01

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 498 | | 10.7 | | 527 | 92 | | P |
| Manganese | 84-114 | 1110 | | 574 | | 527 | 102 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU4A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.3 | Concentration Units: | mg/kg |
| Sample No | 268951 | Parent Sample No.: | 260924 |
| Analytical Prep Batch # | 71590 | Analytical Preparation Date/Time: | 04/24/2019 14:28 |
| Analytical Run #: | 160109 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 23:27

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 511 | | 1.6 | | 530 | 96 | | P |
| Manganese | 84-114 | 736 | | 168 | | 530 | 107 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5A**

***SPIKE SAMPLE RECOVERY***

Sample Description

**DU4B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 96.8 | Concentration Units: | mg/kg |
| Sample No | 268958 | Parent Sample No.: | 260925 |
| Analytical Prep Batch # | 71590 | Analytical Preparation Date/Time: | 04/24/2019 14:28 |
| Analytical Run #: | 160109 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/26/2019 | Analysis Time: -------- | 00:21 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 525 | | 2.3 | | 535 | 98 | | P |
| Manganese | 84-114 | 645 | | 90.1 | | 535 | 104 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.1 | Concentration Units: | ug/L |
| Sample No | 270971 | Parent Sample No.: | 259433 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/23/2019 | Analysis Time: -------- | 19:12 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21300 | | 689. | | 20000 | 103 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.2 | Concentration Units: | ug/L |
| Sample No | 270973 | Parent Sample No.: | 259434 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/23/2019 | Analysis Time: -------- | 19:52 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21000 | | 267. | | 20000 | 104 | | P |
| Manganese | 80-120 | 110300 | | 93080. | | 20000 | 86 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.9 | Concentration Units: | ug/L |
| Sample No | 271983 | Parent Sample No.: | 259469 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 160126 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 15:04 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21600 | | 715. | | 20000 | 104 | | P |
| Manganese | 80-120 | 45000. | | 23800. | | 20000 | 106 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.8 | Concentration Units: | ug/L |
| Sample No | 271988 | Parent Sample No.: | 259470 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 160126 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 15:57 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21000 | | 377. | | 20000 | 103 | | P |
| Manganese | 80-120 | 34300. | | 13000. | | 20000 | 106 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1B-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.8 | Concentration Units: | ug/L |
| Sample No | 272012 | Parent Sample No.: | 259496 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 160127 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 19:28 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21300 | | 407. | | 20000 | 104 | | P |
| Manganese | 80-120 | 42900. | | 21900. | | 20000 | 105 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU4A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.3 | Concentration Units: | ug/L |
| Sample No | 272035 | Parent Sample No.: | 260924 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 160109 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 23:38 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21400 | | 60.1 | | 20000 | 107 | | P |
| Manganese | 80-120 | 27700 | | 6330. | | 20000 | 107 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU4B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 96.8 | Concentration Units: | ug/L |
| Sample No | 272040 | Parent Sample No.: | 260925 |
| Analytical Prep Batch # | 0 | Analytical Preparation Date/Time: | |
| Analytical Run #: | 160109 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/26/2019 | Analysis Time: -------- | 00:32 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 80-120 | 21200 | | 83.7 | | 20000 | 106 | | P |
| Manganese | 80-120 | 24500. | | 3350. | | 20000 | 106 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5B**

***POST DIGESTION SPIKE SAMPLE RECOVERY***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.1 | Concentration Units: | ug/L |
| Sample No | 272088 | Parent Sample No.: | 259433 |
| Analytical Prep Batch # | | Analytical Preparation Date/Time: | |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 13:49 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 80-120 | 62500 | | 40600 | | 20000 | 110 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.2 | Concentration Units: | mg/kg |
| Sample No | 265281 | Parent Sample No.: | 265280 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/23/2019 Analysis Time: -------- 19:46

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 496 | | 6.9 | | 517 | 95 | | P | |
| Manganese | 84-114 | 2310 | | 2410 | | 517 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 265294 | Parent Sample No.: | 265293 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/23/2019 Analysis Time: -------- 18:51

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 507 | | 18.2 | | 531 | 92 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 99.1 | Concentration Units: | mg/kg |
| Sample No | 265294 | Parent Sample No.: | 265293 |
| Analytical Prep Batch # | 71473 | Analytical Preparation Date/Time: | 04/21/2019 14:36 |
| Analytical Run #: | 159931 | ICAL Calibration #: | |

ReRun *Re-Analysis #1* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 13:44

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 84-114 | 7970 | | 10700 | | 531 | 0 | | P | *FAIL* |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1A-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.9 | Concentration Units: | mg/kg |
| Sample No | 268935 | Parent Sample No.: | 268934 |
| Analytical Prep Batch # | 71586 | Analytical Preparation Date/Time: | 04/24/2019 09:05 |
| Analytical Run #: | 160126 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 14:58

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 505 | | 18.7 | | 524 | 93 | | P |
| Manganese | 84-114 | 1130 | | 623 | | 524 | 97 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1B-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.8 | Concentration Units: | mg/kg |
| Sample No | 268939 | Parent Sample No.: | 268938 |
| Analytical Prep Batch # | 71586 | Analytical Preparation Date/Time: | 04/24/2019 09:05 |
| Analytical Run #: | 160126 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 15:36

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 431 | | 9.3 | | 495 | 85 | | P |
| Manganese | 84-114 | 785 | | 320 | | 495 | 94 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU1B-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.8 | Concentration Units: | mg/kg |
| Sample No | 268948 | Parent Sample No.: | 268947 |
| Analytical Prep Batch # | 71588 | Analytical Preparation Date/Time: | 04/24/2019 09:05 |
| Analytical Run #: | 160127 | ICAL Calibration #: | |

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2019 Analysis Time: -------- 19:06

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 488 | | 10.7 | | 522 | 91 | | P |
| Manganese | 84-114 | 1090 | | 574 | | 522 | 99 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU4A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 98.3 | Concentration Units: | mg/kg |
| Sample No | 268952 | Parent Sample No.: | 268951 |
| Analytical Prep Batch # | 71590 | Analytical Preparation Date/Time: | 04/24/2019 14:28 |
| Analytical Run #: | 160109 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/25/2019 | Analysis Time: -------- | 23:33 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 514 | | 1.6 | | 527 | 97 | | P |
| Manganese | 84-114 | 688 | | 168 | | 527 | 99 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

**5C**

***SPIKE DUPLICATE SAMPLE RECOVERY***

Sample Description

**DU4B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix: | SOLID | SDG No.: | 143965 |
| % Solids for Sample: | 96.8 | Concentration Units: | mg/kg |
| Sample No | 268959 | Parent Sample No.: | 268958 |
| Analytical Prep Batch # | 71590 | Analytical Preparation Date/Time: | 04/24/2019 14:28 |
| Analytical Run #: | 160109 | ICAL Calibration #: | |

| Analysis Type | *Initial Analysis* | Analysis Date: ----- | 04/26/2019 | Analysis Time: -------- | 00:26 |
|---|---|---|---|---|---|

| Analyte | Control Limit (%R) | Spike Result | C (Spike) | Parent Result | C (Parent) | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82-111 | 530 | | 2.3 | | 535 | 99 | | P |
| Manganese | 84-114 | 621 | | 90.1 | | 535 | 99 | | P |

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU13**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 99.2
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71473
Analytical Run #: 159931
ICAL Calibration #:
Sample #: 265278
Parent Sample #: 259434

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 19:29 | 20 | 6.9 | | 8.0 | | 15 | | P | |
| Manganese | 04/23/2019 | 19:29 | 20 | 2410 | | 1740 | | 32 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU13**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 99.2
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71473
Analytical Run #: 159931
ICAL Calibration #:
Sample #: 265279
Parent Sample #: 259434

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 19:35 | 20 | 6.9 | | 6.8 | | 1 | | P | |
| Manganese | 04/23/2019 | 19:35 | 20 | 2410 | | 1610 | | 40 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU36R2**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.3
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71473
Analytical Run #: 159931
ICAL Calibration #:
Sample #: 265282
Parent Sample #: 259465

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 21:03 | 20 | 3.1 | | 2.8 | | 10 | | P |
| Manganese | 04/23/2019 | 21:03 | 20 | 418 | | 389 | | 7 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU36R2**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143965

% Solid for Sample: 98.3

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71473

Analytical Run #: 159931

ICAL Calibration #:

Sample #: 265283

Parent Sample #: 259465

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 21:08 | 20 | 3.1 | | 4.7 | | 41 | | P | *FAIL* |
| Manganese | 04/23/2019 | 21:08 | 20 | 418 | | 503 | | 18 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU13**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 99.1
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71473
Analytical Run #: 159931
ICAL Calibration #:
Sample #: 265292
Parent Sample #: 259433

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 18:40 | 20 | 18.2 | | 13.4 | | 30 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU13**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143965

% Solid for Sample: 99.1

Concentration Units: mg/kg

Analytical Prep Batch # 2

Analytical Preparation Date/Time 71473

Analytical Run #: 159931

ICAL Calibration #:

Sample #: 265292

Parent Sample #: 259433

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 | 13:17 | 20 | 10700 | | 7450 | | 36 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU34**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.9
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71586
Analytical Run #: 160126
ICAL Calibration #:
Sample #: 268932
Parent Sample #: 259469

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 14:26 | 20 | 18.9 | | 18.9 | | 0 | | P |
| Manganese | 04/25/2019 | 14:26 | 20 | 630 | | 641 | | 2 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU34**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.9
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71586
Analytical Run #: 160126
ICAL Calibration #:
Sample #: 268933
Parent Sample #: 259469

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 14:47 | 20 | 18.9 | | 11.2 | | 50 | | P | *FAIL* |
| Manganese | 04/25/2019 | 14:47 | 20 | 630 | | 600 | | 4 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU34**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71586
Analytical Run #: 160126
ICAL Calibration #:
Sample #: 268936
Parent Sample #: 259470

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 15:20 | 20 | 9.4 | | 10.4 | | 11 | | P |
| Manganese | 04/25/2019 | 15:20 | 20 | 324 | | 356 | | 11 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU34**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71586
Analytical Run #: 160126
ICAL Calibration #:
Sample #: 268937
Parent Sample #: 259470

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 15:25 | 20 | 9.4 | | 5.5 | | 51 | | P | *FAIL* |
| Manganese | 04/25/2019 | 15:25 | 20 | 324 | | 319 | | 0 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU10R3**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71588
Analytical Run #: 160127
ICAL Calibration #:
Sample #: 268943
Parent Sample #: 259495

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 18:28 | 20 | 11.0 | | 10.9 | | 1 | | P |
| Manganese | 04/25/2019 | 18:28 | 20 | 672 | | 661 | | 2 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU10R3**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71588
Analytical Run #: 160127
ICAL Calibration #:
Sample #: 268944
Parent Sample #: 259495

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 18:34 | 20 | 11.0 | | 11.2 | | 2 | | P |
| Manganese | 04/25/2019 | 18:34 | 20 | 672 | | 676 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU10R3**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71588
Analytical Run #: 160127
ICAL Calibration #:
Sample #: 268945
Parent Sample #: 259496

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 18:50 | 20 | 10.7 | | 10.3 | | 4 | | P |
| Manganese | 04/25/2019 | 18:50 | 20 | 574 | | 566 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU10R3**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71588
Analytical Run #: 160127
ICAL Calibration #:
Sample #: 268946
Parent Sample #: 259496

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 18:55 | 20 | 10.7 | | 10.4 | | 3 | | P |
| Manganese | 04/25/2019 | 18:55 | 20 | 574 | | 577 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU4A-SU04**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.3
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71590
Analytical Run #: 160109
ICAL Calibration #:
Sample #: 268949
Parent Sample #: 260924

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 23:16 | 20 | 1.6 | | 2.0 | | 22 | | P | *FAIL* |
| Manganese | 04/25/2019 | 23:16 | 20 | 168 | | 183 | | 9 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU4A-SU04**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.3
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71590
Analytical Run #: 160109
ICAL Calibration #:
Sample #: 268950
Parent Sample #: 260924

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 23:22 | 20 | 1.6 | | 1.4 | | 13 | | P |
| Manganese | 04/25/2019 | 23:22 | 20 | 168 | | 174 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU4B-SU04**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143965

% Solid for Sample: 96.8

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71590

Analytical Run #: 160109

ICAL Calibration #:

Sample #: 268956

Parent Sample #: 260925

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/26/2019 | 00:10 | 20 | 2.3 | | 1.8 | | 24 | | P | *FAIL* |
| Manganese | 04/26/2019 | 00:10 | 20 | 90.1 | | 102 | | 12 | | P | |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU4B-SU04**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 96.8
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71590
Analytical Run #: 160109
ICAL Calibration #:
Sample #: 268957
Parent Sample #: 260925

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/26/2019 | 00:15 | 20 | 2.3 | | 2.0 | | 14 | | P | |
| Manganese | 04/26/2019 | 00:15 | 20 | 90.1 | | 119 | | 28 | | P | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU14**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.6
Concentration Units: mg/kg
Analytical Prep Batch # 1
Analytical Preparation Date/Time 71761
Analytical Run #: 160412
ICAL Calibration #: 05022019
Sample #: 274300
Parent Sample #: 259436

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 | 17:00 | 20 | 1.6 | | 1.2 | | 29 | | AA | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1B-SU14**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143965

% Solid for Sample: 98.6

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 71761

Analytical Run #: 160412

ICAL Calibration #: 05022019

Sample #: 274301

Parent Sample #: 259436

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 | 17:06 | 20 | 1.6 | | 1.3 | | 21 | | AA | *FAIL* |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1B-SU13**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 99.2 | Concentration Units: mg/kg

Analytical Prep Batch #: 71473 | Analytical Preparation Date/Time: 04/21/2019 14:36

Analytical Run #: 159931 | ICAL Calibration #:

Sample #: 265281 | Parent Sample #: 265280

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 | 19:46 | 20 | 494 | | 496 | | 0 | | P |
| Manganese | 04/23/2019 | 19:46 | 20 | 2280 | | 2310 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU13**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 99.1 | Concentration Units: mg/kg

Analytical Prep Batch #: 71473 | Analytical Preparation Date/Time: 04/21/2019 14:36

Analytical Run #: 159931 | ICAL Calibration #:

Sample #: 265294 | Parent Sample #: 265293

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 18:51 | 20 | 528 | | 507 | | 5 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU13**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 99.1 | Concentration Units: mg/kg

Analytical Prep Batch # 71473 | Analytical Preparation Date/Time 04/21/2019 14:36

Analytical Run #: 159931 | ICAL Calibration #:

Sample #: 265294 | Parent Sample #: 265293

ReRun *Re-Analysis #1*

| Analyte | Analysis Date/Tim | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 13:44 | 20 | 7660 | | 7970 | | 3 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1A-SU34**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 98.9 | Concentration Units: mg/kg

Analytical Prep Batch #: 71586 | Analytical Preparation Date/Time: 04/24/2019 09:05

Analytical Run #: 160126 | ICAL Calibration #:

Sample #: 268935 | Parent Sample #: 268934

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 14:58 | 20 | 510 | | 505 | | 1 | | P |
| Manganese | 04/25/2019 | 14:58 | 20 | 1150 | | 1130 | | 2 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU1B-SU34**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 98.8 | Concentration Units: mg/kg

Analytical Prep Batch #: 71586 | Analytical Preparation Date/Time: 04/24/2019 09:05

Analytical Run #: 160126 | ICAL Calibration #:

Sample #: 268939 | Parent Sample #: 268938

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 15:36 | 20 | 446 | | 431 | | 4 | | P |
| Manganese | 04/25/2019 | 15:36 | 20 | 836 | | 785 | | 7 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description: **DU1B-SU10R3**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 98.8 | Concentration Units: mg/kg

Analytical Prep Batch #: 71588 | Analytical Preparation Date/Time: 04/24/2019 09:05

Analytical Run #: 160127 | ICAL Calibration #:

Sample #: 268948 | Parent Sample #: 268947

Analysis Type: *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 19:06 | 20 | 498 | | 488 | | 1 | | P |
| Manganese | 04/25/2019 | 19:06 | 20 | 1110 | | 1090 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU4A-SU04**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 98.3 | Concentration Units: mg/kg

Analytical Prep Batch #: 71590 | Analytical Preparation Date/Time: 04/24/2019 14:28

Analytical Run #: 160109 | ICAL Calibration #:

Sample #: 268952 | Parent Sample #: 268951

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 23:33 | 20 | 511 | | 514 | | 1 | | P |
| Manganese | 04/25/2019 | 23:33 | 20 | 736 | | 688 | | 6 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**6A**

***MATRIX SPIKE DUPLICATES***

Sample Description

**DU4B-SU04**

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID | SDG No.: 143965

% Solid for Sample: 96.8 | Concentration Units: mg/kg

Analytical Prep Batch #: 71590 | Analytical Preparation Date/Time: 04/24/2019 14:28

Analytical Run #: 160109 | ICAL Calibration #:

Sample #: 268959 | Parent Sample #: 268958

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Matrix Spik Parent Conc. (S) | C | Matrix Spike Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/26/2019 | 00:26 | 20 | 525 | | 530 | | 1 | | P |
| Manganese | 04/26/2019 | 00:26 | 20 | 645 | | 621 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra SDG No.: 143965

Concentration Units: mg/kg

Analytical Run #: 159931 Sample No.:#: 265277

Analytical Prep Batch #: 71473 Preparation Date/Time: 04/21/2019 14:36

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/23/2019 17:03 | 82-111 | 51.5 | | 49.8 | 103 | | P |
| Manganese | 04/23/2019 17:03 | 84-114 | 53.4 | | 49.8 | 107 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143965

Concentration Units: mg/kg

Analytical Run #: 160126  Sample No.:#: 268929

Analytical Prep Batch #: 71586  Preparation Date/Time: 04/24/2019 09:05

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 | 14:05 | 82-111 | 43.0 | | 50.3 | 85 | | P |
| Manganese | 04/25/2019 | 14:05 | 84-114 | 44.2 | | 50.3 | 88 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143965

Concentration Units: mg/kg

Analytical Run #: 160127  Sample No.:#: 268942

Analytical Prep Batch #: 71588  Preparation Date/Time: 04/24/2019 09:05

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 17:57 | 82-111 | 49.3 | | 48.8 | 101 | | P |
| Manganese | 04/25/2019 17:57 | 84-114 | 51.2 | | 48.8 | 105 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra SDG No.: 143965

Concentration Units: mg/kg

Analytical Run #: 160109 Sample No.:#: 268965

Analytical Prep Batch #: 71590 Preparation Date/Time: 04/24/2019 14:28

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 04/25/2019 21:29 | 82-111 | 42.3 | | 49.8 | 85 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra SDG No.: 143965

Concentration Units: mg/kg

Analytical Run #: 160109 Sample No.:#: 268965

Analytical Prep Batch #: 71590 Preparation Date/Time: 04/24/2019 14:28

ICAL Calibration #:

ReRun Re-Analysis #1

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Manganese | 04/29/2019 17:17 | 84-114 | 53.5 | | 49.8 | 107 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

7-2

Sample No:

***LABORATORY CONTROL SAMPLE - SOLID***

**LCS**

Lab Name: CT Laboratories  Contract ERT-CURTIS BAY ORDNANCE DEPOT

LCS Source: SPEX and Ultra  SDG No.: 143965

Concentration Units: mg/kg

Analytical Run #: 160412  Sample No.:#: 274295

Analytical Prep Batch #: 71761  Preparation Date/Time: 05/01/2019 12:35

ICAL Calibration #: 05022019

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Control Limit (%R) | Spike Result | C | Spike Amount | %R | Q | M |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 05/02/2019 14:23 | 80-120 | 0.37 | | 0.38 | 97 | | AA |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1B-SU13**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143965

Concentration Units: ug/L

Sample No.: 270972 Parent Sample No.: 259434

LIMS Run #: 159931 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M |
|---|---|---|---|---|---|---|---|---|
| Manganese | 04/23/2019 19:24 | 93080. | | 93800 | | 1 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1B-SU34**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143965

Concentration Units: ug/L

Sample No.: 271984 Parent Sample No.: 259470

LIMS Run #: 160126 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M |
|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 15:14 | 13000. | | 14050 | | 8 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1B-SU10R3**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143965

Concentration Units: ug/L

Sample No.: 272008 Parent Sample No.: 259496

LIMS Run #: 160127 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M |
|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 18:45 | 21900. | | 23650 | | 8 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU4B-SU04**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143965

Concentration Units: ug/L

Sample No.: 272036 Parent Sample No.: 260925

LIMS Run #: 160109 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M |
|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 23:49 | 3350. | | 3690 | | 10 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

9

***ICP SERIAL DILUTION***

Sample Description

**DU1A-SU13**

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID SDG No.: 143965

Concentration Units: ug/L

Sample No.: 272087 Parent Sample No.: 259433

LIMS Run #: 159931 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

| Analyte | Analysis Date/Time | Initial Sample Result (I) | C (I) | Serial Dilution Result (S) | C (S) | % Diff. | Q | M |
|---|---|---|---|---|---|---|---|---|
| Manganese | 04/25/2019 13:12 | 40600 | | 42250 | | 4 | | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**10**

***METHOD DETECTION LIMITS (ANNUALLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TJA SDG No.: 143965

Matrix: SOLID

| Analyte | Wavelength (nm) | Background | CRDL (ug/L) | MDL ( mg/k) | M |
|---|---|---|---|---|---|
| Arsenic | 193.7 | | | 0.13 | P |
| Manganese | 257.61 | | | 0.025 | P |

CT LABORATORIES
delivering more than data from your environmental analyses

10

***METHOD DETECTION LIMITS (ANNUALLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

SDG No.: 143965

Matrix: SOLID

| Analyte | Wavelength (nm) | Background | CRDL (ug/L) | MDL ( mg/k) | M |
|---|---|---|---|---|---|
| Arsenic | 193.7 | | | 0.04 | AA |

**ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)**
**ICP ID NUMBER: TA ICAP6000 / ICAP6500**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 2 | Fe | 0.000006 | 0.000000 | No |
| | | | Ce | 0.000000 | 0.000000 | No |
| Ag 338.289 {100} | ☒ | 1 | Fe | 0.000906 | 0.000000 | No |
| Al 167.079 {501} | ☒ | None | | | | |
| Al 308.215 {109} | ☒ | None | | | | |
| Al 396.152 { 85} | ☒ | None | | | | |
| As 193.759 {474} | ☒ | 1 | Al | 0.001713 | 0.000000 | No |
| As 197.262 {471} | ☒ | 1 | Al | -0.000113 | 0.000000 | No |
| Ba 233.527 {445} | ☒ | 3 | Fe | -0.000038 | 0.000000 | No |
| | | | V | 0.000180 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Fe | 0.000002 | 0.000000 | No |
| Ba 493.409 { 68} | ☒ | 1 | Fe | 0.000029 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 1 | Fe | 0.000000 | 0.000000 | No |
| Be 234.861 {144} | ☒ | 1 | Fe | -0.000016 | 0.000000 | No |
| Ca 315.887 {107} | ☒ | None | | | | |
| Ca 317.933 {106} | ☒ | None | | | | |
| Ca 393.366 { 86} | ☒ | 1 | Cu | 0.000000 | 0.000000 | No |
| Ca 396.847 { 85} | ☒ | None | | | | |
| Cd 226.502 {449} | ☒ | 2 | Fe | 0.000090 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cd 228.802 {147} | ☒ | None | | | | |
| Co 228.616 {447} | ☒ | 5 | Fe | 0.000009 | 0.000000 | No |
| | | | Ti | 0.003000 | 0.000000 | No |
| | | | Ba | -0.001300 | 0.000000 | No |
| | | | Ni | 0.000040 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| Co 238.892 {141} | ☒ | 1 | Fe | 0.000188 | 0.000000 | No |
| Cr 205.560 {464} | ☒ | 1 | Fe | -0.000004 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 1 | Fe | -0.000014 | 0.000000 | No |
| Cu 224.700 {450} | ☒ | 5 | Fe | 0.000274 | 0.000000 | No |
| | | | Mo | 0.001320 | 0.000000 | No |
| | | | Ni | -0.006000 | 0.000000 | No |
| | | | Pb | 0.003030 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 1 | Fe | -0.000136 | 0.000000 | No |
| Cu 327.396 {103} | ☒ | 1 | Fe | 0.000069 | 0.000000 | No |
| Fe 234.349 {144} | ☒ | None | | | | |
| Fe 239.562 {140} | ☒ | None | | | | |
| Fe 259.940 {129} | ☒ | None | | | | |
| Mg 202.582 {466} | ☒ | None | | | | |
| Mg 279.079 {121} | ☒ | None | | | | |
| Mg 280.270 {120} | ☒ | None | | | | |
| Mn 257.610 {131} | ☒ | 1 | Al | -0.000086 | 0.000000 | No |

## ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
## ICP ID NUMBER: TA ICAP6000 / ICAP6500

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Mn 259.373 {130} | ☒ | 1 | Mg | 0.001339 | 0.000000 | No |
| Mo 202.030 {466} | ☒ | 1 | Fe | -0.000011 | 0.000000 | No |
| Mo 203.844 {465} | ☒ | 1 | Fe | -0.000020 | 0.000000 | No |
| Mo 204.598 {464} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ni 221.647 {452} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ni 231.604 {445} | ☒ | 3 | Fe | 0.000012 | 0.000000 | No |
| | | | Co | 0.000000 | 0.000000 | No |
| | | | Mo | 0.000000 | 0.000000 | No |
| Pb 216.999 {455} | ☒ | 2 | Al | 0.001241 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 3 | Si | 0.000000 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Fe | 0.000018 | 0.000000 | No |
| Pb 220.353 {153} | ☒ | 1 | Al | -0.000040 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 1 | Fe | 0.000009 | 0.000000 | No |
| Sb 217.581 {455} | ☒ | 3 | Fe | -0.000069 | 0.000000 | No |
| | | | V | 0.002070 | 0.000000 | No |
| | | | Pb | -0.001040 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 1 | Fe | -0.000360 | 0.000000 | No |
| Se 206.279 {463} | ☒ | 1 | Fe | 0.001308 | 0.000000 | No |
| Tl 190.856 {476} | ☒ | 5 | Fe | 0.000024 | 0.000000 | No |
| | | | Be | -0.000013 | 0.000000 | No |
| | | | Ti | 0.000050 | 0.000000 | No |
| | | | Cr | 0.000251 | 0.000000 | No |
| | | | V | -0.003800 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 1 | Fe | -0.000048 | 0.000000 | No |
| V 290.882 {116} | ☒ | 1 | Fe | 0.000073 | 0.000000 | No |
| V 292.402 {115} | ☒ | 3 | Fe | 0.000020 | 0.000000 | No |
| | | | Cr | -0.000400 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| Zn 202.548 {466} | ☒ | 1 | Fe | -0.000239 | 0.000000 | No |
| Zn 206.200 {463} | ☒ | 1 | Fe | -0.000003 | 0.000000 | No |
| Zn 213.856 {457} | ☒ | 2 | Fe | 0.000167 | 0.000000 | No |
| | | | Cu | 0.007413 | 0.000000 | No |
| Y 324.228 {104}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| Na 588.995 { 57} | ☒ | 1 | Fe | 0.000106 | 0.000000 | No |
| Si 251.611 {134} | ☒ | 2 | Fe | -0.000105 | 0.000000 | No |
| | | | Mo | 0.005400 | 0.000000 | No |
| Ti 323.452 {104} | ☒ | 1 | Fe | 0.000036 | 0.000000 | No |
| Ti 334.941 {101} | ☒ | 1 | Fe | 0.000052 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |
| Sr 421.552 { 80} | ☒ | 1 | Fe | 0.000014 | 0.000000 | No |

**ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)**
**ICP ID NUMBER: TA ICAP6000 / ICAP6500**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Sn 189.989 {477} | ☒ | 1 | Fe | 0.000013 | 0.000000 | No |
| B 249.678 {135} | ☒ | 2 | Fe | 0.000001 | 0.000000 | No |
| | | | Co | 0.003970 | 0.000000 | No |
| B 249.773 {135} | ☒ | 1 | Fe | 0.000357 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 1 | Fe | 0.000011 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 1 | Fe | 0.000216 | 0.000000 | No |
| P 213.618 {457} | ☒ | 1 | Fe | -0.000079 | 0.000000 | No |
| S 182.034 {485} | ☒ | 1 | Mg | 0.000100 | 0.000000 | No |
| Hg 184.950 {482} | ☒ | 1 | Fe | 0.000001 | 0.000000 | No |
| Ce 404.076 { 83} | ☒ | 1 | Fe | 0.000227 | 0.000000 | No |

***ICP LINEAR RANGES (QUARTERLY)***

Lab Name: CT Laboratories Contract: ERT-CURTIS BAY ORDNANCE DEPOT

ICP ID Number: TA SDG No.: 143965

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | M |
|---|---|---|---|
| Aluminum | 15.00 | 1000000 | P |
| Antimony | 15.00 | 10000 | P |
| Arsenic | 15.00 | 10000 | P |
| Barium | 15.00 | 10000 | P |
| Beryllium | 15.00 | 1000 | P |
| Boron | 15.00 | 1000 | P |
| Cadmium | 15.00 | 1000 | P |
| Calcium | 15.00 | 1000000 | P |
| Chromium | 15.00 | 100000 | P |
| Cobalt | 15.00 | 10000 | P |
| Copper | 15.00 | 100000 | P |
| Iron | 15.00 | 1000000 | P |
| Lead | 15.00 | 100000 | P |
| Lithium | 15.00 | 10000 | P |
| Magnesium | 15.00 | 1000000 | P |
| Manganese | 15.00 | 100000 | P |
| Molybdenum | 15.00 | 10000 | P |
| Nickel | 15.00 | 10000 | P |
| Potassium | 15.00 | 200000 | P |
| Selenium | 15.00 | 10000 | P |
| Silicon | 15.00 | 1000 | P |
| Silver | 15.00 | 100 | P |
| Sodium | 15.00 | 200000 | P |
| Strontium | 15.00 | 10000 | P |
| Thallium | 15.00 | 10000 | P |
| Tin | 15.00 | 10000 | P |
| Titanium | 15.00 | 1000 | P |
| Tungsten | 15.00 | 10000 | P |
| Vanadium | 15.00 | 10000 | P |
| Zinc | 15.00 | 100000 | P |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143965

Preparation Batch #: 71473 | Preparation Date/Time: 04/21/2019 / 14:36

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 258271 | Normal Sample | DU2B-SU10 | SOIL | 1.93 |
| 258272 | Normal Sample | DU2A-SU05 | SOIL | 1.99 |
| 258273 | Normal Sample | DU2B-SU05 | SOIL | 2.04 |
| 258275 | Normal Sample | DU2B-SU04 | SOIL | 1.98 |
| 258276 | Normal Sample | DU2A-SU03 | SOIL | 1.95 |
| 258277 | Normal Sample | DU2B-SU03 | SOIL | 2.05 |
| 259433 | Normal Sample | DU1A-SU13 | SOIL | 1.91 |
| 259434 | Normal Sample | DU1B-SU13 | SOIL | 1.95 |
| 259435 | Normal Sample | DU1A-SU14 | SOIL | 1.96 |
| 259436 | Normal Sample | DU1B-SU14 | SOIL | 2.03 |
| 259437 | Normal Sample | DU1A-SU19 | SOIL | 1.92 |
| 259459 | Normal Sample | DU1B-SU19 | SOIL | 1.91 |
| 259460 | Normal Sample | DU1A-SU12 | SOIL | 1.95 |
| 259462 | Normal Sample | DU1B-SU12 | SOIL | 1.99 |
| 259463 | Normal Sample | DU1A-SU36R1 | SOIL | 2.05 |
| 259464 | Normal Sample | DU1B-SU36R1 | SOIL | 2.00 |
| 259465 | Normal Sample | DU1A-SU36R2 | SOIL | 1.95 |
| 259466 | Normal Sample | DU1B-SU36R2 | SOIL | 2.05 |
| 259467 | Normal Sample | DU1A-SU36R3 | SOIL | 1.90 |
| 259468 | Normal Sample | DU1B-SU36R3 | SOIL | 1.94 |
| 265276 | Method Blank | | SOLID | 1.95 |
| 265277 | Lab Control Spike | | SOLID | 2.01 |
| 265278 | Lab Duplicate | DU1B-SU13 | SOIL | 1.95 |
| 265279 | Lab Duplicate | DU1B-SU13 | SOIL | 1.96 |
| 265280 | Matrix Spike | DU1B-SU13 | SOIL | 1.96 |
| 265281 | Matrix Spike Duplicate | DU1B-SU13 | SOIL | 1.95 |
| 265282 | Lab Duplicate | DU1A-SU36R2 | SOIL | 1.95 |
| 265283 | Lab Duplicate | DU1A-SU36R2 | SOIL | 1.94 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143965

Preparation Batch #: 71473 | Preparation Date/Time: 04/21/2019 / 14:36

| | | | | |
|---|---|---|---|---|
| 265289 | Lab Duplicate | DU2B-SU10 | SOIL | 1.92 |
| 265290 | Matrix Spike | DU2B-SU10 | SOIL | 1.93 |
| 265291 | Matrix Spike Duplicate | DU2B-SU10 | SOIL | 1.92 |
| 265292 | Lab Duplicate | DU1A-SU13 | SOIL | 1.91 |
| 265293 | Matrix Spike | DU1A-SU13 | SOIL | 1.91 |
| 265294 | Matrix Spike Duplicate | DU1A-SU13 | SOIL | 1.90 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143965

Preparation Batch #: 71586 | Preparation Date/Time: 04/24/2019 / 09:05

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 259469 | Normal Sample | DU1A-SU34 | SOIL | 1.91 |
| 259470 | Normal Sample | DU1B-SU34 | SOIL | 2.03 |
| 259471 | Normal Sample | DU1A-SU10R1 | SOIL | 1.94 |
| 259472 | Normal Sample | DU1B-SU10R1 | SOIL | 2.02 |
| 259473 | Normal Sample | DU2A-SU09 | SOIL | 2.05 |
| 259474 | Normal Sample | DU2B-SU09 | SOIL | 1.96 |
| 259475 | Normal Sample | DU2A-SU08 | SOIL | 1.95 |
| 259477 | Normal Sample | DU2B-SU08 | SOIL | 1.93 |
| 259478 | Normal Sample | DU1A-SU21 | SOIL | 2.07 |
| 259479 | Normal Sample | DU1B-SU21 | SOIL | 1.92 |
| 259480 | Normal Sample | DU2A-SU16 | SOIL | 1.94 |
| 259481 | Normal Sample | DU2B-SU16 | SOIL | 2.03 |
| 259482 | Normal Sample | DU2A-SU15 | SOIL | 1.92 |
| 259483 | Normal Sample | DU2B-SU15 | SOIL | 2.04 |
| 259484 | Normal Sample | DU2A-SU01 | SOIL | 2.05 |
| 259485 | Normal Sample | DU2B-SU01 | SOIL | 2.01 |
| 259487 | Normal Sample | DU2A-SU17 | SOIL | 1.93 |
| 259492 | Normal Sample | DU2B-SU17 | SOIL | 1.99 |
| 259493 | Normal Sample | DU1A-SU10R2 | SOIL | 1.90 |
| 259494 | Normal Sample | DU1B-SU10R2 | SOIL | 1.98 |
| 268928 | Method Blank | | SOLID | 1.99 |
| 268929 | Lab Control Spike | | SOLID | 1.99 |
| 268932 | Lab Duplicate | DU1A-SU34 | SOIL | 1.90 |
| 268933 | Lab Duplicate | DU1A-SU34 | SOIL | 1.90 |
| 268934 | Matrix Spike | DU1A-SU34 | SOIL | 1.91 |
| 268935 | Matrix Spike Duplicate | DU1A-SU34 | SOIL | 1.91 |
| 268936 | Lab Duplicate | DU1B-SU34 | SOIL | 2.02 |
| 268937 | Lab Duplicate | DU1B-SU34 | SOIL | 2.04 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories | Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B | SDG No.: 143965

Preparation Batch #: 71586 | Preparation Date/Time: 04/24/2019 / 09:05

| | | | | |
|---|---|---|---|---|
| 268938 | Matrix Spike | DU1B-SU34 | SOIL | 2.04 |
| 268939 | Matrix Spike Duplicate | DU1B-SU34 | SOIL | 2.02 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143965

Preparation Batch #: 71588

Preparation Date/Time: 04/24/2019 / 09:05

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 259495 | Normal Sample | DU1A-SU10R3 | SOIL | 1.98 |
| 259496 | Normal Sample | DU1B-SU10R3 | SOIL | 1.93 |
| 259497 | Normal Sample | DU1A-SU39 | SOIL | 1.97 |
| 259498 | Normal Sample | DU1B-SU39 | SOIL | 2.00 |
| 259499 | Normal Sample | DU1A-SU23 | SOIL | 1.96 |
| 259500 | Normal Sample | DU1B-SU23 | SOIL | 1.91 |
| 259501 | Normal Sample | DU1A-SU29 | SOIL | 2.05 |
| 259502 | Normal Sample | DU1B-SU29 | SOIL | 1.97 |
| 259503 | Normal Sample | DU1A-SU52 | SOIL | 2.01 |
| 259504 | Normal Sample | DU1B-SU52 | SOIL | 1.94 |
| 259505 | Normal Sample | DU2A-SU06 | SOIL | 2.03 |
| 259506 | Normal Sample | DU2B-SU06 | SOIL | 1.97 |
| 260386 | Normal Sample | DU2A-SU14 | SOIL | 1.94 |
| 260459 | Normal Sample | DU2B-SU14 | SOIL | 2.08 |
| 260460 | Normal Sample | DU2A-SU13 | SOIL | 1.97 |
| 260461 | Normal Sample | DU2B-SU13 | SOIL | 2.00 |
| 260462 | Normal Sample | DU2A-SU12 | SOIL | 2.08 |
| 260463 | Normal Sample | DU2B-SU12 | SOIL | 2.04 |
| 260464 | Normal Sample | DU2A-SU11 | SOIL | 1.97 |
| 260465 | Normal Sample | DU2B-SU11 | SOIL | 2.03 |
| 268941 | Method Blank | | SOLID | 1.93 |
| 268942 | Lab Control Spike | | SOLID | 2.05 |
| 268943 | Lab Duplicate | DU1A-SU10R3 | SOIL | 1.99 |
| 268944 | Lab Duplicate | DU1A-SU10R3 | SOIL | 1.99 |
| 268945 | Lab Duplicate | DU1B-SU10R3 | SOIL | 1.93 |
| 268946 | Lab Duplicate | DU1B-SU10R3 | SOIL | 1.93 |
| 268947 | Matrix Spike | DU1B-SU10R3 | SOIL | 1.92 |
| 268948 | Matrix Spike Duplicate | DU1B-SU10R3 | SOIL | 1.94 |

CT LABORATORIES
delivering more than data from your environmental analyses

13

***PREPARATION LOG***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Project: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Method: | EPA 3050B | SDG No.: | 143965 |
| Preparation Batch #: | 71588 | Preparation Date/Time: | 04/24/2019 / 09:05 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143965

Preparation Batch #: 71590

Preparation Date/Time: 04/24/2019 / 14:28

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 260466 | Normal Sample | DU4A-SU06 | SOIL | 2.07 |
| 260467 | Normal Sample | DU4B-SU06 | SOIL | 1.99 |
| 260468 | Normal Sample | DU4A-SU07R1 | SOIL | 1.97 |
| 260469 | Normal Sample | DU4B-SU07R1 | SOIL | 2.00 |
| 260470 | Normal Sample | DU4A-SU07R2 | SOIL | 2.05 |
| 260471 | Normal Sample | DU4B-SU07R2 | SOIL | 2.03 |
| 260472 | Normal Sample | DU4A-SU07R3 | SOIL | 1.95 |
| 260473 | Normal Sample | DU4B-SU07R3 | SOIL | 1.92 |
| 260474 | Normal Sample | DU4A-SU05 | SOIL | 2.06 |
| 260475 | Normal Sample | DU4B-SU05 | SOIL | 1.93 |
| 260924 | Normal Sample | DU4A-SU04 | SOIL | 1.92 |
| 260925 | Normal Sample | DU4B-SU04 | SOIL | 1.92 |
| 260926 | Normal Sample | DU4A-SU03 | SOIL | 1.90 |
| 260927 | Normal Sample | DU4B-SU03 | SOIL | 2.03 |
| 260928 | Normal Sample | DU4A-SU02 | SOIL | 1.93 |
| 260929 | Normal Sample | DU4B-SU02 | SOIL | 1.98 |
| 260930 | Normal Sample | DU4A-SU01 | SOIL | 1.90 |
| 260931 | Normal Sample | DU4B-SU01 | SOIL | 1.91 |
| 268949 | Lab Duplicate | DU4A-SU04 | SOIL | 1.93 |
| 268950 | Lab Duplicate | DU4A-SU04 | SOIL | 1.93 |
| 268951 | Matrix Spike | DU4A-SU04 | SOIL | 1.92 |
| 268952 | Matrix Spike Duplicate | DU4A-SU04 | SOIL | 1.93 |
| 268956 | Lab Duplicate | DU4B-SU04 | SOIL | 1.92 |
| 268957 | Lab Duplicate | DU4B-SU04 | SOIL | 1.92 |
| 268958 | Matrix Spike | DU4B-SU04 | SOIL | 1.93 |
| 268959 | Matrix Spike Duplicate | DU4B-SU04 | SOIL | 1.93 |
| 268964 | Method Blank | | SOLID | 1.96 |
| 268965 | Lab Control Spike | | SOLID | 2.01 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Project: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Method: | EPA 3050B | SDG No.: | 143965 |
| Preparation Batch #: | 71590 | Preparation Date/Time: | 04/24/2019 / 14:28 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143965

Preparation Batch #: 71761

Preparation Date/Time: / 12:35

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 257647 | Normal Sample | DU1A-SU44R1 | SOIL | 2.04 |
| 257648 | Normal Sample | DU1B-SU44R1 | SOIL | 1.99 |
| 257649 | Normal Sample | DU1A-SU44R2 | SOIL | 1.95 |
| 257650 | Normal Sample | DU1B-SU44R2 | SOIL | 1.90 |
| 257651 | Normal Sample | DU1A-SU44R3 | SOIL | 1.93 |
| 257652 | Normal Sample | DU1B-SU44R3 | SOIL | 2.00 |
| 257653 | Normal Sample | DU1A-SU48 | SOIL | 1.97 |
| 257654 | Normal Sample | DU1B-SU48 | SOIL | 2.06 |
| 257655 | Normal Sample | DU1A-SU26 | SOIL | 1.90 |
| 257657 | Normal Sample | DU1B-SU30S1 | SOIL | 1.95 |
| 257659 | Normal Sample | DU1B-SU30S2 | SOIL | 1.92 |
| 257661 | Normal Sample | DU1B-SU30S3 | SOIL | 1.95 |
| 259436 | Normal Sample | DU1B-SU14 | SOIL | 2.08 |
| 260475 | Normal Sample | DU4B-SU05 | SOIL | 1.90 |
| 274294 | Method Blank | | SOLID | 1.94 |
| 274295 | Lab Control Spike | | SOLID | 2.00 |
| 274296 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.05 |
| 274297 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.04 |
| 274298 | Matrix Spike | DU1A-SU44R1 | SOIL | 2.05 |
| 274299 | Matrix Spike Duplicate | DU1A-SU44R1 | SOIL | 2.03 |
| 274300 | Lab Duplicate | DU1B-SU14 | SOIL | 2.08 |
| 274301 | Lab Duplicate | DU1B-SU14 | SOIL | 2.07 |

CT LABORATORIES
delivering more than data from your environmental analyses

**13**

***PREPARATION LOG***

Lab Name: CT Laboratories

Project: ERT-CURTIS BAY ORDNANCE DEPOT

Method: EPA 3050B

SDG No.: 143965

Preparation Batch #: 71761

Preparation Date/Time: 05/01/2019 / 12:35

| Lab Sample # | QC Type | Sample Description | Matrix | **Weight (g for solid/soil) or Volume (mL for liquid/aqueous)** |
|---|---|---|---|---|
| 257647 | Normal Sample | DU1A-SU44R1 | SOIL | 2.04 |
| 257648 | Normal Sample | DU1B-SU44R1 | SOIL | 1.99 |
| 257649 | Normal Sample | DU1A-SU44R2 | SOIL | 1.95 |
| 257650 | Normal Sample | DU1B-SU44R2 | SOIL | 1.90 |
| 257651 | Normal Sample | DU1A-SU44R3 | SOIL | 1.93 |
| 257652 | Normal Sample | DU1B-SU44R3 | SOIL | 2.00 |
| 257653 | Normal Sample | DU1A-SU48 | SOIL | 1.97 |
| 257654 | Normal Sample | DU1B-SU48 | SOIL | 2.06 |
| 257655 | Normal Sample | DU1A-SU26 | SOIL | 1.90 |
| 257657 | Normal Sample | DU1B-SU30S1 | SOIL | 1.95 |
| 257659 | Normal Sample | DU1B-SU30S2 | SOIL | 1.92 |
| 257661 | Normal Sample | DU1B-SU30S3 | SOIL | 1.95 |
| 259436 | Normal Sample | DU1B-SU14 | SOIL | 2.08 |
| 260475 | Normal Sample | DU4B-SU05 | SOIL | 1.90 |
| 274294 | Method Blank | | SOLID | 1.94 |
| 274295 | Lab Control Spike | | SOLID | 2.00 |
| 274296 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.05 |
| 274297 | Lab Duplicate | DU1A-SU44R1 | SOIL | 2.04 |
| 274298 | Matrix Spike | DU1A-SU44R1 | SOIL | 2.05 |
| 274299 | Matrix Spike Duplicate | DU1A-SU44R1 | SOIL | 2.03 |
| 274300 | Lab Duplicate | DU1B-SU14 | SOIL | 2.08 |
| 274301 | Lab Duplicate | DU1B-SU14 | SOIL | 2.07 |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019 | Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271472 | ICV | 1.00 | 4/23 16:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270958 | ICVLL | 1.00 | 4/23 16:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270959 | ICB | 1.00 | 4/23 16:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270960 | ICSA | 1.00 | 4/23 16:40 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 270961 | ICSAB | 1.00 | 4/23 16:46 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 265277 | LCSS | 1.00 | 4/23 17:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265276 | MBS | 1.00 | 4/23 17:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258271 | Initial | 1.00 | 4/23 17:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270962 | L | 5 | 4/23 17:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265289 | DUP | 1.00 | 4/23 17:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265290 | MSS | 1.00 | 4/23 17:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 265291 | MSDS | 1.00 | 4/23 17:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270963 | PDSS | 1.00 | 4/23 17:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270964 | CCV1 | 1.00 | 4/23 17:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270965 | CCV2 | 1.00 | 4/23 17:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270966 | CCB | 1.00 | 4/23 17:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258272 | Initial | 1.00 | 4/23 18:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258273 | Initial | 1.00 | 4/23 18:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258275 | Initial | 1.00 | 4/23 18:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258276 | Initial | 1.00 | 4/23 18:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 258277 | Initial | 1.00 | 4/23 18:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259433 | Initial | 1.00 | 4/23 18:29 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270967 | L | 5 | 4/23 18:34 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265292 | DUP | 1.00 | 4/23 18:40 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265293 | MSS | 1.00 | 4/23 18:45 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 265294 | MSDS | 1.00 | 4/23 18:51 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270968 | CCV1 | 1.00 | 4/23 18:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270969 | CCV2 | 1.00 | 4/23 19:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 270970 | CCB | 1.00 | 4/23 19:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019 | Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270971 | PDSS | 1.00 | 4/23 19:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259434 | Initial | 1.00 | 4/23 19:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270972 | L | 5 | 4/23 19:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265278 | DUP | 1.00 | 4/23 19:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265279 | DUP | 1.00 | 4/23 19:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265280 | MSS | 1.00 | 4/23 19:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265281 | MSDS | 1.00 | 4/23 19:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270973 | PDSS | 1.00 | 4/23 19:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259435 | Initial | 1.00 | 4/23 19:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259436 | Initial | 1.00 | 4/23 20:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270974 | CCV1 | 1.00 | 4/23 20:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270975 | CCV2 | 1.00 | 4/23 20:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270976 | CCB | 1.00 | 4/23 20:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259437 | Initial | 1.00 | 4/23 20:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259459 | Initial | 1.00 | 4/23 20:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259460 | Initial | 1.00 | 4/23 20:35 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259462 | Initial | 1.00 | 4/23 20:41 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259463 | Initial | 1.00 | 4/23 20:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259464 | Initial | 1.00 | 4/23 20:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259465 | Initial | 1.00 | 4/23 20:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265282 | DUP | 1.00 | 4/23 21:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265283 | DUP | 1.00 | 4/23 21:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259466 | Initial | 1.00 | 4/23 21:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270977 | CCV1 | 1.00 | 4/23 21:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270978 | CCV2 | 1.00 | 4/23 21:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270979 | CCB | 1.00 | 4/23 21:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259467 | Initial | 1.00 | 4/23 21:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259468 | Initial | 1.00 | 4/23 21:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270980 | CCV1 | 1.00 | 4/23 22:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019 | Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270981 | CCV2 | 1.00 | 4/23 22:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 270982 | CCB | 1.00 | 4/23 22:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271952 | ICV | 1.00 | 4/25 11:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271953 | ICVLL | 1.00 | 4/25 12:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271954 | ICB | 1.00 | 4/25 12:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271955 | MRL | 1.00 | 4/25 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271956 | ICSA | 1.00 | 4/25 12:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 271957 | ICSAB | 1.00 | 4/25 12:23 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 259433 | Re-Analysis | 10.00 | 4/25 13:07 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272087 | L | 5 | 4/25 13:12 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265292 | DUP | 10.00 | 4/25 13:17 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271958 | CCV1 | 1.00 | 4/25 13:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271959 | CCV2 | 1.00 | 4/25 13:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271960 | CCB | 1.00 | 4/25 13:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265293 | MSS | 10.00 | 4/25 13:38 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 265294 | MSDS | 10.00 | 4/25 13:44 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272088 | PDSS | 1.00 | 4/25 13:49 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259462 | Re-Analysis | 10.00 | 4/25 14:00 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271961 | CCV1 | 1.00 | 4/25 14:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271962 | CCV2 | 1.00 | 4/25 14:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271963 | CCB | 1.00 | 4/25 14:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271964 | CCV1 | 1.00 | 4/26 01:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271965 | CCV2 | 1.00 | 4/26 01:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271966 | CCB | 1.00 | 4/26 01:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259460 | Re-Analysis | 30.00 | 4/26 01:26 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271967 | CCV1 | 1.00 | 4/26 01:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271968 | CCV2 | 1.00 | 4/26 01:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL

SDG No.: 143965

Instrument ID Number: TJA

Method Number: P

Start & End Date: 04/23/2019 to 04/26/2019

Analytical Run #: 159931

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271969 | CCB | 1.00 | 4/26 01:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/25/2019 to 04/29/2019 | Analytical Run #: 160109

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 272019 | ICV | 1.00 | 4/25 11:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272020 | ICVLL | 1.00 | 4/25 12:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272021 | ICB | 1.00 | 4/25 12:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272022 | MRL | 1.00 | 4/25 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272023 | ICSA | 1.00 | 4/25 12:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 272024 | ICSAB | 1.00 | 4/25 12:23 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 272025 | CCV1 | 1.00 | 4/25 20:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272026 | CCV2 | 1.00 | 4/25 20:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272027 | CCB | 1.00 | 4/25 20:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268965 | LCSS | 1.00 | 4/25 21:29 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 272028 | CCV1 | 1.00 | 4/25 21:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272029 | CCV2 | 1.00 | 4/25 21:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272030 | CCB | 1.00 | 4/25 21:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268964 | MBS | 1.00 | 4/25 21:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260466 | Initial | 1.00 | 4/25 21:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260467 | Initial | 1.00 | 4/25 22:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260468 | Initial | 1.00 | 4/25 22:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260469 | Initial | 1.00 | 4/25 22:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260470 | Initial | 1.00 | 4/25 22:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260471 | Initial | 1.00 | 4/25 22:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260472 | Initial | 1.00 | 4/25 22:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260473 | Initial | 1.00 | 4/25 22:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260474 | Initial | 1.00 | 4/25 22:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272031 | CCV1 | 1.00 | 4/25 22:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272032 | CCV2 | 1.00 | 4/25 22:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272033 | CCB | 1.00 | 4/25 22:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260475 | Initial | 1.00 | 4/25 23:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260924 | Initial | 1.00 | 4/25 23:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272034 | L | 5 | 4/25 23:11 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/25/2019 to 04/29/2019 | Analytical Run #: 160109

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 268949 | DUP | 1.00 | 4/25 23:16 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268950 | DUP | 1.00 | 4/25 23:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268951 | MSS | 1.00 | 4/25 23:27 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268952 | MSDS | 1.00 | 4/25 23:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272035 | PDSS | 1.00 | 4/25 23:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260925 | Initial | 1.00 | 4/25 23:43 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272036 | L | 5 | 4/25 23:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272037 | CCV1 | 1.00 | 4/25 23:54 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272038 | CCV2 | 1.00 | 4/25 23:59 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272039 | CCB | 1.00 | 4/26 00:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268956 | DUP | 1.00 | 4/26 00:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268957 | DUP | 1.00 | 4/26 00:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268958 | MSS | 1.00 | 4/26 00:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268959 | MSDS | 1.00 | 4/26 00:26 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272040 | PDSS | 1.00 | 4/26 00:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260926 | Initial | 1.00 | 4/26 00:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260927 | Initial | 1.00 | 4/26 00:43 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260928 | Initial | 1.00 | 4/26 00:48 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260929 | Initial | 1.00 | 4/26 00:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260930 | Initial | 1.00 | 4/26 00:59 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272041 | CCV1 | 1.00 | 4/26 01:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272042 | CCV2 | 1.00 | 4/26 01:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272043 | CCB | 1.00 | 4/26 01:15 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260931 | Initial | 1.00 | 4/26 01:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272044 | CCV1 | 1.00 | 4/26 01:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272045 | CCV2 | 1.00 | 4/26 01:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 272046 | CCB | 1.00 | 4/26 01:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143965

Instrument ID Number: TJA
Method Number: P

Start & End Date: 04/25/2019 to 04/29/2019
Analytical Run #: 160109

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 273368 | ICV | 1.00 | 4/29 15:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273369 | ICVLL | 1.00 | 4/29 16:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273370 | ICB | 1.00 | 4/29 16:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273371 | ICSA | 1.00 | 4/29 16:26 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 273372 | ICSAB | 1.00 | 4/29 16:33 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 268965 | LCSS | 1.00 | 4/29 17:17 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273373 | CCV1 | 1.00 | 4/29 17:49 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273374 | CCV2 | 1.00 | 4/29 17:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273375 | CCB | 1.00 | 4/29 18:00 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/25/2019 to 04/25/2019 | Analytical Run #: 160126

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271970 | ICV | 1.00 | 4/25 11:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271971 | ICVLL | 1.00 | 4/25 12:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271972 | ICB | 1.00 | 4/25 12:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271973 | MRL | 1.00 | 4/25 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271974 | ICSA | 1.00 | 4/25 12:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 271975 | ICSAB | 1.00 | 4/25 12:23 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | |
| 271976 | CCV1 | 1.00 | 4/25 13:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271977 | CCV2 | 1.00 | 4/25 13:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271978 | CCB | 1.00 | 4/25 13:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268929 | LCSS | 1.00 | 4/25 14:05 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268928 | MBS | 1.00 | 4/25 14:10 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259469 | Initial | 1.00 | 4/25 14:16 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271979 | L | 5 | 4/25 14:21 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268932 | DUP | 1.00 | 4/25 14:26 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271980 | CCV1 | 1.00 | 4/25 14:32 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271981 | CCV2 | 1.00 | 4/25 14:37 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271982 | CCB | 1.00 | 4/25 14:42 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268933 | DUP | 1.00 | 4/25 14:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268934 | MSS | 1.00 | 4/25 14:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268935 | MSDS | 1.00 | 4/25 14:58 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271983 | PDSS | 1.00 | 4/25 15:04 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259470 | Initial | 1.00 | 4/25 15:09 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271984 | L | 5 | 4/25 15:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268936 | DUP | 1.00 | 4/25 15:20 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268937 | DUP | 1.00 | 4/25 15:25 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268938 | MSS | 1.00 | 4/25 15:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 268939 | MSDS | 1.00 | 4/25 15:36 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271985 | CCV1 | 1.00 | 4/25 15:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271986 | CCV2 | 1.00 | 4/25 15:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL

SDG No.: 143965

Instrument ID Number: TJA

Method Number: P

Start & End Date: 04/25/2019 to 04/25/2019

Analytical Run #: 160126

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271987 | CCB | 1.00 | 4/25 15:52 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271988 | PDSS | 1.00 | 4/25 15:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259471 | Initial | 1.00 | 4/25 16:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259472 | Initial | 1.00 | 4/25 16:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259473 | Initial | 1.00 | 4/25 16:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259474 | Initial | 1.00 | 4/25 16:19 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259475 | Initial | 1.00 | 4/25 16:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259477 | Initial | 1.00 | 4/25 16:29 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259478 | Initial | 1.00 | 4/25 16:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259479 | Initial | 1.00 | 4/25 16:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259480 | Initial | 1.00 | 4/25 16:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271989 | CCV1 | 1.00 | 4/25 16:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271990 | CCV2 | 1.00 | 4/25 16:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271991 | CCB | 1.00 | 4/25 17:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259481 | Initial | 1.00 | 4/25 17:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259482 | Initial | 1.00 | 4/25 17:13 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259483 | Initial | 1.00 | 4/25 17:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259484 | Initial | 1.00 | 4/25 17:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259485 | Initial | 1.00 | 4/25 17:30 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259487 | Initial | 1.00 | 4/25 17:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259492 | Initial | 1.00 | 4/25 17:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259493 | Initial | 1.00 | 4/25 17:46 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259494 | Initial | 1.00 | 4/25 17:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271992 | CCV1 | 1.00 | 4/25 18:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271993 | CCV2 | 1.00 | 4/25 18:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 271994 | CCB | 1.00 | 4/25 18:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/25/2019 to 04/26/2019 | Analytical Run #: 160127

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271996 | ICV | 1.00 | 4/25 11:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271997 | ICVLL | 1.00 | 4/25 12:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271998 | ICB | 1.00 | 4/25 12:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 271999 | MRL | 1.00 | 4/25 12:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272000 | ICSA | 1.00 | 4/25 12:18 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 272001 | ICSAB | 1.00 | 4/25 12:23 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 272002 | CCV1 | 1.00 | 4/25 16:51 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272003 | CCV2 | 1.00 | 4/25 16:56 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272004 | CCB | 1.00 | 4/25 17:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268942 | LCSS | 1.00 | 4/25 17:57 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272005 | CCV1 | 1.00 | 4/25 18:02 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272006 | CCV2 | 1.00 | 4/25 18:07 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272007 | CCB | 1.00 | 4/25 18:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268941 | MBS | 1.00 | 4/25 18:18 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259495 | Initial | 1.00 | 4/25 18:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268943 | DUP | 1.00 | 4/25 18:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268944 | DUP | 1.00 | 4/25 18:34 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259496 | Initial | 1.00 | 4/25 18:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272008 | L | 5 | 4/25 18:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268945 | DUP | 1.00 | 4/25 18:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268946 | DUP | 1.00 | 4/25 18:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268947 | MSS | 1.00 | 4/25 19:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 268948 | MSDS | 1.00 | 4/25 19:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272009 | CCV1 | 1.00 | 4/25 19:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272010 | CCV2 | 1.00 | 4/25 19:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272011 | CCB | 1.00 | 4/25 19:22 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272012 | PDSS | 1.00 | 4/25 19:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259497 | Initial | 1.00 | 4/25 19:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259498 | Initial | 1.00 | 4/25 19:38 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories | Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL | SDG No.: 143965

Instrument ID Number: TJA | Method Number: P

Start & End Date: 04/25/2019 to 04/26/2019 | Analytical Run #: 160127

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 259499 | Initial | 1.00 | 4/25 19:44 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259500 | Initial | 1.00 | 4/25 19:50 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259501 | Initial | 1.00 | 4/25 19:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259502 | Initial | 1.00 | 4/25 20:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259503 | Initial | 1.00 | 4/25 20:06 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259504 | Initial | 1.00 | 4/25 20:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259505 | Initial | 1.00 | 4/25 20:17 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272013 | CCV1 | 1.00 | 4/25 20:23 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272014 | CCV2 | 1.00 | 4/25 20:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272015 | CCB | 1.00 | 4/25 20:33 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 259506 | Initial | 1.00 | 4/25 20:39 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 260386 | Initial | 1.00 | 4/25 20:44 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 260459 | Initial | 1.00 | 4/25 20:50 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 260460 | Initial | 1.00 | 4/25 20:55 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 260461 | Initial | 1.00 | 4/25 21:01 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 260462 | Initial | 1.00 | 4/25 21:07 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 260463 | Initial | 1.00 | 4/25 21:12 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 260464 | Initial | 1.00 | 4/25 21:18 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 260465 | Initial | 1.00 | 4/25 21:24 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272016 | CCV1 | 1.00 | 4/25 21:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272017 | CCV2 | 1.00 | 4/25 21:40 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 272018 | CCB | 1.00 | 4/25 21:45 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273140 | ICV | 1.00 | 4/26 16:28 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273141 | ICVLL | 1.00 | 4/26 16:35 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273142 | ICB | 1.00 | 4/26 16:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 273143 | ICSA | 1.00 | 4/26 16:59 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 273144 | ICSAB | 1.00 | 4/26 17:06 | X | | X | | | | | X | | | | X | | X | X | | | | | | | | | | | | | | | |
| 273145 | CCV1 | 1.00 | 4/26 19:41 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143965

Instrument ID Number: TJA
Method Number: P

Start & End Date: 04/25/2019 to 04/26/2019
Analytical Run #: 160127

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 273146 | CCV2 | 1.00 | 4/26 19:47 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273147 | CCB | 1.00 | 4/26 19:53 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259499 | Re-Analysis | 10.00 | 4/26 20:12 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 259500 | Re-Analysis | 5.00 | 4/26 20:19 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260462 | Re-Analysis | 10.00 | 4/26 20:26 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 260464 | Re-Analysis | 10.00 | 4/26 20:32 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273148 | CCV1 | 1.00 | 4/26 21:03 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273149 | CCV2 | 1.00 | 4/26 21:08 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 273150 | CCB | 1.00 | 4/26 21:14 | | | X | | | | | | | | | | | | X | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143965

Instrument ID Number: SIMAA
Method Number: AA

Start & End Date: 05/02/2019 to 05/02/2019
Analytical Run #: 160412

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 276689 | CCVLL | 1.00 | 5/02 13:38 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276544 | ICV | 1.00 | 5/02 14:11 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276545 | CCB | 1.00 | 5/02 14:17 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274295 | LCSS | 1.00 | 5/02 14:23 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274294 | MBS | 1.00 | 5/02 14:29 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276687 | L | 5 | 5/02 14:55 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274296 | DUP | 5.00 | 5/02 15:01 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274297 | DUP | 5.00 | 5/02 15:07 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274298 | MSS | 5.00 | 5/02 15:13 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276546 | CCV | 1.00 | 5/02 15:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276547 | CCB | 1.00 | 5/02 15:25 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274299 | MSDS | 5.00 | 5/02 15:30 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257648 | Initial | 5.00 | 5/02 15:36 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257649 | Initial | 5.00 | 5/02 15:43 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257650 | Initial | 5.00 | 5/02 15:49 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257651 | Initial | 5.00 | 5/02 15:55 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257652 | Initial | 5.00 | 5/02 16:01 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257653 | Initial | 5.00 | 5/02 16:07 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257654 | Initial | 5.00 | 5/02 16:13 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276548 | CCV | 1.00 | 5/02 16:19 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276549 | CCB | 1.00 | 5/02 16:25 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257655 | Initial | 5.00 | 5/02 16:31 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257657 | Initial | 5.00 | 5/02 16:37 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257659 | Initial | 5.00 | 5/02 16:42 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257661 | Initial | 5.00 | 5/02 16:48 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 259436 | Initial | 5.00 | 5/02 16:54 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274300 | DUP | 5.00 | 5/02 17:00 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274301 | DUP | 5.00 | 5/02 17:06 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 260475 | Initial | 5.00 | 5/02 17:12 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CT LABORATORIES
delivering more than data from your environmental analyses

14

***ANALYSIS RUN LOG***

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Lab Code: CTL
SDG No.: 143965

Instrument ID Number: SIMAA
Method Number: AA

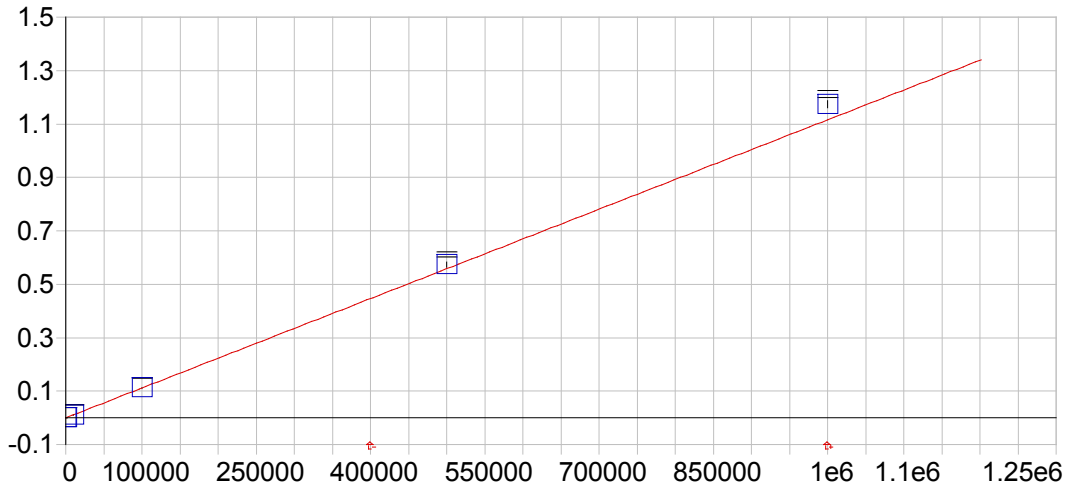
Start & End Date: 05/02/2019 to 05/02/2019
Analytical Run #: 160412

| Sample Number | Analysis or QC Type | DF | Analysis Date/ Time | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Mo | Li | Ni | K | Se | Si | Ag | Na | Sr | Tl | Sn | W | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 257647 | Initial | 5.00 | 5/02 17:18 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276688 | PDSS | 1.00 | 5/02 17:24 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276550 | CCV | 1.00 | 5/02 17:30 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276551 | CCB | 1.00 | 5/02 17:36 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

# METALS
# RAW DATA
# DOCUMENTS

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999998 | 0.000004 | 9.943596 | 33.145320 |
| | As 193.759 {474} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000001 | 2.923645 | 9.745483 |
| | As 197.262 {471} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 21.884844 | 72.949480 |
| | Ca 315.887 {107} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000055 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000006 | 6.003072 | 20.010240 |
| | Fe 234.349 {144} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | None | 0.004816 | 0.000000 | 0.000000 | 1.000000 | 0.994129 | 0.016975 | 2.351614 | 7.838712 |
| | Fe 239.562 {141} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.999829 | 0.000008 | 2.269530 | 7.565100 |
| | Mg 279.079 {121} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999983 | 0.000001 | 19.513946 | 65.046487 |
| | Pb 216.999 {455} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999795 | 0.000000 | 6.807207 | 22.690691 |
| | Pb 220.353 {153} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Var | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999702 | 0.000003 | 4.483850 | 14.946168 |
| | Pb 220.353 {453} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999726 | 0.000000 | 2.144750 | 7.149168 |
| | Y 324.228 {104}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999561 | 0.000006 | 0.362333 | 1.207777 |
| | Mn 259.373 {130} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999960 | 0.000003 | 0.429061 | 1.430205 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |

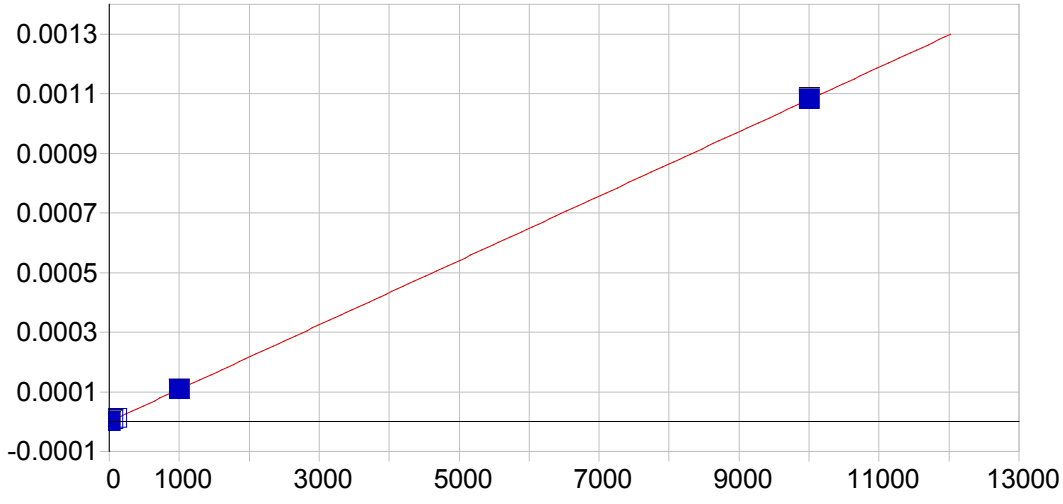



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 9.943596 | | |
| Predicted MQL: | 33.145320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02779 | -.028 | .000 | .00000 | .000 | 1 |
| CalStd14-10 | 1000000. | 1052300. | 52300. | 5.23 | 1.1740 | .013 | 1 |
| CalStd13=50 | 500000. | 513940. | 13900. | 2.79 | .57338 | .010 | 1 |
| CalStd10=10 | 10000. | 9873.1 | -127. | -1.27 | .01102 | .000 | 1 |
| CalStd12-10 | 100000. | 100190. | 193. | .193 | .11178 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00117 | .000 | 1 |

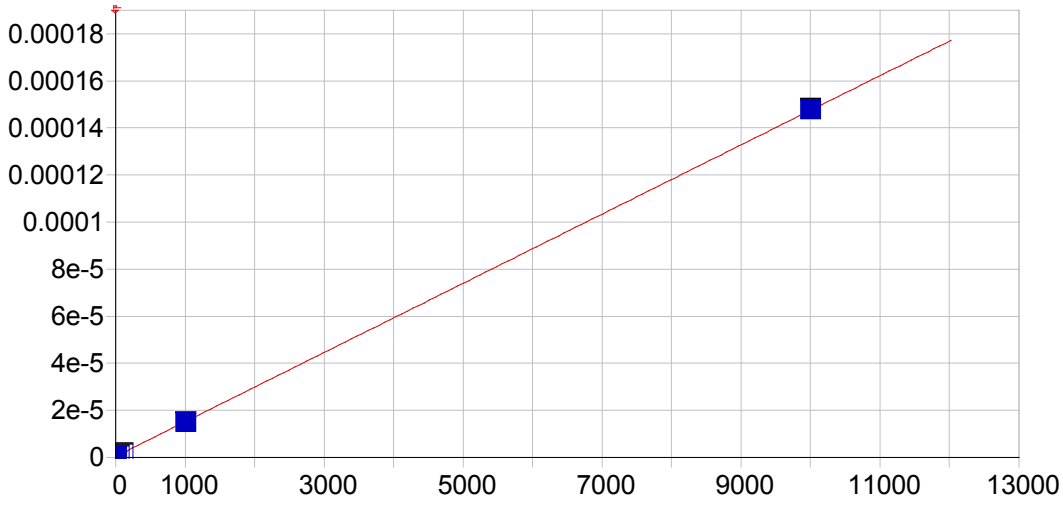



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.923645 | | |
| Predicted MQL: | 9.745483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.7572 | -3.76 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.40 | -2.60 | -.260 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.984 | 2.98 | 5.97 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8190 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.82 | 6.82 | 6.82 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 5.29 | .053 | .00108 | .000 | 1 |

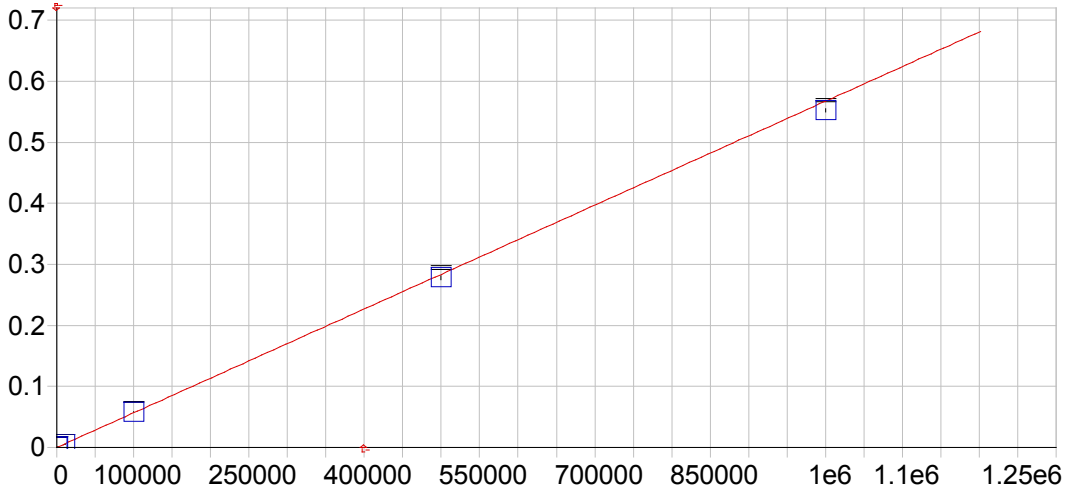



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.884844 | | |
| Predicted MQL: | 72.949480 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.3371 | 2.34 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 974.29 | -25.7 | -2.57 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 31.834 | -18.2 | -36.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | -4.8874 | -14.9 | -149. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 81.761 | -18.2 | -18.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.84 | .058 | .00015 | .000 | 1 |

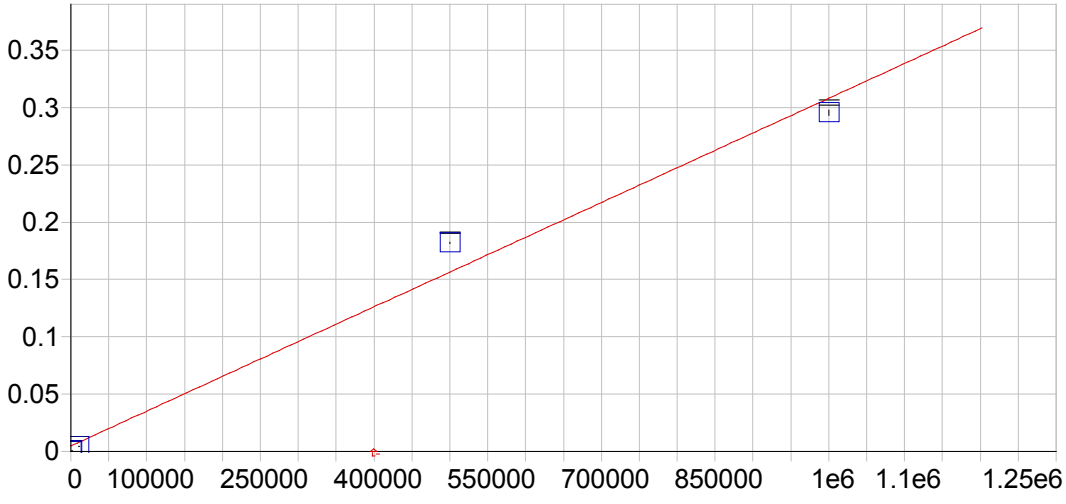



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 6.003072 | | |
| Predicted MQL: | 20.010240 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05815 | -.058 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9882.5 | -118. | -1.18 | .00566 | .000 | 1 |
| CalStd13=50 | 500000. | 489950. | -10100. | -2.01 | .27790 | .003 | 1 |
| CalStd14-10 | 1000000. | 973540. | -26500. | -2.65 | .55215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00065 | .000 | 1 |
| CalStd12-10 | 100000. | 101510. | 1510. | 1.51 | .05762 | .001 | 1 |

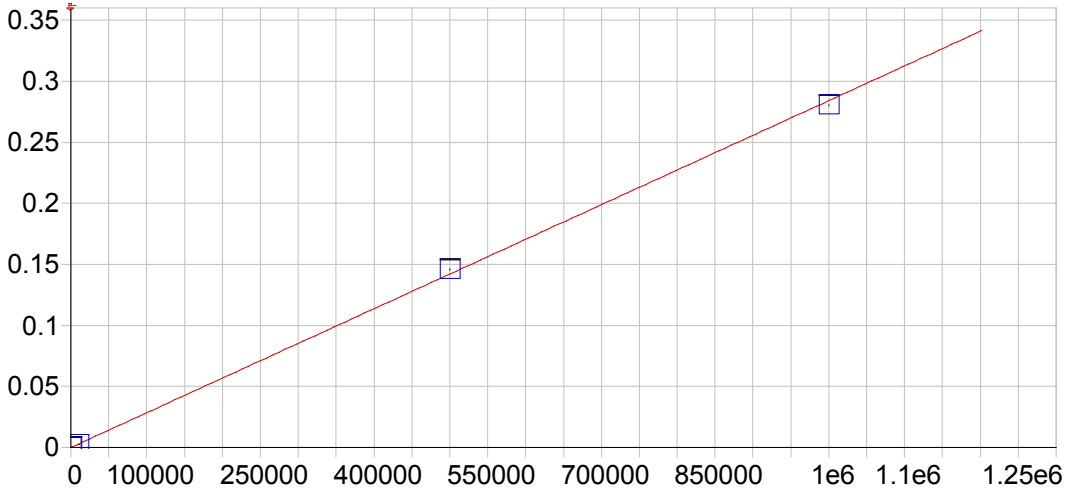



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004816 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994129 | Status: | OK. |
| Std Error of Est: | 0.016975 | | |
| Predicted MDL: | 2.351614 | | |
| Predicted MQL: | 7.838712 | | |

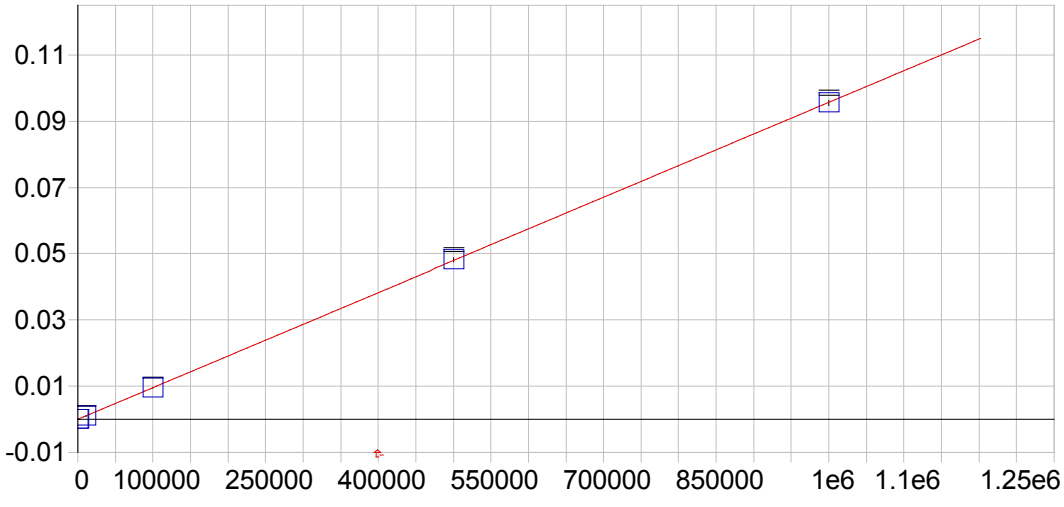
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15823. | -15800. | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | -1005.7 | -11000. | -110. | .00451 | .000 | 1 |
| CalStd13=50 | 500000. | 583930. | 83900. | 16.8 | .18189 | .001 | 1 |
| CalStd14-10 | 1000000. | 958160. | -41800. | -4.18 | .29538 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14264. | -15300. | -1530. | .00049 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999829 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 2.269530 | | | | |
| Predicted MQL: | 7.565100 | | | | |

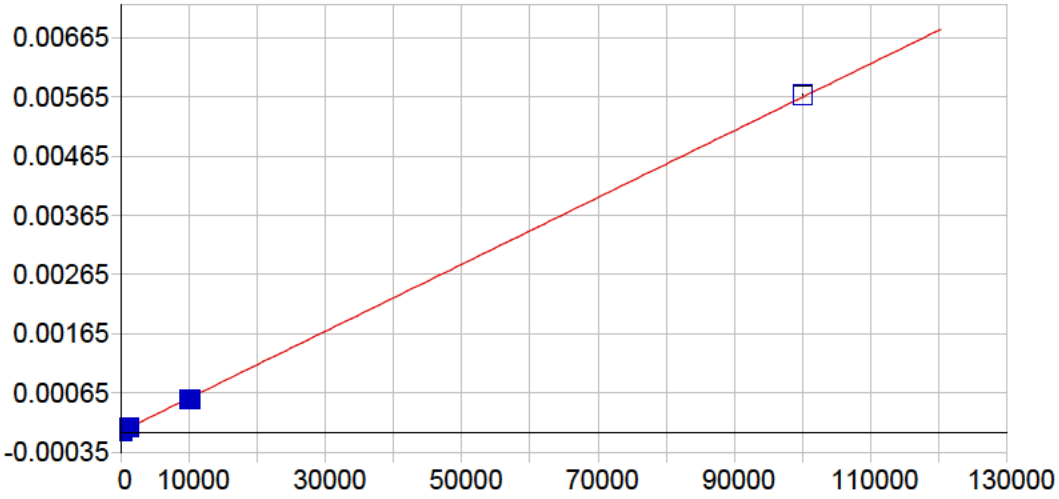
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03580 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.0 | .400 | .00286 | .000 | 1 |
| CalStd13=50 | 500000. | 513100. | 13100. | 2.62 | .14577 | .001 | 1 |
| CalStd14-10 | 1000000. | 986850. | -13200. | -1.32 | .28036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00029 | .000 | 1 |




**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |
| A0 (Offset): | -0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999983 | | Status: | OK. | |
| Std Error of Est: | 0.000001 | | | | |
| Predicted MDL: | 19.513946 | | | | |
| Predicted MQL: | 65.046487 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06559 | .066 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 502930. | 2930. | .586 | .04815 | .001 | 1 |
| CalStd10=10 | 10000. | 9538.6 | -461. | -4.61 | .00091 | .000 | 1 |
| CalStd14-10 | 1000000. | 998520. | -1480. | -.148 | .09559 | .001 | 1 |
| CalStd12-10 | 100000. | 98875. | -1120. | -1.12 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.23 | -12.8 | -1.28 | .00009 | .000 | 1 |

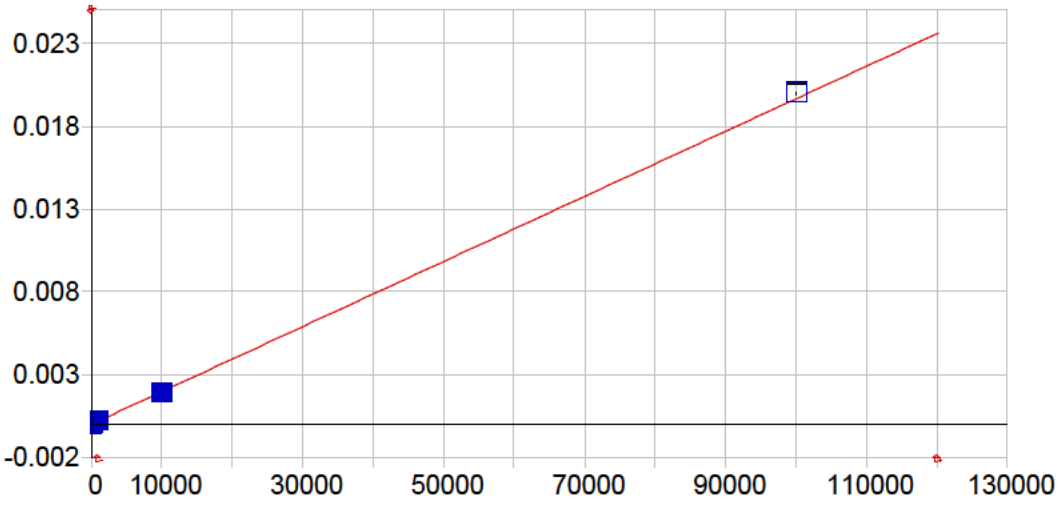



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999795 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.807207 | | |
| Predicted MQL: | 22.690691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00716 | -.007 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.48 | -1.52 | -.152 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9404.6 | -595. | -5.95 | .00053 | .000 | 1 |
| CalStd11-10 | 100000. | 100570. | 574. | .574 | .00568 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.54 | 18.5 | 18.5 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.860 | 5.86 | 58.6 | .00000 | .000 | 1 |

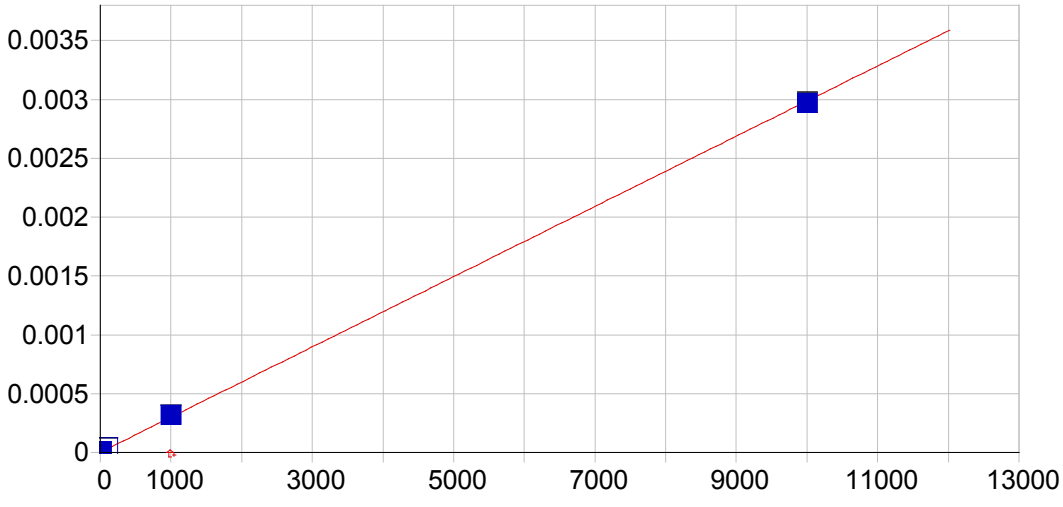



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 4.483850 | | |
| Predicted MQL: | 14.946168 | | |

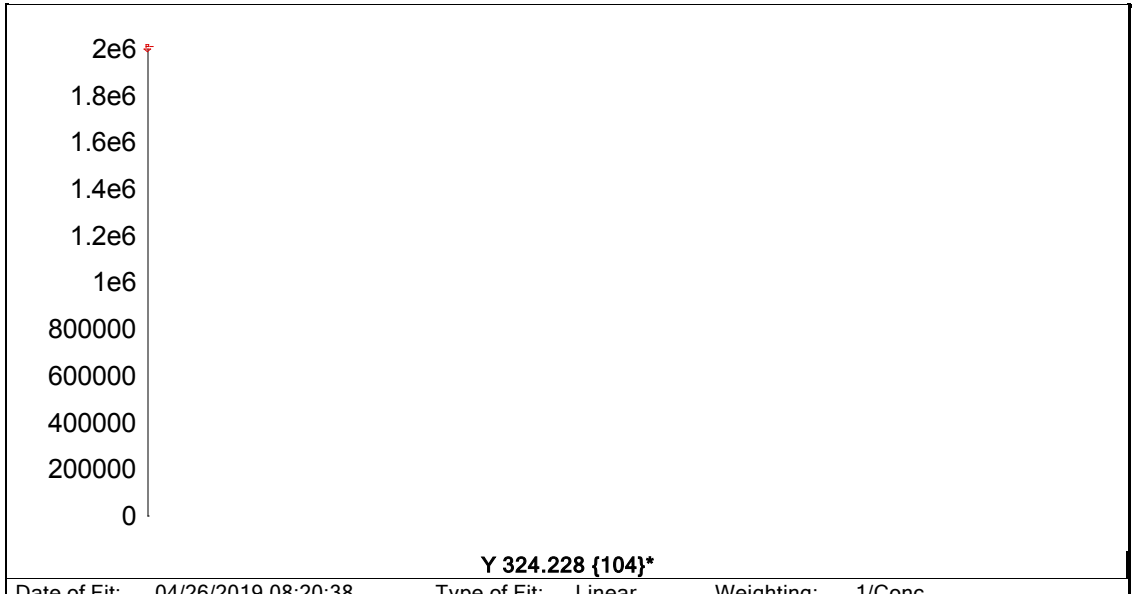
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.891 | -10.9 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.46 | -10.5 | -1.05 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9612.3 | -388. | -3.88 | .00189 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.81 | 1.81 | 1.81 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 101710. | 1710. | 1.71 | .01999 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999726 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.144750 | | | | |
| Predicted MQL: | 7.149168 | | | | |

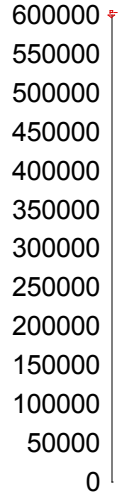
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.444 | 2.44 | 24.4 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.27 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.5643 | 1.56 | 31.3 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.0 | 44.0 | 4.40 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.7 | -64.3 | -.643 | .00297 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

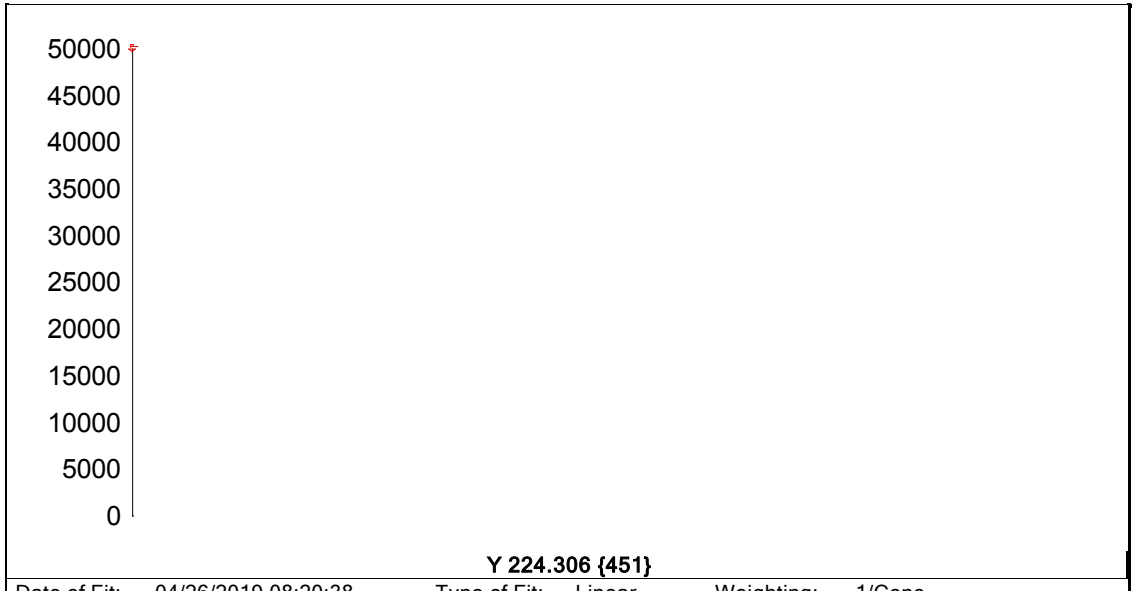
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1838300. | 3910. | 1 |




**Y 371.030 { 91}***

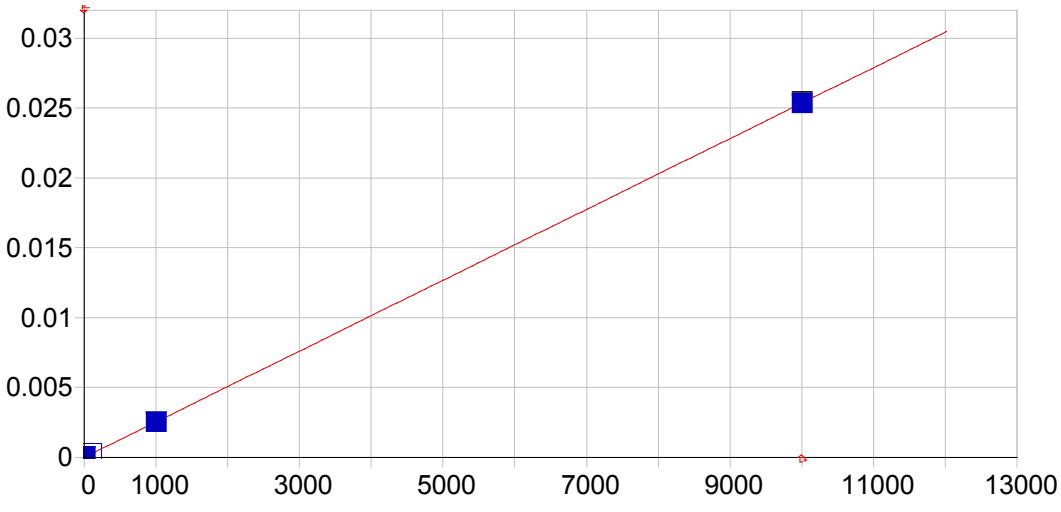
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 517290. | 3060. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 47117. | 95.3 | 1 |

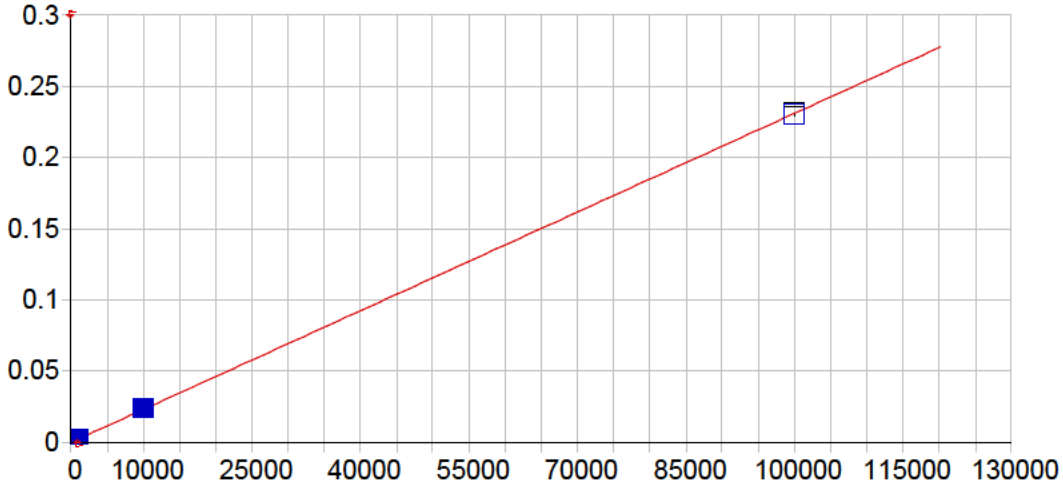



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999561 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.362333 | | |
| Predicted MQL: | 1.207777 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.82619 | -.826 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.63 | -12.4 | -1.24 | .00251 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.323 | .323 | 3.23 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.429061 | | |
| Predicted MQL: | 1.430205 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01566 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 99717. | -283. | -.283 | .23028 | .001 | 1 |
| CalStd10=10 | 10000. | 10252. | 252. | 2.52 | .02371 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00236 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.55 | 11.5 | 11.5 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 10:46:25 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 539. | 178. | 4.24 | 5.00 | 80.5 | 22.9 | 52.3 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1838300.** | **517290.** |
| Stddev | 3912. | 3064. |
| %RSD | .21280 | .59225 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 10:51:43 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| | |
|---|---|
| Int. Std. | Y_3242 |
| Units | Cts/S |
| Avg | **1841800.** |
| Stddev | 7568. |
| %RSD | .41090 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 10:57:05 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 18.8 | 1.51 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1848400.** |
| Stddev | 954. |
| %RSD | .05159 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 11:02:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 6.76 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1846900. |
| Stddev | 8226. |
| %RSD | .44538 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 11:07:48 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 | Mn2593 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | .413 | .850 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1851300.** |
| Stddev | 7813. |
| %RSD | .42201 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 11:13:10 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.52 | .514 | .950 | .537 | 1.59 | .192 | .259 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1839100.** | **528940.** |
| Stddev | 3631. | 3970. |
| %RSD | .19743 | .75046 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 11:18:27 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.001** | **.006** | **.003** | **.001** | **.025** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .322 | 1.20 | .397 | 1.36 | .532 | .421 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789300.** | **527900.** |
| Stddev | 6317. | 6066. |
| %RSD | .35307 | 1.1491 |

Sample Name: CalStd11-100k Acquired: 04/25/2019 11:23:35 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Mn2593 |
|---|---|
| Units | Cts/S |
| Avg | **.230** |
| Stddev | .001 |
| %RSD | .611 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1816500.** |
| Stddev | 4728. |
| %RSD | .26025 |

Sample Name: CalStd12-100000 Acquired: 04/25/2019 11:29:11 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.112** | **.058** | **.009** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.17 | 1.10 | 1.01 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **523370.** |
| Stddev | 5416. |
| %RSD | 1.0348 |

Sample Name: CalStd13=500000 Acquired: 04/25/2019 11:34:26 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.573** | **.278** | **.146** | **.048** |
| Stddev | .010 | .003 | .001 | .001 |
| %RSD | 1.66 | 1.17 | .383 | 1.34 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1640000.** | **514060.** |
| Stddev | 5264. | 6838. |
| %RSD | .32096 | 1.3302 |

Sample Name: CalStd14-1000k  Acquired: 04/25/2019 11:40:14  Type: Cal
Method: As & Pb & Mn(v5)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6000:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.552** | **.280** | **.096** |
| Stddev | .01 | .003 | .000 | .001 |
| %RSD | 1.10 | .512 | .134 | .816 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1478800.** | **472860.** |
| Stddev | 1412. | 4250. |
| %RSD | .09548 | .89880 |

Sample Name: ICV2 Acquired: 04/25/2019 11:56:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11500.** | **2110.** | **9840.** | **5010.** | **9500.** | **511.** |
| Stddev | 248. | 18. | 202. | 21. | 218. | 4. |
| %RSD | 2.16 | .846 | 2.06 | .415 | 2.29 | .742 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1821400.** | **519330.** |
| Stddev | 8077. | 10917. |
| %RSD | .44345 | 2.1021 |

Sample Name: ICVLL Acquired: 04/25/2019 12:02:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1320.** | **69.5** | **1680.** | **1030.** | **1620.** | **33.7** |
| Stddev | 13. | 3.3 | 25. | 3. | 9. | .1 |
| %RSD | 1.02 | 4.79 | 1.51 | .317 | .536 | .372 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825000.** | **519800.** |
| Stddev | 7373. | 6574. |
| %RSD | .40399 | 1.2647 |

Sample Name: icb Acquired: 04/25/2019 12:07:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-3.37** | **-2.12** | **35.3** | **.654** | **3.46** | **-.816** |
| Stddev | 2.12 | .41 | 5.4 | 1.37 | 6.99 | .147 |
| %RSD | 63.0 | 19.4 | 15.2 | 209. | 202. | 18.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842700.** | **527560.** |
| Stddev | 2154. | 3142. |
| %RSD | .11691 | .59558 |

Sample Name: MRL Acquired: 04/25/2019 12:12:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **412.** | **17.0** | **541.** | **336.** | **510.** | **10.5** |
| Stddev | 13. | 1.5 | 10. | 3. | 21. | .3 |
| %RSD | 3.19 | 8.55 | 1.91 | 1.02 | 4.02 | 2.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1823400.** | **528440.** |
| Stddev | 7276. | 7292. |
| %RSD | .39904 | 1.3799 |

Sample Name: icsa Acquired: 04/25/2019 12:18:12 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **465000.** | **.006** | **448000.** | **463000.** | **459000.** | **-3.69** |
| Stddev | 6730. | 6.40 | 3260. | 1190. | 3440. | .65 |
| %RSD | 1.45 | 107000. | .728 | .257 | .749 | 17.6 |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1642700.** | **513560.** |
| Stddev | 4085. | 3635. |
| %RSD | .24870 | .70770 |

Sample Name: icsab Acquired: 04/25/2019 12:23:48 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **537000.** | **577.** | **511000.** | **527000.** | **526000.** | **589.** |
| Stddev | 4350. | 11. | 2880. | 4130. | 2140. | 5. |
| %RSD | .810 | 1.94 | .563 | .784 | .406 | .838 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1623800.** | **508300.** |
| Stddev | 10217. | 1528. |
| %RSD | .62923 | .30065 |

Sample Name: ccv1 Acquired: 04/25/2019 13:22:55 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4850.** | **4990.** | **4730.** | **4870.** | **4600.** | **4810.** | **4940.** |
| Stddev | 62. | 11. | 46. | 18. | 58. | 15. | 16. |
| %RSD | 1.27 | .229 | .966 | .359 | 1.26 | .308 | .327 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781900.** | **517270.** |
| Stddev | 3288. | 6419. |
| %RSD | .18453 | 1.2409 |

Sample Name: ccv2 Acquired: 04/25/2019 13:28:06 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **488.** | **505.** | **497.** | **489.** | **474.** | **486.** |
| Stddev | 3. | 3. | 12. | 2. | 26. | 2. |
| %RSD | .666 | .501 | 2.34 | .372 | 5.47 | .408 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825600.** | **527470.** |
| Stddev | 4040. | 9874. |
| %RSD | .22130 | 1.8721 |

Sample Name: ccb Acquired: 04/25/2019 13:33:26 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-5.45** | **-6.15** | **1.64** | **-6.32** | **-.992** | **-1.16** |
| Stddev | 9.43 | 3.17 | 4.74 | .57 | 16.2 | .59 |
| %RSD | 173. | 51.5 | 289. | 8.99 | 1630. | 50.9 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841200.** | **510940.** |
| Stddev | 2776. | 4679. |
| %RSD | .15080 | .91578 |

Sample Name: lcss71586 Acquired: 04/25/2019 14:05:37 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **551.** | **1710.** | **16200.** | **7790.** | **5080.** | **1700.** | **1760.** |
| Stddev | 8. | 4. | 165. | 37. | 36. | 11. | 11. |
| %RSD | 1.45 | .217 | 1.02 | .470 | .716 | .639 | .628 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1784400.** | **516700.** |
| Stddev | 5722. | 4635. |
| %RSD | .32065 | .89698 |

Sample Name: mbs71586 Acquired: 04/25/2019 14:10:53 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3570.** | **5.20** | **35000.** | **41100.** | **8050.** | **568.** |
| Stddev | 51. | 1.00 | 491. | 191. | 119. | 2. |
| %RSD | 1.42 | 19.3 | 1.40 | .465 | 1.48 | .420 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1758900.** | **518550.** |
| Stddev | 9509. | 6910. |
| %RSD | .54062 | 1.3326 |

Sample Name: 259469 Acquired: 04/25/2019 14:16:06 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **303000.** | **715.** | **77500.** | **492000.** | **45600.** | **23800.** |
| Stddev | 3080. | 10. | 768. | 882. | 414. | 71. |
| %RSD | 1.02 | 1.38 | .991 | .179 | .908 | .296 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1739200.** | **530600.** |
| Stddev | 3051. | 5020. |
| %RSD | .17541 | .94616 |

Sample Name: I259469 Acquired: 04/25/2019 14:21:30 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **80300.** | **140.** | **21300.** | **132000.** | **12600.** | **5950.** | **6230.** |
| Stddev | 3580. | 6. | 925. | 7280. | 516. | 330. | 344. |
| %RSD | 4.46 | 3.94 | 4.35 | 5.51 | 4.10 | 5.55 | 5.53 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1821600.** | **527330.** |
| Stddev | 12198. | 8802. |
| %RSD | .66963 | 1.6691 |

Sample Name: dup259469 Acquired: 04/25/2019 14:26:44 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **305000.** | **712.** | **78400.** | **486000.** | **45900.** | **24100.** |
| Stddev | 3710. | 4. | 946. | 2410. | 598. | 110. |
| %RSD | 1.22 | .511 | 1.21 | .496 | 1.30 | .454 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1743400.** | **524910.** |
| Stddev | 10217. | 7315. |
| %RSD | .58602 | 1.3935 |

Sample Name: ccv1 Acquired: 04/25/2019 14:32:07 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4930.** | **5090.** | **4810.** | **4970.** | **4650.** | **4920.** | **5060.** |
| Stddev | 92. | 14. | 112. | 30. | 116. | 20. | 19. |
| %RSD | 1.87 | .266 | 2.34 | .596 | 2.49 | .403 | .379 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781100.** | **517640.** |
| Stddev | 3702. | 10205. |
| %RSD | .20784 | 1.9714 |

Sample Name: ccv2 Acquired: 04/25/2019 14:37:18 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **509.** | **512.** | **506.** | **491.** | **491.** | **495.** |
| Stddev | 5. | 6. | 5. | 3. | 21. | 1. |
| %RSD | .939 | 1.16 | .978 | .529 | 4.27 | .250 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825400.** | **513110.** |
| Stddev | 3176. | 2897. |
| %RSD | .17399 | .56460 |

Sample Name: ccb Acquired: 04/25/2019 14:42:38 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **3.42** | **-3.15** | **-4.62** | **-3.31** | **2.13** | **-.814** |
| Stddev | 7.42 | 2.85 | 1.11 | 1.26 | 6.87 | .136 |
| %RSD | 217. | 90.7 | 24.0 | 37.9 | 322. | 16.7 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841700.** | **508650.** |
| Stddev | 5284. | 6429. |
| %RSD | .28690 | 1.2639 |

Sample Name: trip259469 Acquired: 04/25/2019 14:47:59 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **263000.** | **427.** | **77900.** | **390000.** | **42400.** | **22800.** |
| Stddev | 1280. | 3. | 264. | 1980. | 185. | 104. |
| %RSD | .487 | .650 | .339 | .506 | .437 | .457 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1756300.** | **523940.** |
| Stddev | 2640. | 1114. |
| %RSD | .15032 | .21260 |

Sample Name: mss259469 Acquired: 04/25/2019 14:53:23 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **304000.** | **19500.** | **80100.** | **481000.** | **45900.** | **43900.** |
| Stddev | 2980. | 26. | 408. | 848. | 266. | 200. |
| %RSD | .978 | .132 | .509 | .176 | .579 | .455 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1742000.** | **529590.** |
| Stddev | 6093. | 1200. |
| %RSD | .34973 | .22661 |

Sample Name: msds259469 Acquired: 04/25/2019 14:58:44 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **312000.** | **19300.** | **81800.** | **476000.** | **47000.** | **43200.** |
| Stddev | 4440. | 49. | 979. | 1610. | 544. | 150. |
| %RSD | 1.42 | .251 | 1.20 | .339 | 1.16 | .348 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1748100.** | **524820.** |
| Stddev | 5088. | 4880. |
| %RSD | .29105 | .92977 |

Sample Name: pdss259469 Acquired: 04/25/2019 15:04:05 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **306000.** | **21600.** | **78400.** | **482000.** | **46000.** | **45000.** |
| Stddev | 5510. | 233. | 1400. | 2400. | 827. | 145. |
| %RSD | 1.80 | 1.08 | 1.79 | .497 | 1.80 | .323 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1750300.** | **519270.** |
| Stddev | 6192. | 9327. |
| %RSD | .35376 | 1.7962 |

Sample Name: 259470 Acquired: 04/25/2019 15:09:26 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **372000.** | **377.** | **39700.** | **636000.** | **51300.** | **13000.** |
| Stddev | 5730. | 3. | 572. | 1240. | 671. | 29. |
| %RSD | 1.54 | .742 | 1.44 | .195 | 1.31 | .223 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1749800.** | **513620.** |
| Stddev | 2697. | 6646. |
| %RSD | .15413 | 1.2940 |

Sample Name: I259470 Acquired: 04/25/2019 15:14:50 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **80200.** | **83.7** | **8840.** | **144000.** | **11400.** | **2550.** | **2810.** |
| Stddev | 844. | 1.9 | 109. | 293. | 127. | 12. | 7. |
| %RSD | 1.05 | 2.25 | 1.24 | .204 | 1.11 | .458 | .250 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1826000.** | **521820.** |
| Stddev | 6568. | 3816. |
| %RSD | .35967 | .73129 |

Sample Name: dup259470 Acquired: 04/25/2019 15:20:03 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **392000.** | **422.** | **41200.** | **676000.** | **49800.** | **14400.** |
| Stddev | 3110. | 6. | 297. | 1630. | 353. | 40. |
| %RSD | .794 | 1.39 | .720 | .241 | .709 | .276 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1744400.** | **516160.** |
| Stddev | 4457. | 4558. |
| %RSD | .25550 | .88310 |

Sample Name: trip259470 Acquired: 04/25/2019 15:25:27 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **354000.** | **226.** | **39000.** | **581000.** | **47700.** | **13000.** |
| Stddev | 2940. | 5. | 320. | 3790. | 425. | 75. |
| %RSD | .830 | 2.41 | .820 | .651 | .892 | .578 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1752600.** | **517740.** |
| Stddev | 11113. | 4189. |
| %RSD | .63410 | .80913 |

Sample Name: mss259470 Acquired: 04/25/2019 15:30:53 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **397000.** | **18200.** | **51500.** | **659000.** | **53200.** | **34100.** |
| Stddev | 1990. | 81. | 233. | 4190. | 311. | 252. |
| %RSD | .502 | .443 | .452 | .636 | .584 | .741 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1747900.** | **517480.** |
| Stddev | 6653. | 2602. |
| %RSD | .38061 | .50284 |

Sample Name: msds259470 Acquired: 04/25/2019 15:36:13 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **378000.** | **17400.** | **38900.** | **621000.** | **49000.** | **31700.** |
| Stddev | 4940. | 79. | 455. | 2000. | 573. | 127. |
| %RSD | 1.31 | .452 | 1.17 | .322 | 1.17 | .400 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1757600.** | **519700.** |
| Stddev | 6797. | 5753. |
| %RSD | .38670 | 1.1070 |

Sample Name: ccv1 Acquired: 04/25/2019 15:41:34 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4940.** | **5040.** | **4790.** | **4860.** | **4660.** | **4800.** | **4880.** |
| Stddev | 48. | 25. | 40. | 29. | 64. | 23. | 20. |
| %RSD | .968 | .500 | .831 | .589 | 1.38 | .482 | .408 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1789100.** | **507530.** |
| Stddev | 5258. | 4056. |
| %RSD | .29390 | .79924 |

Sample Name: ccv2 Acquired: 04/25/2019 15:46:46 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **507.** | **505.** | **510.** | **484.** | **481.** | **483.** |
| Stddev | 10. | 4. | 8. | 5. | 17. | 3. |
| %RSD | 1.90 | .827 | 1.53 | .961 | 3.49 | .703 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842300.** | **504820.** |
| Stddev | 6814. | 8178. |
| %RSD | .36987 | 1.6199 |

Sample Name: ccb Acquired: 04/25/2019 15:52:05 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **2.95** | **-2.97** | **.285** | **-2.08** | **4.26** | **-1.05** |
| Stddev | 5.36 | 1.87 | 6.56 | 1.51 | 21.2 | .42 |
| %RSD | 182. | 62.9 | 2300. | 72.7 | 498. | 40.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1843600.** | **512270.** |
| Stddev | 7557. | 7732. |
| %RSD | .40992 | 1.5093 |

Sample Name: pdss259470 Acquired: 04/25/2019 15:57:27 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **366000.** | **21000.** | **38900.** | **631000.** | **50100.** | **34300.** |
| Stddev | 3730. | 116. | 362. | 3600. | 396. | 269. |
| %RSD | 1.02 | .551 | .930 | .570 | .790 | .783 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1754200.** | **520420.** |
| Stddev | 6476. | 3637. |
| %RSD | .36917 | .69890 |

Sample Name: 259471 Acquired: 04/25/2019 16:02:47 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **301000.** | **514.** | **169000.** | **485000.** | **54000.** | **21600.** |
| Stddev | 3400. | 6. | 1490. | 1030. | 494. | 45. |
| %RSD | 1.13 | 1.18 | .881 | .213 | .914 | .208 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1728500.** | **520580.** |
| Stddev | 4324. | 4450. |
| %RSD | .25016 | .85485 |

Sample Name: 259472 Acquired: 04/25/2019 16:08:11 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **377000.** | **272.** | **161000.** | **523000.** | **63700.** | **20500.** |
| Stddev | 3330. | 6. | 1310. | 2960. | 485. | 102. |
| %RSD | .883 | 2.27 | .812 | .565 | .762 | .499 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1728500.** | **514590.** |
| Stddev | 6177. | 3628. |
| %RSD | .35738 | .70497 |

Sample Name: 259473 Acquired: 04/25/2019 16:13:36 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **284000.** | **548.** | **446000.** | **442000.** | **93000.** | **35000.** |
| Stddev | 2640. | 7. | 3990. | 1510. | 906. | 115. |
| %RSD | .929 | 1.21 | .896 | .341 | .974 | .327 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1698600.** | **511750.** |
| Stddev | 6706. | 3881. |
| %RSD | .39477 | .75833 |

Sample Name: 259474 Acquired: 04/25/2019 16:19:00 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **250000.** | **310.** | **163000.** | **408000.** | **43100.** | **14700.** |
| Stddev | 1010. | 9. | 530. | 1400. | 155. | 52. |
| %RSD | .406 | 2.82 | .324 | .342 | .360 | .356 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1738100.** | **515230.** |
| Stddev | 8803. | 3193. |
| %RSD | .50647 | .61970 |

Sample Name: 259475 Acquired: 04/25/2019 16:24:25 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **257000.** | **3400.** | **73300.** | **460000.** | **29400.** | **66200.** |
| Stddev | 3090. | 19. | 775. | 2110. | 280. | 254. |
| %RSD | 1.20 | .544 | 1.06 | .458 | .952 | .384 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1762100.** | **518250.** |
| Stddev | 7511. | 5025. |
| %RSD | .42627 | .96959 |

Sample Name: 259477 Acquired: 04/25/2019 16:29:58 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **267000.** | **1710.** | **114000.** | **454000.** | **34300.** | **19900.** |
| Stddev | 2130. | 12. | 1080. | 2370. | 276. | 139. |
| %RSD | .798 | .690 | .944 | .523 | .807 | .697 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1753700.** | **508420.** |
| Stddev | 7358. | 4404. |
| %RSD | .41957 | .86617 |

Sample Name: 259478 Acquired: 04/25/2019 16:35:20 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **344000.** | **329.** | **52200.** | **587000.** | **109000.** | **30500.** |
| Stddev | 3670. | 12. | 522. | 2230. | 1040. | 101. |
| %RSD | 1.06 | 3.52 | 1.00 | .380 | .953 | .333 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1750000.** | **513620.** |
| Stddev | 3372. | 4330. |
| %RSD | .19266 | .84306 |

Sample Name: 259479 Acquired: 04/25/2019 16:40:44 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **342000.** | **287.** | **34300.** | **609000.** | **51300.** | **11400.** |
| Stddev | 1990. | 5. | 158. | 3420. | 202. | 51. |
| %RSD | .581 | 1.77 | .462 | .561 | .394 | .445 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1756900.** | **508040.** |
| Stddev | 8145. | 2686. |
| %RSD | .46361 | .52865 |

Sample Name: 259480 Acquired: 04/25/2019 16:46:10 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **361000.** | **226.** | **275000.** | **676000.** | **95400.** | **58500.** |
| Stddev | 2840. | 8. | 2570. | 1280. | 961. | 201. |
| %RSD | .787 | 3.52 | .937 | .190 | 1.01 | .344 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1704600.** | **510400.** |
| Stddev | 3246. | 5490. |
| %RSD | .19043 | 1.0755 |

Sample Name: ccv1 Acquired: 04/25/2019 16:51:34 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5010.** | **5090.** | **4810.** | **4930.** | **4670.** | **4870.** | **4970.** |
| Stddev | 56. | 16. | 66. | 46. | 74. | 21. | 24. |
| %RSD | 1.13 | .314 | 1.37 | .935 | 1.58 | .432 | .478 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1789200.** | **510010.** |
| Stddev | 6215. | 5469. |
| %RSD | .34736 | 1.0724 |

Sample Name: ccv2 Acquired: 04/25/2019 16:56:44 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **511.** | **505.** | **508.** | **485.** | **486.** | **480.** |
| Stddev | 9. | 3. | 11. | 4. | 11. | 2. |
| %RSD | 1.79 | .545 | 2.17 | .731 | 2.35 | .343 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1844100.** | **508160.** |
| Stddev | 3048. | 6221. |
| %RSD | .16527 | 1.2243 |

Sample Name: ccb Acquired: 04/25/2019 17:02:04 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-4.26** | **-2.73** | **-7.11** | **-2.45** | **7.40** | **-.624** |
| Stddev | 6.79 | .60 | 2.43 | 1.07 | 8.46 | .394 |
| %RSD | 159. | 22.1 | 34.2 | 43.8 | 114. | 63.1 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1854700.** | **508930.** |
| Stddev | 6758. | 2242. |
| %RSD | .36440 | .44043 |

Sample Name: 259481 Acquired: 04/25/2019 17:07:26 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **341000.** | **157.** | **71000.** | **742000.** | **46200.** | **11700.** |
| Stddev | 5180. | 7. | 1080. | 2870. | 759. | 40. |
| %RSD | 1.52 | 4.47 | 1.52 | .386 | 1.64 | .342 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1742700.** | **503290.** |
| Stddev | 4148. | 7147. |
| %RSD | .23803 | 1.4201 |

Sample Name: 259482 Acquired: 04/25/2019 17:13:03 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **340000.** | **1120.** | **1040000.** | **501000.** | **239000.** | **74400.** |
| Stddev | 3710. | 9. | 11200. | 2040. | 2730. | 440. |
| %RSD | 1.09 | .846 | 1.08 | .408 | 1.14 | .591 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1620300.** | **496000.** |
| Stddev | 5477. | 5637. |
| %RSD | .33799 | 1.1365 |

Sample Name: 259483 Acquired: 04/25/2019 17:18:49 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **348000.** | **468.** | **676000.** | **446000.** | **160000.** | **44700.** |
| Stddev | 3180. | 8. | 2640. | 1590. | 826. | 131. |
| %RSD | .914 | 1.80 | .391 | .356 | .516 | .293 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1656400.** | **493980.** |
| Stddev | 5677. | 2662. |
| %RSD | .34270 | .53887 |

Sample Name: 259484 Acquired: 04/25/2019 17:24:25 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **213000.** | **164.** | **506000.** | **580000.** | **80300.** | **7490.** | **8410.** |
| Stddev | 1910. | 2. | 4500. | 1790. | 730. | 34. | 41. |
| %RSD | .901 | 1.42 | .891 | .309 | .909 | .448 | .485 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1671500.** | **495900.** |
| Stddev | 4787. | 4345. |
| %RSD | .28637 | .87623 |

Sample Name: 259485 Acquired: 04/25/2019 17:30:02 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **244000.** | **124.** | **387000.** | **539000.** | **60200.** | **4220.** | **5080.** |
| Stddev | 2690. | 1. | 4520. | 1950. | 794. | 18. | 22. |
| %RSD | 1.10 | .774 | 1.17 | .361 | 1.32 | .427 | .437 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1691200.** | **499420.** |
| Stddev | 4390. | 5955. |
| %RSD | .25960 | 1.1923 |

Sample Name: 259487 Acquired: 04/25/2019 17:35:28 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **250000.** | **885.** | **175000.** | **379000.** | **62200.** | **43100.** |
| Stddev | 901. | 11. | 939. | 1440. | 230. | 97. |
| %RSD | .361 | 1.25 | .536 | .380 | .370 | .226 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1730900.** | **510150.** |
| Stddev | 3250. | 3936. |
| %RSD | .18774 | .77159 |

Sample Name: 259492 Acquired: 04/25/2019 17:40:52 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **217000.** | **625.** | **91500.** | **381000.** | **38300.** | **16200.** |
| Stddev | 1620. | 9. | 625. | 1000. | 261. | 36. |
| %RSD | .747 | 1.39 | .683 | .263 | .682 | .223 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1752700.** | **498480.** |
| Stddev | 7109. | 3950. |
| %RSD | .40561 | .79234 |

Sample Name: 259493 Acquired: 04/25/2019 17:46:18 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **316000.** | **391.** | **114000.** | **432000.** | **51400.** | **17300.** |
| Stddev | 2610. | 5. | 864. | 1860. | 308. | 81. |
| %RSD | .828 | 1.22 | .756 | .431 | .598 | .471 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1740600.** | **505730.** |
| Stddev | 4484. | 2869. |
| %RSD | .25760 | .56731 |

Sample Name: 259494 Acquired: 04/25/2019 17:51:44 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **384000.** | **279.** | **91800.** | **534000.** | **57700.** | **14200.** |
| Stddev | 1710. | 9. | 446. | 3970. | 225. | 106. |
| %RSD | .447 | 3.29 | .486 | .744 | .390 | .748 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1744300.** | **501830.** |
| Stddev | 10142. | 2028. |
| %RSD | .58142 | .40417 |

Sample Name: ccv1 Acquired: 04/25/2019 18:02:23 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5090.** | **5120.** | **4890.** | **4850.** | **4770.** | **4850.** | **4940.** |
| Stddev | 45. | 25. | 53. | 20. | 40. | 15. | 20. |
| %RSD | .882 | .492 | 1.08 | .419 | .841 | .313 | .395 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1784800.** | **497350.** |
| Stddev | 5866. | 3234. |
| %RSD | .32867 | .65034 |

Sample Name: ccv2 Acquired: 04/25/2019 18:07:34 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **522.** | **506.** | **505.** | **480.** | **491.** | **482.** |
| Stddev | 13. | 3. | 9. | 6. | 11. | 4. |
| %RSD | 2.39 | .664 | 1.87 | 1.17 | 2.18 | .748 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1844200.** | **499270.** |
| Stddev | 6596. | 4533. |
| %RSD | .35768 | .90795 |

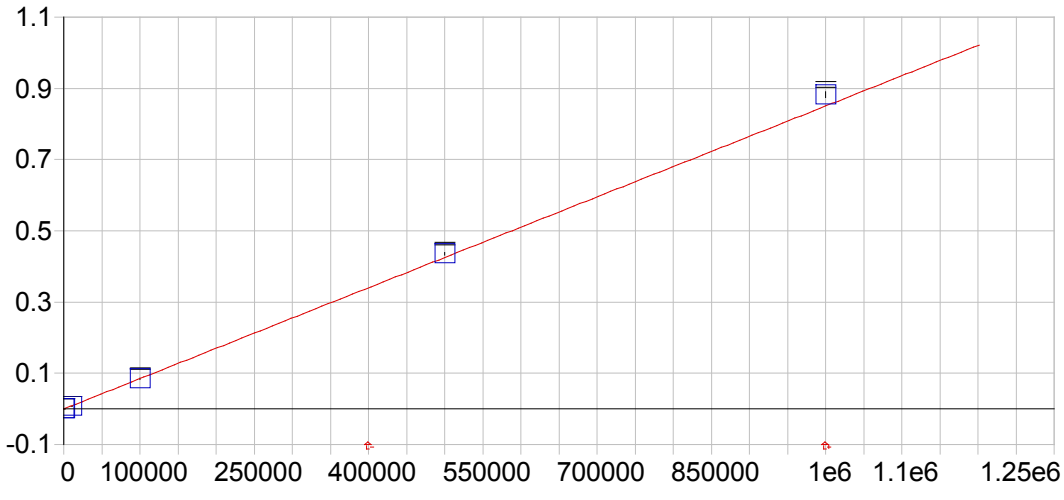
Sample Name: ccb Acquired: 04/25/2019 18:12:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1.19** | **-2.13** | **-3.81** | **-1.74** | **19.3** | **-.299** |
| Stddev | 13.9 | 2.09 | 1.60 | .48 | 5.1 | .303 |
| %RSD | 1160. | 98.2 | 41.9 | 27.9 | 26.4 | 101. |
| | | | | | | |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1847500.** | **498910.** |
| Stddev | 13461. | 4780. |
| %RSD | .72861 | .95804 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al 396.152 { 85} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | -0.000007 | 0.000001 | 0.000000 | 1.000000 | 0.999987 | 0.000008 | 9.452004 | 31.506680 |
| As 193.759 {474} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999999 | 0.000001 | 2.996771 | 9.989237 |
| As 197.262 {471} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999949 | 0.000000 | 6.659778 | 22.199260 |
| Ca 315.887 {107} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | 0.000051 | 0.000000 | 0.000000 | 1.000000 | 0.999990 | 0.000004 | 5.169510 | 17.231699 |
| Fe 234.349 {144} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Linear | None | 0.004994 | 0.000000 | 0.000000 | 1.000000 | 0.993972 | 0.017709 | 2.206195 | 7.353985 |
| Fe 239.562 {141} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Linear | 1/Conc | 0.000011 | 0.000000 | 0.000000 | 1.000000 | 0.999747 | 0.000010 | 2.210323 | 7.367744 |
| Mg 279.079 {121} | 04/24/2019 09:06:15 | 04/23/2019 16:08:28 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999888 | 0.000002 | 17.673622 | 58.912073 |
| Pb 216.999 {455} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999684 | 0.000000 | 6.776495 | 22.588316 |
| Pb 220.353 {153} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Var | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999550 | 0.000005 | 4.497435 | 14.991449 |
| Pb 220.353 {453} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999766 | 0.000000 | 2.106772 | 7.022574 |
| Y 324.228 {104}* | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 224.306 {451} | 04/24/2019 09:06:15 | 04/23/2019 15:14:02 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Mn 257.610 {131} | 04/24/2019 09:06:15 | 04/23/2019 15:45:52 | Linear | 1/Var | 0.000009 | 0.000003 | 0.000000 | 1.000000 | 0.999586 | 0.000011 | 0.340524 | 1.135080 |
| Mn 259.373 {130} | 04/24/2019 09:06:15 | 04/23/2019 15:51:29 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999995 | 0.000001 | 0.418686 | 1.395621 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK | 1.000000 | 0.000000 | 1 | 0 |

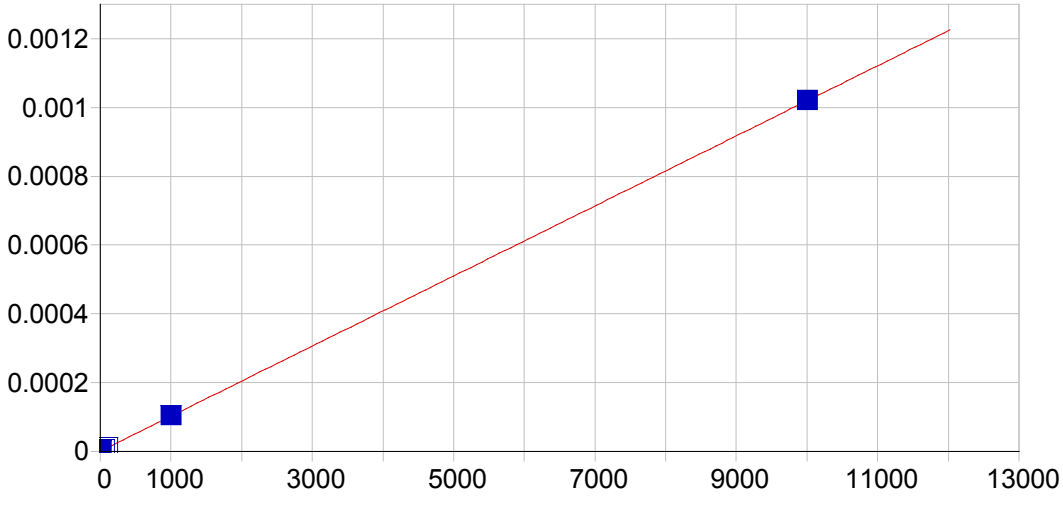



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999987 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 9.452004 | | |
| Predicted MQL: | 31.506680 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00197 | .002 | .000 | -.00001 | .000 | 1 |
| CalStd14-10 | 1000000. | 1037300. | 37300. | 3.73 | .88206 | .008 | 1 |
| CalStd13=50 | 500000. | 512210. | 12200. | 2.44 | .43556 | .003 | 1 |
| CalStd10=10 | 10000. | 9580.3 | -420. | -4.20 | .00814 | .000 | 1 |
| CalStd12-10 | 100000. | 99360. | -640. | -.640 | .08448 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1046.7 | 46.7 | 4.67 | .00088 | .000 | 1 |

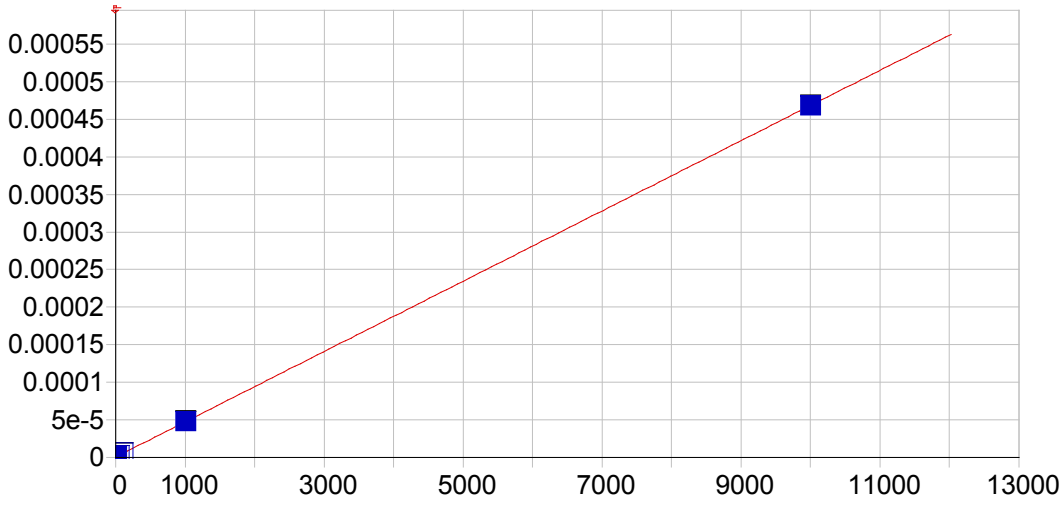



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999999 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.996771 | | |
| Predicted MQL: | 9.989237 | | |

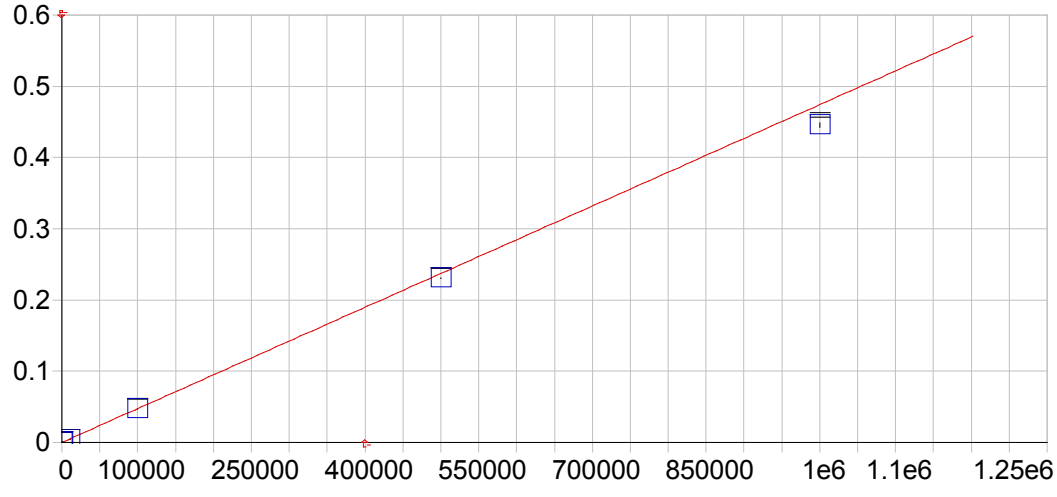
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 7.6859 | 7.69 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.9 | 13.9 | 1.39 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 46.195 | -3.80 | -7.61 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.1121 | -1.89 | -18.9 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.84 | 4.84 | 4.84 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9999.4 | -.647 | -.006 | .00102 | .000 | 1 |




**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999949 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 6.659778 | | | | |
| Predicted MQL: | 22.199260 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.690 | 11.7 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.5 | 9.49 | .949 | .00005 | .000 | 1 |
| CalStd7=50 | 50.000 | 44.360 | -5.64 | -11.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.980 | 3.98 | 39.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.59 | 9.59 | 9.59 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9992.9 | -7.14 | -.071 | .00047 | .000 | 1 |

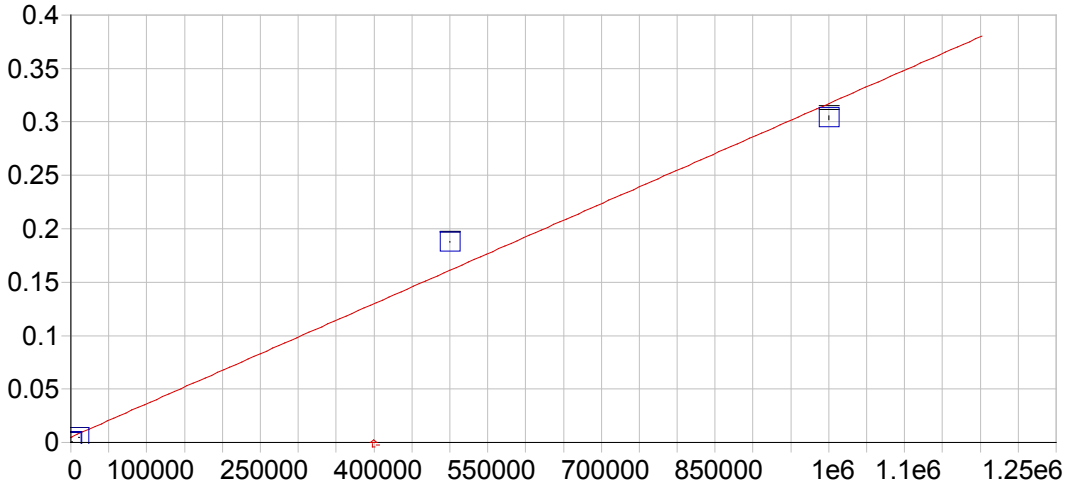



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000051 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999990 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 5.169510 | | |
| Predicted MQL: | 17.231699 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03647 | .036 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9498.3 | -502. | -5.02 | .00456 | .000 | 1 |
| CalStd13=50 | 500000. | 486470. | -13500. | -2.71 | .23074 | .001 | 1 |
| CalStd14-10 | 1000000. | 939610. | -60400. | -6.04 | .44562 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1013.4 | 13.4 | 1.34 | .00053 | .000 | 1 |
| CalStd12-10 | 100000. | 99155. | -845. | -.845 | .04707 | .001 | 1 |

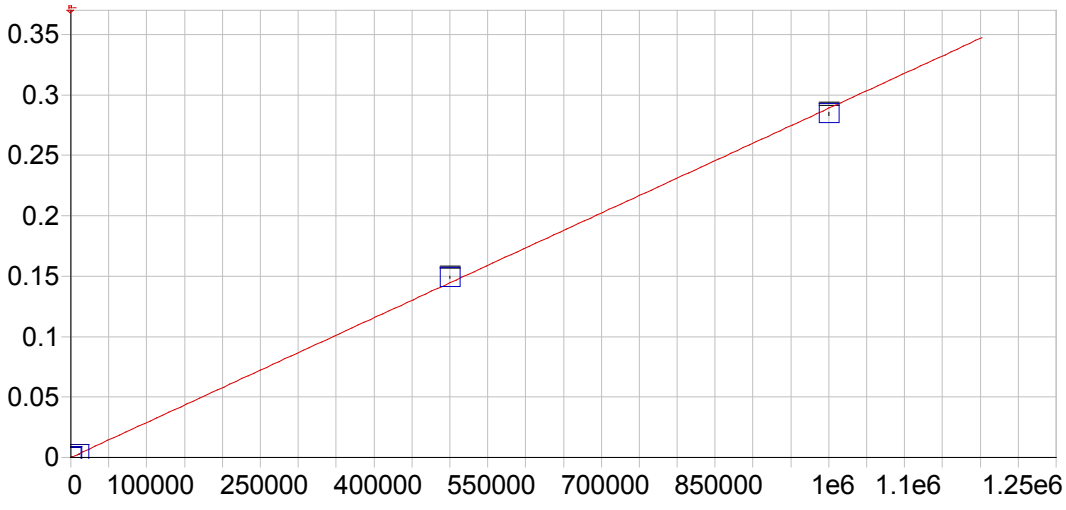



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004994 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.993972 | Status: | OK. |
| Std Error of Est: | 0.017709 | | |
| Predicted MDL: | 2.206195 | | |
| Predicted MQL: | 7.353985 | | |

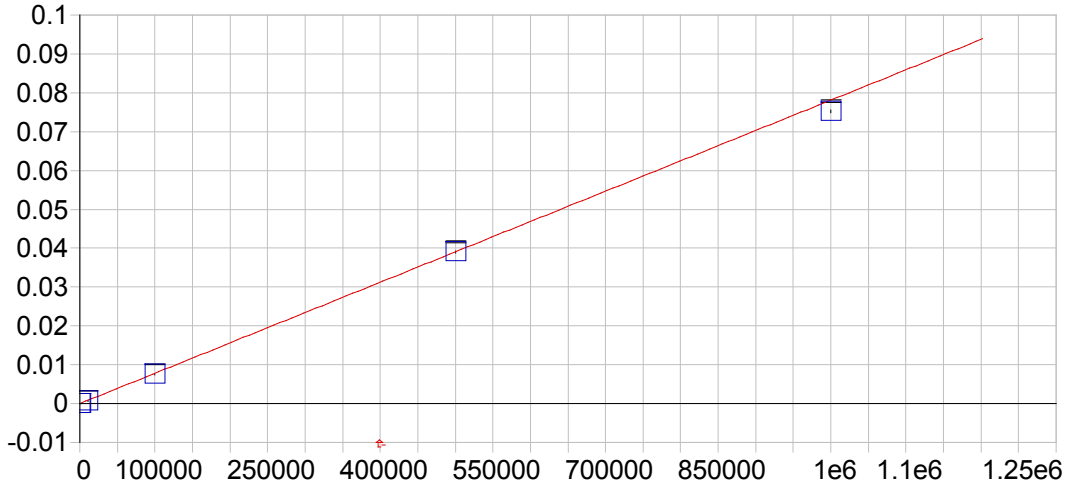
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15916. | -15900. | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | -1352.1 | -11400. | -114. | .00457 | .000 | 1 |
| CalStd13=50 | 500000. | 585060. | 85100. | 17.0 | .18765 | .000 | 1 |
| CalStd14-10 | 1000000. | 957600. | -42400. | -4.24 | .30395 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14391. | -15400. | -1540. | .00050 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000011 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999747 | | Status: | OK. | |
| Std Error of Est: | 0.000010 | | | | |
| Predicted MDL: | 2.210323 | | | | |
| Predicted MQL: | 7.367744 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .01961 | .020 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.9 | -201. | -2.01 | .00284 | .000 | 1 |
| CalStd13=50 | 500000. | 515990. | 16000. | 3.20 | .14908 | .001 | 1 |
| CalStd14-10 | 1000000. | 984230. | -15800. | -1.58 | .28437 | .001 | 1 |
| CalStd9=100 | 1000.0 | 984.29 | -15.7 | -1.57 | .00030 | .000 | 1 |

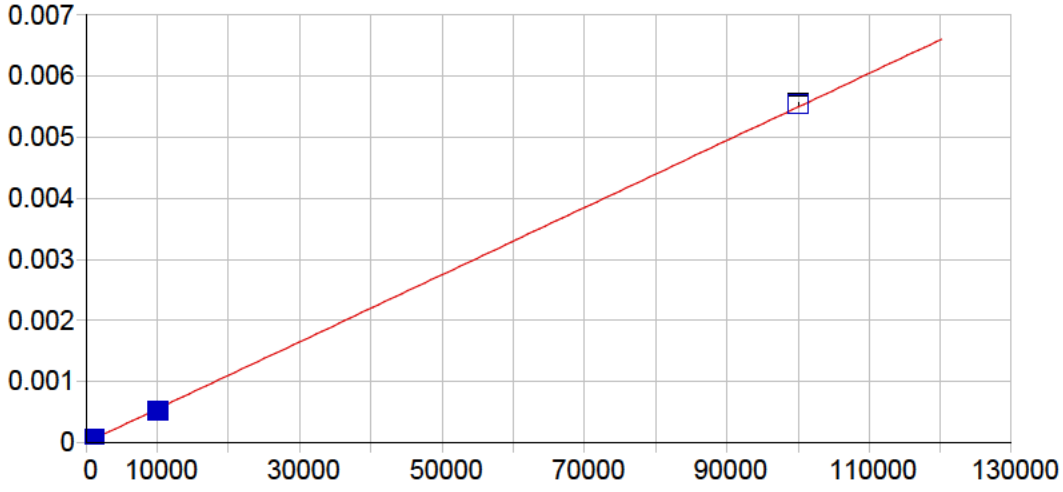



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999888 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 17.673622 | | |
| Predicted MQL: | 58.912073 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13294 | .133 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 499630. | -365. | -.073 | .03902 | .000 | 1 |
| CalStd10=10 | 10000. | 9080.3 | -920. | -9.20 | .00071 | .000 | 1 |
| CalStd14-10 | 1000000. | 962880. | -37100. | -3.71 | .07520 | .000 | 1 |
| CalStd12-10 | 100000. | 96249. | -3750. | -3.75 | .00752 | .000 | 1 |
| CalStd9=100 | 1000.0 | 980.47 | -19.5 | -1.95 | .00008 | .000 | 1 |

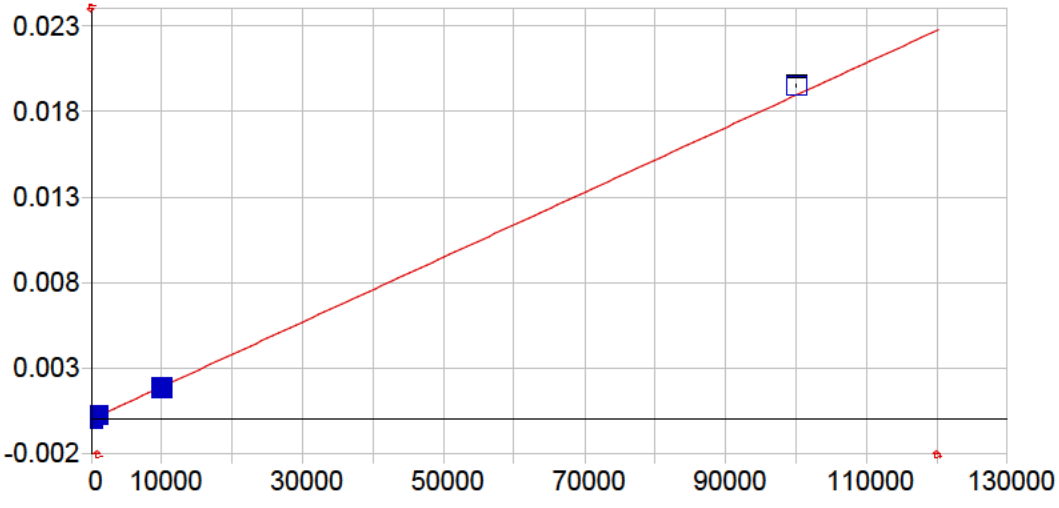



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999684 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.776495 | | |
| Predicted MQL: | 22.588316 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00239 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 983.89 | -16.1 | -1.61 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9224.0 | -776. | -7.76 | .00051 | .000 | 1 |
| CalStd11-10 | 100000. | 100770. | 773. | .773 | .00554 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.94 | 18.9 | 18.9 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.355 | 1.35 | 13.5 | .00000 | .000 | 1 |

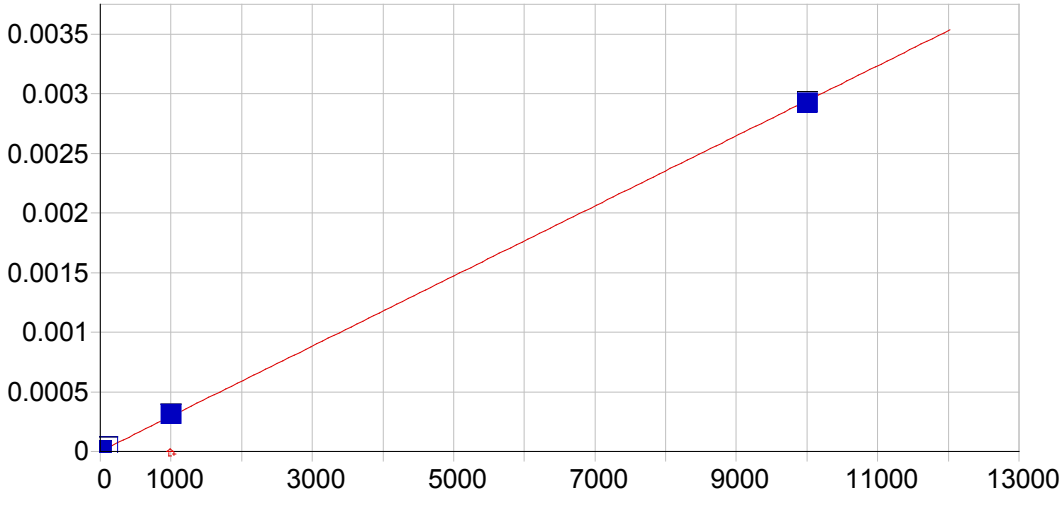



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999550 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 4.497435 | | |
| Predicted MQL: | 14.991449 | | |

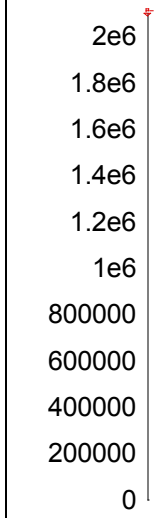
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.1808 | -3.18 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1004.2 | 4.25 | .425 | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9545.6 | -454. | -4.54 | .00181 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.45 | 7.45 | 7.45 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 102850. | 2850. | 2.85 | .01949 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000002 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999766 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.106772 | | | | |
| Predicted MQL: | 7.022574 | | | | |

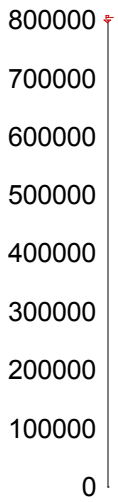
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00206 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.054 | 1.05 | 10.5 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.28 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5265 | .526 | 10.5 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.6 | 44.6 | 4.46 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9937.6 | -62.4 | -.624 | .00292 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

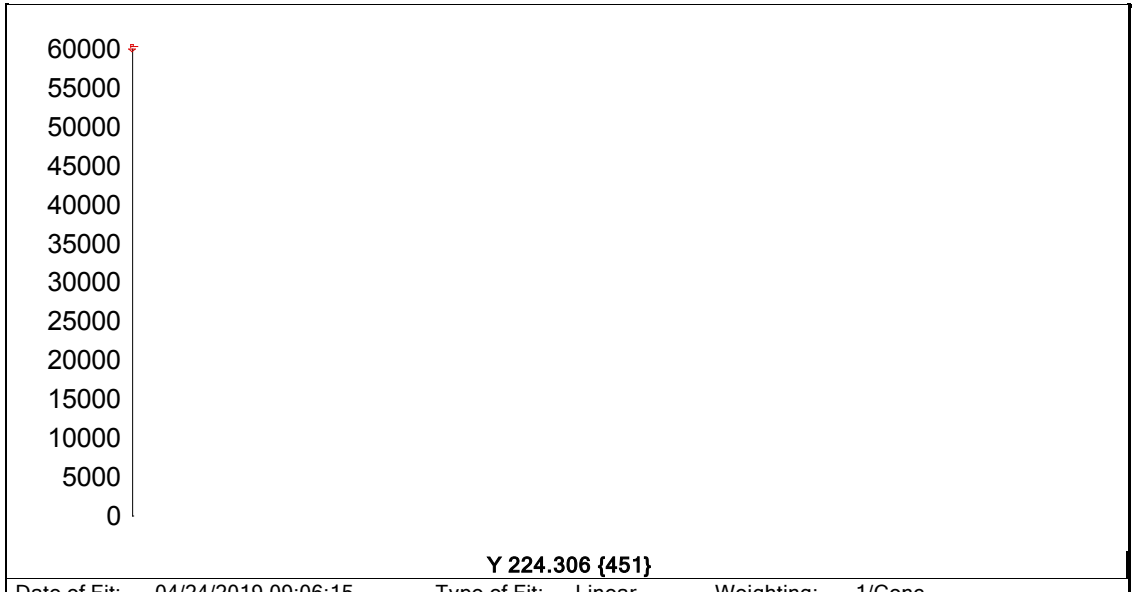
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1926400. | 5600. | 1 |




**Y 371.030 { 91}***

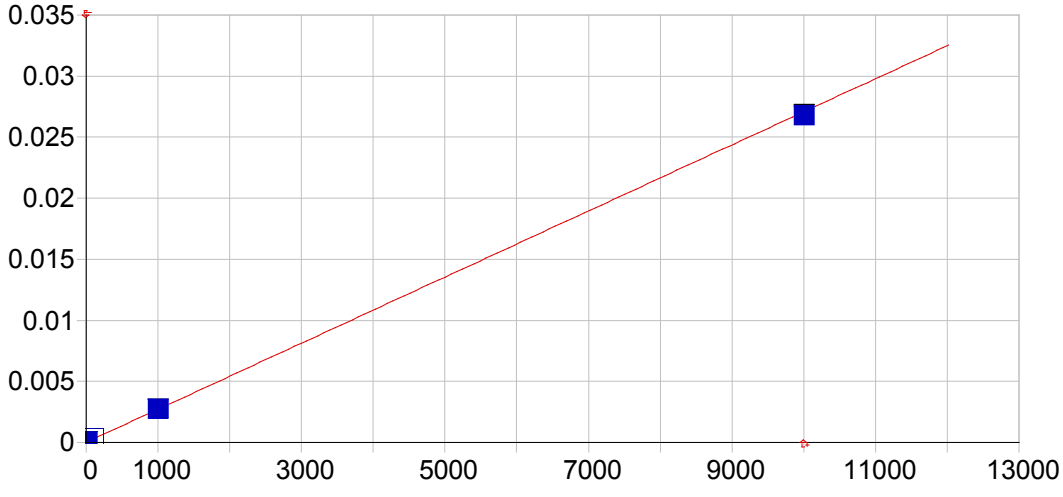
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 726180. | 7510. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

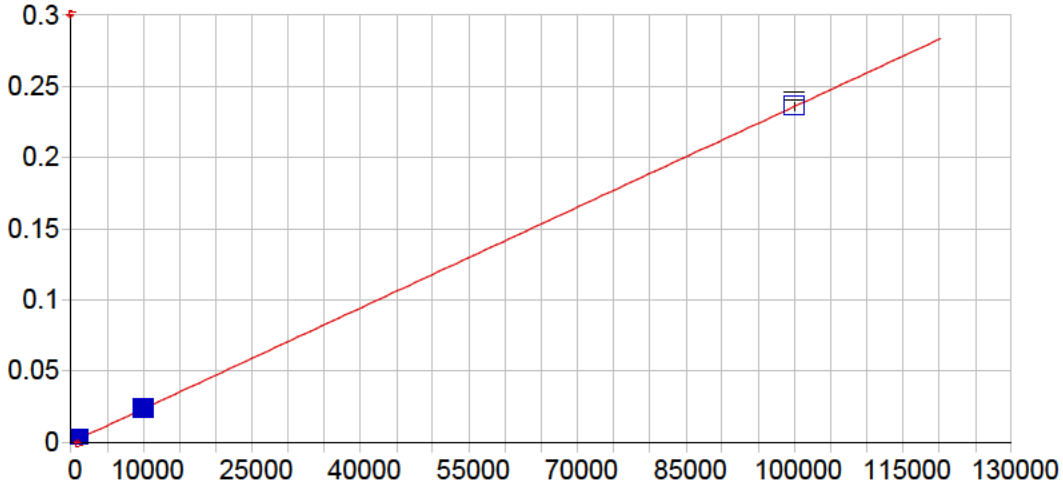
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 56128. | 140. | 1 |




**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000009 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000003 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999586 | | Status: | OK. | |
| Std Error of Est: | 0.000011 | | | | |
| Predicted MDL: | 0.340524 | | | | |
| Predicted MQL: | 1.135080 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5705 | -2.57 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9883.0 | -117. | -1.17 | .02676 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.79 | -9.21 | -.921 | .00269 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.27 | 5.27 | 5.27 | .00029 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1375 | -.863 | -8.63 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/24/2019 09:06:15 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999995 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.418686 | | |
| Predicted MQL: | 1.395621 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00984 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 100010. | 13.5 | .013 | .23581 | .003 | 1 |
| CalStd10=10 | 10000. | 9970.1 | -29.9 | -.299 | .02354 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1007.1 | 7.09 | .709 | .00238 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.41 | 9.41 | 9.41 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/23/2019 15:08:47 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.0000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 |
| %RSD | 154. | 11.4 | 5.84 | 19.2 | 46.8 | 127. | 42.7 | 48.4 | 15.45 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1926400.** | **726180.** |
| Stddev | 5596. | 7507. |
| %RSD | .29049 | 1.0338 |

Sample Name: CalStd4=5 Acquired: 04/23/2019 15:14:05 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Pb2203 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 22.9 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1938800. |
| Stddev | 7689. |
| %RSD | .39658 |

Sample Name: CalStd5=10 Acquired: 04/23/2019 15:19:26 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Pb2203 | Mn2576 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 6.89 | 7.32 | 3.24 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1930300.** |
| Stddev | 3168. |
| %RSD | .16414 |

Sample Name: CalStd7=50 Acquired: 04/23/2019 15:24:48 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | **.000** |
| Stddev | .000 |
| %RSD | 1.99 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1938800.** |
| Stddev | 5540. |
| %RSD | .28575 |

Sample Name: CalStd8=100 Acquired: 04/23/2019 15:30:10 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Pb2203 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.0002** |
| Stddev | .000 | .000 | .000 | .000 | .0000 |
| %RSD | .884 | 3.09 | 1.80 | .478 | .3100 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1930400.** |
| Stddev | 9897. |
| %RSD | .51272 |

Sample Name: CalStd9=1000 Acquired: 04/23/2019 15:35:32 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.32 | .477 | .925 | .859 | 2.53 | .395 | .584 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1931700.** | **722250.** |
| Stddev | 4338. | 6589. |
| %RSD | .22459 | .91221 |

Sample Name: CalStd10=10000 Acquired: 04/23/2019 15:40:50 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.008** | **.001** | **.005** | **.003** | **.001** | **.027** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .921 | .034 | .922 | .158 | 1.11 | .304 | .230 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1879700.** | **722730.** |
| Stddev | 1173. | 6537. |
| %RSD | .06239 | .90442 |

Sample Name: CalStd11-100k Acquired: 04/23/2019 15:45:55 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Pb2203 | Mn2593 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.019** | **.1422** |
| Stddev | .000 | .0018 |
| %RSD | .419 | 1.239 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1897000.** |
| Stddev | 4518. |
| %RSD | .23818 |

Sample Name: CalStd12-100000 Acquired: 04/23/2019 15:51:32 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.084** | **.047** | **.008** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.28 | 1.28 | 1.25 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **719940.** |
| Stddev | 8398. |
| %RSD | 1.1664 |

Sample Name: CalStd13=500000 Acquired: 04/23/2019 15:56:46 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.436** | **.231** | **.149** | **.039** |
| Stddev | .003 | .001 | .001 | .000 |
| %RSD | .740 | .256 | .379 | .601 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1718200.** | **688310.** |
| Stddev | 4508. | 3752. |
| %RSD | .26235 | .54511 |

Sample Name: CalStd14-1000k Acquired: 04/23/2019 16:02:34 Type: Cal
Method: As & Pb & Mn(v4) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.882** | **.446** | **.284** | **.075** |
| Stddev | .008 | .003 | .001 | .000 |
| %RSD | .919 | .637 | .456 | .388 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1550600.** | **652080.** |
| Stddev | 5135. | 2846. |
| %RSD | .33116 | .43650 |

Sample Name: ICV2 Acquired: 04/23/2019 16:19:15 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11300.** | **2170.** | **9540.** | **5010.** | **9220.** | **518.** |
| Stddev | 118. | 6. | 99. | 20. | 85. | 3. |
| %RSD | 1.04 | .293 | 1.04 | .407 | .919 | .515 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1909900.** | **717390.** |
| Stddev | 10237. | 7908. |
| %RSD | .53601 | 1.1024 |

Sample Name: ICVLL Acquired: 04/23/2019 16:24:30 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1280.** | **67.8** | **1610.** | **1020.** | **1560.** | **32.2** |
| Stddev | 6. | 2.5 | 3. | 12. | 10. | .1 |
| %RSD | .442 | 3.73 | .193 | 1.20 | .653 | .398 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1913200.** | **718730.** |
| Stddev | 13136. | 3114. |
| %RSD | .68661 | .43330 |

Sample Name: icb Acquired: 04/23/2019 16:29:49 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-6.02** | **-6.02** | **-5.16** | **-22.5** | **4.71** | **-3.20** |
| Stddev | 10.1 | 1.51 | 2.83 | .4 | 13.7 | .14 |
| %RSD | 168. | 25.1 | 54.8 | 1.64 | 291. | 4.34 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1939800.** | **725810.** |
| Stddev | 7029. | 9306. |
| %RSD | .36234 | 1.2821 |

Sample Name: icsa Acquired: 04/23/2019 16:40:33 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **469000.** | **-.001** | **443000.** | **466000.** | **454000.** | **-.006** |
| Stddev | 6370. | 9.91 | 1240. | 1480. | 2940. | .302 |
| %RSD | 1.36 | 815000. | .280 | .318 | .647 | 5400. |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1731100.** | **695020.** |
| Stddev | 5148. | 4382. |
| %RSD | .29740 | .63045 |

Sample Name: icsab Acquired: 04/23/2019 16:46:21 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **530000.** | **581.** | **497000.** | **527000.** | **515000.** | **589.** |
| Stddev | 4530. | 6. | 2900. | 5110. | 2960. | 8. |
| %RSD | .856 | .979 | .584 | .971 | .575 | 1.30 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1718800.** | **694130.** |
| Stddev | 9619. | 4233. |
| %RSD | .55965 | .60979 |

Sample Name: lcss71473 Acquired: 04/23/2019 17:03:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **693.** | **2070.** | **20000.** | **9510.** | **6250.** | **18.2** | **2090.** | **2147.** |
| Stddev | 11. | 7. | 238. | 53. | 49. | 2.1 | 13. | 11. |
| %RSD | 1.59 | .354 | 1.19 | .556 | .790 | 11.6 | .595 | .5147 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1895200.** | **716740.** |
| Stddev | 5391. | 8485. |
| %RSD | .28445 | 1.1838 |

Sample Name: mbs71473 Acquired: 04/23/2019 17:08:46 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **1850.** | **-10.6** | **28600.** | **13900.** | **6060.** | **21.3** | **188.** |
| Stddev | 24. | 1.6 | 232. | 69. | 65. | 1.6 | 1. |
| %RSD | 1.30 | 15.4 | .814 | .492 | 1.08 | 7.71 | .672 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1887400.** | **697400.** |
| Stddev | 6352. | 5612. |
| %RSD | .33654 | .80476 |

Sample Name: 258271 Acquired: 04/23/2019 17:13:59 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **273000.** | **80.9** | **215000.** | **371000.** | **51800.** | **1110.** | **22350.** |
| Stddev | 1910. | 3.4 | 1200. | 2020. | 256. | 12. | 131. |
| %RSD | .700 | 4.23 | .559 | .543 | .494 | 1.05 | .5858 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1813900.** | **704640.** |
| Stddev | 6341. | 4351. |
| %RSD | .34959 | .61741 |

Sample Name: I258271 Acquired: 04/23/2019 17:19:23 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **67100.** | **4.81** | **54600.** | **94300.** | **13200.** | **264.** | **5360.** | **5559.** |
| Stddev | 1910. | 1.82 | 1540. | 2200. | 372. | 13. | 119. | 121. |
| %RSD | 2.85 | 37.9 | 2.83 | 2.33 | 2.83 | 4.93 | 2.22 | 2.167 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1904600.** | **723560.** |
| Stddev | 7950. | 4356. |
| %RSD | .41741 | .60205 |

Sample Name: dup258271 Acquired: 04/23/2019 17:24:37 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294000.** | **91.3** | **299000.** | **353000.** | **53200.** | **1150.** | **20720.** |
| Stddev | 3420. | 8.5 | 2750. | 2750. | 456. | 12. | 215. |
| %RSD | 1.16 | 9.32 | .923 | .779 | .857 | 1.08 | 1.039 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1799100.** | **699700.** |
| Stddev | 6903. | 5347. |
| %RSD | .38368 | .76417 |

Sample Name: mss258271 Acquired: 04/23/2019 17:30:00 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **293000.** | **19000.** | **242000.** | **341000.** | **63200.** | **1100.** | **40290.** |
| Stddev | 4010. | 109. | 3190. | 1710. | 826. | 7. | 241. |
| %RSD | 1.37 | .575 | 1.32 | .500 | 1.31 | .643 | .5973 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1802600.** | **697780.** |
| Stddev | 10667. | 8740. |
| %RSD | .59174 | 1.2526 |

Sample Name: msds258271 Acquired: 04/23/2019 17:35:21 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **289000.** | **18700.** | **201000.** | **363000.** | **55700.** | **1340.** | **43930.** |
| Stddev | 3660. | 135. | 2620. | 2840. | 776. | 9. | 309. |
| %RSD | 1.26 | .722 | 1.31 | .780 | 1.39 | .687 | .7027 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815000.** | **700380.** |
| Stddev | 11093. | 8794. |
| %RSD | .61119 | 1.2556 |

Sample Name: pdss258271 Acquired: 04/23/2019 17:40:42 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **270000.** | **21000.** | **212000.** | **369000.** | **51200.** | **1110.** | **43270.** |
| Stddev | 4580. | 59. | 3330. | 1370. | 856. | 7. | 224. |
| %RSD | 1.70 | .282 | 1.57 | .372 | 1.67 | .668 | .5177 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1801400.** | **701510.** |
| Stddev | 4946. | 10433. |
| %RSD | .27456 | 1.4872 |

Sample Name: ccv1 Acquired: 04/23/2019 17:46:02 Type: QC

Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4910.** | **5260.** | **4720.** | **5020.** | **4580.** | **4970.** | **5110.** |
| Stddev | 50. | 14. | 49. | 13. | 34. | 13. | 15. |
| %RSD | 1.01 | .260 | 1.03 | .258 | .736 | .267 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1867800.** | **710100.** |
| Stddev | 2816. | 6382. |
| %RSD | .15074 | .89872 |

Sample Name: ccv2 Acquired: 04/23/2019 17:51:10 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **490.** | **511.** | **469.** | **467.** | **463.** | **482.** |
| Stddev | 10. | 1. | 5. | 5. | 6. | 1. |
| %RSD | 1.97 | .287 | .993 | .977 | 1.34 | .265 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1924100.** | **706540.** |
| Stddev | 2565. | 6317. |
| %RSD | .13333 | .89405 |

Sample Name: ccb Acquired: 04/23/2019 17:56:31 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-9.86** | **-5.62** | **-9.31** | **-25.5** | **6.34** | **-3.21** |
| Stddev | 2.13 | 2.53 | 1.63 | 1.4 | 9.88 | .17 |
| %RSD | 21.6 | 45.0 | 17.5 | 5.52 | 156. | 5.30 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1927900.** | **702460.** |
| Stddev | 4138. | 7766. |
| %RSD | .21461 | 1.1056 |

Sample Name: 258272 Acquired: 04/23/2019 18:01:53 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **223000.** | **237.** | **313000.** | **354000.** | **97500.** | **2210.** | **26920.** |
| Stddev | 1800. | 9. | 2780. | 743. | 915. | 4. | 39. |
| %RSD | .806 | 3.82 | .889 | .210 | .938 | .162 | .1434 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1786300.** | **701510.** |
| Stddev | 3777. | 6268. |
| %RSD | .21143 | .89343 |

Sample Name: 258273 Acquired: 04/23/2019 18:07:17 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **171000.** | **240.** | **133000.** | **388000.** | **42600.** | **915.** | **960.** | **13200.** |
| Stddev | 1710. | 8. | 1340. | 898. | 460. | 11. | 2. | 39. |
| %RSD | 1.00 | 3.22 | 1.01 | .231 | 1.08 | 1.22 | .250 | .2941 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828900.** | **698710.** |
| Stddev | 6337. | 6463. |
| %RSD | .34648 | .92504 |

Sample Name: 258275 Acquired: 04/23/2019 18:12:42 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **219000.** | **85.8** | **111000.** | **339000.** | **36400.** | **1790.** | **12830.** |
| Stddev | 1590. | 7.7 | 482. | 1670. | 175. | 5. | 74. |
| %RSD | .724 | 8.97 | .433 | .492 | .480 | .278 | .5741 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1833900.** | **704870.** |
| Stddev | 2527. | 3232. |
| %RSD | .13779 | .45856 |

Sample Name: 258276 Acquired: 04/23/2019 18:18:06 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **259000.** | **1370.** | **586000.** | **550000.** | **95100.** | **5890.** | **55680.** |
| Stddev | 2810. | 9. | 3790. | 1960. | 963. | 36. | 259. |
| %RSD | 1.09 | .626 | .646 | .356 | 1.01 | .610 | .4644 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1742400.** | **702310.** |
| Stddev | 5450. | 8018. |
| %RSD | .31278 | 1.1416 |

Sample Name: 258277 Acquired: 04/23/2019 18:23:38 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **233000.** | **889.** | **329000.** | **490000.** | **51100.** | **1860.** | **24800.** |
| Stddev | 3390. | 6. | 4340. | 1950. | 680. | 8. | 120. |
| %RSD | 1.45 | .620 | 1.32 | .398 | 1.33 | .431 | .4845 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1795700.** | **700170.** |
| Stddev | 6524. | 8321. |
| %RSD | .36330 | 1.1885 |

Sample Name: 259433 Acquired: 04/23/2019 18:29:01 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **144000.** | **689.** | **104000.** | **184000.** | **27000.** | **4600.** | **325000.** |
| Stddev | 2490. | 7. | 1520. | 1200. | 375. | 43. | 2510. |
| %RSD | 1.73 | .948 | 1.46 | .649 | 1.39 | .925 | .774 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828300.** | **705330.** |
| Stddev | 8406. | 9481. |
| %RSD | .45975 | 1.3442 |

Sample Name: I259433 Acquired: 04/23/2019 18:34:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **36600.** | **125.** | **27400.** | **46900.** | **7130.** | **1040.** | **970.** | **94080.** |
| Stddev | 3450. | 3. | 2540. | 4440. | 676. | 34. | 20. | 8551. |
| %RSD | 9.44 | 2.64 | 9.28 | 9.45 | 9.49 | 3.24 | 2.01 | 9.089 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1927300.** | **715030.** |
| Stddev | 4699. | 3423. |
| %RSD | .24382 | .47865 |

Sample Name: dup259433 Acquired: 04/23/2019 18:40:08 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **164000.** | **509.** | **180000.** | **181000.** | **42800.** | **1400.** | **203000.** |
| Stddev | 1450. | 5. | 1640. | 1070. | 454. | 16. | 1530. |
| %RSD | .883 | .977 | .912 | .593 | 1.06 | 1.15 | .751 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815100.** | **704840.** |
| Stddev | 7909. | 6821. |
| %RSD | .43576 | .96770 |

Sample Name: mss259433 Acquired: 04/23/2019 18:45:44 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **163000.** | **20000.** | **103000.** | **207000.** | **27400.** | **4140.** | **226000.** |
| Stddev | 2100. | 39. | 1200. | 744. | 277. | 10. | 3390. |
| %RSD | 1.29 | .197 | 1.16 | .359 | 1.01 | .234 | 1.50 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1832500.** | **704980.** |
| Stddev | 4664. | 7763. |
| %RSD | .25450 | 1.1012 |

Sample Name: msds259433 Acquired: 04/23/2019 18:51:25 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **151000.** | **19100.** | **102000.** | **191000.** | **26100.** | **1700.** | **220000.** |
| Stddev | 1200. | 63. | 717. | 706. | 161. | 8. | 842. |
| %RSD | .795 | .330 | .700 | .369 | .615 | .497 | .383 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1844300.** | **701950.** |
| Stddev | 6063. | 3395. |
| %RSD | .32878 | .48367 |

Sample Name: ccv1 Acquired: 04/23/2019 18:56:57 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4760.** | **5140.** | **4610.** | **4800.** | F **4470.** | **4710.** | **4840.** |
| Stddev | 32. | 29. | 36. | 30. | 15. | 43. | 43. |
| %RSD | .662 | .572 | .781 | .615 | .332 | .905 | .891 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1885600.** | **705480.** |
| Stddev | 7921. | 3673. |
| %RSD | .42010 | .52063 |

Sample Name: ccv2 Acquired: 04/23/2019 19:02:06 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **479.** | **511.** | **465.** | **459.** | **466.** | **479.** |
| Stddev | 12. | 3. | 10. | 3. | 19. | 1. |
| %RSD | 2.49 | .569 | 2.07 | .702 | 4.03 | .303 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1943300.** | **711250.** |
| Stddev | 5128. | 9969. |
| %RSD | .26388 | 1.4016 |

Sample Name: ccb Acquired: 04/23/2019 19:07:25 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-13.9** | **-6.17** | **-8.07** | **-25.8** | **4.76** | **-3.43** |
| Stddev | 7.4 | 1.92 | 6.08 | 2.6 | 14.6 | .17 |
| %RSD | 53.5 | 31.0 | 75.4 | 10.2 | 308. | 4.83 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1941600.** | **708470.** |
| Stddev | 4836. | 5880. |
| %RSD | .24906 | .82998 |

Sample Name: pdss259433 Acquired: 04/23/2019 19:12:47 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **138000.** | **21300.** | **101000.** | **176000.** | **26100.** | **4500.** | **325000.** |
| Stddev | 1780. | 60. | 1290. | 741. | 382. | 27. | 5030. |
| %RSD | 1.29 | .281 | 1.28 | .421 | 1.47 | .589 | 1.55 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828600.** | **702990.** |
| Stddev | 4329. | 9117. |
| %RSD | .23674 | 1.2969 |

Sample Name: 259434 Acquired: 04/23/2019 19:18:18 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **166000.** | **267.** | **101000.** | **222000.** | **21300.** | **699.** | **93080.** |
| Stddev | 1230. | 8. | 890. | 1310. | 154. | 2. | 1227. |
| %RSD | .739 | 3.08 | .879 | .590 | .723 | .262 | 1.318 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1853800.** | **699240.** |
| Stddev | 7427. | 5050. |
| %RSD | .40063 | .72223 |

Sample Name: I259434 Acquired: 04/23/2019 19:24:06 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **32800.** | **38.1** | **20500.** | **44700.** | **4340.** | **143.** | **18760.** |
| Stddev | 368. | 4.6 | 248. | 379. | 52. | 1. | 131. |
| %RSD | 1.12 | 12.0 | 1.21 | .848 | 1.21 | .832 | .6995 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1935900.** | **715110.** |
| Stddev | 7888. | 4277. |
| %RSD | .40744 | .59811 |

Sample Name: dup259434 Acquired: 04/23/2019 19:29:24 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **164000.** | **308.** | **73200.** | **231000.** | **19900.** | **819.** | **67240.** |
| Stddev | 2900. | 5. | 1190. | 1030. | 313. | 4. | 511. |
| %RSD | 1.77 | 1.73 | 1.62 | .446 | 1.57 | .442 | .7607 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1858300.** | **714180.** |
| Stddev | 8945. | 9340. |
| %RSD | .48134 | 1.3078 |

Sample Name: trip259434 Acquired: 04/23/2019 19:35:12 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **169000.** | **263.** | **93700.** | **220000.** | **21700.** | **640.** | **62540.** |
| Stddev | 1300. | 8. | 709. | 760. | 140. | 4. | 189. |
| %RSD | .765 | 2.92 | .757 | .345 | .644 | .644 | .3027 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1854000.** | **696780.** |
| Stddev | 3962. | 5584. |
| %RSD | .21367 | .80142 |

Sample Name: mss259434 Acquired: 04/23/2019 19:40:49 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **174000.** | **19200.** | **76100.** | **217000.** | **20700.** | **701.** | **88520.** |
| Stddev | 3450. | 75. | 1450. | 654. | 367. | 2. | 1164. |
| %RSD | 1.99 | .389 | 1.91 | .302 | 1.77 | .222 | 1.315 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1852200.** | **700800.** |
| Stddev | 5502. | 12614. |
| %RSD | .29704 | 1.8000 |

Sample Name: msds259434 Acquired: 04/23/2019 19:46:33 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **172000.** | **19200.** | **82400.** | **211000.** | **21700.** | **830.** | **89490.** |
| Stddev | 1680. | 78. | 833. | 453. | 181. | 4. | 470. |
| %RSD | .977 | .406 | 1.01 | .215 | .833 | .541 | .5249 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1862100.** | **705550.** |
| Stddev | 6797. | 7624. |
| %RSD | .36502 | 1.0806 |

Sample Name: pdss259434 Acquired: 04/23/2019 19:52:17 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **162000.** | **21000.** | **98800.** | **218000.** | **20800.** | **687.** | **110300.** |
| Stddev | 1270. | 68. | 820. | 168. | 183. | 5. | 208. |
| %RSD | .783 | .325 | .830 | .077 | .879 | .700 | .1884 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1855100.** | **703840.** |
| Stddev | 3537. | 7282. |
| %RSD | .19067 | 1.0346 |

Sample Name: 259435 Acquired: 04/23/2019 19:58:02 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **268000.** | **113.** | **79900.** | **469000.** | **29700.** | **1420.** | **43990.** |
| Stddev | 3190. | 7. | 948. | 2030. | 381. | 11. | 144. |
| %RSD | 1.19 | 5.89 | 1.19 | .434 | 1.28 | .796 | .3267 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1831700.** | **703910.** |
| Stddev | 6780. | 7628. |
| %RSD | .37013 | 1.0836 |

Sample Name: 259436 Acquired: 04/23/2019 20:03:26 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **303000.** | **18.8** | **58700.** | **471000.** | **33100.** | **940.** | **999.** | **30850.** |
| Stddev | 3580. | 6.6 | 662. | 4210. | 408. | 8. | 4. | 236. |
| %RSD | 1.18 | 35.1 | 1.13 | .894 | 1.23 | .902 | .373 | .7651 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1841500.** | **707160.** |
| Stddev | 14958. | 7290. |
| %RSD | .81230 | 1.0309 |

Sample Name: ccv1 Acquired: 04/23/2019 20:08:50 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4790.** | **5150.** | **4630.** | **4840.** | F **4480.** | **4770.** | **4870.** |
| Stddev | 40. | 35. | 25. | 31. | 23. | 23. | 23. |
| %RSD | .841 | .674 | .548 | .635 | .521 | .480 | .462 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1884400.** | **706530.** |
| Stddev | 6094. | 4244. |
| %RSD | .32340 | .60064 |

Sample Name: ccv2 Acquired: 04/23/2019 20:13:58 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **481.** | **512.** | **464.** | **456.** | **460.** | **474.** |
| Stddev | 3. | 5. | 7. | 4. | 10. | 3. |
| %RSD | .619 | .933 | 1.52 | .943 | 2.07 | .654 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1935500.** | **708440.** |
| Stddev | 7855. | 6674. |
| %RSD | .40581 | .94201 |

Sample Name: ccb Acquired: 04/23/2019 20:19:18 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-16.2** | **-6.32** | **-12.1** | **-25.7** | **-4.36** | **-3.08** |
| Stddev | 2.3 | 1.71 | 2.3 | 2.7 | 14.1 | .34 |
| %RSD | 14.0 | 27.1 | 19.0 | 10.5 | 324. | 11.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1944700.** | **713000.** |
| Stddev | 7711. | 4210. |
| %RSD | .39652 | .59041 |

Sample Name: 259437 Acquired: 04/23/2019 20:24:39 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **256000.** | **1500.** | **19100.** | **369000.** | **28100.** | **904.** | **947.** | **16360.** |
| Stddev | 3080. | 5. | 191. | 1580. | 284. | 7. | 2. | 75. |
| %RSD | 1.20 | .360 | 1.00 | .429 | 1.01 | .764 | .247 | .4570 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1865500.** | **703360.** |
| Stddev | 3123. | 7105. |
| %RSD | .16741 | 1.0102 |

Sample Name: 259459 Acquired: 04/23/2019 20:30:04 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **313000.** | **1470.** | **16500.** | **457000.** | **33500.** | **665.** | **11910.** |
| Stddev | 3790. | 10. | 156. | 868. | 264. | 3. | 40. |
| %RSD | 1.21 | .710 | .942 | .190 | .788 | .462 | .3357 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1857700.** | **713170.** |
| Stddev | 9157. | 3986. |
| %RSD | .49295 | .55893 |

Sample Name: 259460 Acquired: 04/23/2019 20:35:27 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **187000.** | **441.** | **53500.** | **354000.** | **25900.** | **5340.** | **671000.** |
| Stddev | 563. | 7. | 133. | 306. | 49. | 15. | 1370. |
| %RSD | .301 | 1.66 | .249 | .086 | .189 | .279 | .205 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1802200.** | **697780.** |
| Stddev | 3525. | 1740. |
| %RSD | .19559 | .24931 |

Sample Name: 259462 Acquired: 04/23/2019 20:41:12 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2576 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **230000.** | **507.** | **47500.** | **462000.** | **25800.** | **2060.** | **282000.** |
| Stddev | 1940. | 5. | 342. | 1760. | 229. | 9. | 2870. |
| %RSD | .846 | 1.06 | .720 | .381 | .888 | .435 | 1.02 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1824500.** | **699730.** |
| Stddev | 6548. | 6429. |
| %RSD | .35889 | .91882 |

Sample Name: 259463 Acquired: 04/23/2019 20:46:59 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **278000.** | **240.** | **67500.** | **375000.** | **30900.** | **1120.** | **20540.** |
| Stddev | 3850. | 8. | 819. | 2230. | 357. | 10. | 130. |
| %RSD | 1.38 | 3.14 | 1.21 | .596 | 1.16 | .863 | .6349 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1847800.** | **703210.** |
| Stddev | 8647. | 7473. |
| %RSD | .46794 | 1.0628 |

Sample Name: 259464 Acquired: 04/23/2019 20:52:24 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **269000.** | **113.** | **70300.** | **375000.** | **30500.** | **722.** | **12820.** |
| Stddev | 1810. | 3. | 518. | 1720. | 214. | 3. | 43. |
| %RSD | .674 | 2.83 | .736 | .458 | .701 | .458 | .3357 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1857900.** | **699050.** |
| Stddev | 3884. | 5774. |
| %RSD | .20904 | .82595 |

Sample Name: 259465 Acquired: 04/23/2019 20:57:50 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **264000.** | **119.** | **55100.** | **349000.** | **29800.** | **920.** | **973.** | **16020.** |
| Stddev | 1820. | 4. | 364. | 1540. | 223. | 8. | 2. | 56. |
| %RSD | .688 | 3.56 | .659 | .442 | .748 | .914 | .224 | .3507 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1845900.** | **698400.** |
| Stddev | 4510. | 4796. |
| %RSD | .24432 | .68676 |

Sample Name: dup259465 Acquired: 04/23/2019 21:03:14 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **216000.** | **107.** | **45500.** | **293000.** | **25100.** | **910.** | **14910.** |
| Stddev | 2260. | 9. | 551. | 1120. | 318. | 4. | 42. |
| %RSD | 1.05 | 7.96 | 1.21 | .384 | 1.27 | .386 | .2815 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1862600.** | **707690.** |
| Stddev | 7635. | 8680. |
| %RSD | .40994 | 1.2266 |

Sample Name: trip259465 Acquired: 04/23/2019 21:08:39 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **254000.** | **178.** | **54800.** | **368000.** | **28200.** | **978.** | **19200.** |
| Stddev | 1900. | 3. | 420. | 1360. | 200. | 6. | 76. |
| %RSD | .747 | 1.82 | .767 | .371 | .707 | .636 | .3970 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1853800.** | **708820.** |
| Stddev | 1243. | 4791. |
| %RSD | .06704 | .67586 |

Sample Name: 259466 Acquired: 04/23/2019 21:14:03 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294000.** | **136.** | **102000.** | **428000.** | **34700.** | **775.** | **14880.** |
| Stddev | 3100. | 10. | 1040. | 820. | 388. | 5. | 29. |
| %RSD | 1.05 | 7.31 | 1.02 | .191 | 1.12 | .626 | .1937 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1837100.** | **698430.** |
| Stddev | 1625. | 6053. |
| %RSD | .08848 | .86670 |

Sample Name: ccv1 Acquired: 04/23/2019 21:19:28 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4780.** | **5190.** | **4580.** | **4840.** | F **4420.** | **4760.** | **4850.** |
| Stddev | 44. | 13. | 44. | 29. | 39. | 34. | 30. |
| %RSD | .912 | .244 | .967 | .608 | .886 | .723 | .612 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1875400.** | **709940.** |
| Stddev | 8262. | 6476. |
| %RSD | .44057 | .91225 |

Sample Name: ccv2 Acquired: 04/23/2019 21:24:37 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **511.** | **461.** | **457.** | **463.** | **472.** |
| Stddev | 9. | 4. | 4. | 5. | 6. | 2. |
| %RSD | 1.95 | .736 | .792 | 1.18 | 1.33 | .411 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1934300.** | **706890.** |
| Stddev | 6082. | 7019. |
| %RSD | .31442 | .99294 |

Sample Name: ccb Acquired: 04/23/2019 21:29:57 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-7.85** | **-6.79** | **-7.49** | **-23.3** | **11.1** | **-2.83** |
| Stddev | 7.25 | 3.00 | 3.35 | 1.5 | 18.9 | .22 |
| %RSD | 92.4 | 44.2 | 44.6 | 6.36 | 170. | 7.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1940700.** | **703640.** |
| Stddev | 8304. | 2610. |
| %RSD | .42790 | .37089 |

Sample Name: 259467 Acquired: 04/23/2019 21:35:18 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **250000.** | **133.** | **59000.** | **353000.** | **28500.** | **1030.** | **17310.** |
| Stddev | 1600. | 7. | 474. | 697. | 227. | 4. | 13. |
| %RSD | .640 | 5.39 | .803 | .198 | .796 | .427 | .0771 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1850300.** | **709620.** |
| Stddev | 4954. | 6920. |
| %RSD | .26773 | .97519 |

Sample Name: 259468 Acquired: 04/23/2019 21:40:42 Type: Unk
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Pb2203 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **262000.** | **198.** | **57000.** | **386000.** | **28400.** | **622.** | **13830.** |
| Stddev | 3060. | 6. | 691. | 1190. | 350. | 1. | 18. |
| %RSD | 1.17 | 3.00 | 1.21 | .307 | 1.23 | .180 | .1329 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1849500.** | **709670.** |
| Stddev | 3766. | 9083. |
| %RSD | .20364 | 1.2799 |

Sample Name: ccv1 Acquired: 04/23/2019 22:29:24 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4790.** | **5190.** | **4600.** | **4790.** | F **4460.** | **4690.** | **4780.** |
| Stddev | 59. | 26. | 56. | 25. | 38. | 16. | 21. |
| %RSD | 1.23 | .500 | 1.22 | .526 | .851 | .350 | .431 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | 5000. | | |
| Range | | | | | -10.4% | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1884500.** | **704740.** |
| Stddev | 8204. | 5935. |
| %RSD | .43532 | .84219 |

Sample Name: ccv2 Acquired: 04/23/2019 22:34:32 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **484.** | **514.** | **460.** | **454.** | **455.** | **470.** |
| Stddev | 20. | 3. | 8. | 2. | 9. | 3. |
| %RSD | 4.20 | .642 | 1.73 | .330 | 1.91 | .572 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1937200.** | **703590.** |
| Stddev | 2895. | 8084. |
| %RSD | .14946 | 1.1489 |

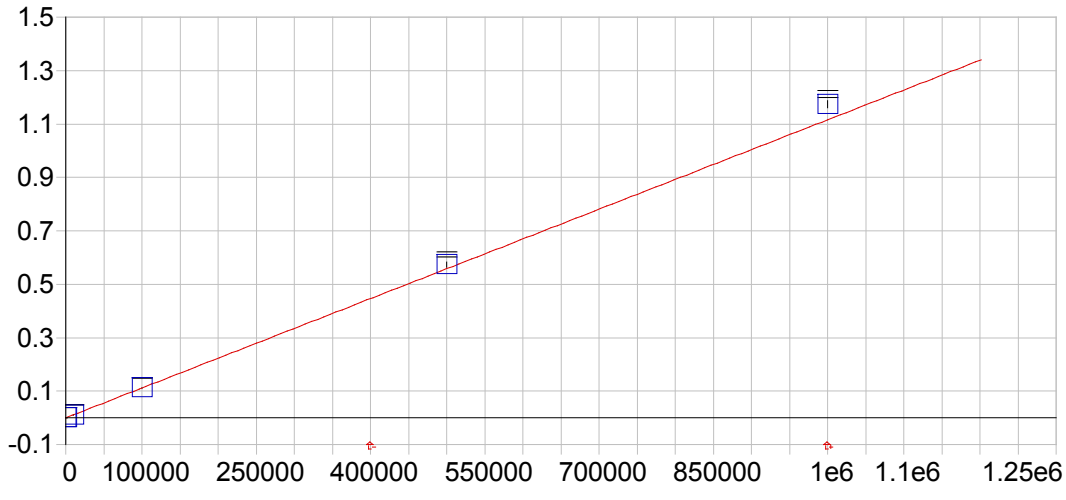
Sample Name: ccb Acquired: 04/23/2019 22:39:52 Type: QC
Method: As & Pb & Mn(v4) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1.27** | **-7.86** | **-9.50** | **-25.4** | **-2.09** | **-2.77** |
| Stddev | 6.65 | 3.58 | 2.56 | 2.3 | 17.3 | .29 |
| %RSD | 524. | 45.5 | 26.9 | 9.21 | 825. | 10.6 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1940900.** | **707680.** |
| Stddev | 7823. | 4689. |
| %RSD | .40306 | .66260 |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999998 | 0.000004 | 9.943596 | 33.145320 |
| | As 193.759 {474} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000001 | 2.923645 | 9.745483 |
| | As 197.262 {471} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 21.884844 | 72.949480 |
| | Ca 315.887 {107} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000055 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000006 | 6.003072 | 20.010240 |
| | Fe 234.349 {144} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | None | 0.004816 | 0.000000 | 0.000000 | 1.000000 | 0.994129 | 0.016975 | 2.351614 | 7.838712 |
| | Fe 239.562 {141} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.999829 | 0.000008 | 2.269530 | 7.565100 |
| | Mg 279.079 {121} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999983 | 0.000001 | 19.513946 | 65.046487 |
| | Pb 216.999 {455} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999795 | 0.000000 | 6.807207 | 22.690691 |
| | Pb 220.353 {153} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Var | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999702 | 0.000003 | 4.483850 | 14.946168 |
| | Pb 220.353 {453} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999726 | 0.000000 | 2.144750 | 7.149168 |
| | Y 324.228 {104}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999561 | 0.000006 | 0.362333 | 1.207777 |
| | Mn 259.373 {130} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999960 | 0.000003 | 0.429061 | 1.430205 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |

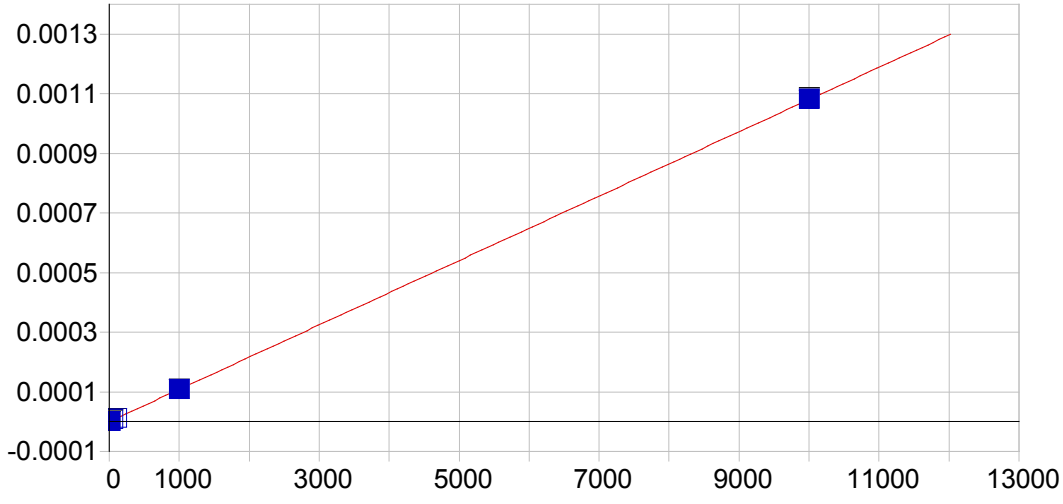



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 9.943596 | | |
| Predicted MQL: | 33.145320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02779 | -.028 | .000 | .00000 | .000 | 1 |
| CalStd14-10 | 1000000. | 1052300. | 52300. | 5.23 | 1.1740 | .013 | 1 |
| CalStd13=50 | 500000. | 513940. | 13900. | 2.79 | .57338 | .010 | 1 |
| CalStd10=10 | 10000. | 9873.1 | -127. | -1.27 | .01102 | .000 | 1 |
| CalStd12-10 | 100000. | 100190. | 193. | .193 | .11178 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00117 | .000 | 1 |

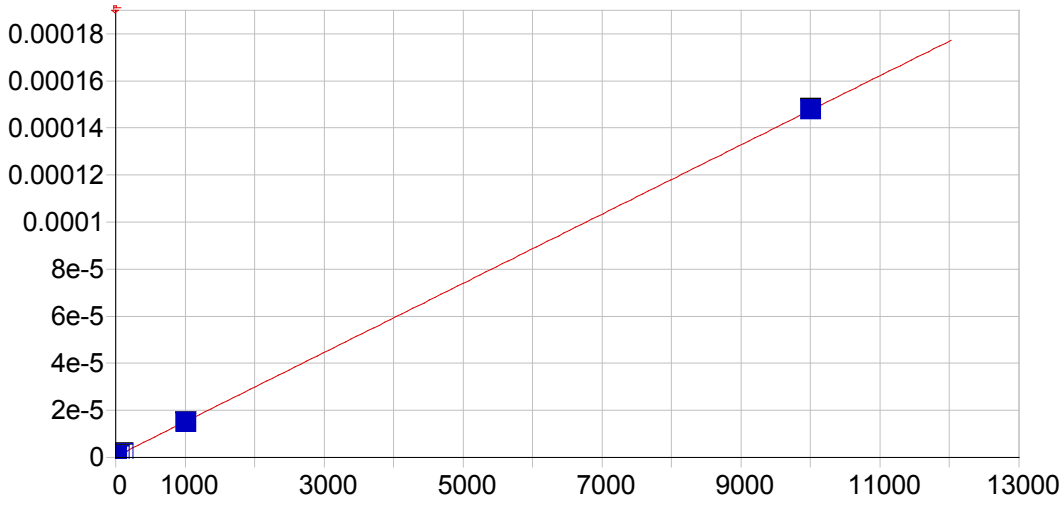



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.923645 | | |
| Predicted MQL: | 9.745483 | | |

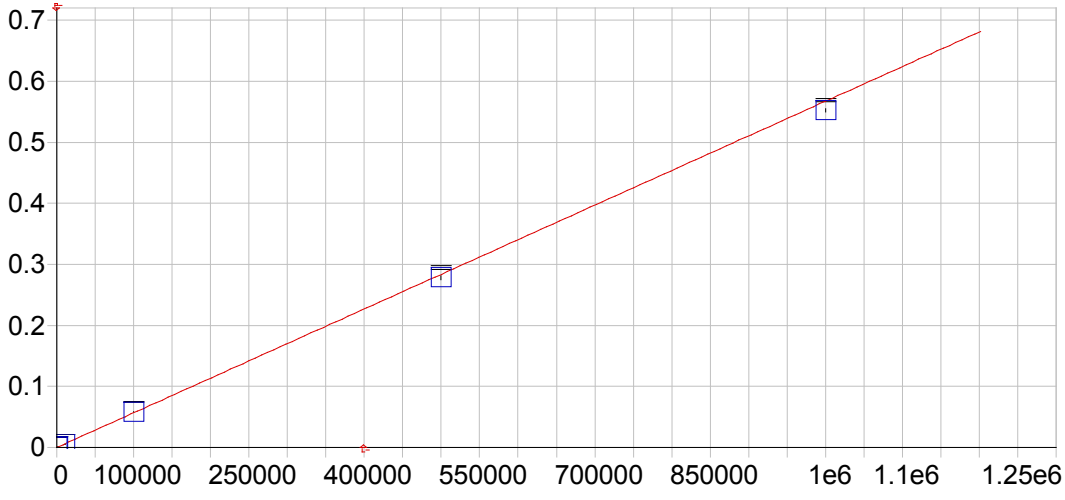
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.7572 | -3.76 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.40 | -2.60 | -.260 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.984 | 2.98 | 5.97 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8190 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.82 | 6.82 | 6.82 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 5.29 | .053 | .00108 | .000 | 1 |




**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999963 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 21.884844 | | | | |
| Predicted MQL: | 72.949480 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.3371 | 2.34 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 974.29 | -25.7 | -2.57 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 31.834 | -18.2 | -36.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | -4.8874 | -14.9 | -149. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 81.761 | -18.2 | -18.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.84 | .058 | .00015 | .000 | 1 |

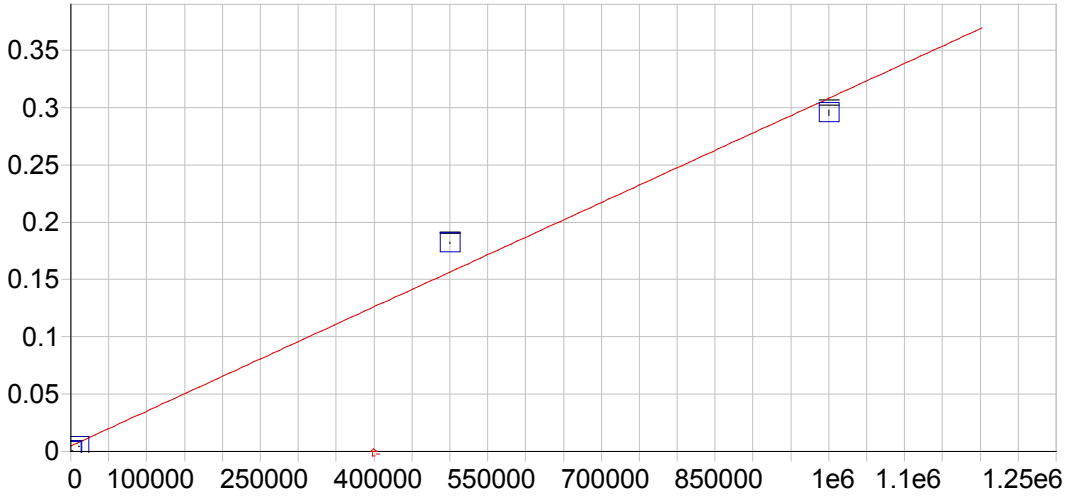



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 6.003072 | | |
| Predicted MQL: | 20.010240 | | |

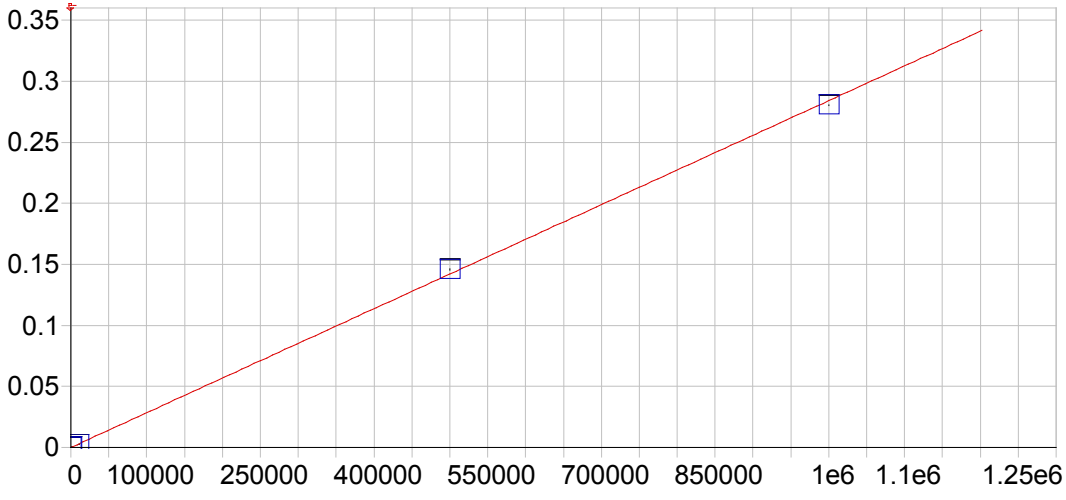
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05815 | -.058 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9882.5 | -118. | -1.18 | .00566 | .000 | 1 |
| CalStd13=50 | 500000. | 489950. | -10100. | -2.01 | .27790 | .003 | 1 |
| CalStd14-10 | 1000000. | 973540. | -26500. | -2.65 | .55215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00065 | .000 | 1 |
| CalStd12-10 | 100000. | 101510. | 1510. | 1.51 | .05762 | .001 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | None |
| A0 (Offset): | 0.004816 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.994129 | | Status: | OK. | |
| Std Error of Est: | 0.016975 | | | | |
| Predicted MDL: | 2.351614 | | | | |
| Predicted MQL: | 7.838712 | | | | |

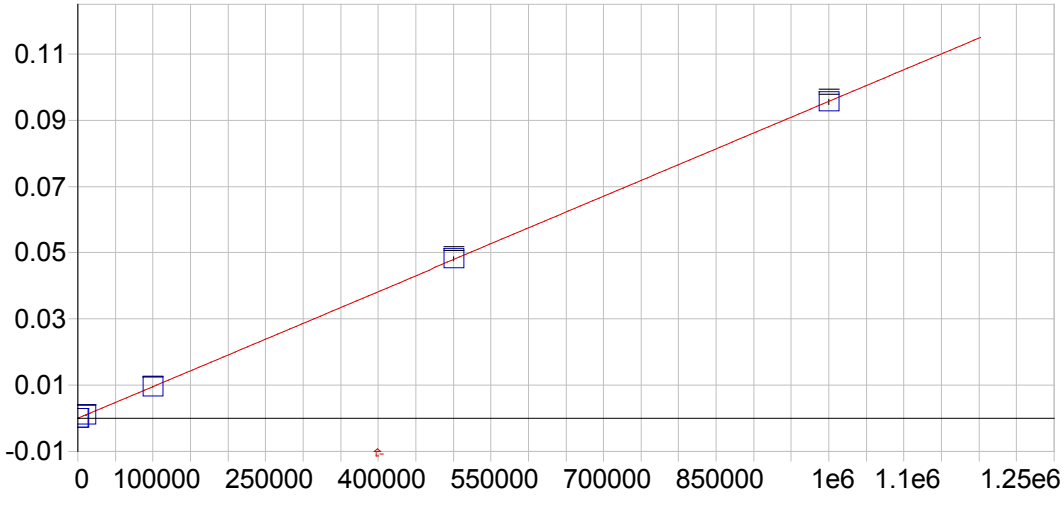
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15823. | -15800. | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | -1005.7 | -11000. | -110. | .00451 | .000 | 1 |
| CalStd13=50 | 500000. | 583930. | 83900. | 16.8 | .18189 | .001 | 1 |
| CalStd14-10 | 1000000. | 958160. | -41800. | -4.18 | .29538 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14264. | -15300. | -1530. | .00049 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999829 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 2.269530 | | | | |
| Predicted MQL: | 7.565100 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03580 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.0 | .400 | .00286 | .000 | 1 |
| CalStd13=50 | 500000. | 513100. | 13100. | 2.62 | .14577 | .001 | 1 |
| CalStd14-10 | 1000000. | 986850. | -13200. | -1.32 | .28036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00029 | .000 | 1 |

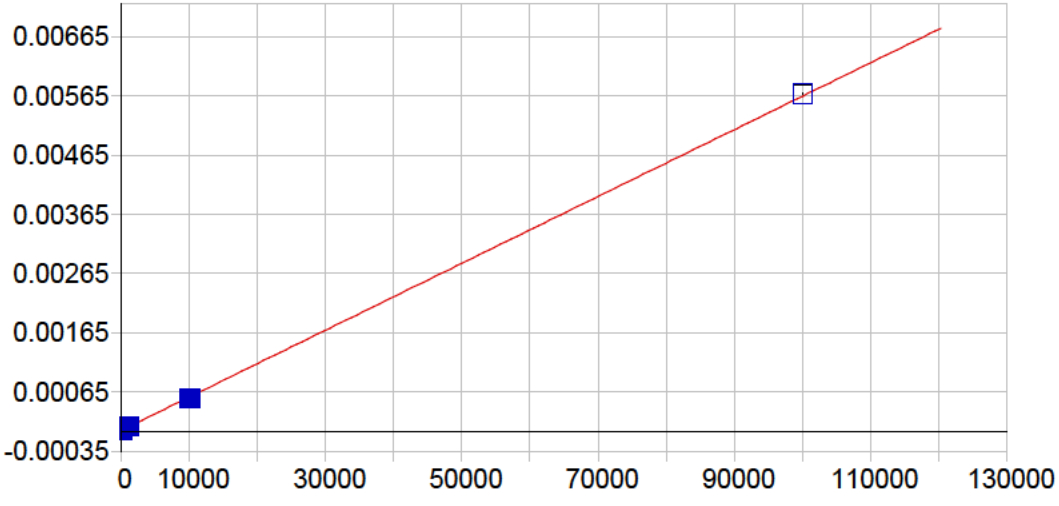



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 19.513946 | | |
| Predicted MQL: | 65.046487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06559 | .066 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 502930. | 2930. | .586 | .04815 | .001 | 1 |
| CalStd10=10 | 10000. | 9538.6 | -461. | -4.61 | .00091 | .000 | 1 |
| CalStd14-10 | 1000000. | 998520. | -1480. | -.148 | .09559 | .001 | 1 |
| CalStd12-10 | 100000. | 98875. | -1120. | -1.12 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.23 | -12.8 | -1.28 | .00009 | .000 | 1 |

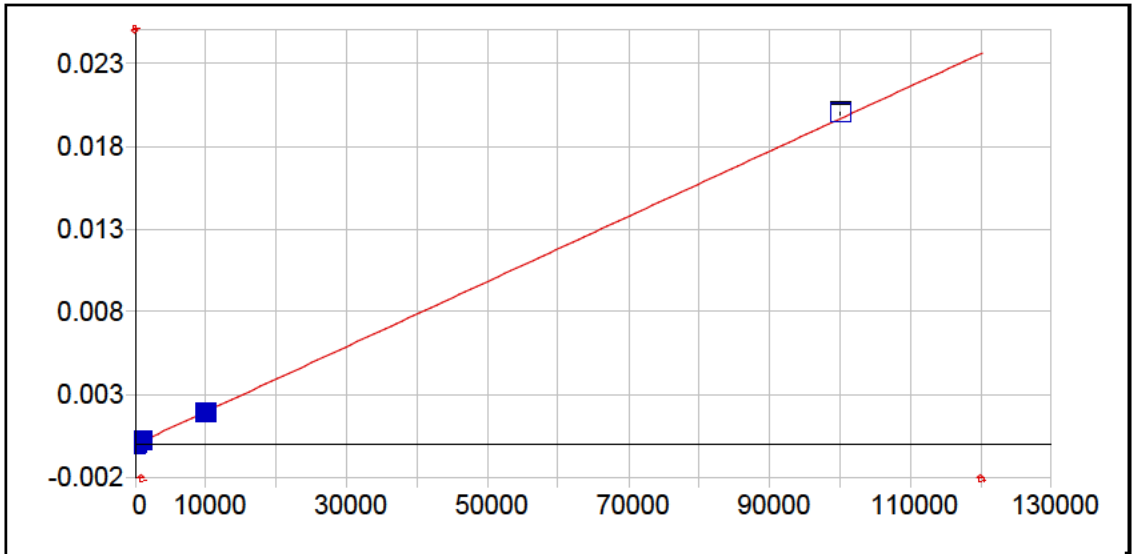



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999795 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.807207 | | |
| Predicted MQL: | 22.690691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00716 | -.007 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.48 | -1.52 | -.152 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9404.6 | -595. | -5.95 | .00053 | .000 | 1 |
| CalStd11-10 | 100000. | 100570. | 574. | .574 | .00568 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.54 | 18.5 | 18.5 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.860 | 5.86 | 58.6 | .00000 | .000 | 1 |

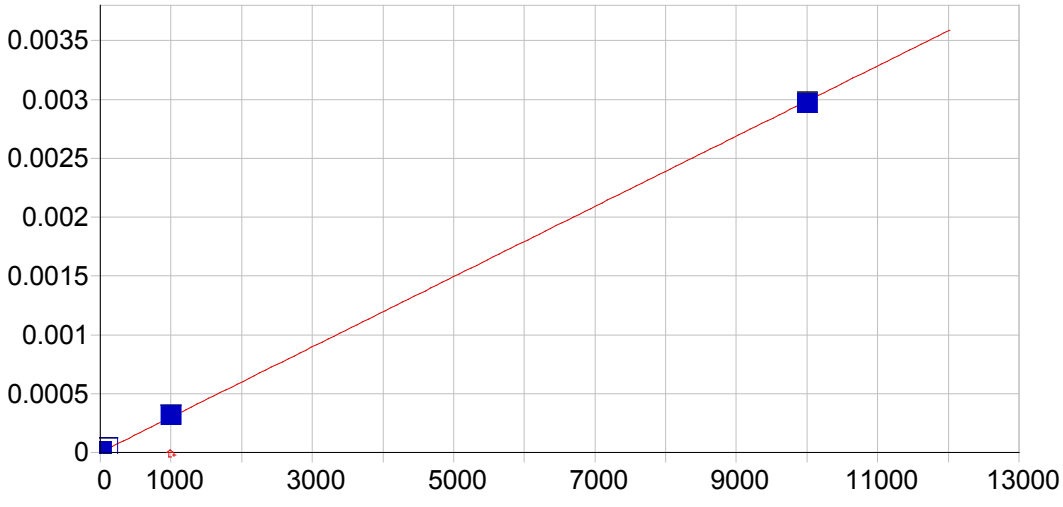



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 4.483850 | | |
| Predicted MQL: | 14.946168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.891 | -10.9 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.46 | -10.5 | -1.05 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9612.3 | -388. | -3.88 | .00189 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.81 | 1.81 | 1.81 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 101710. | 1710. | 1.71 | .01999 | .000 | 1 |

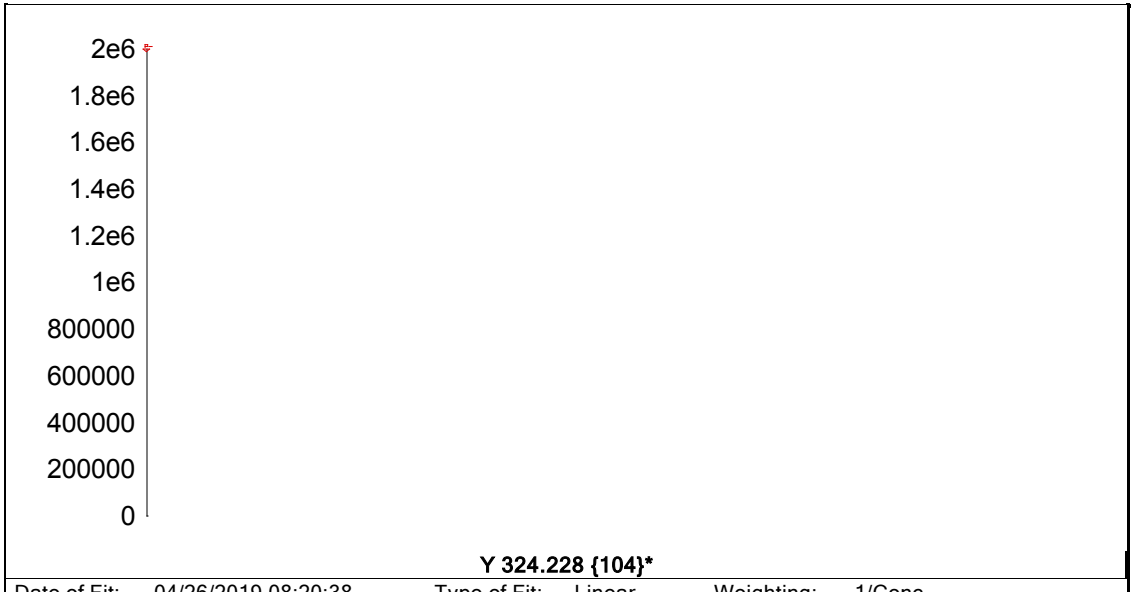



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

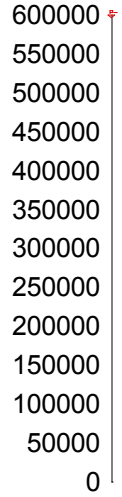
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999726 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.144750 | | |
| Predicted MQL: | 7.149168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.444 | 2.44 | 24.4 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.27 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.5643 | 1.56 | 31.3 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.0 | 44.0 | 4.40 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.7 | -64.3 | -.643 | .00297 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

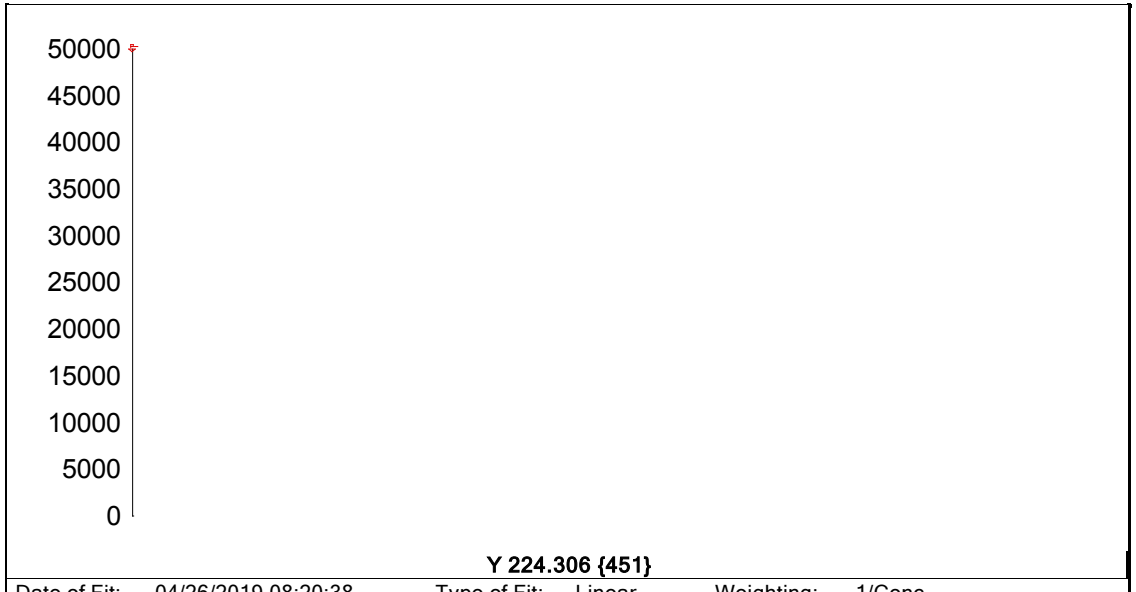
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1838300. | 3910. | 1 |




**Y 371.030 { 91}***

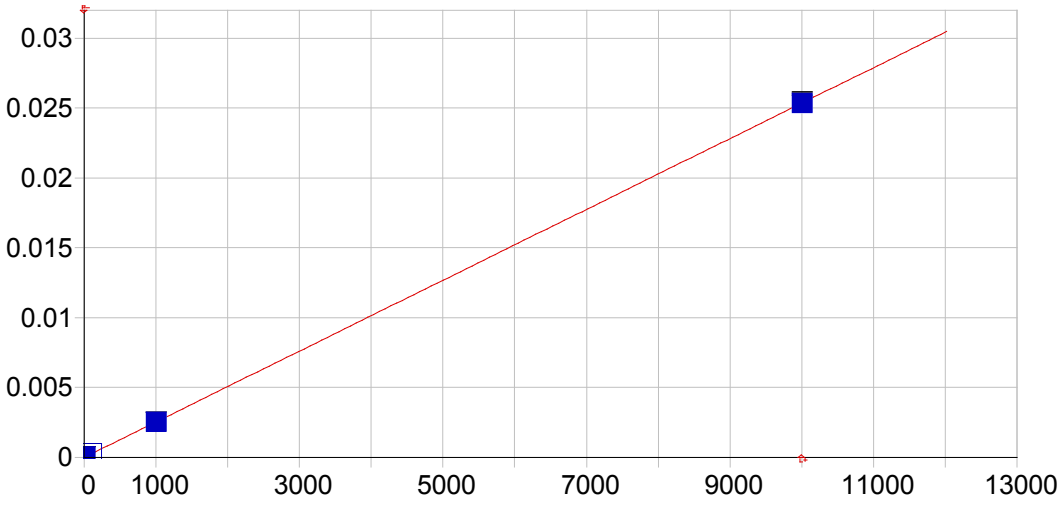
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 517290. | 3060. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 47117. | 95.3 | 1 |

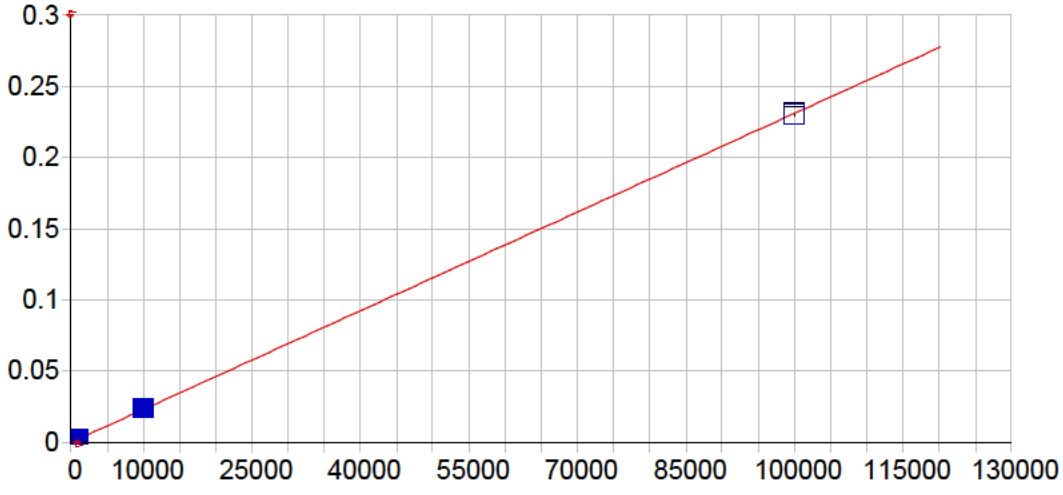



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999561 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.362333 | | |
| Predicted MQL: | 1.207777 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.82619 | -.826 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.63 | -12.4 | -1.24 | .00251 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.323 | .323 | 3.23 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.429061 | | |
| Predicted MQL: | 1.430205 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01566 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 99717. | -283. | -.283 | .23028 | .001 | 1 |
| CalStd10=10 | 10000. | 10252. | 252. | 2.52 | .02371 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00236 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.55 | 11.5 | 11.5 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 10:46:25 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 539. | 178. | 4.24 | 5.00 | 80.5 | 22.9 | 52.3 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1838300.** | **517290.** |
| Stddev | 3912. | 3064. |
| %RSD | .21280 | .59225 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 10:51:43 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| | |
|---|---|
| Int. Std. | Y_3242 |
| Units | Cts/S |
| Avg | **1841800.** |
| Stddev | 7568. |
| %RSD | .41090 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 10:57:05 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 18.8 | 1.51 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1848400.** |
| Stddev | 954. |
| %RSD | .05159 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 11:02:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 6.76 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1846900. |
| Stddev | 8226. |
| %RSD | .44538 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 11:07:48 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 | Mn2593 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | .413 | .850 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1851300.** |
| Stddev | 7813. |
| %RSD | .42201 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 11:13:10 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.52 | .514 | .950 | .537 | 1.59 | .192 | .259 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1839100.** | **528940.** |
| Stddev | 3631. | 3970. |
| %RSD | .19743 | .75046 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 11:18:27 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.001** | **.006** | **.003** | **.001** | **.025** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .322 | 1.20 | .397 | 1.36 | .532 | .421 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789300.** | **527900.** |
| Stddev | 6317. | 6066. |
| %RSD | .35307 | 1.1491 |

Sample Name: CalStd11-100k Acquired: 04/25/2019 11:23:35 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Mn2593 |
|---|---|
| Units | Cts/S |
| Avg | **.230** |
| Stddev | .001 |
| %RSD | .611 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1816500.** |
| Stddev | 4728. |
| %RSD | .26025 |

Sample Name: CalStd12-100000 Acquired: 04/25/2019 11:29:11 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.112** | **.058** | **.009** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.17 | 1.10 | 1.01 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **523370.** |
| Stddev | 5416. |
| %RSD | 1.0348 |

Sample Name: CalStd13=500000 Acquired: 04/25/2019 11:34:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.573** | **.278** | **.146** | **.048** |
| Stddev | .010 | .003 | .001 | .001 |
| %RSD | 1.66 | 1.17 | .383 | 1.34 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1640000.** | **514060.** |
| Stddev | 5264. | 6838. |
| %RSD | .32096 | 1.3302 |

Sample Name: CalStd14-1000k  Acquired: 04/25/2019 11:40:14  Type: Cal
Method: As & Pb & Mn(v5)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6000:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.552** | **.280** | **.096** |
| Stddev | .01 | .003 | .000 | .001 |
| %RSD | 1.10 | .512 | .134 | .816 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1478800.** | **472860.** |
| Stddev | 1412. | 4250. |
| %RSD | .09548 | .89880 |

Sample Name: ICV2 Acquired: 04/25/2019 11:56:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11500.** | **2110.** | **9840.** | **5010.** | **9500.** | **511.** |
| Stddev | 248. | 18. | 202. | 21. | 218. | 4. |
| %RSD | 2.16 | .846 | 2.06 | .415 | 2.29 | .742 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1821400.** | **519330.** |
| Stddev | 8077. | 10917. |
| %RSD | .44345 | 2.1021 |

Sample Name: ICVLL Acquired: 04/25/2019 12:02:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1320.** | **69.5** | **1680.** | **1030.** | **1620.** | **33.7** |
| Stddev | 13. | 3.3 | 25. | 3. | 9. | .1 |
| %RSD | 1.02 | 4.79 | 1.51 | .317 | .536 | .372 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825000.** | **519800.** |
| Stddev | 7373. | 6574. |
| %RSD | .40399 | 1.2647 |

Sample Name: icb Acquired: 04/25/2019 12:07:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-3.37** | **-2.12** | **35.3** | **.654** | **3.46** | **-.816** |
| Stddev | 2.12 | .41 | 5.4 | 1.37 | 6.99 | .147 |
| %RSD | 63.0 | 19.4 | 15.2 | 209. | 202. | 18.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842700.** | **527560.** |
| Stddev | 2154. | 3142. |
| %RSD | .11691 | .59558 |

Sample Name: MRL Acquired: 04/25/2019 12:12:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **412.** | **17.0** | **541.** | **336.** | **510.** | **10.5** |
| Stddev | 13. | 1.5 | 10. | 3. | 21. | .3 |
| %RSD | 3.19 | 8.55 | 1.91 | 1.02 | 4.02 | 2.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1823400.** | **528440.** |
| Stddev | 7276. | 7292. |
| %RSD | .39904 | 1.3799 |

Sample Name: icsa Acquired: 04/25/2019 12:18:12 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **465000.** | **.006** | **448000.** | **463000.** | **459000.** | **-3.69** |
| Stddev | 6730. | 6.40 | 3260. | 1190. | 3440. | .65 |
| %RSD | 1.45 | 107000. | .728 | .257 | .749 | 17.6 |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1642700.** | **513560.** |
| Stddev | 4085. | 3635. |
| %RSD | .24870 | .70770 |

Sample Name: icsab Acquired: 04/25/2019 12:23:48 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **537000.** | **577.** | **511000.** | **527000.** | **526000.** | **589.** |
| Stddev | 4350. | 11. | 2880. | 4130. | 2140. | 5. |
| %RSD | .810 | 1.94 | .563 | .784 | .406 | .838 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1623800.** | **508300.** |
| Stddev | 10217. | 1528. |
| %RSD | .62923 | .30065 |

Sample Name: 259433 Acquired: 04/25/2019 13:07:10 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment: 71473 reruns

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **16000.** | **75.2** | **12000.** | **20500.** | **3120.** | **40600.** |
| Stddev | 120. | 1.0 | 88. | 89. | 36. | 122. |
| %RSD | .748 | 1.36 | .732 | .433 | 1.16 | .300 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1828000.** | **527500.** |
| Stddev | 5307. | 4745. |
| %RSD | .29030 | .89944 |

Sample Name: I259433 Acquired: 04/25/2019 13:12:26 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3420.** | **11.9** | **2550.** | **4260.** | **681.** | **8340.** | **8450.** |
| Stddev | 56. | 2.2 | 50. | 18. | 20. | 20. | 21. |
| %RSD | 1.65 | 18.1 | 1.97 | .421 | 2.96 | .244 | .247 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1858700.** | **523530.** |
| Stddev | 5538. | 7796. |
| %RSD | .29797 | 1.4890 |

Sample Name: dup259433 Acquired: 04/25/2019 13:17:41 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **20800.** | **53.1** | **24100.** | **22900.** | **5680.** | **28200.** |
| Stddev | 1110. | 3.9 | 1250. | 1350. | 294. | 1670. |
| %RSD | 5.32 | 7.40 | 5.19 | 5.91 | 5.17 | 5.93 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1829500.** | **525460.** |
| Stddev | 7456. | 8412. |
| %RSD | .40752 | 1.6009 |

Sample Name: ccv1 Acquired: 04/25/2019 13:22:55 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4850.** | **4990.** | **4730.** | **4870.** | **4600.** | **4810.** | **4940.** |
| Stddev | 62. | 11. | 46. | 18. | 58. | 15. | 16. |
| %RSD | 1.27 | .229 | .966 | .359 | 1.26 | .308 | .327 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781900.** | **517270.** |
| Stddev | 3288. | 6419. |
| %RSD | .18453 | 1.2409 |

Sample Name: ccv2 Acquired: 04/25/2019 13:28:06 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **488.** | **505.** | **497.** | **489.** | **474.** | **486.** |
| Stddev | 3. | 3. | 12. | 2. | 26. | 2. |
| %RSD | .666 | .501 | 2.34 | .372 | 5.47 | .408 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825600.** | **527470.** |
| Stddev | 4040. | 9874. |
| %RSD | .22130 | 1.8721 |

Sample Name: ccb Acquired: 04/25/2019 13:33:26 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-5.45** | **-6.15** | **1.64** | **-6.32** | **-.992** | **-1.16** |
| Stddev | 9.43 | 3.17 | 4.74 | .57 | 16.2 | .59 |
| %RSD | 173. | 51.5 | 289. | 8.99 | 1630. | 50.9 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841200.** | **510940.** |
| Stddev | 2776. | 4679. |
| %RSD | .15080 | .91578 |

Sample Name: mss259433 Acquired: 04/25/2019 13:38:48 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **19100.** | **2070.** | **12600.** | **24100.** | **3340.** | **29000.** |
| Stddev | 496. | 33. | 337. | 513. | 108. | 603. |
| %RSD | 2.60 | 1.58 | 2.68 | 2.13 | 3.23 | 2.08 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1819600.** | **522350.** |
| Stddev | 8756. | 1594. |
| %RSD | .48118 | .30514 |

Sample Name: msds259433 Acquired: 04/25/2019 13:44:05 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **18500.** | **1870.** | **13200.** | **23700.** | **3340.** | **30000.** |
| Stddev | 1090. | 41. | 774. | 1160. | 197. | 1500. |
| %RSD | 5.91 | 2.18 | 5.88 | 4.89 | 5.90 | 4.98 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1822700.** | **527240.** |
| Stddev | 7780. | 4358. |
| %RSD | .42684 | .82662 |

Sample Name: pdss259433 Acquired: 04/25/2019 13:49:21 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **16100.** | **20000.** | **12000.** | **20500.** | **3140.** | **62500.** |
| Stddev | 157. | 145. | 132. | 76. | 35. | 1870. |
| %RSD | .976 | .726 | 1.10 | .370 | 1.10 | 2.99 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1807500.** | **523140.** |
| Stddev | 9116. | 5437. |
| %RSD | .50432 | 1.0394 |

Sample Name: 259460 Acquired: 04/25/2019 13:54:44 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **24500.** | **50.1** | **7280.** | **46800.** | **3570.** | **117000.** |
| Stddev | 1030. | 2.3 | 291. | 2110. | 141. | 4450. |
| %RSD | 4.22 | 4.63 | 4.00 | 4.52 | 3.95 | 3.80 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1816700.** | **518770.** |
| Stddev | 2935. | 2584. |
| %RSD | .16158 | .49802 |

Sample Name: 259462 Acquired: 04/25/2019 14:00:22 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **27000.** | **53.2** | **5860.** | **55700.** | **3190.** | **37900.** |
| Stddev | 1140. | 1.1 | 248. | 2620. | 116. | 1800. |
| %RSD | 4.22 | 2.08 | 4.24 | 4.70 | 3.64 | 4.74 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1827500.** | **526360.** |
| Stddev | 4953. | 3633. |
| %RSD | .27102 | .69022 |

Sample Name: ccv1 Acquired: 04/25/2019 14:32:07 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **4930.** | **5090.** | **4810.** | **4970.** | **4650.** | **4920.** | **5060.** |
| Stddev | 92. | 14. | 112. | 30. | 116. | 20. | 19. |
| %RSD | 1.87 | .266 | 2.34 | .596 | 2.49 | .403 | .379 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1781100.** | **517640.** |
| Stddev | 3702. | 10205. |
| %RSD | .20784 | 1.9714 |

Sample Name: ccv2 Acquired: 04/25/2019 14:37:18 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **509.** | **512.** | **506.** | **491.** | **491.** | **495.** |
| Stddev | 5. | 6. | 5. | 3. | 21. | 1. |
| %RSD | .939 | 1.16 | .978 | .529 | 4.27 | .250 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825400.** | **513110.** |
| Stddev | 3176. | 2897. |
| %RSD | .17399 | .56460 |

Sample Name: ccb Acquired: 04/25/2019 14:42:38 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **3.42** | **-3.15** | **-4.62** | **-3.31** | **2.13** | **-.814** |
| Stddev | 7.42 | 2.85 | 1.11 | 1.26 | 6.87 | .136 |
| %RSD | 217. | 90.7 | 24.0 | 37.9 | 322. | 16.7 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1841700.** | **508650.** |
| Stddev | 5284. | 6429. |
| %RSD | .28690 | 1.2639 |

Sample Name: ccv1 Acquired: 04/26/2019 01:04:47 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5210.** | **5320.** | **4910.** | **4950.** | **4780.** | **4860.** | **4930.** |
| Stddev | 40. | 16. | 47. | 34. | 52. | 21. | 11. |
| %RSD | .765 | .308 | .961 | .687 | 1.08 | .427 | .213 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1747000.** | **489160.** |
| Stddev | 3603. | 3778. |
| %RSD | .20624 | .77233 |

Sample Name: ccv2 Acquired: 04/26/2019 01:09:57 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **506.** | **528.** | **501.** | **487.** | **484.** | **482.** |
| Stddev | 13. | 4. | 7. | 4. | 27. | 1. |
| %RSD | 2.66 | .734 | 1.46 | .735 | 5.64 | .287 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1803900.** | **494630.** |
| Stddev | 6241. | 8248. |
| %RSD | .34598 | 1.6676 |

Sample Name: ccb Acquired: 04/26/2019 01:15:16 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-23.0** | **-3.48** | **9.44** | **-.007** | **4.63** | **-.791** |
| Stddev | 6.8 | 3.00 | 3.28 | .962 | 9.06 | .318 |
| %RSD | 29.6 | 86.3 | 34.7 | 14000. | 196. | 40.2 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1809900.** | **492870.** |
| Stddev | 9938. | 1783. |
| %RSD | .54907 | .36185 |

Sample Name: 259460 Acquired: 04/26/2019 01:26:06 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 30
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **7790.** | **14.6** | **2240.** | **14000.** | **1120.** | **35400.** |
| Stddev | 147. | 1.7 | 44. | 80. | 24. | 63. |
| %RSD | 1.89 | 11.7 | 1.95 | .572 | 2.11 | .178 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815700.** | **495500.** |
| Stddev | 2791. | 8951. |
| %RSD | .15372 | 1.8065 |

Sample Name: ccv1 Acquired: 04/26/2019 01:36:45 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5190.** | **5270.** | **4900.** | **4870.** | **4760.** | **4820.** | **4910.** |
| Stddev | 61. | 29. | 30. | 27. | 30. | 13. | 19. |
| %RSD | 1.17 | .557 | .613 | .548 | .623 | .266 | .381 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1749500.** | **488170.** |
| Stddev | 6973. | 3755. |
| %RSD | .39856 | .76913 |

Sample Name: ccv2 Acquired: 04/26/2019 01:41:55 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **509.** | **528.** | **503.** | **496.** | **480.** | **484.** |
| Stddev | 6. | 2. | 7. | 5. | 14. | 1. |
| %RSD | 1.25 | .354 | 1.45 | .932 | 2.85 | .304 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1788700.** | **495990.** |
| Stddev | 6651. | 2865. |
| %RSD | .37180 | .57767 |

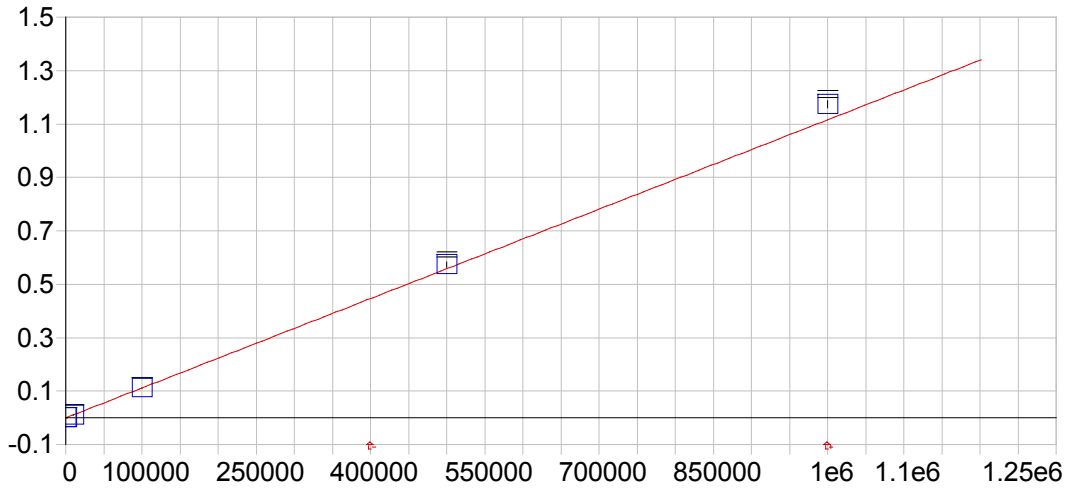
Sample Name: ccb Acquired: 04/26/2019 01:47:14 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-25.6** | **-2.35** | **10.2** | **1.53** | **.941** | **-.612** |
| Stddev | 6.2 | 2.41 | 3.8 | 1.07 | 23.8 | .290 |
| %RSD | 24.3 | 103. | 37.5 | 69.9 | 2530. | 47.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1793100.** | **495050.** |
| Stddev | 10720. | 7356. |
| %RSD | .59787 | 1.4860 |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999998 | 0.000004 | 9.943596 | 33.145320 |
| | As 193.759 {474} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000001 | 2.923645 | 9.745483 |
| | As 197.262 {471} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 21.884844 | 72.949480 |
| | Ca 315.887 {107} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000055 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000006 | 6.003072 | 20.010240 |
| | Fe 234.349 {144} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | None | 0.004816 | 0.000000 | 0.000000 | 1.000000 | 0.994129 | 0.016975 | 2.351614 | 7.838712 |
| | Fe 239.562 {141} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.999829 | 0.000008 | 2.269530 | 7.565100 |
| | Mg 279.079 {121} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999983 | 0.000001 | 19.513946 | 65.046487 |
| | Pb 216.999 {455} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999795 | 0.000000 | 6.807207 | 22.690691 |
| | Pb 220.353 {153} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Var | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999702 | 0.000003 | 4.483850 | 14.946168 |
| | Pb 220.353 {453} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999726 | 0.000000 | 2.144750 | 7.149168 |
| | Y 324.228 {104}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999561 | 0.000006 | 0.362333 | 1.207777 |
| | Mn 259.373 {130} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999960 | 0.000003 | 0.429061 | 1.430205 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |

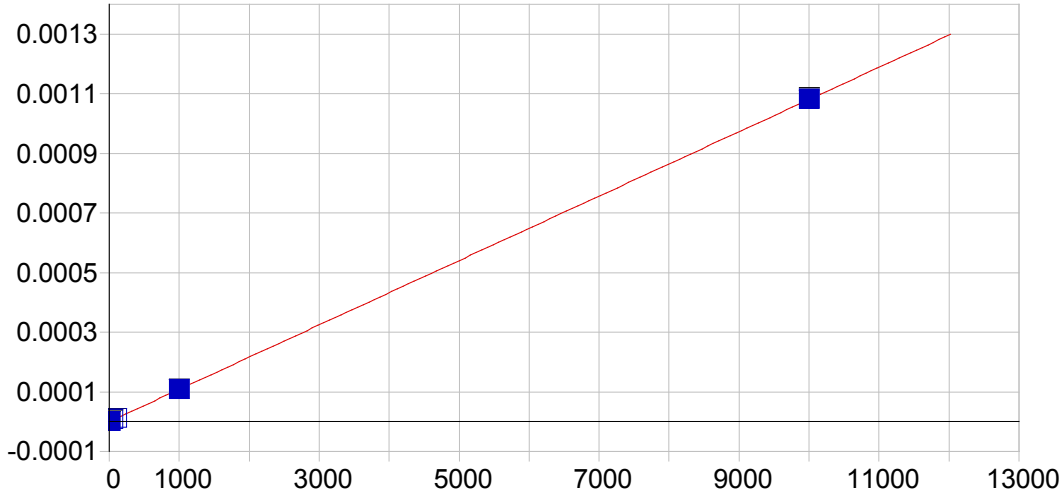



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 9.943596 | | |
| Predicted MQL: | 33.145320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02779 | -.028 | .000 | .00000 | .000 | 1 |
| CalStd14-10 | 1000000. | 1052300. | 52300. | 5.23 | 1.1740 | .013 | 1 |
| CalStd13=50 | 500000. | 513940. | 13900. | 2.79 | .57338 | .010 | 1 |
| CalStd10=10 | 10000. | 9873.1 | -127. | -1.27 | .01102 | .000 | 1 |
| CalStd12-10 | 100000. | 100190. | 193. | .193 | .11178 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00117 | .000 | 1 |

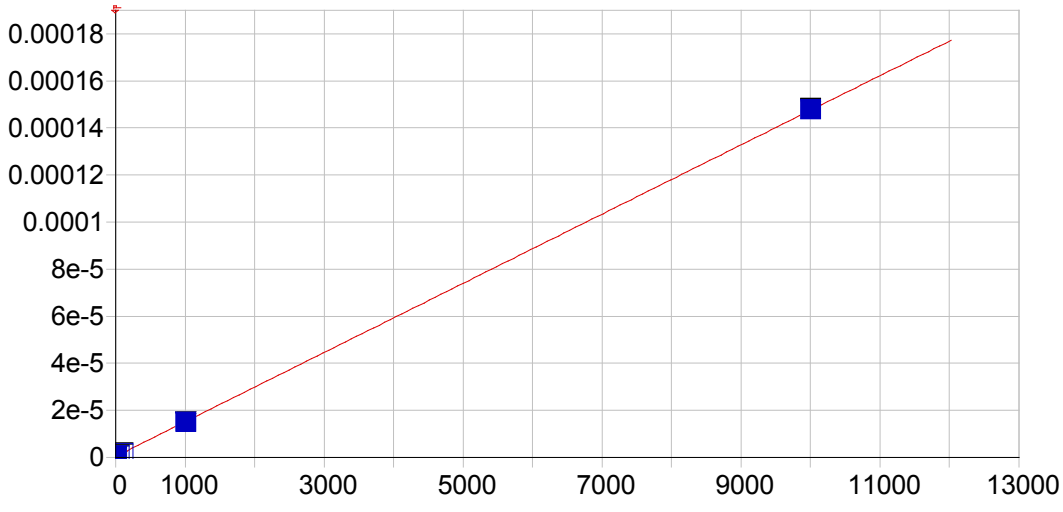



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.923645 | | |
| Predicted MQL: | 9.745483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.7572 | -3.76 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.40 | -2.60 | -.260 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.984 | 2.98 | 5.97 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8190 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.82 | 6.82 | 6.82 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 5.29 | .053 | .00108 | .000 | 1 |

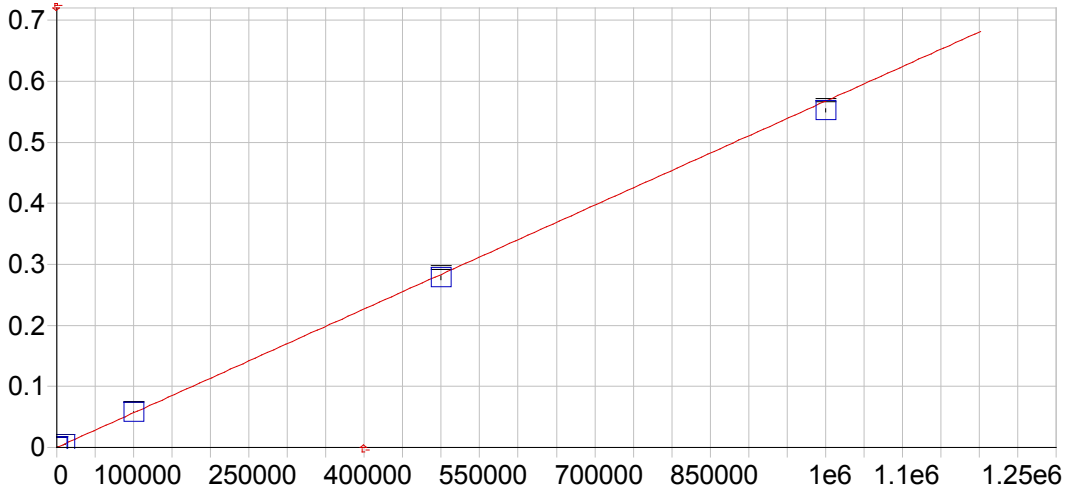



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.884844 | | |
| Predicted MQL: | 72.949480 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.3371 | 2.34 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 974.29 | -25.7 | -2.57 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 31.834 | -18.2 | -36.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | -4.8874 | -14.9 | -149. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 81.761 | -18.2 | -18.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.84 | .058 | .00015 | .000 | 1 |

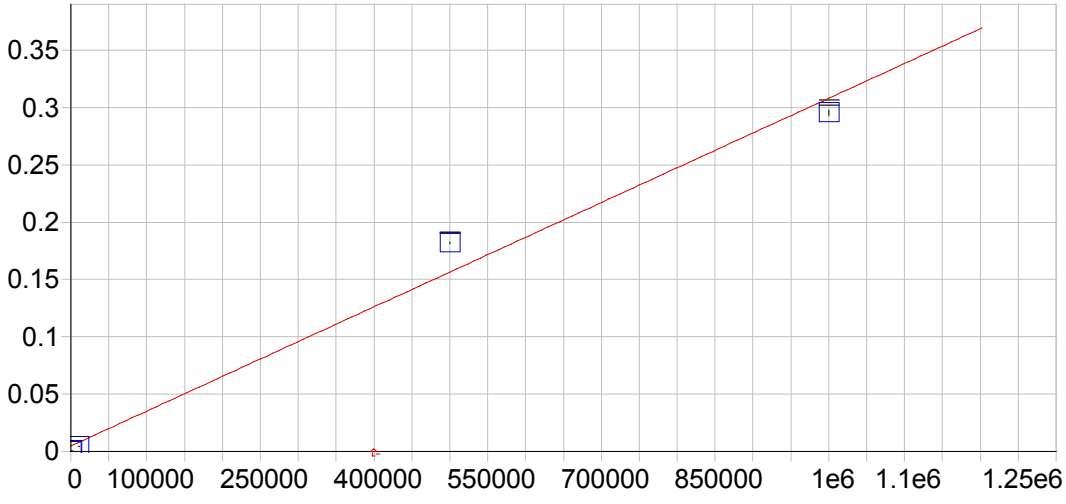



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 6.003072 | | |
| Predicted MQL: | 20.010240 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05815 | -.058 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9882.5 | -118. | -1.18 | .00566 | .000 | 1 |
| CalStd13=50 | 500000. | 489950. | -10100. | -2.01 | .27790 | .003 | 1 |
| CalStd14-10 | 1000000. | 973540. | -26500. | -2.65 | .55215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00065 | .000 | 1 |
| CalStd12-10 | 100000. | 101510. | 1510. | 1.51 | .05762 | .001 | 1 |

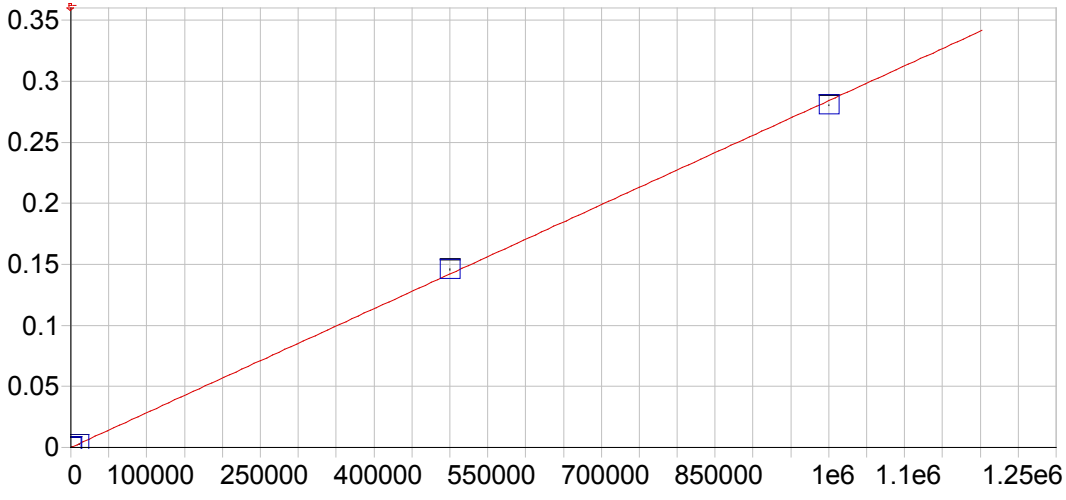



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004816 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994129 | Status: | OK. |
| Std Error of Est: | 0.016975 | | |
| Predicted MDL: | 2.351614 | | |
| Predicted MQL: | 7.838712 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15823. | -15800. | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | -1005.7 | -11000. | -110. | .00451 | .000 | 1 |
| CalStd13=50 | 500000. | 583930. | 83900. | 16.8 | .18189 | .001 | 1 |
| CalStd14-10 | 1000000. | 958160. | -41800. | -4.18 | .29538 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14264. | -15300. | -1530. | .00049 | .000 | 1 |

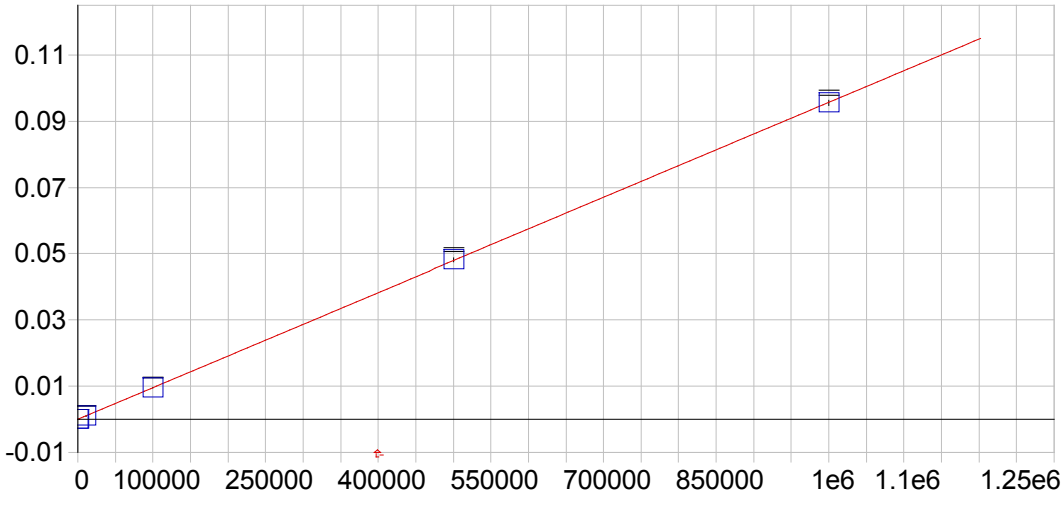



**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999829 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 2.269530 | | |
| Predicted MQL: | 7.565100 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03580 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.0 | .400 | .00286 | .000 | 1 |
| CalStd13=50 | 500000. | 513100. | 13100. | 2.62 | .14577 | .001 | 1 |
| CalStd14-10 | 1000000. | 986850. | -13200. | -1.32 | .28036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00029 | .000 | 1 |

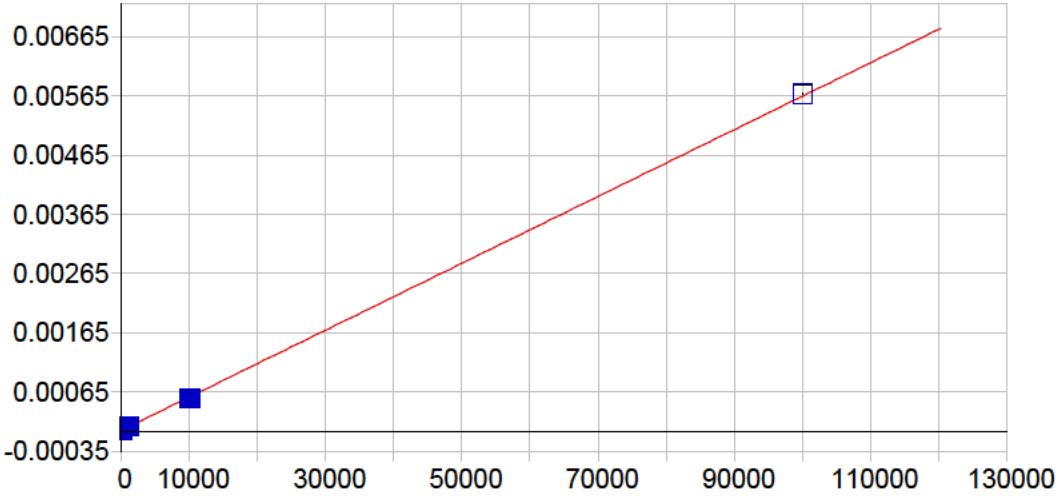



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 19.513946 | | |
| Predicted MQL: | 65.046487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06559 | .066 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 502930. | 2930. | .586 | .04815 | .001 | 1 |
| CalStd10=10 | 10000. | 9538.6 | -461. | -4.61 | .00091 | .000 | 1 |
| CalStd14-10 | 1000000. | 998520. | -1480. | -.148 | .09559 | .001 | 1 |
| CalStd12-10 | 100000. | 98875. | -1120. | -1.12 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.23 | -12.8 | -1.28 | .00009 | .000 | 1 |

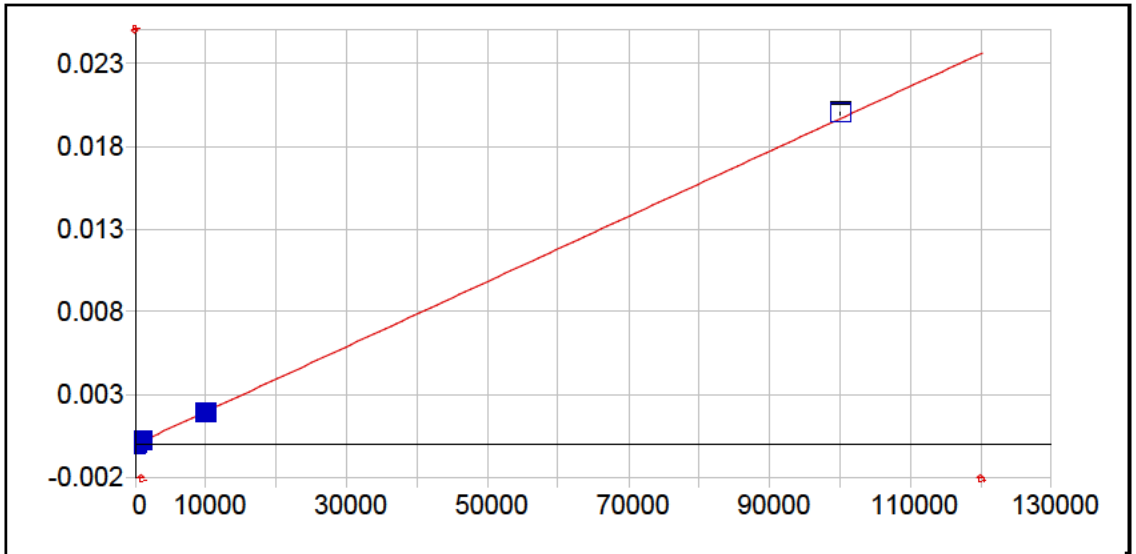



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999795 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.807207 | | |
| Predicted MQL: | 22.690691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00716 | -.007 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.48 | -1.52 | -.152 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9404.6 | -595. | -5.95 | .00053 | .000 | 1 |
| CalStd11-10 | 100000. | 100570. | 574. | .574 | .00568 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.54 | 18.5 | 18.5 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.860 | 5.86 | 58.6 | .00000 | .000 | 1 |

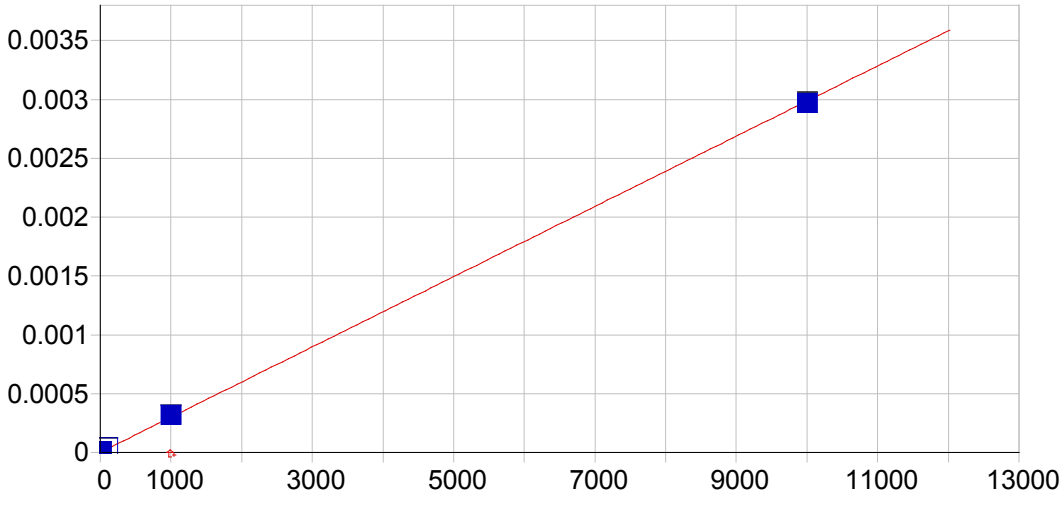



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 4.483850 | | |
| Predicted MQL: | 14.946168 | | |

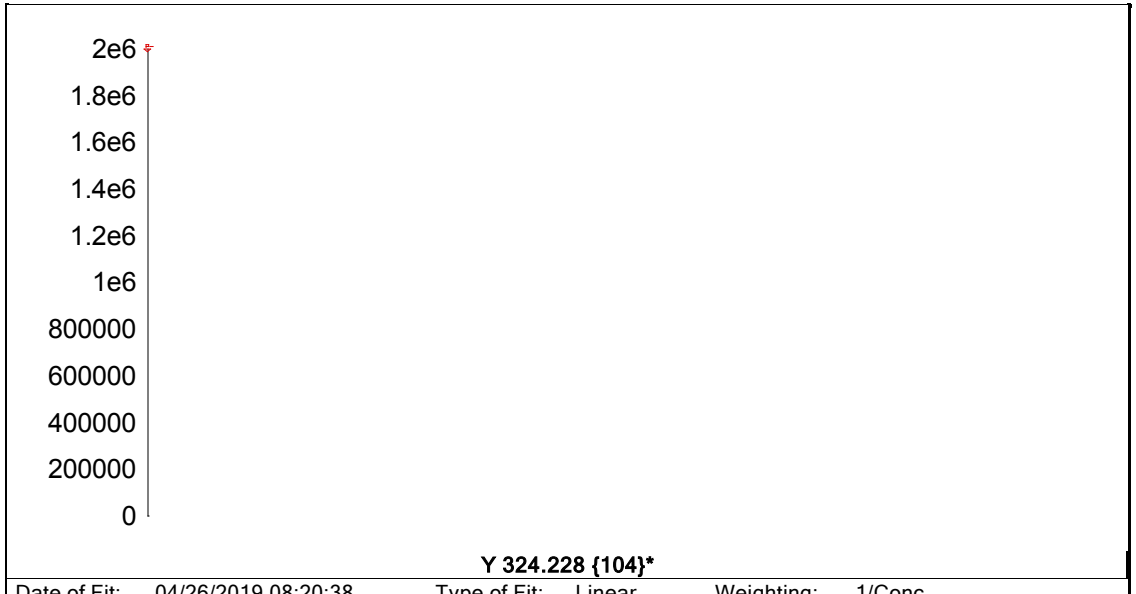
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.891 | -10.9 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.46 | -10.5 | -1.05 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9612.3 | -388. | -3.88 | .00189 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.81 | 1.81 | 1.81 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 101710. | 1710. | 1.71 | .01999 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999726 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.144750 | | | | |
| Predicted MQL: | 7.149168 | | | | |

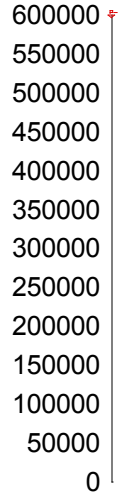
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.444 | 2.44 | 24.4 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.27 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.5643 | 1.56 | 31.3 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.0 | 44.0 | 4.40 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.7 | -64.3 | -.643 | .00297 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

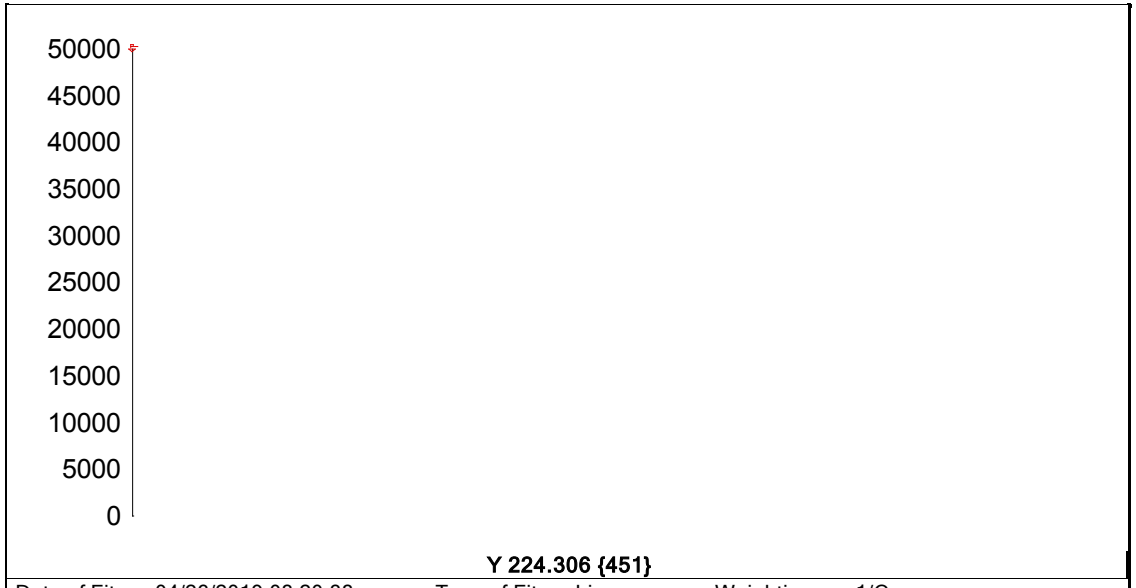
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1838300. | 3910. | 1 |




**Y 371.030 { 91}***

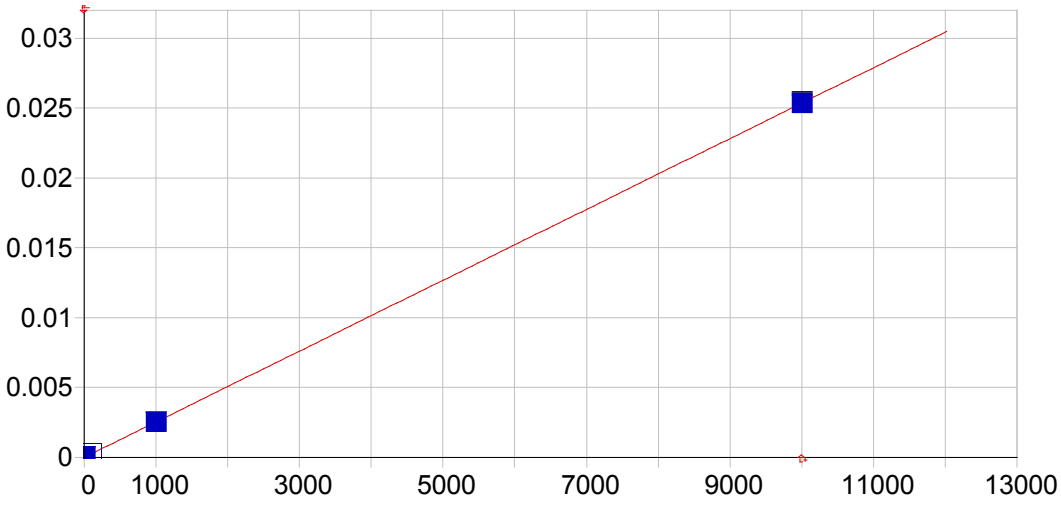
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 517290. | 3060. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 47117. | 95.3 | 1 |

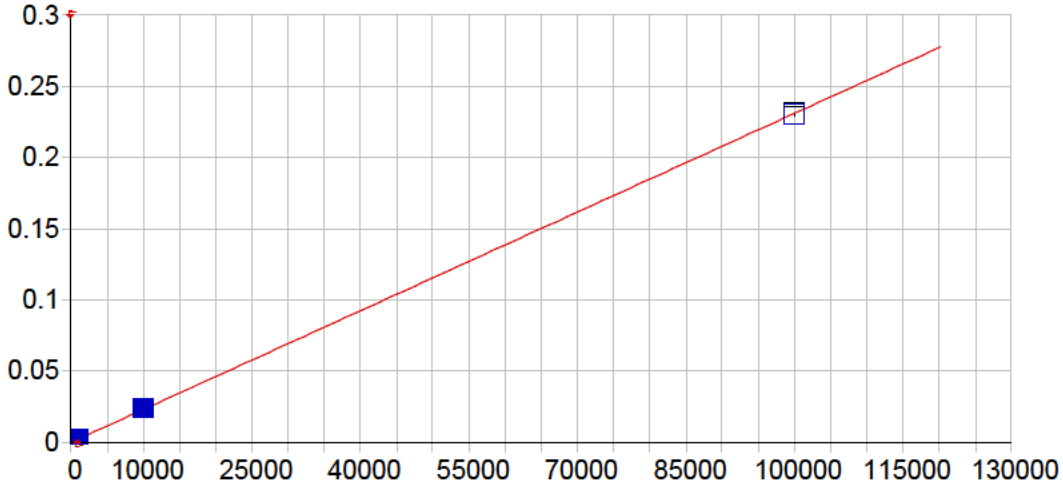



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999561 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.362333 | | |
| Predicted MQL: | 1.207777 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.82619 | -.826 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.63 | -12.4 | -1.24 | .00251 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.323 | .323 | 3.23 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.429061 | | |
| Predicted MQL: | 1.430205 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01566 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 99717. | -283. | -.283 | .23028 | .001 | 1 |
| CalStd10=10 | 10000. | 10252. | 252. | 2.52 | .02371 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00236 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.55 | 11.5 | 11.5 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 10:46:25 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 539. | 178. | 4.24 | 5.00 | 80.5 | 22.9 | 52.3 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1838300.** | **517290.** |
| Stddev | 3912. | 3064. |
| %RSD | .21280 | .59225 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 10:51:43 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| | |
|---|---|
| Int. Std. | Y_3242 |
| Units | Cts/S |
| Avg | **1841800.** |
| Stddev | 7568. |
| %RSD | .41090 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 10:57:05 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 18.8 | 1.51 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1848400.** |
| Stddev | 954. |
| %RSD | .05159 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 11:02:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | **.000** |
| Stddev | .000 |
| %RSD | 6.76 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1846900.** |
| Stddev | 8226. |
| %RSD | .44538 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 11:07:48 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 | Mn2593 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | .413 | .850 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1851300.** |
| Stddev | 7813. |
| %RSD | .42201 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 11:13:10 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.52 | .514 | .950 | .537 | 1.59 | .192 | .259 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1839100.** | **528940.** |
| Stddev | 3631. | 3970. |
| %RSD | .19743 | .75046 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 11:18:27 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.001** | **.006** | **.003** | **.001** | **.025** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .322 | 1.20 | .397 | 1.36 | .532 | .421 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789300.** | **527900.** |
| Stddev | 6317. | 6066. |
| %RSD | .35307 | 1.1491 |

Sample Name: CalStd11-100k Acquired: 04/25/2019 11:23:35 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Mn2593 |
|---|---|
| Units | Cts/S |
| Avg | **.230** |
| Stddev | .001 |
| %RSD | .611 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1816500.** |
| Stddev | 4728. |
| %RSD | .26025 |

Sample Name: CalStd12-100000 Acquired: 04/25/2019 11:29:11 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.112** | **.058** | **.009** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.17 | 1.10 | 1.01 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **523370.** |
| Stddev | 5416. |
| %RSD | 1.0348 |

Sample Name: CalStd13=500000 Acquired: 04/25/2019 11:34:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.573** | **.278** | **.146** | **.048** |
| Stddev | .010 | .003 | .001 | .001 |
| %RSD | 1.66 | 1.17 | .383 | 1.34 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1640000.** | **514060.** |
| Stddev | 5264. | 6838. |
| %RSD | .32096 | 1.3302 |

Sample Name: CalStd14-1000k Acquired: 04/25/2019 11:40:14 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.552** | **.280** | **.096** |
| Stddev | .01 | .003 | .000 | .001 |
| %RSD | 1.10 | .512 | .134 | .816 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1478800.** | **472860.** |
| Stddev | 1412. | 4250. |
| %RSD | .09548 | .89880 |

Sample Name: ICV2 Acquired: 04/25/2019 11:56:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11500.** | **2110.** | **9840.** | **5010.** | **9500.** | **511.** |
| Stddev | 248. | 18. | 202. | 21. | 218. | 4. |
| %RSD | 2.16 | .846 | 2.06 | .415 | 2.29 | .742 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1821400.** | **519330.** |
| Stddev | 8077. | 10917. |
| %RSD | .44345 | 2.1021 |

Sample Name: ICVLL Acquired: 04/25/2019 12:02:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1320.** | **69.5** | **1680.** | **1030.** | **1620.** | **33.7** |
| Stddev | 13. | 3.3 | 25. | 3. | 9. | .1 |
| %RSD | 1.02 | 4.79 | 1.51 | .317 | .536 | .372 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825000.** | **519800.** |
| Stddev | 7373. | 6574. |
| %RSD | .40399 | 1.2647 |

Sample Name: icb Acquired: 04/25/2019 12:07:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-3.37** | **-2.12** | **35.3** | **.654** | **3.46** | **-.816** |
| Stddev | 2.12 | .41 | 5.4 | 1.37 | 6.99 | .147 |
| %RSD | 63.0 | 19.4 | 15.2 | 209. | 202. | 18.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842700.** | **527560.** |
| Stddev | 2154. | 3142. |
| %RSD | .11691 | .59558 |

Sample Name: MRL Acquired: 04/25/2019 12:12:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **412.** | **17.0** | **541.** | **336.** | **510.** | **10.5** |
| Stddev | 13. | 1.5 | 10. | 3. | 21. | .3 |
| %RSD | 3.19 | 8.55 | 1.91 | 1.02 | 4.02 | 2.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1823400.** | **528440.** |
| Stddev | 7276. | 7292. |
| %RSD | .39904 | 1.3799 |

Sample Name: icsa Acquired: 04/25/2019 12:18:12 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **465000.** | **.006** | **448000.** | **463000.** | **459000.** | **-3.69** |
| Stddev | 6730. | 6.40 | 3260. | 1190. | 3440. | .65 |
| %RSD | 1.45 | 107000. | .728 | .257 | .749 | 17.6 |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1642700.** | **513560.** |
| Stddev | 4085. | 3635. |
| %RSD | .24870 | .70770 |

Sample Name: icsab Acquired: 04/25/2019 12:23:48 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **537000.** | **577.** | **511000.** | **527000.** | **526000.** | **589.** |
| Stddev | 4350. | 11. | 2880. | 4130. | 2140. | 5. |
| %RSD | .810 | 1.94 | .563 | .784 | .406 | .838 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1623800.** | **508300.** |
| Stddev | 10217. | 1528. |
| %RSD | .62923 | .30065 |

Sample Name: ccv1 Acquired: 04/25/2019 20:23:23 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5110.** | **5180.** | **4860.** | **4870.** | **4740.** | **4830.** | **4880.** |
| Stddev | 29. | 25. | 24. | 19. | 48. | 19. | 22. |
| %RSD | .575 | .487 | .496 | .380 | 1.01 | .386 | .446 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1776300.** | **495460.** |
| Stddev | 6244. | 2256. |
| %RSD | .35153 | .45528 |

Sample Name: ccv2 Acquired: 04/25/2019 20:28:32 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **497.** | **513.** | **502.** | **479.** | **494.** | **480.** |
| Stddev | 13. | 4. | 5. | 7. | 16. | 4. |
| %RSD | 2.70 | .854 | 1.04 | 1.50 | 3.13 | .778 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825600.** | **505660.** |
| Stddev | 9149. | 5673. |
| %RSD | .50113 | 1.1219 |

Sample Name: ccb Acquired: 04/25/2019 20:33:52 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-24.7** | **-3.04** | **12.1** | **-2.79** | **7.72** | **-1.26** |
| Stddev | 7.6 | 2.16 | 3.4 | 1.82 | 13.7 | .24 |
| %RSD | 30.7 | 71.1 | 28.2 | 65.1 | 177. | 19.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1833900.** | **495160.** |
| Stddev | 7963. | 3877. |
| %RSD | .43420 | .78301 |

Sample Name: lcss71590 Acquired: 04/25/2019 21:29:48 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **14.5** | **1700.** | **647.** | **31.6** | **106.** | **9.74** |
| Stddev | 8.0 | 5. | 111. | 3.9 | 10. | .34 |
| %RSD | 54.9 | .315 | 17.1 | 12.2 | 9.32 | 3.50 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1848600.** | **515110.** |
| Stddev | 4477. | 3933. |
| %RSD | .24216 | .76344 |

Sample Name: ccv1 Acquired: 04/25/2019 21:35:11 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5210.** | **5190.** | **4940.** | **4820.** | **4800.** | **4850.** | **4890.** |
| Stddev | 47. | 32. | 39. | 11. | 40. | 28. | 27. |
| %RSD | .900 | .615 | .788 | .235 | .831 | .572 | .551 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1769600.** | **485940.** |
| Stddev | 8473. | 3324. |
| %RSD | .47882 | .68399 |

Sample Name: ccv2 Acquired: 04/25/2019 21:40:21 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **520.** | **521.** | **512.** | **479.** | **488.** | **478.** |
| Stddev | 12. | 3. | 11. | 4. | 9. | 3. |
| %RSD | 2.39 | .506 | 2.06 | .935 | 1.74 | .563 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1828300.** | **492780.** |
| Stddev | 5377. | 3718. |
| %RSD | .29410 | .75454 |

Sample Name: ccb Acquired: 04/25/2019 21:45:41 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-5.22** | **-3.44** | **9.63** | **-1.95** | **1.73** | **-.932** |
| Stddev | 5.39 | 2.40 | 3.72 | 3.51 | 12.0 | .143 |
| %RSD | 103. | 69.9 | 38.6 | 179. | 697. | 15.3 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1827000.** | **496340.** |
| Stddev | 2392. | 4073. |
| %RSD | .13091 | .82066 |

Sample Name: mbs71590 Acquired: 04/25/2019 21:51:03 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3190.** | **1.40** | **34300.** | **34400.** | **8400.** | **502.** |
| Stddev | 21. | 4.97 | 230. | 144. | 67. | 1. |
| %RSD | .644 | 356. | .669 | .419 | .802 | .242 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1797300.** | **494930.** |
| Stddev | 2123. | 4115. |
| %RSD | .11811 | .83141 |

Sample Name: 260466 Acquired: 04/25/2019 21:56:18 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **81700.** | **56.8** | **18300.** | **155000.** | **8570.** | **3530.** | **3790.** |
| Stddev | 561. | 3.7 | 131. | 218. | 62. | 4. | 5. |
| %RSD | .687 | 6.50 | .718 | .140 | .719 | .115 | .137 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1778800.** | **501390.** |
| Stddev | 2221. | 2399. |
| %RSD | .12488 | .47841 |

Sample Name: 260467 Acquired: 04/25/2019 22:01:32 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **97800.** | **49.1** | **9800.** | **193000.** | **8450.** | **2860.** | **3160.** |
| Stddev | 1100. | 7.0 | 107. | 206. | 88. | 5. | 6. |
| %RSD | 1.13 | 14.2 | 1.09 | .107 | 1.04 | .191 | .175 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1761500.** | **498530.** |
| Stddev | 5518. | 4833. |
| %RSD | .31328 | .96942 |

Sample Name: 260468 Acquired: 04/25/2019 22:06:58 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **112000.** | **60.2** | **15000.** | **186000.** | **12200.** | **4070.** | **4350.** |
| Stddev | 1260. | 5.7 | 181. | 850. | 153. | 21. | 22. |
| %RSD | 1.13 | 9.51 | 1.21 | .457 | 1.26 | .514 | .508 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1773600.** | **498940.** |
| Stddev | 5431. | 5883. |
| %RSD | .30620 | 1.1791 |

Sample Name: 260469 Acquired: 04/25/2019 22:12:21 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **195000.** | **65.5** | **7380.** | **331000.** | **18900.** | **3060.** | **3550.** |
| Stddev | 2510. | 6.8 | 91. | 649. | 196. | 13. | 9. |
| %RSD | 1.29 | 10.3 | 1.24 | .196 | 1.04 | .426 | .265 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1770700.** | **495010.** |
| Stddev | 3682. | 5892. |
| %RSD | .20796 | 1.1904 |

Sample Name: 260470 Acquired: 04/25/2019 22:17:48 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **144000.** | **110.** | **15600.** | **246000.** | **15500.** | **4510.** | **4870.** |
| Stddev | 1120. | 7. | 136. | 263. | 130. | 18. | 8. |
| %RSD | .780 | 6.51 | .874 | .107 | .837 | .402 | .162 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1768000.** | **496560.** |
| Stddev | 2178. | 4172. |
| %RSD | .12319 | .84025 |

Sample Name: 260471 Acquired: 04/25/2019 22:23:13 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **198000.** | **51.0** | **8840.** | **319000.** | **18800.** | **3120.** | **3590.** |
| Stddev | 1930. | 6.4 | 77. | 1440. | 184. | 11. | 13. |
| %RSD | .975 | 12.5 | .867 | .451 | .976 | .338 | .359 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1759300.** | **492590.** |
| Stddev | 2874. | 4838. |
| %RSD | .16334 | .98207 |

Sample Name: 260472 Acquired: 04/25/2019 22:28:40 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **162000.** | **120.** | **15900.** | **283000.** | **16900.** | **4760.** | **5160.** |
| Stddev | 1410. | 4. | 134. | 1070. | 84. | 14. | 14. |
| %RSD | .872 | 3.16 | .842 | .377 | .495 | .283 | .271 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1764000.** | **492730.** |
| Stddev | 2436. | 4372. |
| %RSD | .13810 | .88731 |

Sample Name: 260473 Acquired: 04/25/2019 22:34:06 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **195000.** | **61.6** | **7530.** | **311000.** | **18800.** | **3060.** | **3520.** |
| Stddev | 1310. | 3.6 | 48. | 1230. | 135. | 10. | 14. |
| %RSD | .672 | 5.78 | .640 | .394 | .717 | .320 | .384 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1761600.** | **491950.** |
| Stddev | 5420. | 3612. |
| %RSD | .30767 | .73427 |

Sample Name: 260474 Acquired: 04/25/2019 22:39:33 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **195000.** | **48.9** | **116000.** | **406000.** | **39300.** | **7340.** | **7920.** |
| Stddev | 3660. | 5.4 | 2010. | 1010. | 596. | 36. | 37. |
| %RSD | 1.88 | 11.1 | 1.74 | .249 | 1.52 | .484 | .465 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1726200.** | **493290.** |
| Stddev | 4035. | 7055. |
| %RSD | .23375 | 1.4302 |

Sample Name: ccv1 Acquired: 04/25/2019 22:44:58 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5230.** | **5290.** | **4950.** | **4950.** | **4820.** | **4890.** | **4960.** |
| Stddev | 68. | 26. | 58. | 6. | 59. | 37. | 30. |
| %RSD | 1.29 | .487 | 1.17 | .120 | 1.23 | .756 | .601 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1751400.** | **488350.** |
| Stddev | 5997. | 5720. |
| %RSD | .34239 | 1.1713 |

Sample Name: ccv2 Acquired: 04/25/2019 22:50:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **525.** | **529.** | **515.** | **487.** | **497.** | **489.** |
| Stddev | 3. | 4. | 8. | 3. | 25. | 3. |
| %RSD | .557 | .790 | 1.60 | .683 | 4.97 | .542 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1813800.** | **487910.** |
| Stddev | 2037. | 5440. |
| %RSD | .11229 | 1.1149 |

Sample Name: ccb Acquired: 04/25/2019 22:55:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-11.0** | **-1.81** | **14.4** | **-1.50** | **27.4** | **-.862** |
| Stddev | 13.8 | 1.12 | 3.6 | 1.93 | 16.8 | .276 |
| %RSD | 125. | 61.9 | 25.1 | 129. | 61.2 | 32.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1818000.** | **489020.** |
| Stddev | 4815. | 2677. |
| %RSD | .26486 | .54737 |

Sample Name: 260475 Acquired: 04/25/2019 23:00:50 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **155000.** | **30.9** | **104000.** | **341000.** | **28100.** | **8350.** | **8830.** |
| Stddev | 1980. | 9.8 | 1180. | 1010. | 334. | 19. | 20. |
| %RSD | 1.28 | 31.8 | 1.14 | .296 | 1.19 | .227 | .223 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1735500.** | **489240.** |
| Stddev | 3351. | 5737. |
| %RSD | .19305 | 1.1727 |

Sample Name: 260924 Acquired: 04/25/2019 23:06:16 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **207000.** | **60.1** | **47700.** | **359000.** | **29800.** | **6330.** | **6840.** |
| Stddev | 1590. | 5.1 | 273. | 1650. | 221. | 30. | 31. |
| %RSD | .770 | 8.45 | .572 | .460 | .741 | .478 | .445 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1736900.** | **496640.** |
| Stddev | 11237. | 2746. |
| %RSD | .64696 | .55290 |

Sample Name: I260924 Acquired: 04/25/2019 23:11:43 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **46000.** | **15.0** | **11000.** | **81300.** | **6890.** | **1400.** | **1520.** |
| Stddev | 1000. | 3.9 | 243. | 1440. | 147. | 24. | 29. |
| %RSD | 2.18 | 26.0 | 2.21 | 1.77 | 2.13 | 1.72 | 1.93 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1813900.** | **502270.** |
| Stddev | 5190. | 1848. |
| %RSD | .28611 | .36800 |

Sample Name: dup260924 Acquired: 04/25/2019 23:16:58 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **220000.** | **76.2** | **52900.** | **380000.** | **34200.** | **6390.** | **6930.** |
| Stddev | 2730. | 4.0 | 658. | 1080. | 480. | 17. | 17. |
| %RSD | 1.24 | 5.22 | 1.25 | .285 | 1.41 | .258 | .242 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1733800.** | **493460.** |
| Stddev | 5989. | 5545. |
| %RSD | .34539 | 1.1236 |

Sample Name: trip260924 Acquired: 04/25/2019 23:22:24 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **197000.** | **54.3** | **62500.** | **352000.** | **33800.** | **6120.** | **6620.** |
| Stddev | 1150. | 1.9 | 445. | 1210. | 273. | 24. | 28. |
| %RSD | .584 | 3.58 | .712 | .345 | .809 | .386 | .420 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1740200.** | **488820.** |
| Stddev | 3172. | 4091. |
| %RSD | .18230 | .83692 |

Sample Name: mss260924 Acquired: 04/25/2019 23:27:51 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **204000.** | **19300.** | **45700.** | **361000.** | **28500.** | **27800.** |
| Stddev | 2450. | 50. | 525. | 1100. | 355. | 62. |
| %RSD | 1.20 | .261 | 1.15 | .304 | 1.25 | .222 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1742500.** | **491660.** |
| Stddev | 3774. | 5986. |
| %RSD | .21657 | 1.2174 |

Sample Name: msds260924 Acquired: 04/25/2019 23:33:14 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **217000.** | **19500.** | **45400.** | **367000.** | **28800.** | **26100.** |
| Stddev | 1350. | 62. | 347. | 661. | 262. | 78. |
| %RSD | .624 | .319 | .764 | .180 | .909 | .300 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1737300.** | **500510.** |
| Stddev | 4347. | 3765. |
| %RSD | .25018 | .75220 |

Sample Name: pdss260924 Acquired: 04/25/2019 23:38:36 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **203000.** | **21400.** | **47500.** | **357000.** | **29500.** | **27700.** |
| Stddev | 1410. | 104. | 211. | 481. | 161. | 45. |
| %RSD | .693 | .486 | .445 | .135 | .546 | .162 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1730600.** | **500010.** |
| Stddev | 5629. | 2804. |
| %RSD | .32523 | .56087 |

Sample Name: 260925 Acquired: 04/25/2019 23:43:58 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **147000.** | **83.7** | **33900.** | **281000.** | **31700.** | **3350.** | **3770.** |
| Stddev | 2450. | 5.2 | 579. | 677. | 431. | 10. | 10. |
| %RSD | 1.67 | 6.25 | 1.71 | .240 | 1.36 | .303 | .271 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1751000.** | **490300.** |
| Stddev | 3232. | 8610. |
| %RSD | .18460 | 1.7560 |

Sample Name: I260925 Acquired: 04/25/2019 23:49:25 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **32400.** | **13.7** | **7670.** | **62800.** | **7150.** | **738.** |
| Stddev | 1020. | 4.7 | 208. | 2240. | 211. | 23. |
| %RSD | 3.15 | 34.2 | 2.71 | 3.57 | 2.95 | 3.16 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1815400.** | **495710.** |
| Stddev | 4966. | 4780. |
| %RSD | .27354 | .96433 |

Sample Name: ccv1 Acquired: 04/25/2019 23:54:41 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5230.** | **5290.** | **4930.** | **4880.** | **4800.** | **4840.** | **4900.** |
| Stddev | 40. | 15. | 31. | 25. | 44. | 16. | 9. |
| %RSD | .768 | .280 | .629 | .503 | .915 | .327 | .183 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1756700.** | **486990.** |
| Stddev | 5131. | 2715. |
| %RSD | .29207 | .55741 |

Sample Name: ccv2 Acquired: 04/25/2019 23:59:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **510.** | **532.** | **511.** | **488.** | **500.** | **485.** |
| Stddev | 10. | 4. | 7. | 5. | 23. | 2. |
| %RSD | 2.01 | .695 | 1.29 | 1.00 | 4.58 | .450 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1803200.** | **491520.** |
| Stddev | 6183. | 4351. |
| %RSD | .34288 | .88529 |

Sample Name: ccb Acquired: 04/26/2019 00:05:09 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-23.3** | **-1.33** | **8.69** | **-1.75** | **2.59** | **-.908** |
| Stddev | 13.0 | 2.59 | 2.55 | 1.65 | 16.7 | .224 |
| %RSD | 55.9 | 195. | 29.4 | 94.6 | 645. | 24.6 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1801100.** | **493110.** |
| Stddev | 3947. | 3289. |
| %RSD | .21912 | .66707 |

Sample Name: dup260925 Acquired: 04/26/2019 00:10:31 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **149000.** | **67.6** | **26400.** | **298000.** | **20600.** | **3350.** | **3790.** |
| Stddev | 3150. | 2.6 | 511. | 541. | 447. | 12. | 10. |
| %RSD | 2.12 | 3.83 | 1.94 | .182 | 2.17 | .344 | .269 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1740400.** | **488010.** |
| Stddev | 4759. | 10002. |
| %RSD | .27343 | 2.0496 |

Sample Name: trip260925 Acquired: 04/26/2019 00:15:59 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **147000.** | **74.8** | **28800.** | **287000.** | **20600.** | **4000.** | **4430.** |
| Stddev | 506. | 4.7 | 130. | 876. | 90. | 28. | 22. |
| %RSD | .343 | 6.33 | .452 | .306 | .436 | .687 | .488 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1746500.** | **488850.** |
| Stddev | 7812. | 1721. |
| %RSD | .44730 | .35200 |

Sample Name: mss260925 Acquired: 04/26/2019 00:21:26 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **153000.** | **19600.** | **27300.** | **293000.** | **20500.** | **24100.** |
| Stddev | 3030. | 23. | 456. | 835. | 348. | 103. |
| %RSD | 1.99 | .118 | 1.67 | .284 | 1.70 | .426 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1744000.** | **496380.** |
| Stddev | 1995. | 7599. |
| %RSD | .11438 | 1.5309 |

Sample Name: msds260925 Acquired: 04/26/2019 00:26:49 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **164000.** | **19800.** | **26200.** | **302000.** | **21500.** | **23200.** |
| Stddev | 1200. | 64. | 160. | 641. | 136. | 27. |
| %RSD | .729 | .323 | .611 | .212 | .633 | .118 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1745000.** | **488790.** |
| Stddev | 4065. | 3676. |
| %RSD | .23296 | .75214 |

Sample Name: pdss260925 Acquired: 04/26/2019 00:32:12 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **145000.** | **21200.** | **33900.** | **281000.** | **31400.** | **24500.** |
| Stddev | 1190. | 100. | 181. | 2060. | 146. | 171. |
| %RSD | .821 | .472 | .535 | .734 | .465 | .699 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1742400.** | **492990.** |
| Stddev | 7879. | 1439. |
| %RSD | .45216 | .29179 |

Sample Name: 260926 Acquired: 04/26/2019 00:37:36 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **253000.** | **130.** | **142000.** | **426000.** | **52500.** | **9590.** | **10200.** |
| Stddev | 2520. | 4. | 1700. | 1350. | 720. | 46. | 43. |
| %RSD | .996 | 3.28 | 1.19 | .318 | 1.37 | .479 | .424 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1708000.** | **490920.** |
| Stddev | 3502. | 6886. |
| %RSD | .20501 | 1.4027 |

Sample Name: 260927 Acquired: 04/26/2019 00:43:02 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **245000.** | **119.** | **150000.** | **450000.** | **48900.** | **13000.** |
| Stddev | 1590. | 6. | 982. | 1660. | 294. | 55. |
| %RSD | .646 | 5.40 | .655 | .368 | .602 | .420 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1700600.** | **490210.** |
| Stddev | 5138. | 3441. |
| %RSD | .30211 | .70197 |

Sample Name: 260928 Acquired: 04/26/2019 00:48:27 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **265000.** | **51.7** | **63700.** | **438000.** | **36500.** | **12300.** |
| Stddev | 2660. | 6.2 | 628. | 971. | 308. | 47. |
| %RSD | 1.00 | 12.0 | .987 | .222 | .843 | .378 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1722200.** | **489280.** |
| Stddev | 5880. | 5243. |
| %RSD | .34144 | 1.0715 |

Sample Name: 260929 Acquired: 04/26/2019 00:53:54 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **316000.** | **71.4** | **45300.** | **503000.** | **43000.** | **8760.** | **9520.** |
| Stddev | 4530. | 3.9 | 645. | 1560. | 621. | 48. | 44. |
| %RSD | 1.44 | 5.44 | 1.42 | .310 | 1.44 | .548 | .465 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1707500.** | **488500.** |
| Stddev | 1557. | 6377. |
| %RSD | .09117 | 1.3054 |

Sample Name: 260930 Acquired: 04/26/2019 00:59:21 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **282000.** | **83.5** | **83600.** | **467000.** | **45600.** | **12400.** |
| Stddev | 2920. | 2.3 | 786. | 2870. | 526. | 84. |
| %RSD | 1.04 | 2.82 | .941 | .615 | 1.15 | .681 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1701600.** | **493220.** |
| Stddev | 7768. | 4753. |
| %RSD | .45653 | .96374 |

Sample Name: ccv1 Acquired: 04/26/2019 01:04:47 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5210.** | **5320.** | **4910.** | **4950.** | **4780.** | **4860.** | **4930.** |
| Stddev | 40. | 16. | 47. | 34. | 52. | 21. | 11. |
| %RSD | .765 | .308 | .961 | .687 | 1.08 | .427 | .213 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1747000.** | **489160.** |
| Stddev | 3603. | 3778. |
| %RSD | .20624 | .77233 |

Sample Name: ccv2 Acquired: 04/26/2019 01:09:57 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **506.** | **528.** | **501.** | **487.** | **484.** | **482.** |
| Stddev | 13. | 4. | 7. | 4. | 27. | 1. |
| %RSD | 2.66 | .734 | 1.46 | .735 | 5.64 | .287 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1803900.** | **494630.** |
| Stddev | 6241. | 8248. |
| %RSD | .34598 | 1.6676 |

Sample Name: ccb Acquired: 04/26/2019 01:15:16 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-23.0** | **-3.48** | **9.44** | **-.007** | **4.63** | **-.791** |
| Stddev | 6.8 | 3.00 | 3.28 | .962 | 9.06 | .318 |
| %RSD | 29.6 | 86.3 | 34.7 | 14000. | 196. | 40.2 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1809900.** | **492870.** |
| Stddev | 9938. | 1783. |
| %RSD | .54907 | .36185 |

Sample Name: 260931 Acquired: 04/26/2019 01:20:39 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **276000.** | **270.** | **66700.** | **533000.** | **39400.** | **11600.** |
| Stddev | 3660. | 10. | 874. | 1230. | 505. | 27. |
| %RSD | 1.33 | 3.86 | 1.31 | .231 | 1.28 | .230 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1701200.** | **494710.** |
| Stddev | 5195. | 7051. |
| %RSD | .30536 | 1.4252 |

Sample Name: ccv1 Acquired: 04/26/2019 01:36:45 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5190.** | **5270.** | **4900.** | **4870.** | **4760.** | **4820.** | **4910.** |
| Stddev | 61. | 29. | 30. | 27. | 30. | 13. | 19. |
| %RSD | 1.17 | .557 | .613 | .548 | .623 | .266 | .381 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1749500.** | **488170.** |
| Stddev | 6973. | 3755. |
| %RSD | .39856 | .76913 |

Sample Name: ccv2 Acquired: 04/26/2019 01:41:55 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **509.** | **528.** | **503.** | **496.** | **480.** | **484.** |
| Stddev | 6. | 2. | 7. | 5. | 14. | 1. |
| %RSD | 1.25 | .354 | 1.45 | .932 | 2.85 | .304 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1788700.** | **495990.** |
| Stddev | 6651. | 2865. |
| %RSD | .37180 | .57767 |

Sample Name: ccb Acquired: 04/26/2019 01:47:14 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-25.6** | **-2.35** | **10.2** | **1.53** | **.941** | **-.612** |
| Stddev | 6.2 | 2.41 | 3.8 | 1.07 | 23.8 | .290 |
| %RSD | 24.3 | 103. | 37.5 | 69.9 | 2530. | 47.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

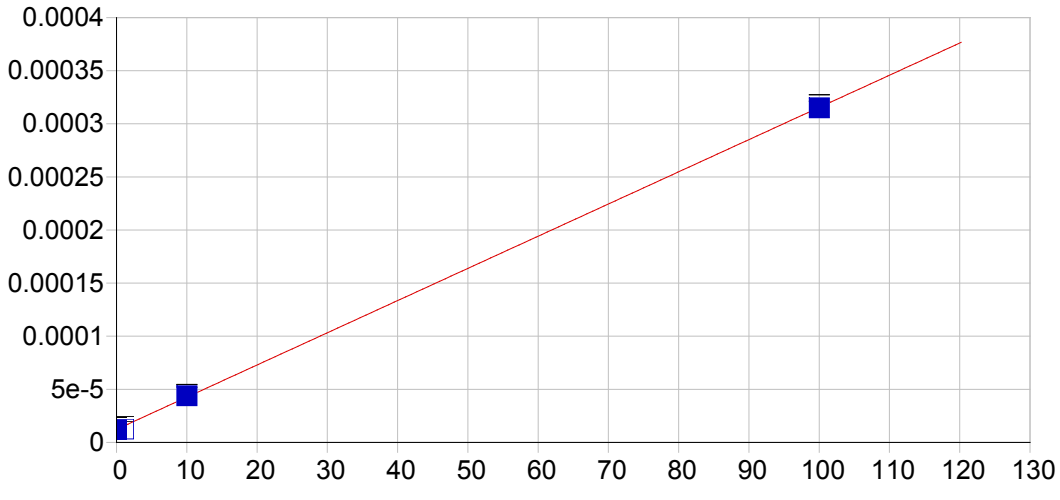
| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1793100.** | **495050.** |
| Stddev | 10720. | 7356. |
| %RSD | .59787 | 1.4860 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:04:13 | Linear | 1/Var | 0.000012 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000002 | 0.771259 | 2.570863 |
| Ag 338.289 {100} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.962425 | 0.000002 | 18.287510 | 60.958366 |
| Al 167.079 {501} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | None | 0.000058 | 0.000004 | 0.000000 | 1.000000 | 0.999978 | 0.000014 | 0.663610 | 2.212032 |
| Al 308.215 {109} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Linear | 1/Var | 0.000047 | 0.000000 | 0.000000 | 1.000000 | 0.992739 | 0.000216 | 35.529198 | 118.43066 |
| Al 396.152 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Curvili | 1/Conc | -0.000023 | 0.000001 | 0.000000 | 1.000000 | 0.999721 | 0.000063 | 12.909176 | 43.030588 |
| As 193.759 {474} | 04/30/2019 08:01:24 | 04/29/2019 15:09:52 | Linear | 1/Var | 0.539750 | 0.187381 | 0.000000 | 1.000000 | 0.999781 | 1.235779 | 3.306742 | 11.022473 |
| As 197.262 {471} | 04/30/2019 08:01:24 | 04/29/2019 15:16:22 | Linear | 1/Conc | -0.000000 | 0.000001 | 0.000000 | 1.000000 | 0.998967 | 0.000000 | 7.150038 | 23.833460 |
| Ba 233.527 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000007 | 0.000010 | 0.000000 | 1.000000 | 0.998869 | 0.000001 | 0.388630 | 1.295433 |
| Ba 455.403 { 74} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000125 | 0.000046 | 0.000000 | 1.000000 | 0.998156 | 0.000011 | 0.424860 | 1.416201 |
| Ba 493.409 { 68} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.010947 | 0.000056 | 0.000000 | 1.000000 | 0.998653 | 0.000137 | 0.907157 | 3.023855 |
| Be 313.042 {108} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | -0.000185 | 0.000058 | 0.000000 | 1.000000 | 0.999544 | 0.000002 | 0.049429 | 0.164762 |
| Be 234.861 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:09:53 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999290 | 0.000001 | 1.414818 | 4.716060 |
| Ca 315.887 {107} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.000054 | 0.000000 | 0.000000 | 1.000000 | 0.999799 | 0.000011 | 12.463600 | 41.545332 |
| Ca 317.933 {106} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Conc | 0.002916 | 0.000001 | 0.000000 | 1.000000 | 0.999746 | 0.000028 | 6.859728 | 22.865759 |
| Ca 393.366 { 86} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Var | 0.008895 | 0.000188 | 0.000000 | 1.000000 | 0.999982 | 0.000207 | 0.074229 | 0.247430 |
| Ca 396.847 { 85} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.008134 | 0.000111 | 0.000000 | 1.000000 | 0.998837 | 0.000251 | 0.118050 | 0.393499 |
| Cd 226.502 {449} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | -0.000010 | 0.000026 | 0.000000 | 1.000000 | 0.997348 | 0.000002 | 0.233555 | 0.778515 |
| Cd 228.802 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:09:54 | Linear | 1/Conc | 0.000024 | 0.000048 | 0.000000 | 1.000000 | 0.991474 | 0.000006 | 0.157317 | 0.524389 |
| Co 228.616 {447} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000017 | 0.000018 | 0.000000 | 1.000000 | 0.996680 | 0.000006 | 0.449246 | 1.497487 |
| Co 238.892 {141} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.998281 | 0.000005 | 0.890001 | 2.966671 |
| Cr 205.560 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Var | 0.000037 | 0.000015 | 0.000000 | 1.000000 | 0.997498 | 0.000145 | 0.312030 | 1.040101 |
| Cr 267.716 {126} | 04/30/2019 08:01:24 | 04/29/2019 15:16:23 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.998132 | 0.000001 | 0.923046 | 3.076818 |
| Cu 224.700 {450} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | -0.000001 | 0.000006 | 0.000000 | 1.000000 | 0.999425 | 0.000011 | 0.447985 | 1.493282 |
| Cu 324.754 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:22:45 | Linear | 1/Conc | 32.917937 | 0.432226 | 0.000000 | 1.000000 | 0.999630 | 0.452439 | 5.608774 | 18.695912 |
| Cu 327.396 {103} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 7.187822 | 0.321888 | 0.000000 | 1.000000 | 0.999459 | 0.282912 | 9.835319 | 32.784397 |
| Fe 234.349 {144} | 04/30/2019 08:01:24 | 04/29/2019 15:29:11 | Curvili | 1/Var | 0.000030 | 0.000000 | 0.000000 | 1.000000 | 0.999923 | 0.000006 | 1.861928 | 6.206425 |
| Fe 239.562 {140} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000013 | 0.000000 | 0.000000 | 1.000000 | 0.994823 | 0.000040 | 17.270833 | 57.569443 |
| Fe 259.940 {129} | 04/30/2019 08:01:24 | 04/29/2019 15:35:49 | Curvili | 1/Var | 0.000065 | 0.000001 | 0.000000 | 1.000000 | 0.997286 | 0.000158 | 5.216183 | 17.387276 |
| Mg 202.582 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Linear | 1/Var | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.999696 | 0.000343 | 2.203469 | 7.344897 |
| Mg 279.079 {121} | 04/30/2019 08:01:24 | 04/29/2019 15:42:47 | Full Fit | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.100000 | 0.999980 | 0.000001 | 225.46699 | 751.55664 |
| Mg 280.270 {120} | 04/30/2019 08:01:24 | 04/29/2019 15:16:24 | Linear | 1/Var | 0.001262 | 0.000024 | 0.000000 | 1.000000 | 0.992448 | 0.000619 | 0.051519 | 0.171731 |
| Mn 257.610 {131} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000029 | 0.000012 | 0.000000 | 1.000000 | 0.995548 | 0.000011 | 0.097079 | 0.323597 |
| Mn 259.373 {130} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000008 | 0.000003 | 0.000000 | 1.000000 | 0.999811 | 0.000028 | 1.512228 | 5.040759 |
| Mo 202.030 {466} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Conc | 0.000010 | 0.000009 | 0.000000 | 1.000000 | 0.918937 | 0.000011 | 0.461169 | 1.537230 |
| Mo 203.844 {465} | 04/30/2019 08:01:24 | 04/29/2019 15:09:56 | Linear | 1/Var | 0.000022 | 0.000006 | 0.000000 | 1.000000 | 0.999869 | 0.000018 | 0.801215 | 2.670716 |
| Mo 204.598 {464} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Var | 0.000015 | 0.000005 | 0.000000 | 1.000000 | 0.999653 | 0.000025 | 0.916548 | 3.055158 |
| Ni 221.647 {452} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000001 | 0.000010 | 0.000000 | 1.000000 | 0.998093 | 0.000030 | 0.768351 | 2.561171 |
| Ni 231.604 {445} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000020 | 0.000011 | 0.000000 | 1.000000 | 0.984592 | 0.000007 | 0.735570 | 2.451899 |
| Pb 216.999 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000015 | 0.000001 | 0.000000 | 1.000000 | 0.999773 | 0.000038 | 5.620225 | 18.734085 |
| Pb 220.353 {453} | 04/30/2019 08:01:24 | 04/29/2019 15:09:57 | Linear | 1/Conc | 0.000028 | 0.000003 | 0.000000 | 1.000000 | 0.878400 | 0.000005 | 2.481162 | 8.270541 |
| Pb 220.353 {153} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999653 | 0.000000 | 6.969384 | 23.231279 |
| Sb 206.833 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | -0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.998562 | 0.000001 | 2.581313 | 8.604377 |
| Sb 217.581 {455} | 04/30/2019 08:01:24 | 04/29/2019 15:16:25 | Linear | 1/Conc | 0.000006 | 0.000002 | 0.000000 | 1.000000 | 0.933696 | 0.000006 | 2.801324 | 9.337748 |
| Se 196.090 {472} | 04/30/2019 08:01:24 | 04/29/2019 15:09:58 | Linear | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 0.999198 | 0.000000 | 4.389697 | 14.632322 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Curvili | 1/Conc | 0.000004 | 0.000000 | -0.000000 | 1.000000 | 0.999688 | 0.000000 | 28.202163 | 94.007210 |
| Tl 190.856 {476} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.997608 | 0.000002 | 2.696044 | 8.986812 |
| Tl 190.856 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.997785 | 0.000001 | 5.738296 | 19.127652 |
| V 290.882 {116} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.998924 | 0.000002 | 8.162286 | 27.207619 |
| V 292.402 {115} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.000005 | 0.000007 | 0.000000 | 1.000000 | 0.998319 | 0.000005 | 0.630081 | 2.100271 |
| Zn 206.200 {463} | 04/30/2019 08:01:24 | 04/29/2019 15:22:46 | Linear | 1/Var | 0.000061 | 0.000017 | 0.000000 | 1.000000 | 0.996075 | 0.000214 | 0.372954 | 1.243179 |
| Zn 213.856 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:09:59 | Linear | 1/Conc | 0.000030 | 0.000027 | 0.000000 | 1.000000 | 0.999485 | 0.000004 | 0.208095 | 0.693650 |
| Y 224.306 {450}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 08:01:24 | 04/29/2019 14:11:49 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:16:26 | Linear | 1/Conc | 0.004901 | 0.000005 | 0.000000 | 1.000000 | 0.999164 | 0.000037 | 10.509748 | 35.032492 |
| Na 589.592 { 57} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 0.000353 | 0.000005 | 0.000000 | 1.000000 | 0.999651 | 0.000172 | 7.542021 | 25.140069 |
| Si 251.611 {134} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | 5.496233 | 0.049700 | 0.000000 | 1.000000 | 0.999713 | 0.563773 | 25.456914 | 84.856379 |
| Ti 323.452 {104} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000229 | 0.000006 | 0.000000 | 1.000000 | 0.998823 | 0.000003 | 1.679766 | 5.599219 |
| Ti 334.941 {101} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000004 | 0.000000 | 1.000000 | 0.999000 | 0.000001 | 2.153927 | 7.179758 |
| Sr 407.771 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000090 | 0.000090 | 0.000000 | 1.000000 | 0.998548 | 0.000019 | 0.191487 | 0.638289 |
| Sr 421.552 { 80} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000064 | 0.000134 | 0.000000 | 1.000000 | 0.998725 | 0.000027 | 0.129437 | 0.431456 |
| Sn 189.989 {477} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.998477 | 0.000002 | 1.686047 | 5.620155 |
| B 249.678 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Conc | 0.000009 | 0.000001 | 0.000000 | 1.000000 | 0.999110 | 0.000001 | 1.384749 | 4.615829 |
| B 249.773 {135} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000013 | 0.000003 | 0.000000 | 1.000000 | 0.996375 | 0.000019 | 0.746113 | 2.487044 |
| Li 670.784 { 50} | 04/30/2019 08:01:24 | 04/29/2019 15:16:27 | Linear | 1/Var | 0.000113 | 0.000026 | 0.000000 | 1.000000 | 0.996196 | 0.000316 | 1.644438 | 5.481459 |
| K 766.490 { 44} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Linear | 1/Conc | -0.000021 | 0.000001 | 0.000000 | 1.000000 | 0.999481 | 0.000045 | 53.224850 | 177.41616 |
| P 213.618 {457} | 04/30/2019 08:01:24 | 04/29/2019 15:16:28 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 1106.1553 | 3687.1846 |
| S 182.034 {485} | 04/30/2019 08:01:24 | 04/29/2019 15:42:48 | Curvili | 1/Conc | 0.000025 | 0.000000 | 0.000000 | 1.000000 | 0.999996 | 0.000003 | 6.539657 | 21.798855 |
| Hg 184.950 {482} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000009 | 0.000000 | 0.000000 | 1.000000 | 0.351706 | 0.000021 | 8.769662 | 29.232206 |
| Ce 404.076 { 83} | 04/30/2019 08:01:24 | 04/29/2019 15:10:01 | Linear | 1/Conc | 0.000036 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 22.280330 | 74.267767 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

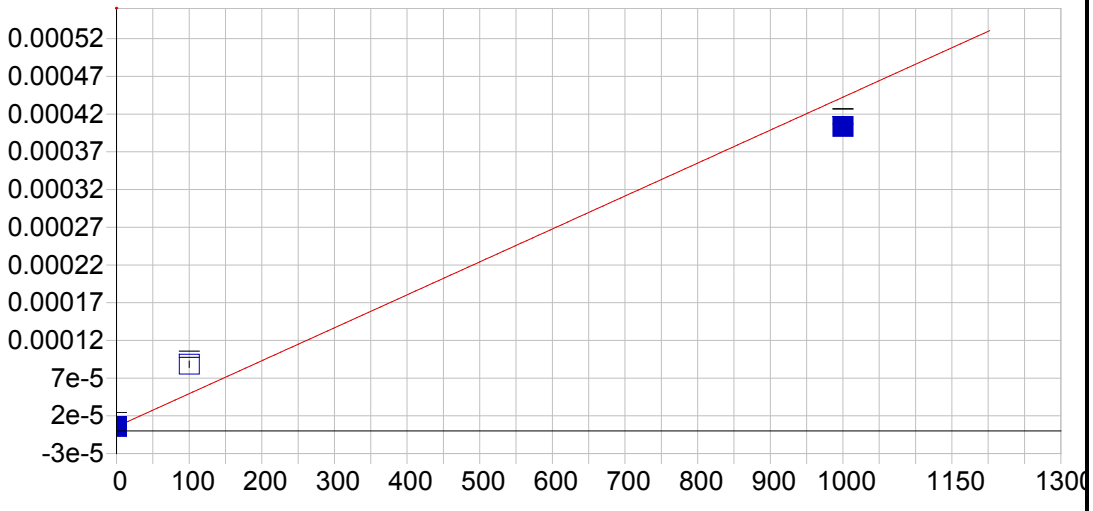



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.771259 | | |
| Predicted MQL: | 2.570863 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.20712 | -.207 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.392 | .392 | 3.92 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 99.814 | -.186 | -.186 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .06215 | -.938 | -93.8 | .00001 | .000 | 1 |

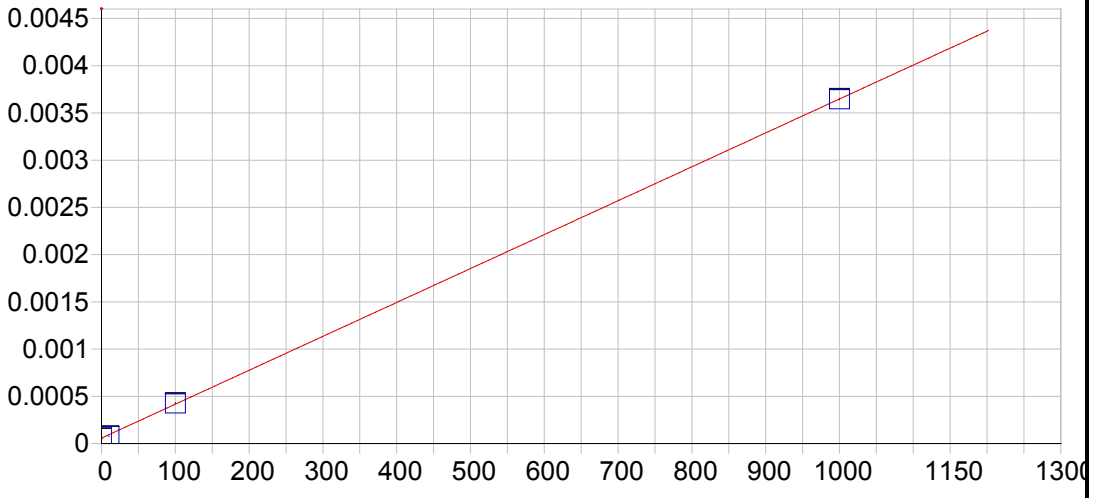



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.962425 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 18.287510 | | |
| Predicted MQL: | 60.958366 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.08027 | -.080 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 189.19 | 89.2 | 89.2 | .00009 | .000 | 1 |
| CalStd9=100 | 1000.0 | 910.83 | -89.2 | -8.92 | .00040 | .000 | 1 |

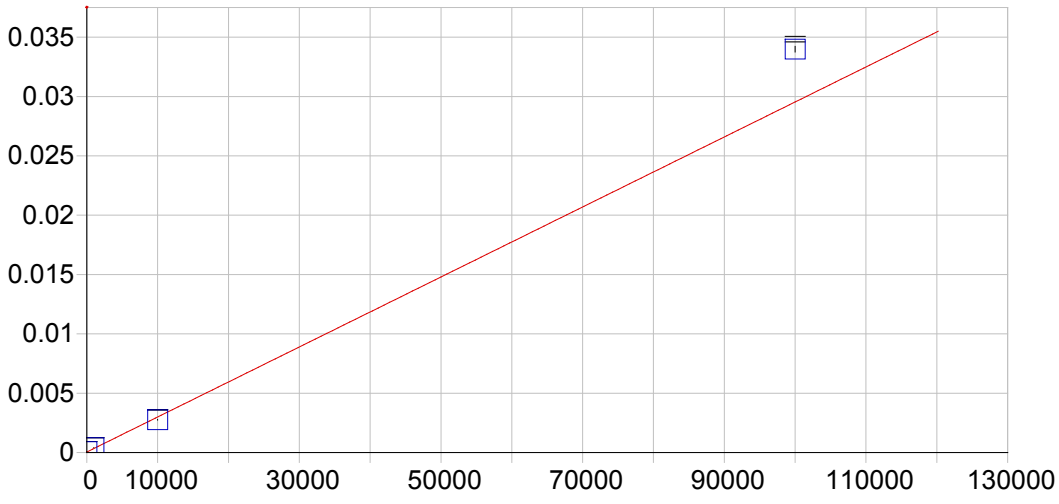



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000058 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999978 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.663610 | | |
| Predicted MQL: | 2.212032 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.0288 | 2.03 | .000 | .00007 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.78 | -.219 | -.022 | .00365 | .000 | 1 |
| CalStd5=10 | 10.000 | 5.5578 | -4.44 | -44.4 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.63 | 2.63 | 2.63 | .00043 | .000 | 1 |

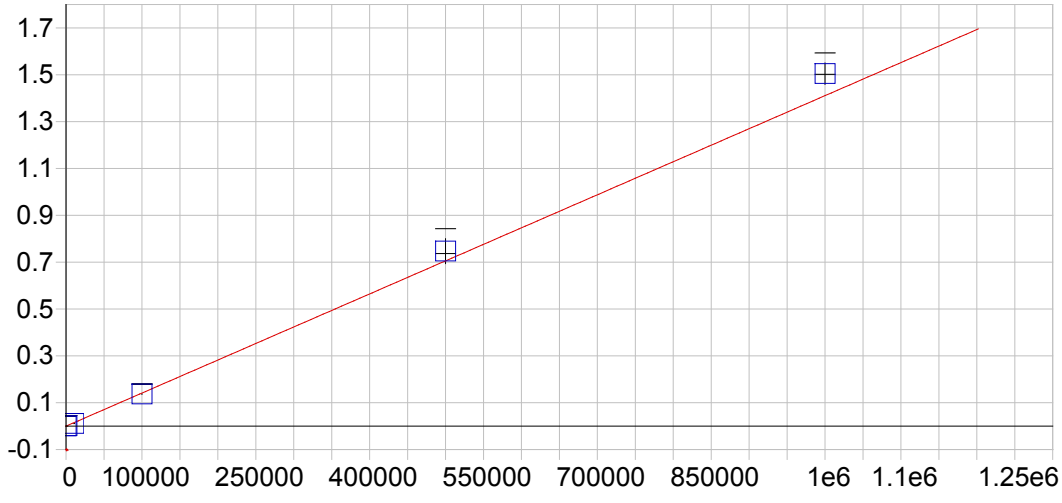



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992739 | Status: | OK. |
| Std Error of Est: | 0.000216 | | |
| Predicted MDL: | 35.529198 | | |
| Predicted MQL: | 118.430662 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 75.924 | 75.9 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9189.9 | -810. | -8.10 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1201.1 | 201. | 20.1 | .00040 | .000 | 1 |
| CalStd13=10 | 100000. | 115080. | 15100. | 15.1 | .03399 | .000 | 1 |

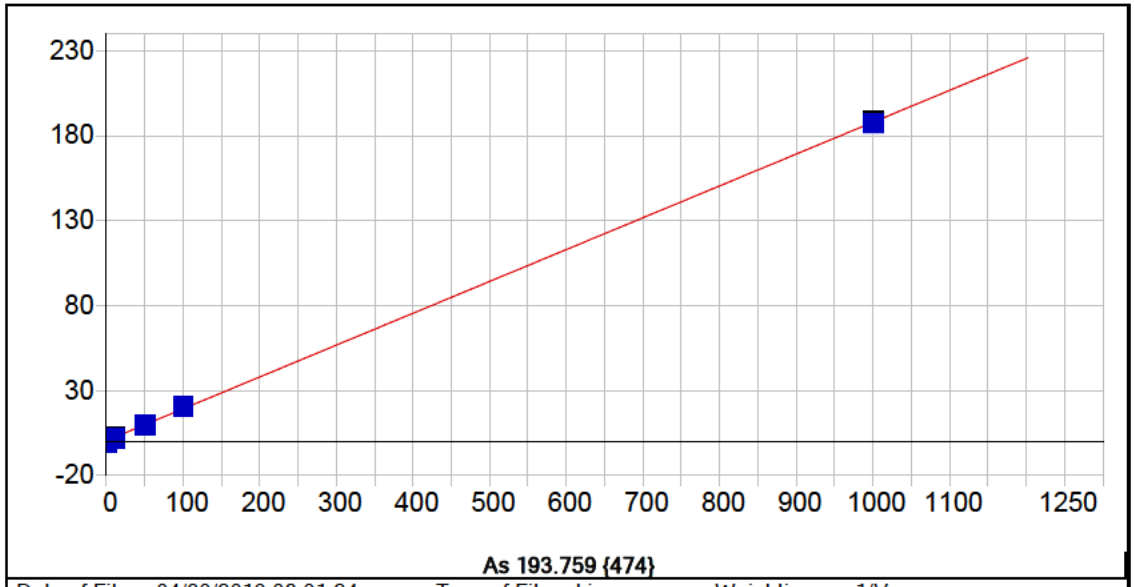



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999721 | Status: | OK. |
| Std Error of Est: | 0.000063 | | |
| Predicted MDL: | 12.909176 | | |
| Predicted MQL: | 43.030588 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33758 | .338 | .000 | -.00002 | .000 | 1 |
| CalStd14=50 | 500000. | 529520. | 29500. | 5.90 | .74706 | .053 | 1 |
| CalStd13=10 | 100000. | 96995. | -3010. | -3.01 | .13683 | .001 | 1 |
| CalStd10=10 | 10000. | 7635.5 | -2360. | -23.6 | .01075 | .000 | 1 |
| CalStd9=100 | 1000.0 | 919.15 | -80.8 | -8.08 | .00127 | .000 | 1 |
| CalibStd15= | 1000000. | 1066400. | 66400. | 6.64 | 1.5046 | .045 | 1 |

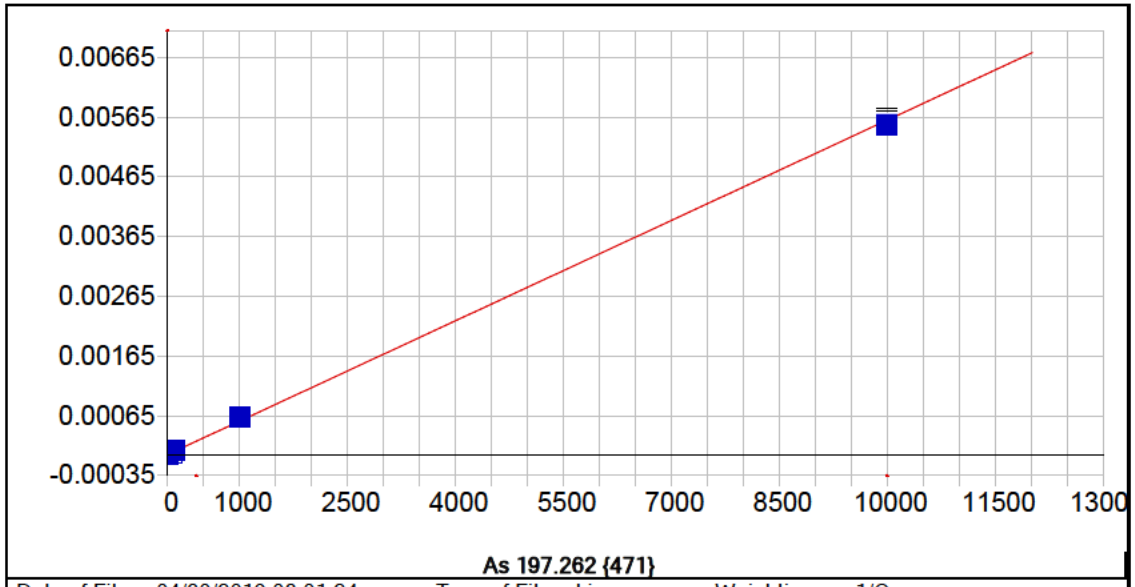



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.539750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.187381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999781 | Status: | OK. |
| Std Error of Est: | 1.235779 | | |
| Predicted MDL: | 3.306742 | | |
| Predicted MQL: | 11.022473 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -6.0560 | -6.06 | .000 | -.59503 | .623 | 1 |
| CalStd9=100 | 1000.0 | 997.06 | -2.94 | -.294 | 186.75 | 1.12 | 1 |
| CalStd7=50 | 50.000 | 47.791 | -2.21 | -4.42 | 9.4735 | .588 | 1 |
| CalStd5=10 | 10.000 | 7.5505 | -2.45 | -24.5 | 1.9497 | .990 | 1 |
| CalStd8=100 | 100.00 | 106.54 | 6.54 | 6.54 | 20.442 | .494 | 1 |

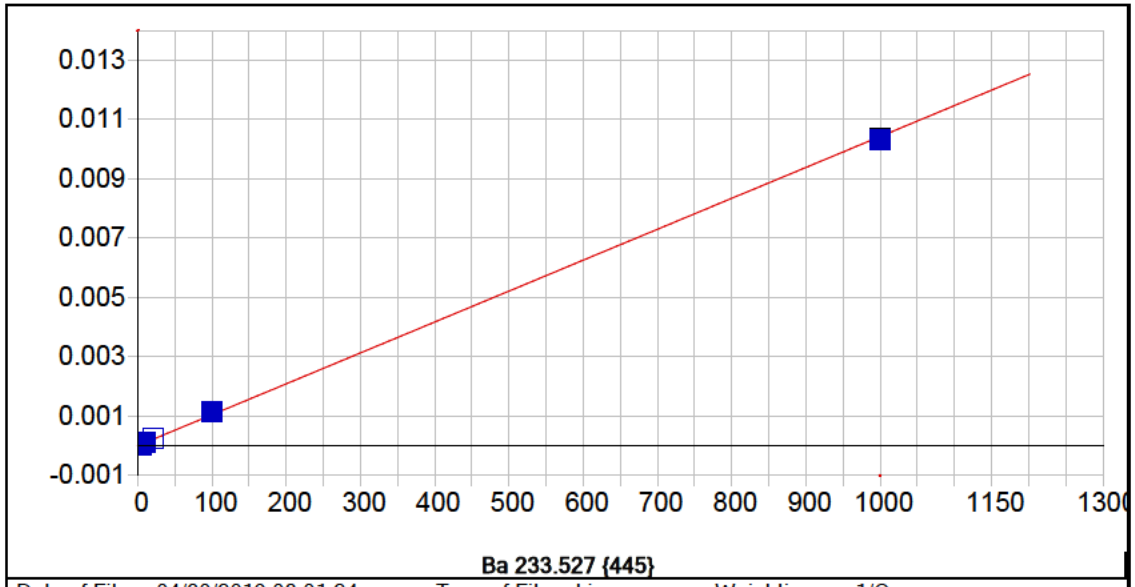



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998967 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.150038 | | |
| Predicted MQL: | 23.833460 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00548 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1131.8 | 132. | 13.2 | .00064 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.208 | 8.21 | 16.4 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.224 | 1.22 | 12.2 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.48 | 14.5 | 14.5 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.4 | -156. | -1.56 | .00555 | .000 | 1 |

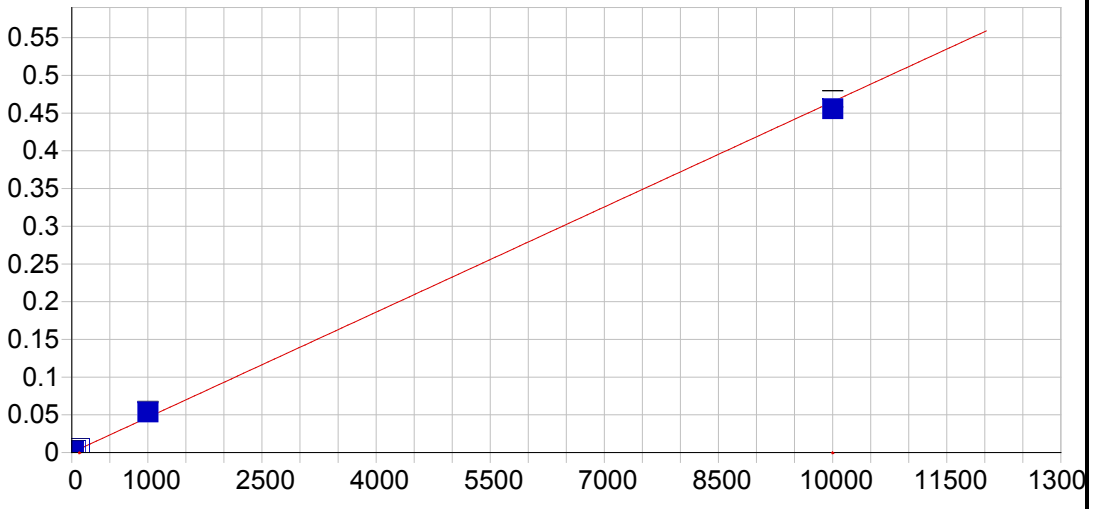



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000007 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998869 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.388630 | | |
| Predicted MQL: | 1.295433 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00074 | .001 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.685 | 1.69 | 16.9 | .00013 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.379 | 2.38 | 11.9 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.99 | 8.99 | 8.99 | .00114 | .000 | 1 |
| CalStd4=5 | 5.0000 | 3.5664 | -1.43 | -28.7 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.19 | -10.8 | -1.08 | .01031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .18135 | -.819 | -81.9 | .00001 | .000 | 1 |

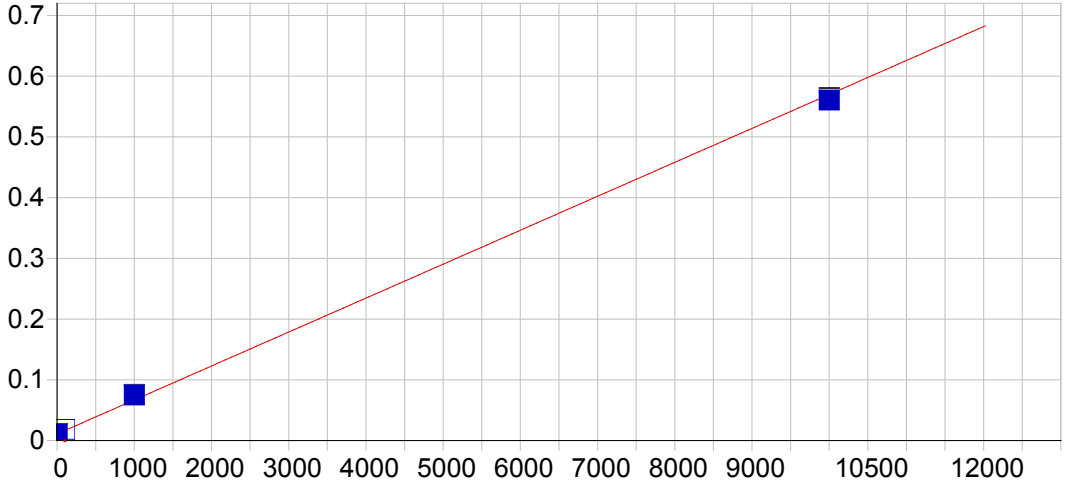



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000125 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998156 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.424860 | | |
| Predicted MQL: | 1.416201 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00102 | -.001 | .000 | .00013 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.838 | 15.8 | 31.7 | .00319 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.147 | 3.15 | 31.5 | .00074 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.954 | 5.95 | 29.8 | .00133 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.81 | 24.8 | 24.8 | .00593 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9621 | .962 | 19.2 | .00040 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.5 | 151. | 15.1 | .05367 | .001 | 1 |
| CalStd3=1 | 1.0000 | .51857 | -.481 | -48.1 | .00015 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.3 | -202. | -2.02 | .45572 | .011 | 1 |

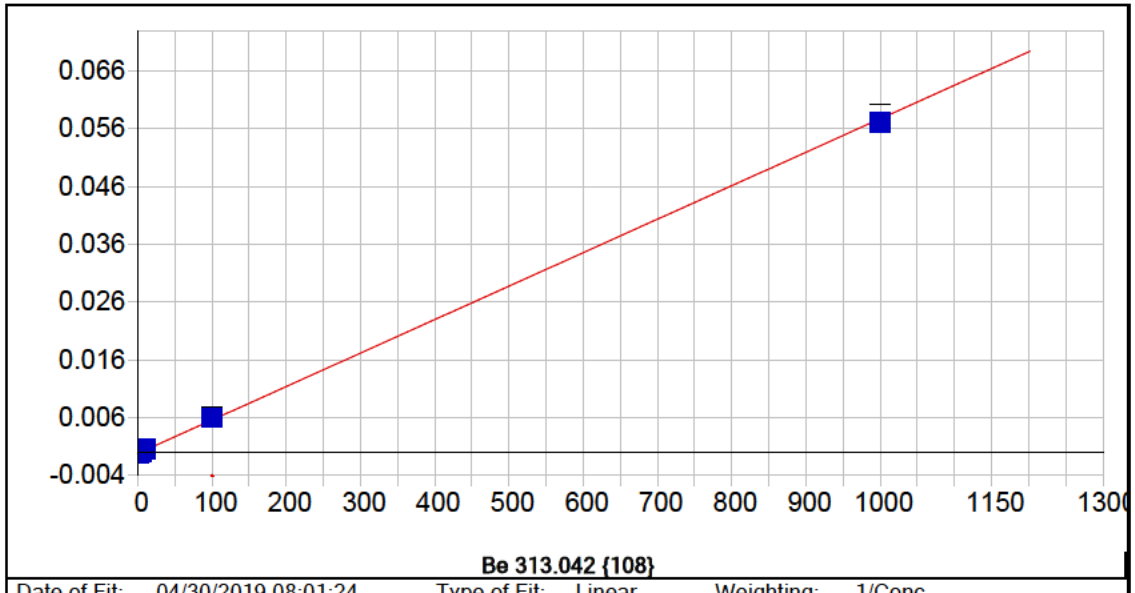



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010947 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998653 | Status: | OK. |
| Std Error of Est: | 0.000137 | | |
| Predicted MDL: | 0.907157 | | |
| Predicted MQL: | 3.023855 | | |

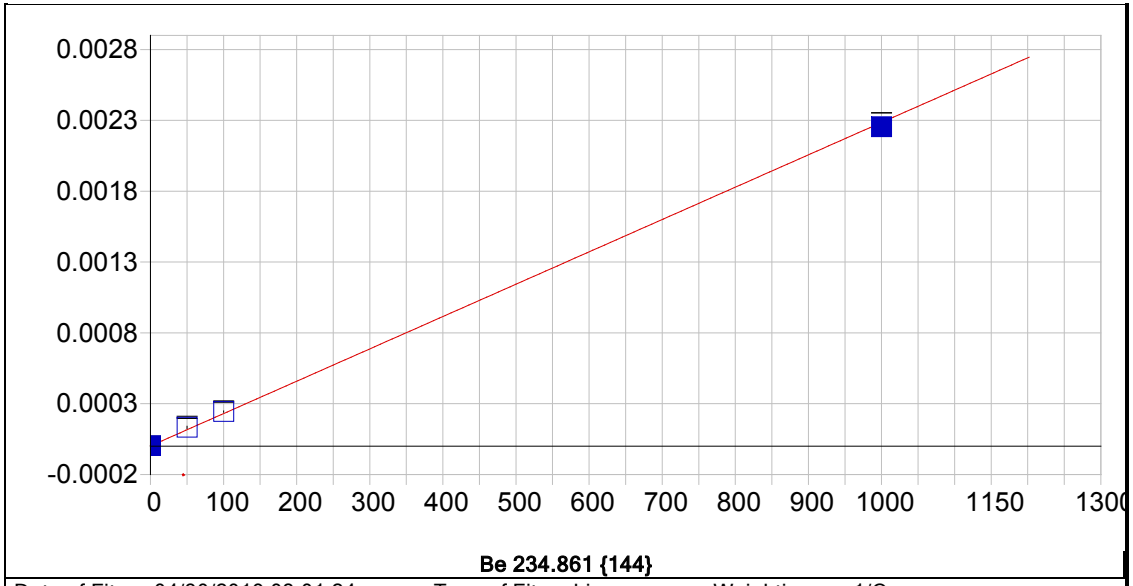
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03968 | -.040 | .000 | .01094 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1140.3 | 140. | 14.0 | .07469 | .001 | 1 |
| CalStd8=100 | 100.00 | 127.32 | 27.3 | 27.3 | .01806 | .000 | 1 |
| CalStd10=10 | 10000. | 9832.4 | -168. | -1.68 | .56060 | .003 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000185 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000058 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999544 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.049429 | | |
| Predicted MQL: | 0.164762 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00022 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.811 | 1.81 | 18.1 | .00050 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.89 | 6.89 | 6.89 | .00601 | .000 | 1 |
| CalStd2=0.5 | .50000 | .48965 | -.010 | -2.07 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7741 | .774 | 15.5 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.47 | -9.53 | -.953 | .05717 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.0666 | .067 | 6.66 | -.00012 | .000 | 1 |

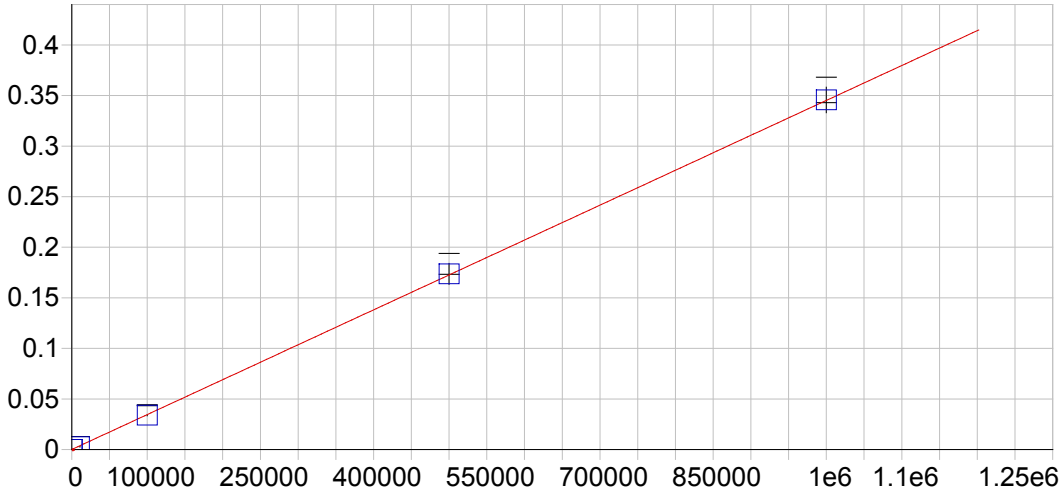



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999290 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.414818 | | |
| Predicted MQL: | 4.716060 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00973 | -.010 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.57 | -13.4 | -1.34 | .00225 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.08 | 6.08 | 6.08 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 57.360 | 7.36 | 14.7 | .00013 | .000 | 1 |

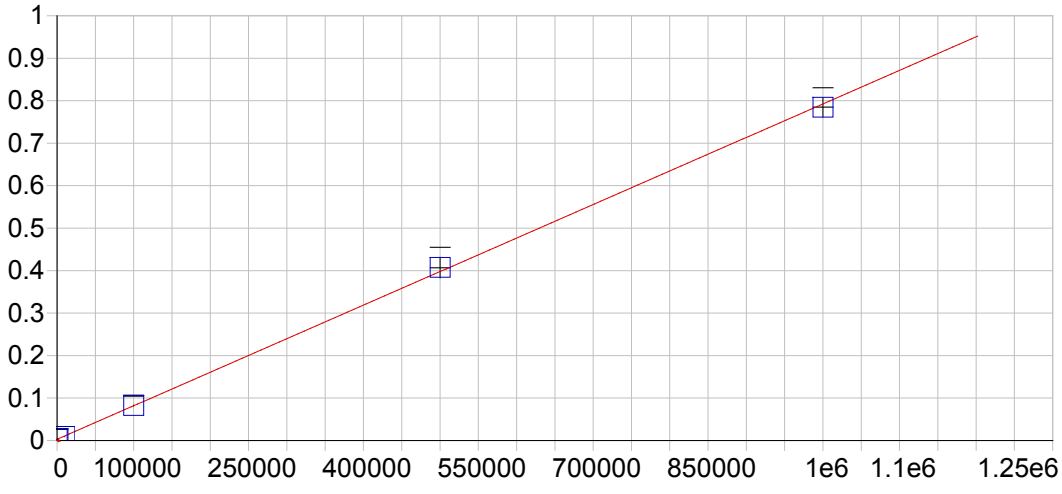



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000054 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999799 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 12.463600 | | |
| Predicted MQL: | 41.545332 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .37459 | .375 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 7609.8 | -2390. | -23.9 | .00268 | .000 | 1 |
| CalStd13=10 | 100000. | 97961. | -2040. | -2.04 | .03386 | .001 | 1 |
| CalStd14=50 | 500000. | 503050. | 3050. | .611 | .17366 | .010 | 1 |
| CalStd9=100 | 1000.0 | 877.21 | -123. | -12.3 | .00036 | .000 | 1 |
| CalibStd15= | 1000000. | 1001500. | 1500. | .150 | .34568 | .013 | 1 |

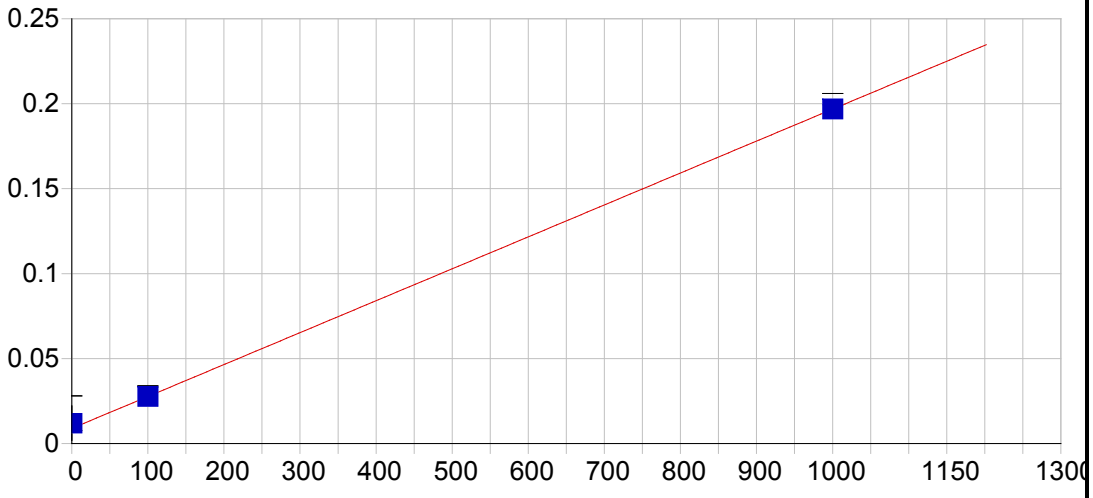



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002916 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999746 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 6.859728 | | |
| Predicted MQL: | 22.865759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .13150 | .131 | .000 | .00292 | .000 | 1 |
| CalStd10=10 | 10000. | 7981.1 | -2020. | -20.2 | .00922 | .000 | 1 |
| CalStd13=10 | 100000. | 100320. | 322. | .322 | .08212 | .001 | 1 |
| CalStd14=50 | 500000. | 512170. | 12200. | 2.43 | .40730 | .024 | 1 |
| CalStd9=100 | 1000.0 | 1053.4 | 53.4 | 5.34 | .00375 | .000 | 1 |
| CalibStd15= | 1000000. | 989470. | -10500. | -1.05 | .78415 | .023 | 1 |

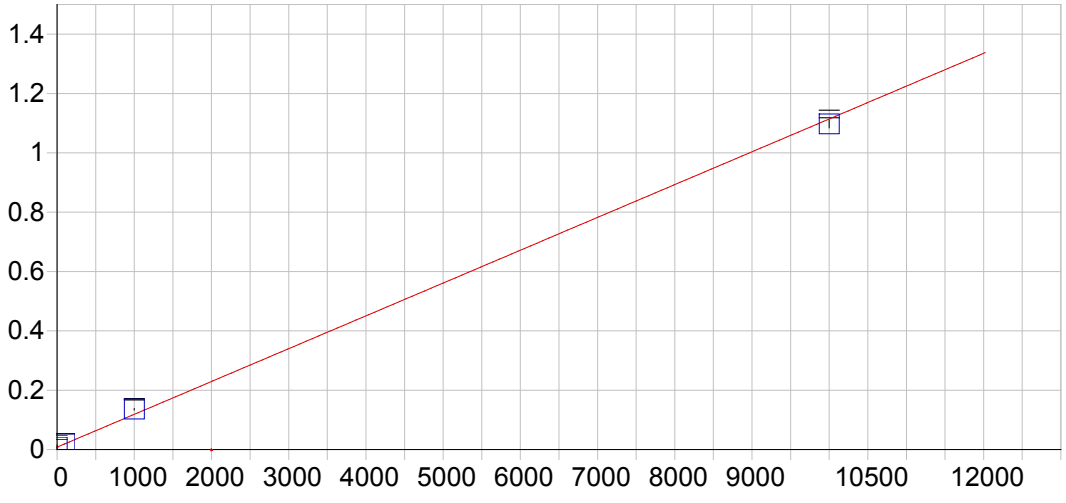



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008895 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000188 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999982 | Status: | OK. |
| Std Error of Est: | 0.000207 | | |
| Predicted MDL: | 0.074229 | | |
| Predicted MQL: | 0.247430 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 16.421 | 16.4 | .000 | .01198 | .010 | 1 |
| CalStd9=100 | 1000.0 | 1000.2 | .196 | .020 | .19683 | .003 | 1 |
| CalStd8=100 | 100.00 | 99.972 | -.028 | -.028 | .02768 | .000 | 1 |

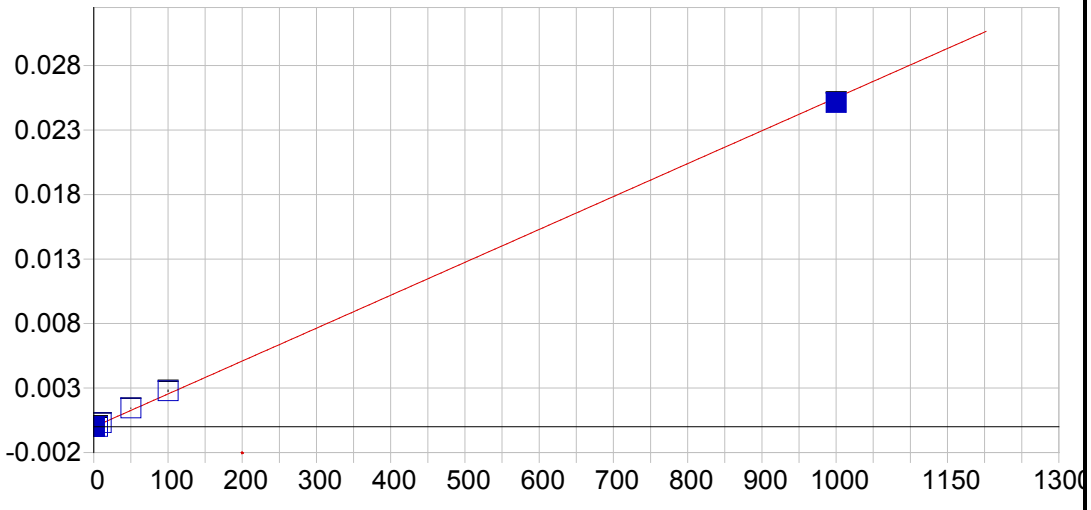



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.008134 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000111 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998837 | Status: | OK. |
| Std Error of Est: | 0.000251 | | |
| Predicted MDL: | 0.118050 | | |
| Predicted MQL: | 0.393499 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01340 | -.013 | .000 | .00813 | .007 | 1 |
| CalStd10=10 | 10000. | 9847.0 | -153. | -1.53 | 1.0973 | .013 | 1 |
| CalStd8=100 | 100.00 | 99.586 | -.414 | -.414 | .01915 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1153.4 | 153. | 15.3 | .13571 | .002 | 1 |

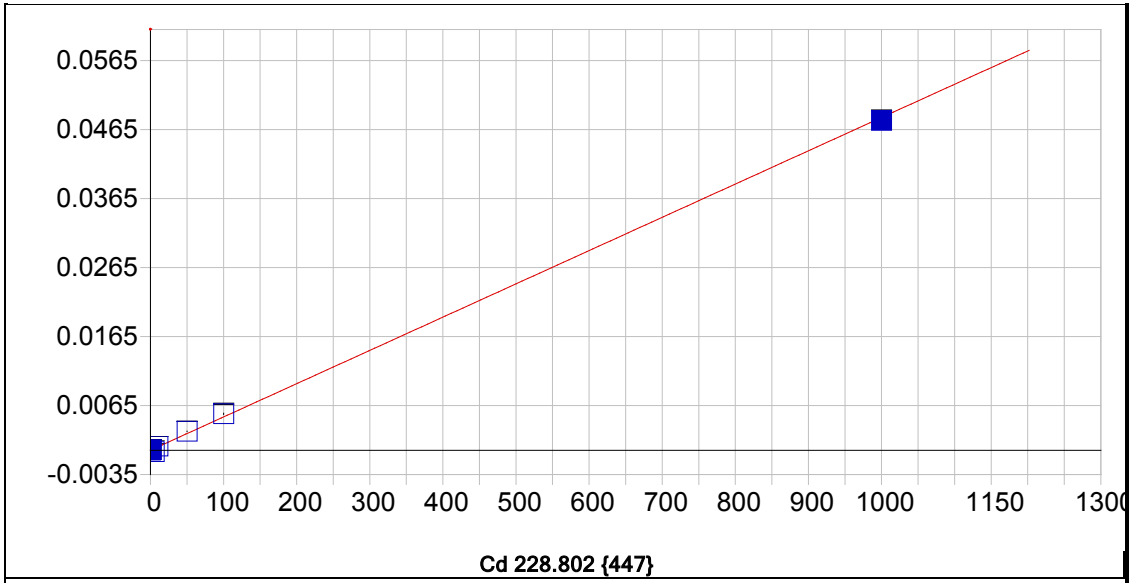



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997348 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.233555 | | |
| Predicted MQL: | 0.778515 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00002 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.865 | 6.87 | 13.7 | .00144 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2285 | .228 | 22.8 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .61713 | .117 | 23.4 | .00001 | .000 | 1 |
| CalStd4=5 | 5.0000 | .73284 | -4.27 | -85.3 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.55 | 9.55 | 9.55 | .00278 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.062 | 2.06 | 20.6 | .00030 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.44 | -14.6 | -1.46 | .02513 | .000 | 1 |

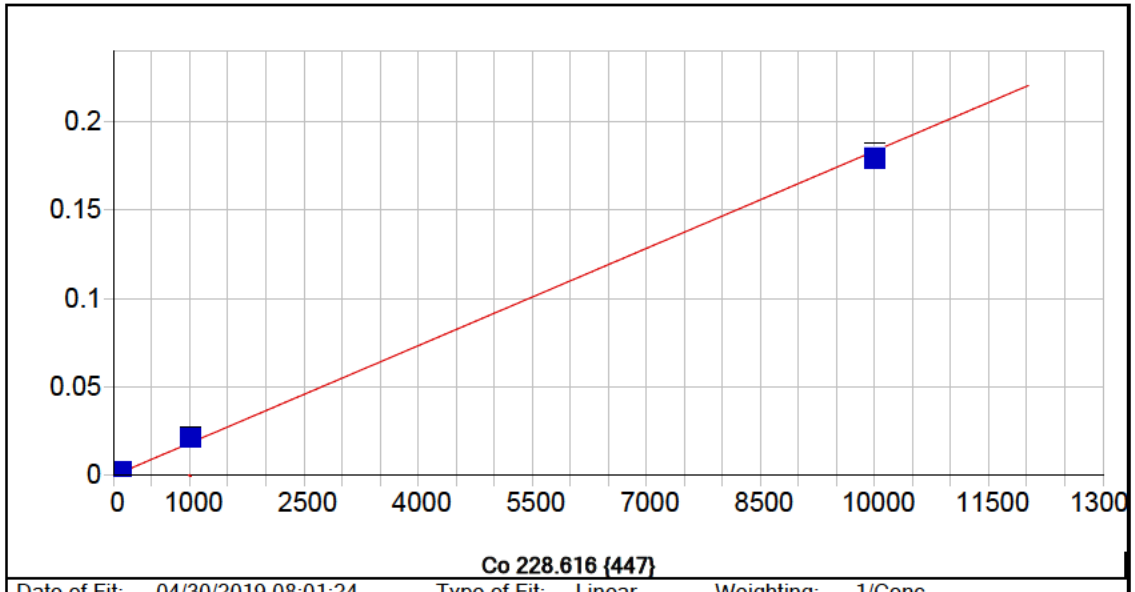



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000024 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991474 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.157317 | | |
| Predicted MQL: | 0.524389 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.791 | 6.79 | 13.6 | .00276 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1739 | .174 | 17.4 | .00008 | .000 | 1 |
| CalStd2=0.5 | .50000 | .71504 | .215 | 43.0 | .00006 | .000 | 1 |
| CalStd4=5 | 5.0000 | -4.4200 | -9.42 | -188. | -.00019 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.33 | 9.33 | 9.33 | .00530 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.002 | 2.00 | 20.0 | .00060 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.91 | -9.09 | -.909 | .04781 | .000 | 1 |

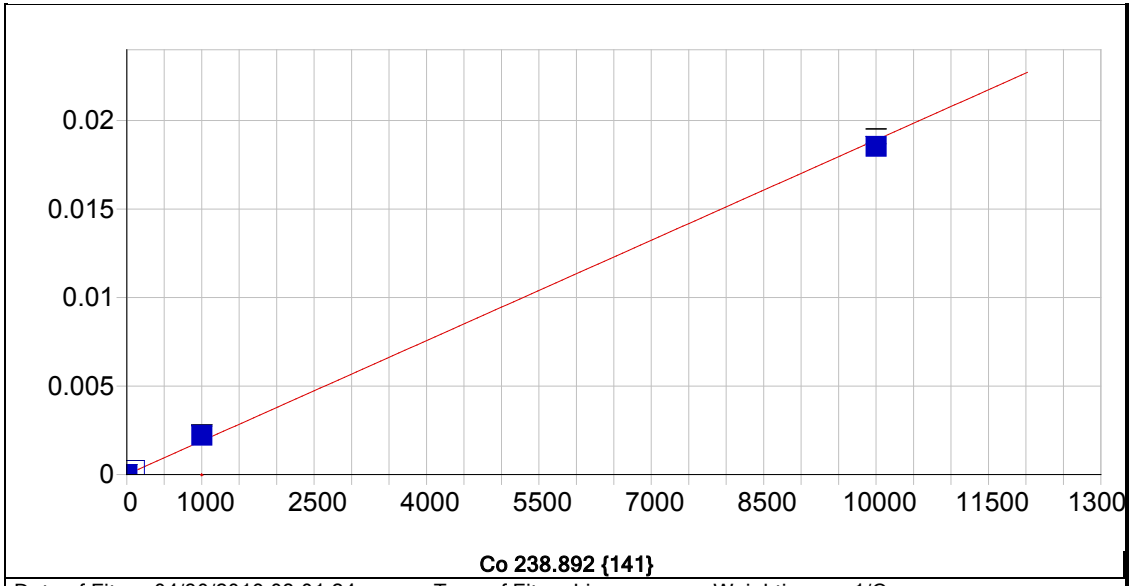



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000018 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996680 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.449246 | | |
| Predicted MQL: | 1.497487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00352 | -.004 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.275 | 16.3 | 32.6 | .00123 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.608 | 3.61 | 36.1 | .00027 | .000 | 1 |
| CalStd4=5 | 5.0000 | 16.987 | 12.0 | 240. | .00033 | .000 | 1 |
| CalStd8=100 | 100.00 | 127.97 | 28.0 | 28.0 | .00236 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1163.2 | 163. | 16.3 | .02135 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0124 | .012 | 1.24 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9777.2 | -223. | -2.23 | .17958 | .003 | 1 |

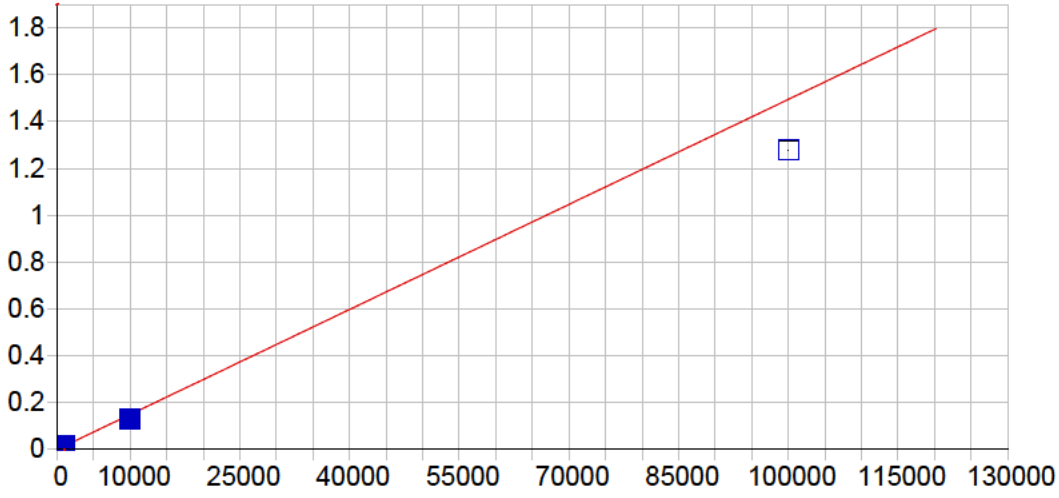



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998281 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.890001 | | |
| Predicted MQL: | 2.966671 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03977 | -.040 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1168.3 | 168. | 16.8 | .00221 | .000 | 1 |
| CalStd10=10 | 10000. | 9806.8 | -193. | -1.93 | .01854 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.86 | 24.9 | 24.9 | .00024 | .000 | 1 |

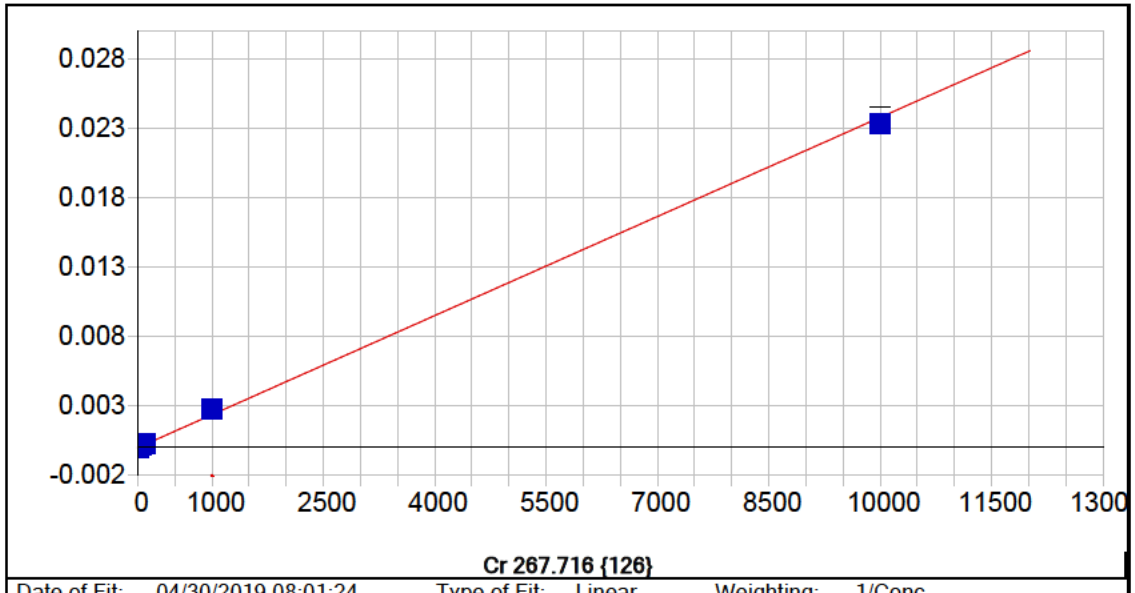



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000015 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997498 | Status: | OK. |
| Std Error of Est: | 0.000145 | | |
| Predicted MDL: | 0.312030 | | |
| Predicted MQL: | 1.040101 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.1414 | -2.14 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.9178 | -.082 | -.822 | .00019 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.687 | 5.69 | 11.4 | .00087 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.5 | 30.5 | 3.05 | .01544 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.35 | 9.35 | 9.35 | .00167 | .000 | 1 |
| CalStd4=5 | 5.0000 | 51.363 | 46.4 | 927. | .00080 | .000 | 1 |
| CalStd3=1 | 1.0000 | -1.5639 | -2.56 | -256. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 8651.3 | -1350. | -13.5 | .12935 | .002 | 1 |
| CalStd12=10 | 100000. | 85458. | -14500. | -14.5 | 1.2774 | .003 | 1 |

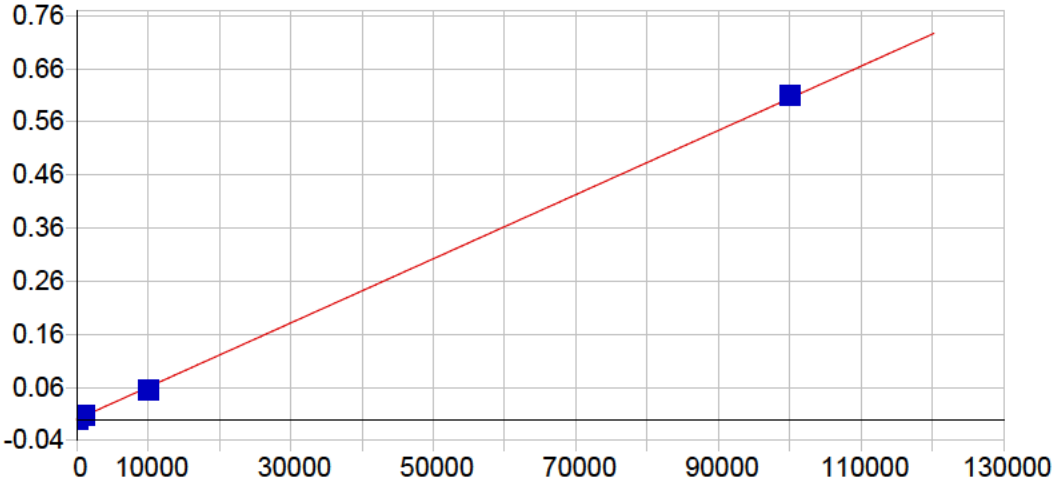



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998132 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.923046 | | |
| Predicted MQL: | 3.076818 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00873 | -.009 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.160 | 3.16 | 31.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 63.410 | 13.4 | 26.8 | .00015 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1156.3 | 156. | 15.6 | .00275 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.83 | 23.8 | 23.8 | .00029 | .000 | 1 |
| CalStd4=5 | 5.0000 | 8.9402 | 3.94 | 78.8 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9799.4 | -201. | -2.01 | .02328 | .001 | 1 |

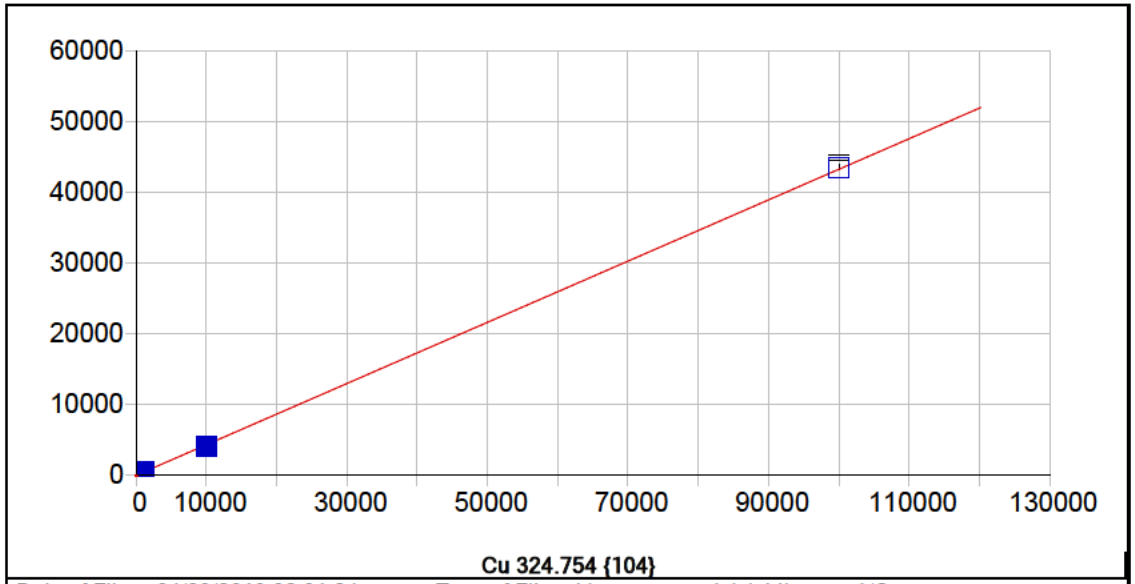



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999425 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.447985 | | |
| Predicted MQL: | 1.493282 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03345 | .033 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.2 | 44.2 | 4.42 | .00631 | .000 | 1 |
| CalStd7=50 | 50.000 | 23.011 | -27.0 | -54.0 | .00014 | .000 | 1 |
| CalStd8=100 | 100.00 | 66.772 | -33.2 | -33.2 | .00040 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.7070 | -15.3 | -76.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100930. | 926. | .926 | .60996 | .000 | 1 |
| CalStd10=10 | 10000. | 9105.5 | -895. | -8.95 | .05503 | .001 | 1 |

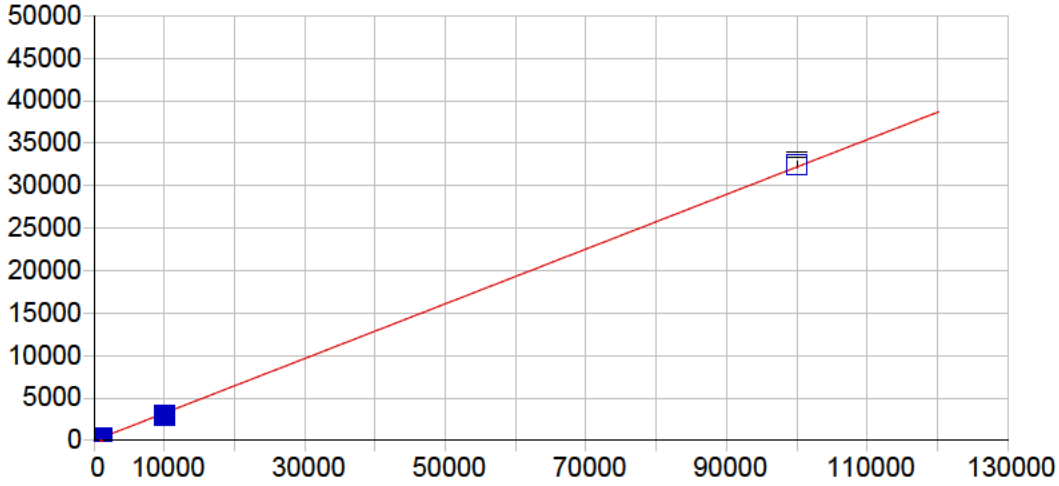



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 32.917937 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.432226 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999630 | Status: | OK. |
| Std Error of Est: | 0.452439 | | |
| Predicted MDL: | 5.608774 | | |
| Predicted MQL: | 18.695912 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01484 | -.015 | .000 | 32.912 | 1.24 | 1 |
| CalStd9=100 | 1000.0 | 1083.9 | 83.9 | 8.39 | 501.38 | 9.93 | 1 |
| CalStd8=100 | 100.00 | 121.35 | 21.4 | 21.4 | 85.370 | 1.21 | 1 |
| CalStd10=10 | 10000. | 9248.4 | -752. | -7.52 | 4030.0 | 17.9 | 1 |
| CalStd12=10 | 100000. | 100620. | 619. | .619 | 43523. | 365. | 1 |
| CalStd5=10 | 10.000 | 15.681 | 5.68 | 56.8 | 39.696 | 3.29 | 1 |
| CalStd6=20 | 20.000 | 28.281 | 8.28 | 41.4 | 45.142 | .661 | 1 |
| CalStd7=50 | 50.000 | 63.663 | 13.7 | 27.3 | 60.435 | .678 | 1 |

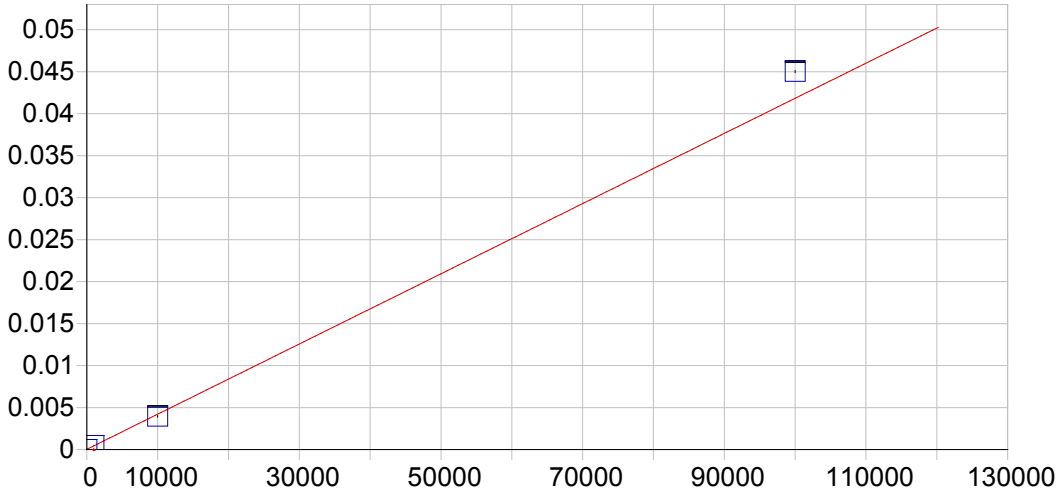



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 7.187822 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.321888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999459 | Status: | OK. |
| Std Error of Est: | 0.282912 | | |
| Predicted MDL: | 9.835319 | | |
| Predicted MQL: | 32.784397 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01440 | -.014 | .000 | 7.1832 | 2.95 | 1 |
| CalStd6=20 | 20.000 | 24.984 | 4.98 | 24.9 | 15.226 | 3.16 | 1 |
| CalStd7=50 | 50.000 | 66.452 | 16.5 | 32.9 | 28.568 | 1.65 | 1 |
| CalStd8=100 | 100.00 | 121.71 | 21.7 | 21.7 | 46.347 | 5.06 | 1 |
| CalStd9=100 | 1000.0 | 1078.5 | 78.5 | 7.85 | 354.16 | 6.84 | 1 |
| CalStd10=10 | 10000. | 9093.8 | -906. | -9.06 | 2934.4 | 26.3 | 1 |
| CalStd12=10 | 100000. | 100770. | 771. | .771 | 32444. | 356. | 1 |
| CalStd4=5 | 5.0000 | 12.546 | 7.55 | 151. | 11.225 | 2.33 | 1 |
| CalStd5=10 | 10.000 | 15.797 | 5.80 | 58.0 | 12.271 | 2.94 | 1 |

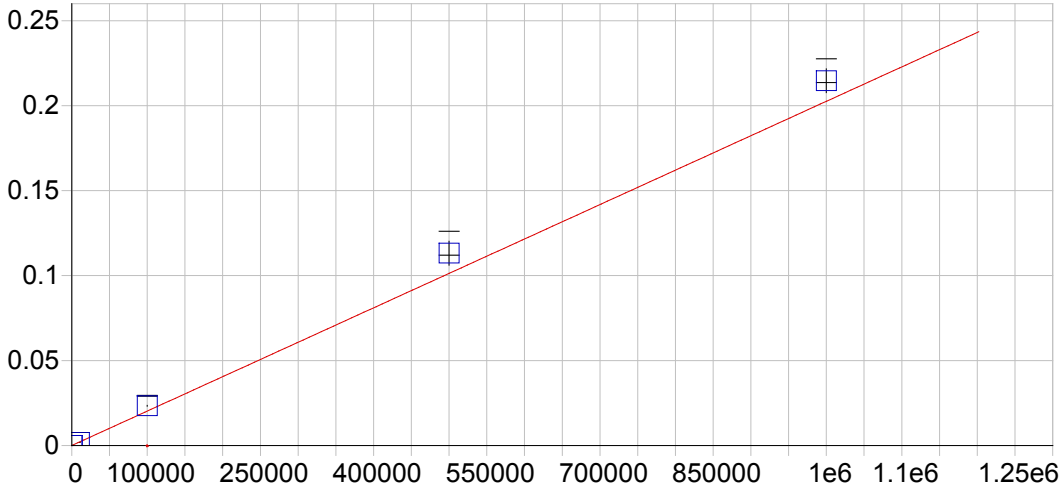



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999923 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 1.861928 | | |
| Predicted MQL: | 6.206425 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.23485 | -.235 | .000 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9375.0 | -625. | -6.25 | .00395 | .000 | 1 |
| CalStd13=10 | 100000. | 107610. | 7610. | 7.61 | .04501 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1097.8 | 97.8 | 9.78 | .00049 | .000 | 1 |

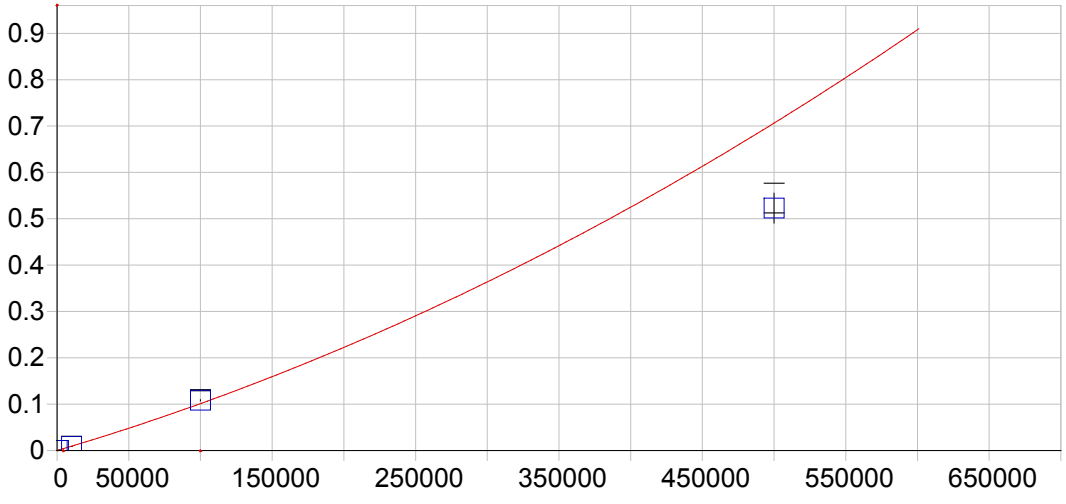



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994823 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 17.270833 | | |
| Predicted MQL: | 57.569443 | | |

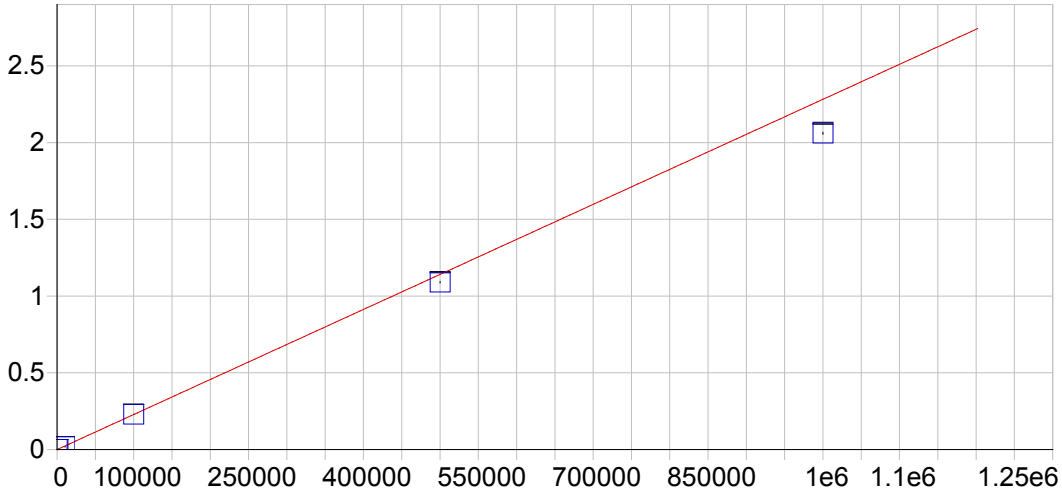
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.0192 | -2.02 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9267.3 | -733. | -7.33 | .00189 | .000 | 1 |
| CalStd13=10 | 100000. | 115270. | 15300. | 15.3 | .02336 | .000 | 1 |
| CalStd14=50 | 500000. | 558690. | 58700. | 11.7 | .11317 | .007 | 1 |
| CalStd9=100 | 1000.0 | 1068.1 | 68.1 | 6.81 | .00023 | .000 | 1 |
| CalibStd15= | 1000000. | 1059600. | 59600. | 5.96 | .21464 | .007 | 1 |




**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000065 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000001 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.997286 | | Status: | Warning | Positive Curvature |
| Std Error of Est: | 0.000158 | | | | |
| Predicted MDL: | 5.216183 | | | | |
| Predicted MQL: | 17.387276 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -24.898 | -24.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9540.9 | -459. | -4.59 | .00886 | .000 | 1 |
| CalStd13=10 | 100000. | 106310. | 6310. | 6.31 | .10833 | .001 | 1 |
| CalStd14=50 | 500000. | 398750. | -101000. | -20.2 | .52289 | .032 | 1 |
| CalStd9=100 | 1000.0 | 1085.5 | 85.5 | 8.55 | .00106 | .000 | 1 |

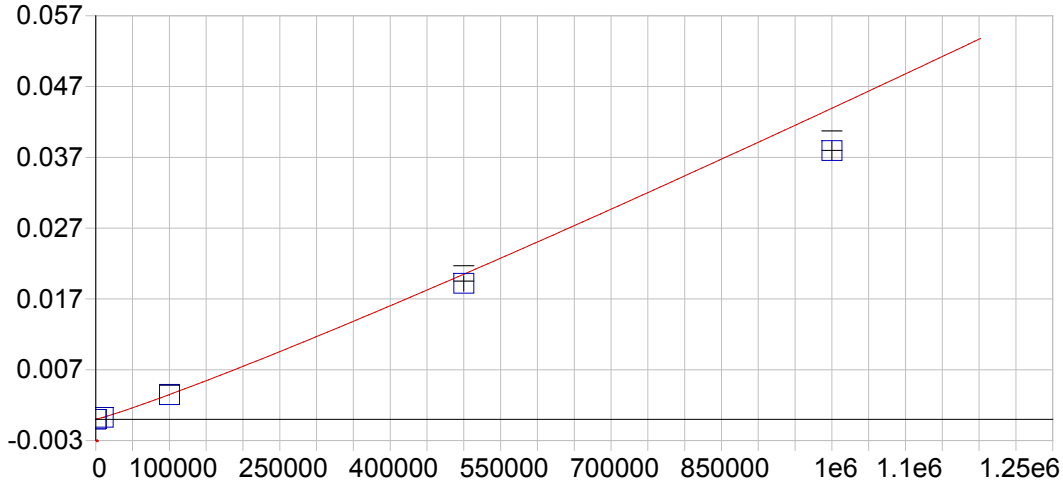



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999696 | Status: | OK. |
| Std Error of Est: | 0.000343 | | |
| Predicted MDL: | 2.203469 | | |
| Predicted MQL: | 7.344897 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 23.811 | 23.8 | .000 | .00006 | .000 | 1 |
| CalStd13=10 | 100000. | 100590. | 591. | .591 | .22957 | .000 | 1 |
| CalStd10=10 | 10000. | 7754.8 | -2250. | -22.5 | .01770 | .000 | 1 |
| CalStd14=50 | 500000. | 477620. | -22400. | -4.48 | 1.0900 | .004 | 1 |
| CalStd9=100 | 1000.0 | 997.86 | -2.14 | -.214 | .00228 | .000 | 1 |
| CalibStd15= | 1000000. | 903090. | -96900. | -9.69 | 2.0610 | .006 | 1 |

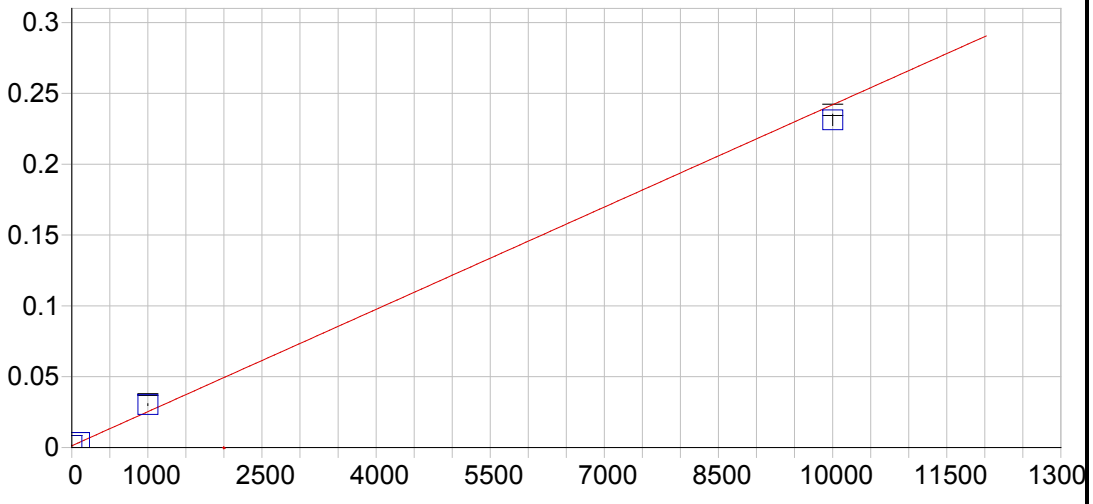



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.100000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 225.466994 | | |
| Predicted MQL: | 751.556647 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99264. | -736. | -.736 | .00346 | .000 | 1 |
| CalStd10=10 | 10000. | 9429.9 | -570. | -5.70 | .00026 | .000 | 1 |
| CalStd14=50 | 500000. | 470980. | -29000. | -5.80 | .01919 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1323.1 | 323. | 32.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 875190. | -125000. | -12.5 | .03794 | .001 | 1 |

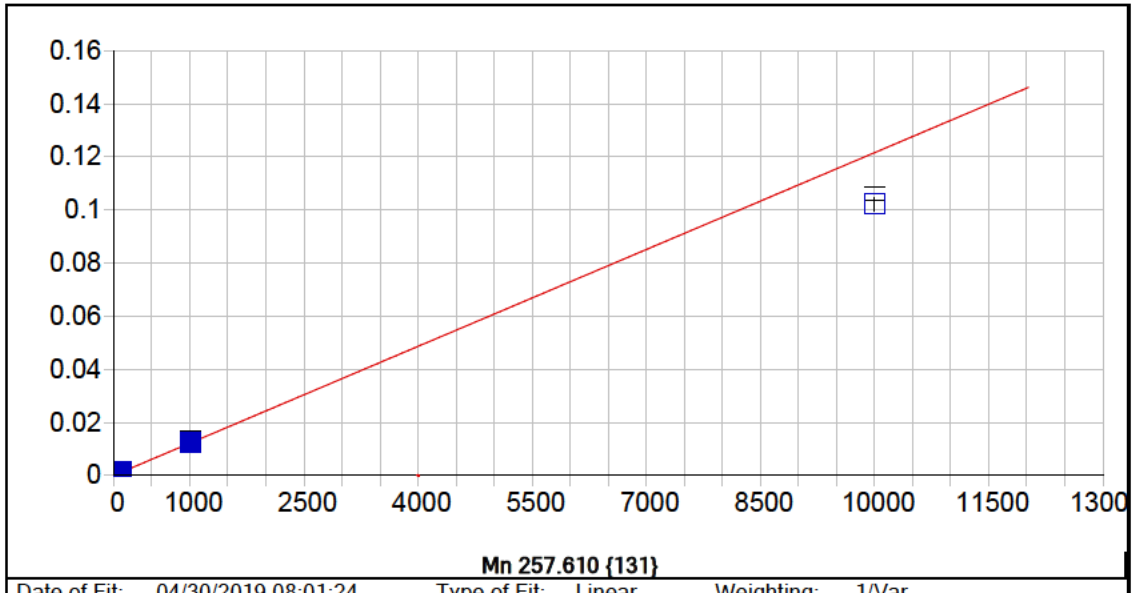



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001262 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000024 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.992448 | Status: | OK. |
| Std Error of Est: | 0.000619 | | |
| Predicted MDL: | 0.051519 | | |
| Predicted MQL: | 0.171731 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.739 | 11.7 | .000 | .00154 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1206.8 | 207. | 20.7 | .03031 | .001 | 1 |
| CalStd10=10 | 10000. | 9556.1 | -444. | -4.44 | .23129 | .004 | 1 |
| CalStd8=100 | 100.00 | 93.604 | -6.40 | -6.40 | .00351 | .000 | 1 |

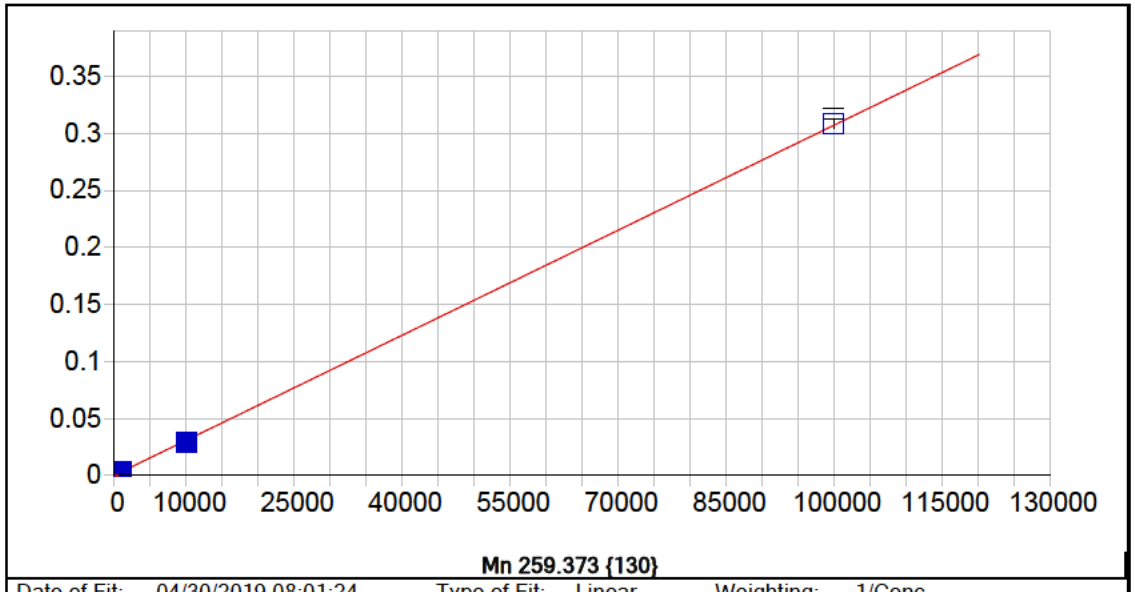



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000029 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000012 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.995548 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.097079 | | |
| Predicted MQL: | 0.323597 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04516 | -.045 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.102 | .102 | 1.02 | .00015 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.003 | 5.00 | 10.0 | .00070 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.805 | .805 | 4.02 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.55 | 8.55 | 8.55 | .00135 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2295 | -.770 | -15.4 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.2 | 22.2 | 2.22 | .01246 | .000 | 1 |
| CalStd10=10 | 10000. | 8405.2 | -1590. | -15.9 | .10223 | .003 | 1 |

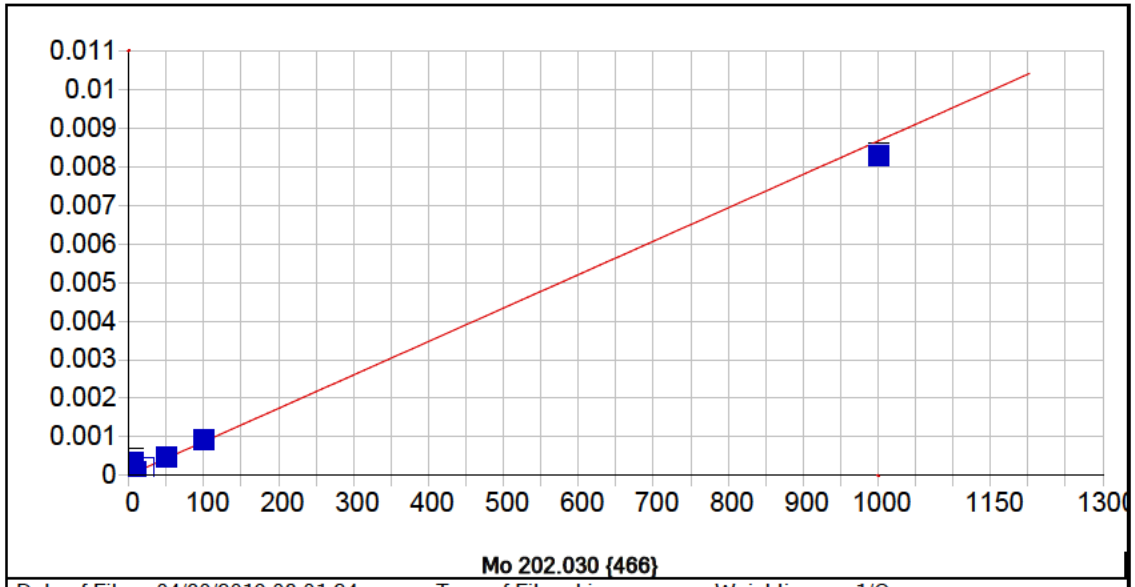



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999811 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 1.512228 | | |
| Predicted MQL: | 5.040759 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04534 | -.045 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9446.9 | -553. | -5.53 | .02904 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1096.1 | 96.1 | 9.61 | .00338 | .000 | 1 |
| CalStd12=10 | 100000. | 100460. | 458. | .458 | .30829 | .005 | 1 |

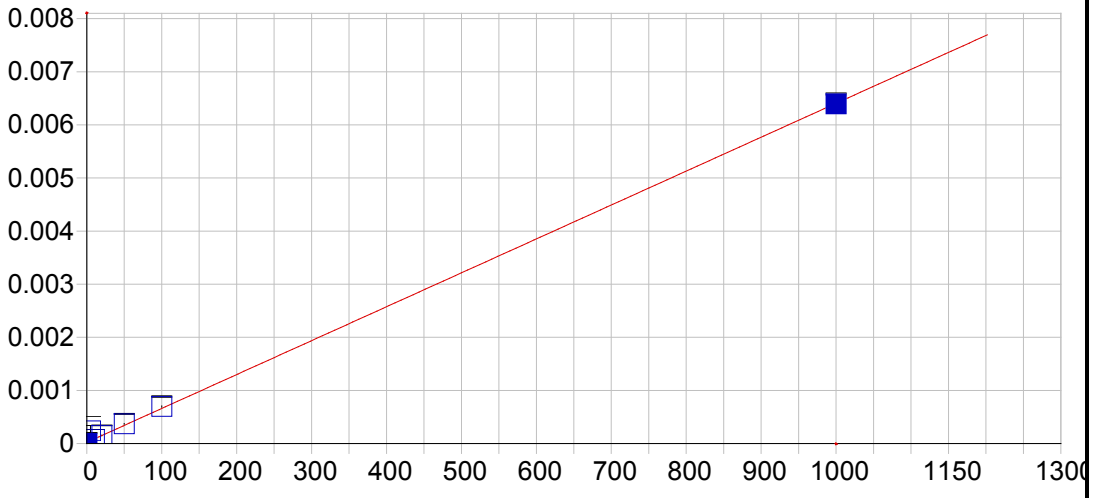



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000010 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.918937 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.461169 | | |
| Predicted MQL: | 1.537230 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03405 | -.034 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.376 | 4.38 | 8.75 | .00048 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.645 | 1.65 | 8.23 | .00020 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.565 | .565 | 5.65 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.38 | 4.38 | 4.38 | .00092 | .000 | 1 |
| CalStd4=5 | 5.0000 | 37.919 | 32.9 | 658. | .00034 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.12 | -43.9 | -4.39 | .00831 | .000 | 1 |

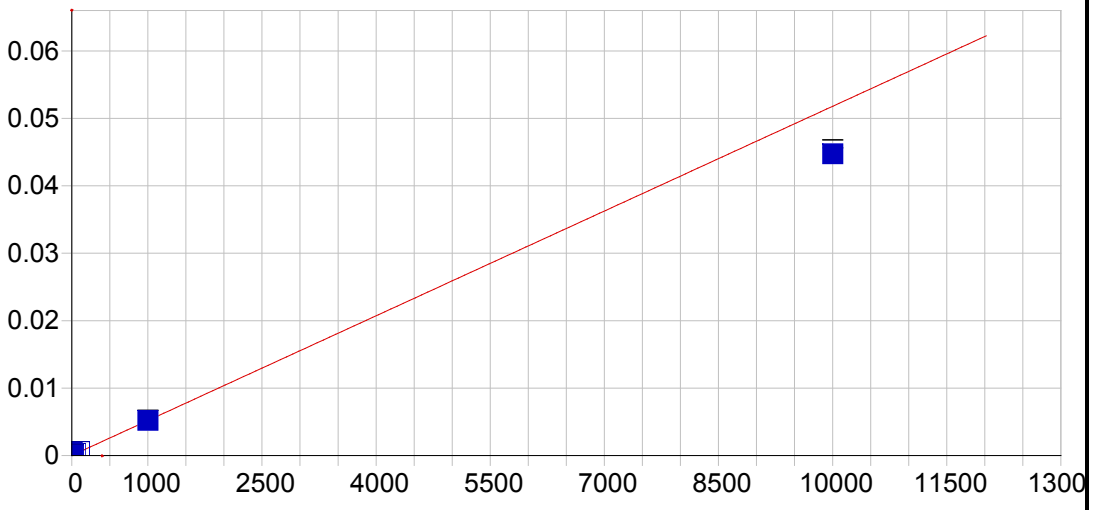



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999869 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.801215 | | |
| Predicted MQL: | 2.670716 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.8973 | -1.90 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.529 | 4.53 | 9.06 | .00037 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.586 | .586 | 2.93 | .00015 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.1156 | -.884 | -8.84 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.51 | 5.51 | 5.51 | .00070 | .000 | 1 |
| CalStd4=5 | 5.0000 | 33.690 | 28.7 | 574. | .00024 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.91 | -2.09 | -.209 | .00639 | .000 | 1 |

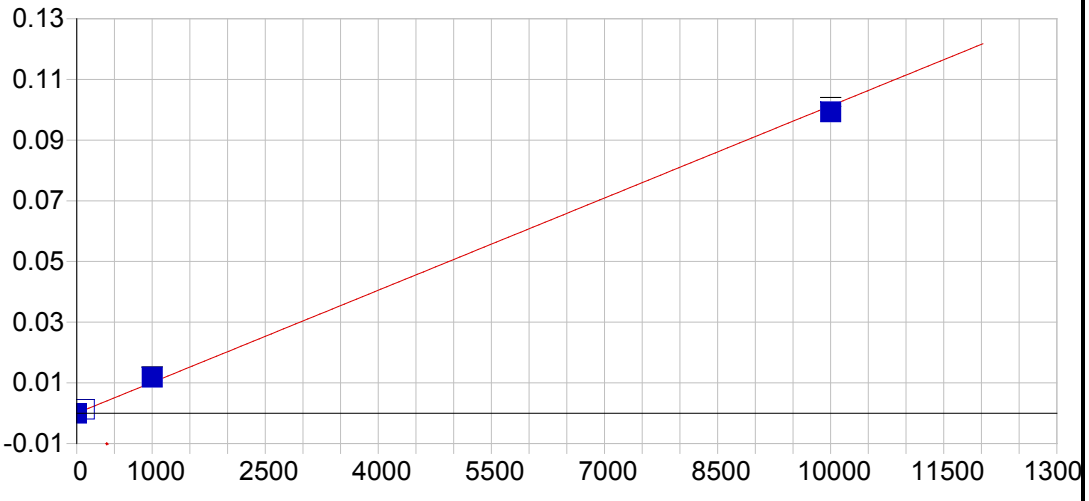



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.916548 | | |
| Predicted MQL: | 3.055158 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.3158 | -2.32 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.135 | 5.14 | 10.3 | .00030 | .000 | 1 |
| CalStd6=20 | 20.000 | 20.378 | .378 | 1.89 | .00012 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.6092 | -.391 | -3.91 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.62 | 7.62 | 7.62 | .00057 | .000 | 1 |
| CalStd4=5 | 5.0000 | 83.457 | 78.5 | 1570. | .00045 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1002.2 | 2.19 | .219 | .00520 | .000 | 1 |
| CalStd10=10 | 10000. | 8637.4 | -1360. | -13.6 | .04474 | .001 | 1 |

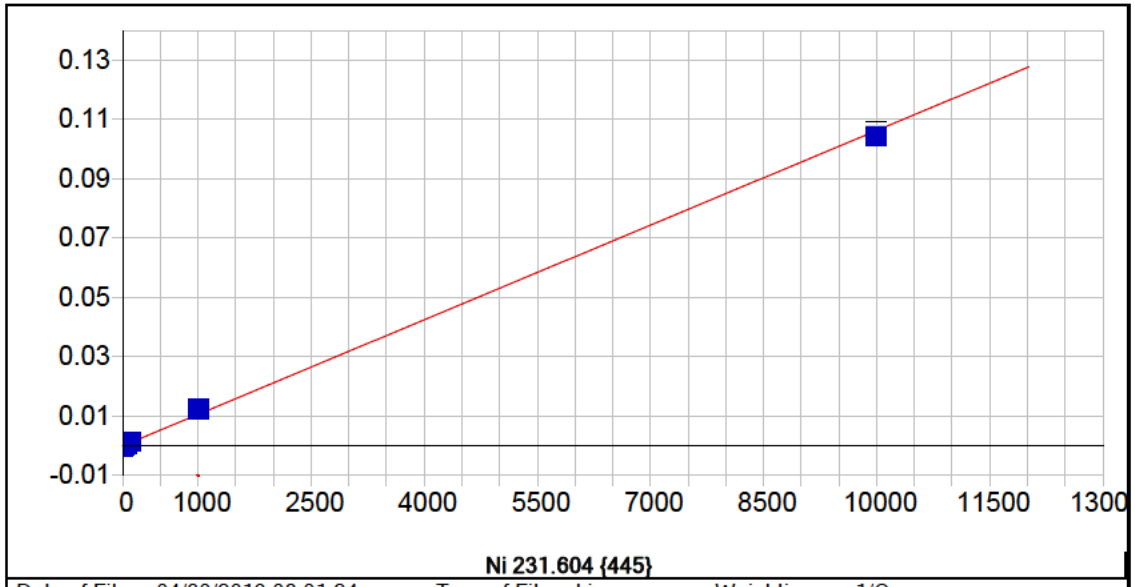



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998093 | Status: | OK. |
| Std Error of Est: | 0.000030 | | |
| Predicted MDL: | 0.768351 | | |
| Predicted MQL: | 2.561171 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04496 | -.045 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9798.5 | -202. | -2.02 | .09927 | .001 | 1 |
| CalStd8=100 | 100.00 | 129.81 | 29.8 | 29.8 | .00132 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1171.7 | 172. | 17.2 | .01187 | .000 | 1 |

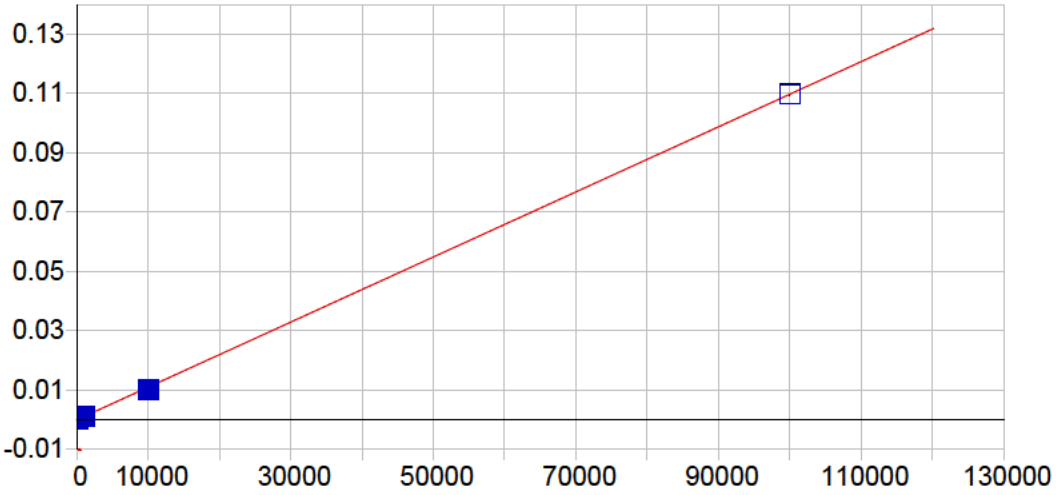



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.984592 | Status: | OK. |
| Std Error of Est: | 0.000007 | | |
| Predicted MDL: | 0.735570 | | |
| Predicted MQL: | 2.451899 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00668 | .007 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 67.596 | 17.6 | 35.2 | .00070 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.230 | 4.23 | 42.3 | .00013 | .000 | 1 |
| CalStd8=100 | 100.00 | 130.34 | 30.3 | 30.3 | .00137 | .000 | 1 |
| CalStd4=5 | 5.0000 | -33.889 | -38.9 | -778. | -.00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1173.8 | 174. | 17.4 | .01246 | .000 | 1 |
| CalStd3=1 | 1.0000 | .86059 | -.139 | -13.9 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9813.3 | -187. | -1.87 | .10451 | .002 | 1 |

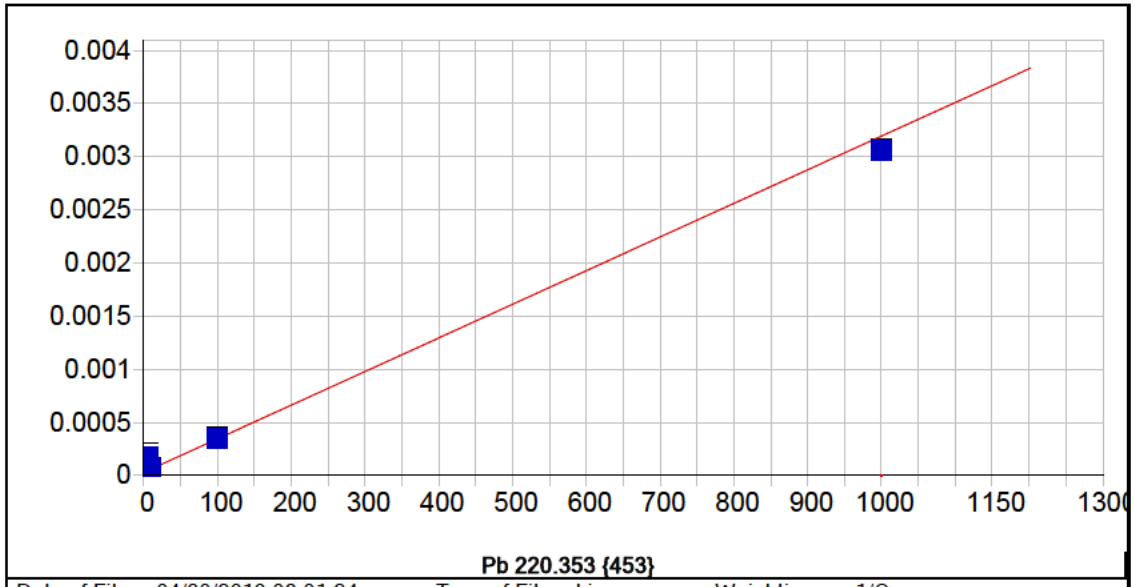



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999773 | Status: | OK. |
| Std Error of Est: | 0.000038 | | |
| Predicted MDL: | 5.620225 | | |
| Predicted MQL: | 18.734085 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15.705 | -15.7 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1080.9 | 80.9 | 8.09 | .00120 | .000 | 1 |
| CalStd10=10 | 10000. | 9090.5 | -909. | -9.09 | .00999 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.63 | 8.63 | 8.63 | .00013 | .000 | 1 |
| CalStd5=10 | 10.000 | 2.9071 | -7.09 | -70.9 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 99918. | -82.0 | -.082 | .10965 | .000 | 1 |

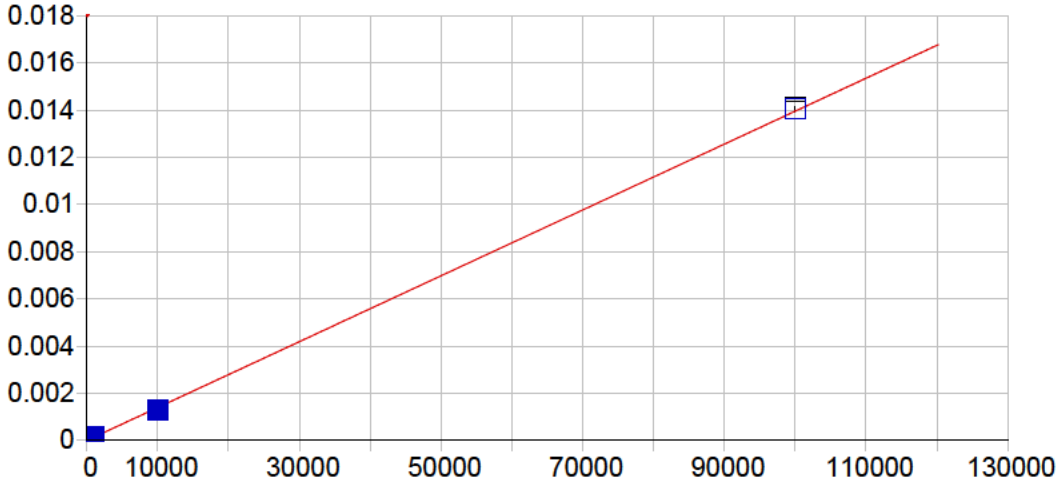



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000028 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.878400 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 2.481162 | | |
| Predicted MQL: | 8.270541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04083 | -.041 | .000 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.034 | 1.03 | 10.3 | .00006 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.10 | 2.10 | 2.10 | .00035 | .000 | 1 |
| CalStd4=5 | 5.0000 | 45.423 | 40.4 | 808. | .00017 | .000 | 1 |
| CalStd9=100 | 1000.0 | 956.47 | -43.5 | -4.35 | .00305 | .000 | 1 |

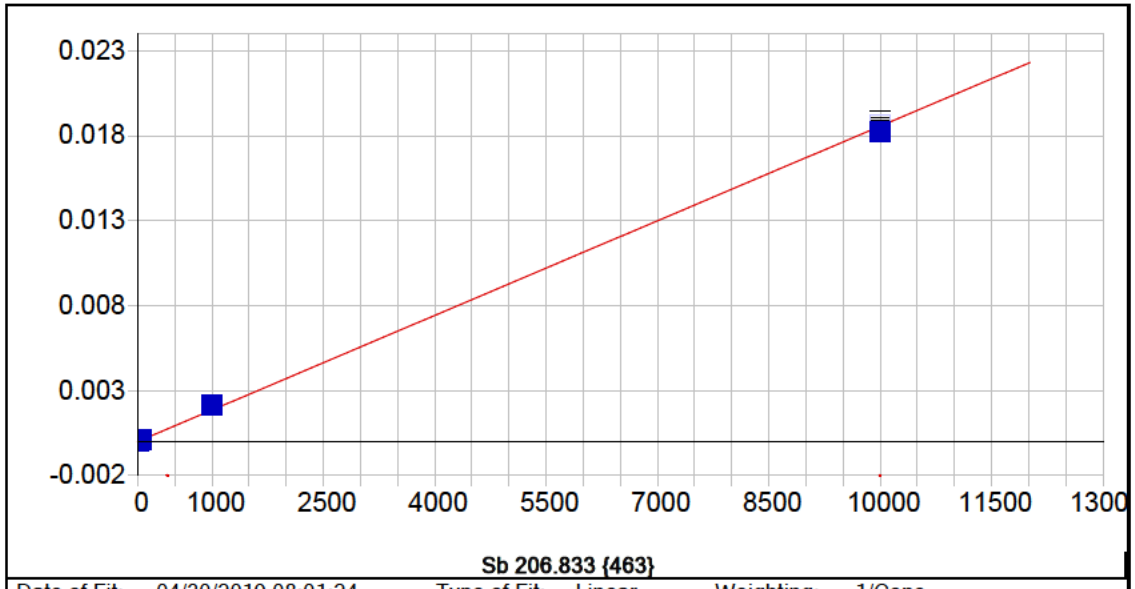



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999653 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.969384 | | |
| Predicted MQL: | 23.231279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01616 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1112.0 | 112. | 11.2 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9232.4 | -768. | -7.68 | .00129 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.00 | 12.0 | 12.0 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100640. | 644. | .644 | .01405 | .000 | 1 |

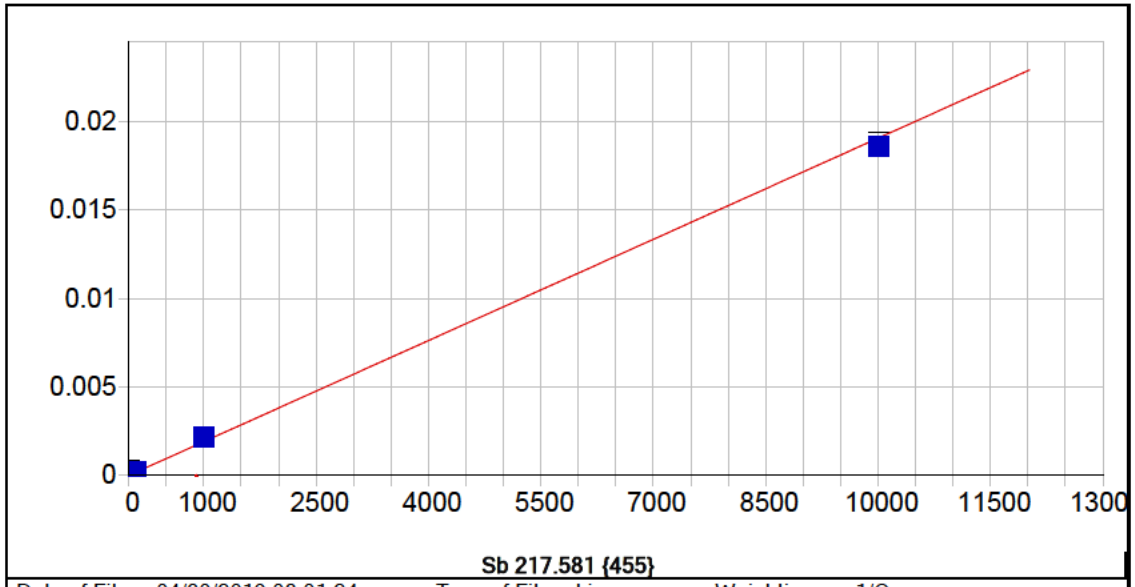



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998562 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.581313 | | |
| Predicted MQL: | 8.604377 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00953 | -.010 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1149.7 | 150. | 15.0 | .00217 | .000 | 1 |
| CalStd5=10 | 10.000 | 14.959 | 4.96 | 49.6 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 66.221 | 16.2 | 32.4 | .00012 | .000 | 1 |
| CalStd10=10 | 10000. | 9829.1 | -171. | -1.71 | .01859 | .000 | 1 |

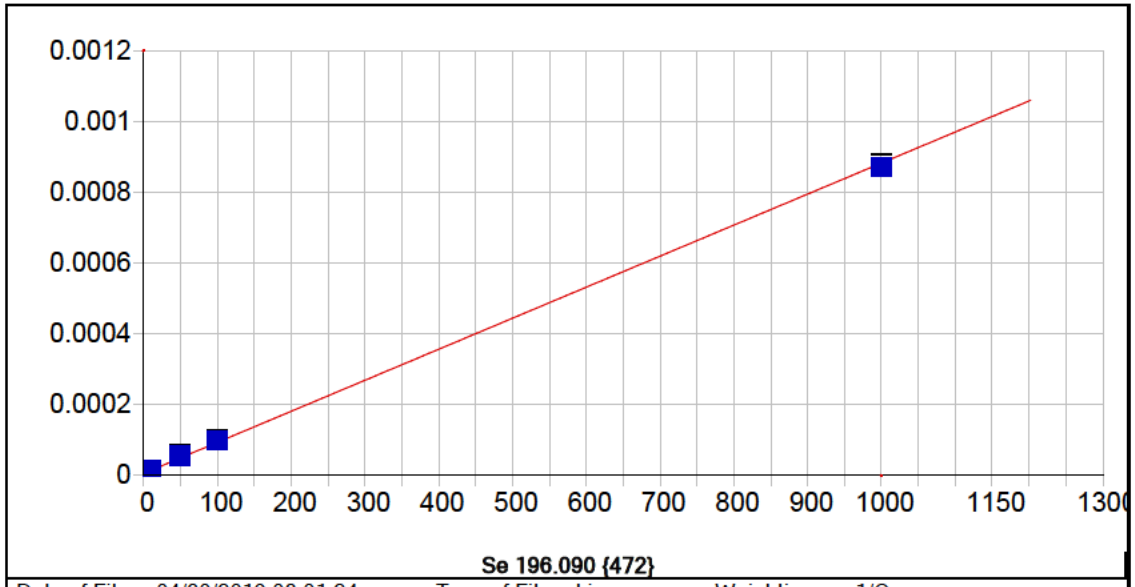



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.933696 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 2.801324 | | |
| Predicted MQL: | 9.337748 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09365 | -.094 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1135.8 | 136. | 13.6 | .00217 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.009 | 5.01 | 25.0 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.209 | 2.21 | 22.1 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 124.01 | 24.0 | 24.0 | .00024 | .000 | 1 |
| CalStd4=5 | 5.0000 | 94.543 | 89.5 | 1790. | .00019 | .000 | 1 |
| CalStd10=10 | 10000. | 9743.4 | -257. | -2.57 | .01856 | .000 | 1 |

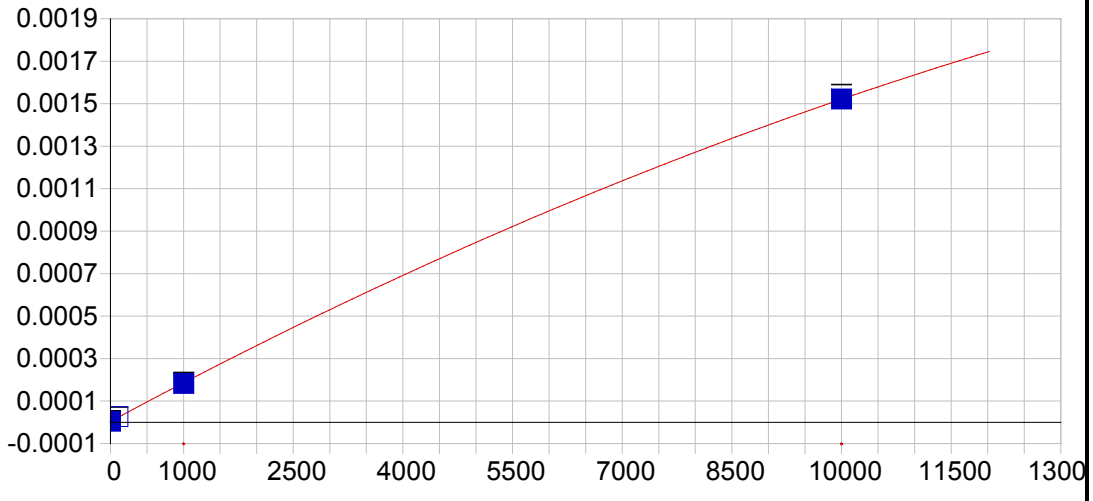



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999198 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.389697 | | |
| Predicted MQL: | 14.632322 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00167 | -.002 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 58.114 | 8.11 | 16.2 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.41 | -13.6 | -1.36 | .00087 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.5938 | -.406 | -4.06 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.88 | 5.88 | 5.88 | .00010 | .000 | 1 |

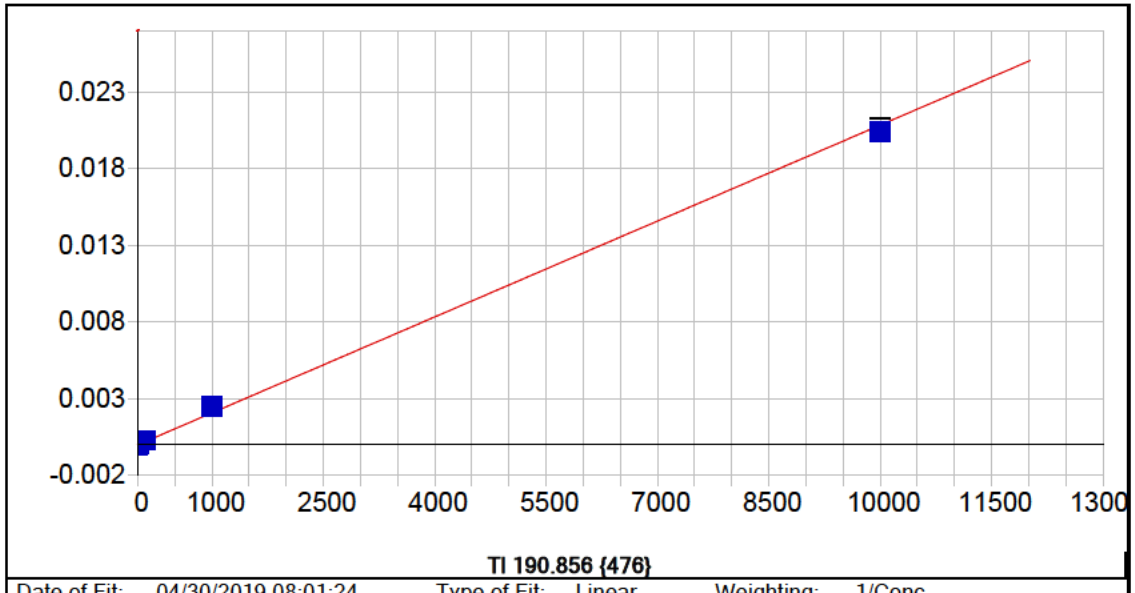



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | -0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999688 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 28.202163 | | |
| Predicted MQL: | 94.007210 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01855 | -.019 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.30 | -23.7 | -2.37 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 10003. | 3.26 | .033 | .00152 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.89 | 20.9 | 20.9 | .00003 | .000 | 1 |

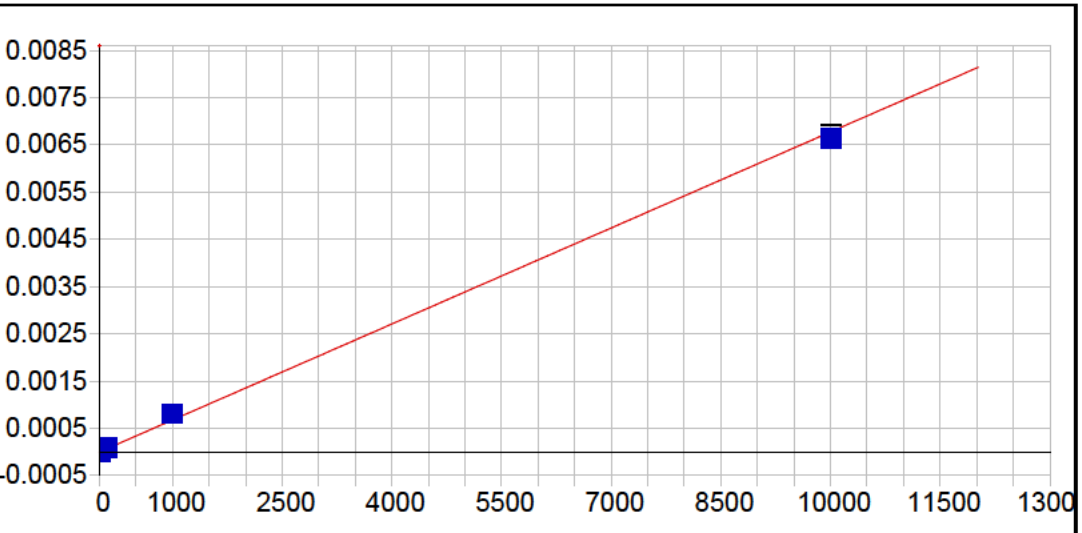



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997608 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 2.696044 | | |
| Predicted MQL: | 8.986812 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00879 | -.009 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1186.9 | 187. | 18.7 | .00248 | .000 | 1 |
| CalStd8=100 | 100.00 | 135.27 | 35.3 | 35.3 | .00028 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.620 | 3.62 | 36.2 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9774.2 | -226. | -2.26 | .02045 | .000 | 1 |

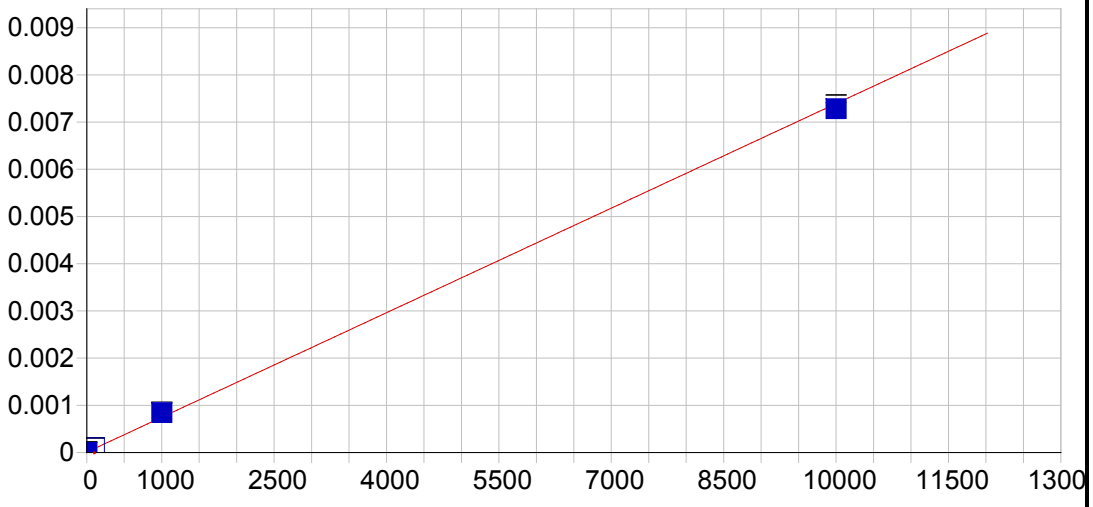



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997785 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 5.738296 | | |
| Predicted MQL: | 19.127652 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00518 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1191.3 | 191. | 19.1 | .00081 | .000 | 1 |
| CalStd8=100 | 100.00 | 128.17 | 28.2 | 28.2 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.666 | .666 | 6.66 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9779.8 | -220. | -2.20 | .00663 | .000 | 1 |

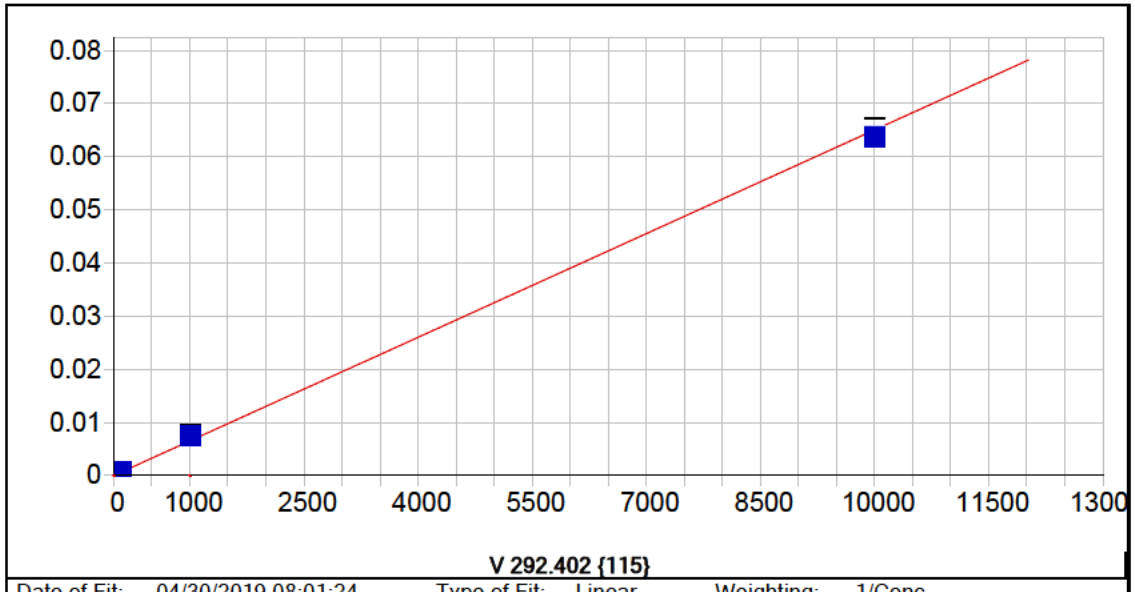



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998924 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 8.162286 | | |
| Predicted MQL: | 27.207619 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03327 | -.033 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1129.9 | 130. | 13.0 | .00084 | .000 | 1 |
| CalStd10=10 | 10000. | 9848.3 | -152. | -1.52 | .00728 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.80 | 21.8 | 21.8 | .00010 | .000 | 1 |

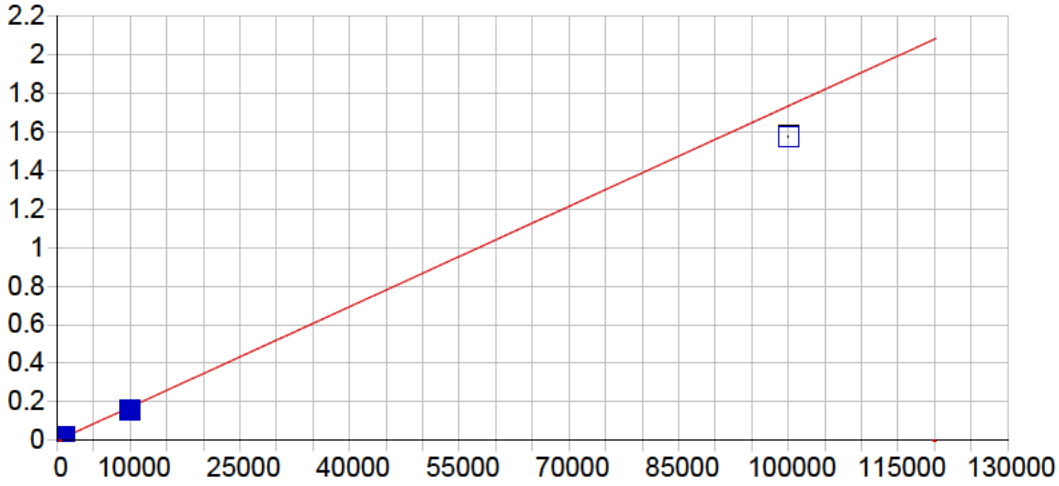



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998319 | Status: | OK. |
| Std Error of Est: | 0.000005 | | |
| Predicted MDL: | 0.630081 | | |
| Predicted MQL: | 2.100271 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01257 | -.013 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 62.800 | 12.8 | 25.6 | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1150.5 | 150. | 15.0 | .00749 | .000 | 1 |
| CalStd6=20 | 20.000 | 25.252 | 5.25 | 26.3 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.751 | 3.75 | 37.5 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.26 | 23.3 | 23.3 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9805.2 | -195. | -1.95 | .06401 | .002 | 1 |

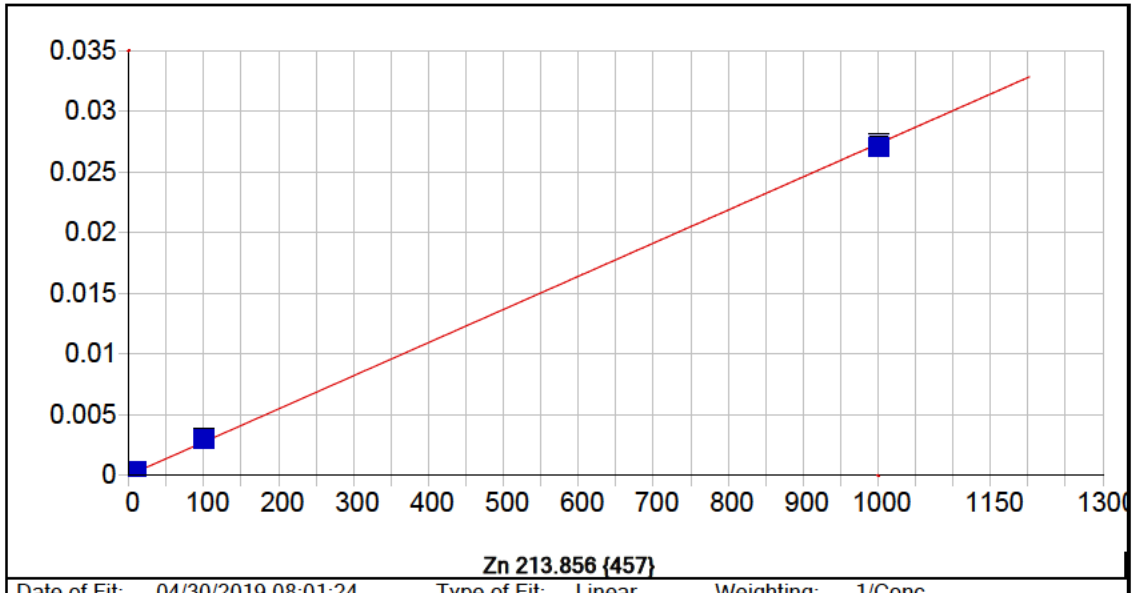



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000061 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996075 | Status: | OK. |
| Std Error of Est: | 0.000214 | | |
| Predicted MDL: | 0.372954 | | |
| Predicted MQL: | 1.243179 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9095.3 | -905. | -9.05 | .15761 | .003 | 1 |
| Blank | .00000 | -2.7928 | -2.79 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1081.3 | 81.3 | 8.13 | .01879 | .000 | 1 |
| CalStd12=10 | 100000. | 90861. | -9140. | -9.14 | 1.5740 | .004 | 1 |
| CalStd5=10 | 10.000 | 10.445 | .445 | 4.45 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 119.52 | 19.5 | 19.5 | .00213 | .000 | 1 |

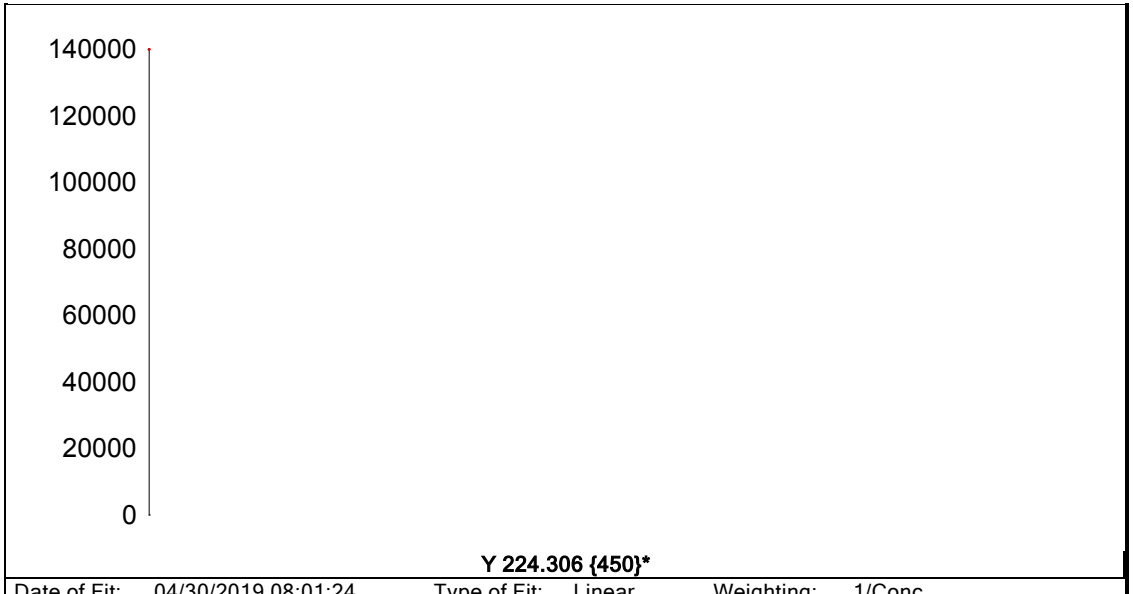



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

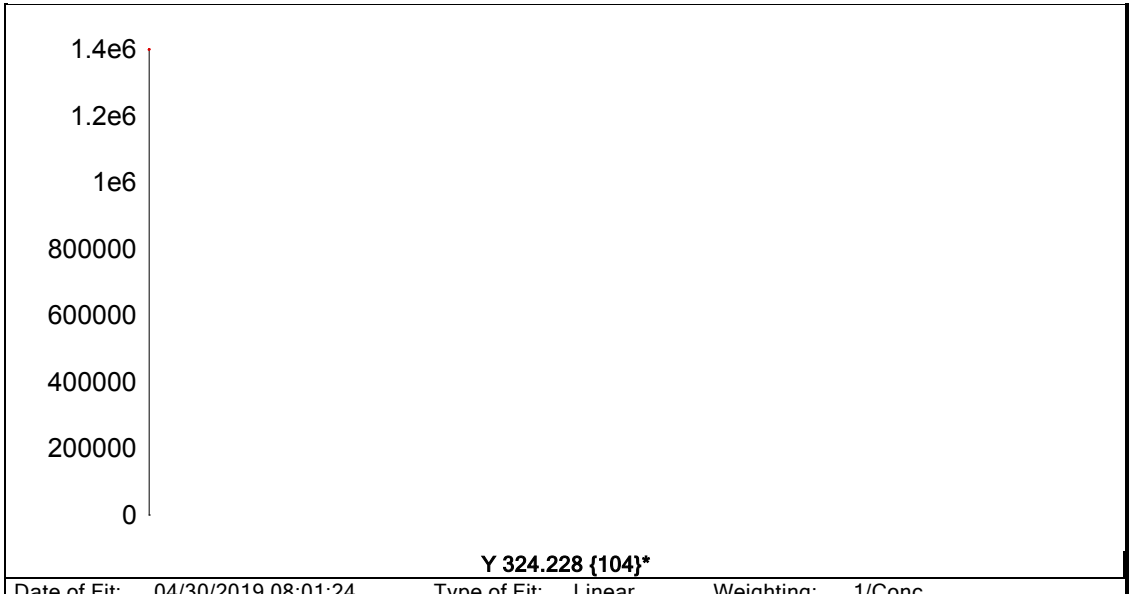
| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000030 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999485 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.208095 | | |
| Predicted MQL: | 0.693650 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00259 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.74 | -10.3 | -1.03 | .02724 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.852 | 1.85 | 18.5 | .00035 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.42 | 8.42 | 8.42 | .00301 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

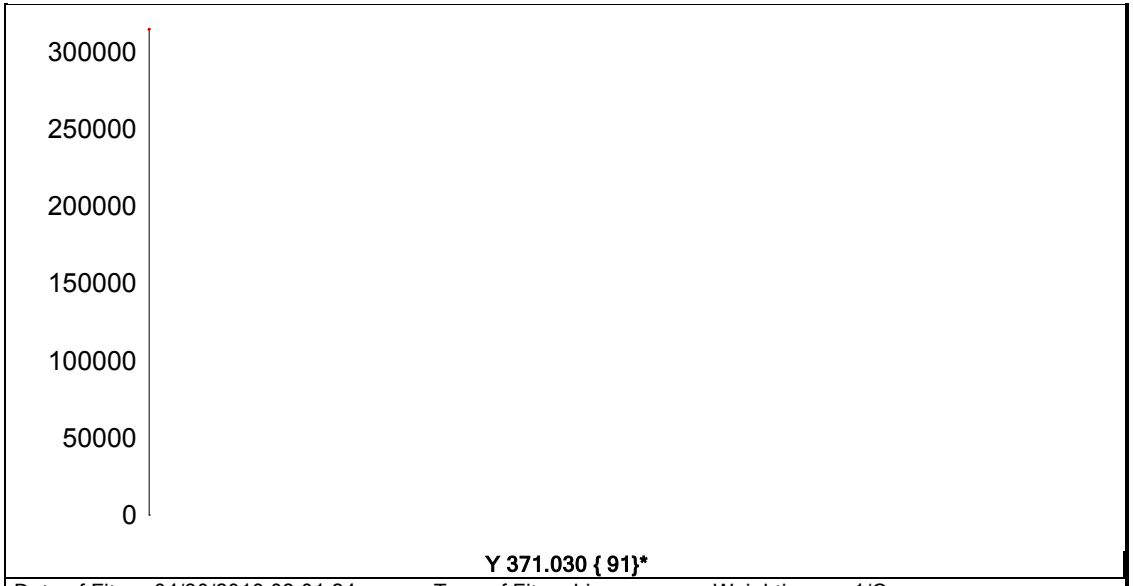
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 126700. | 632. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

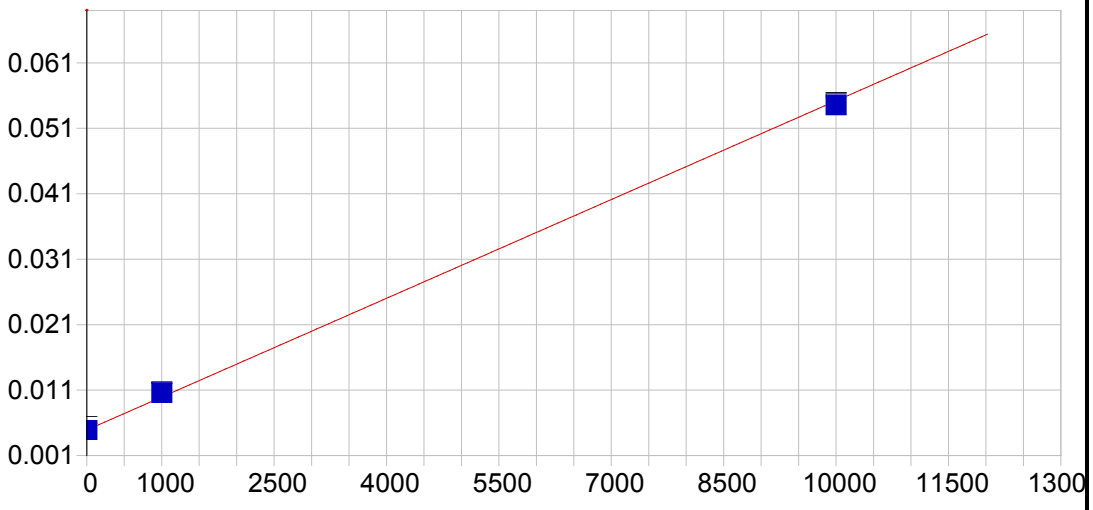
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1295600. | 3610. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 287860. | 9200. | 1 |

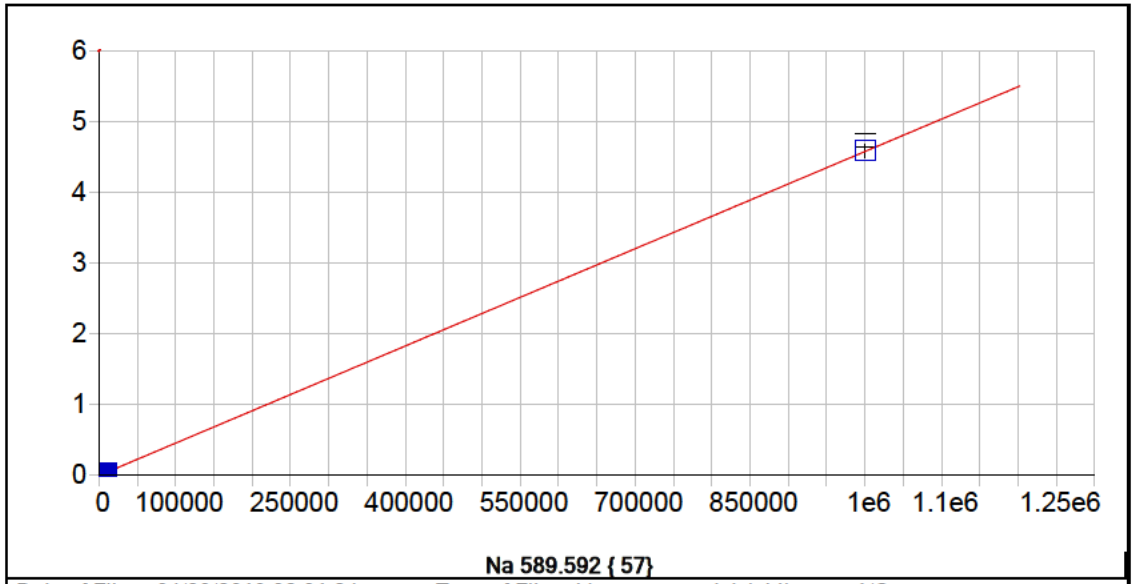



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004901 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999164 | Status: | OK. |
| Std Error of Est: | 0.000037 | | |
| Predicted MDL: | 10.509748 | | |
| Predicted MQL: | 35.032492 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.11639 | -.116 | .000 | .00490 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1129.3 | 129. | 12.9 | .01058 | .000 | 1 |
| CalStd10=10 | 10000. | 9870.7 | -129. | -1.29 | .05456 | .000 | 1 |

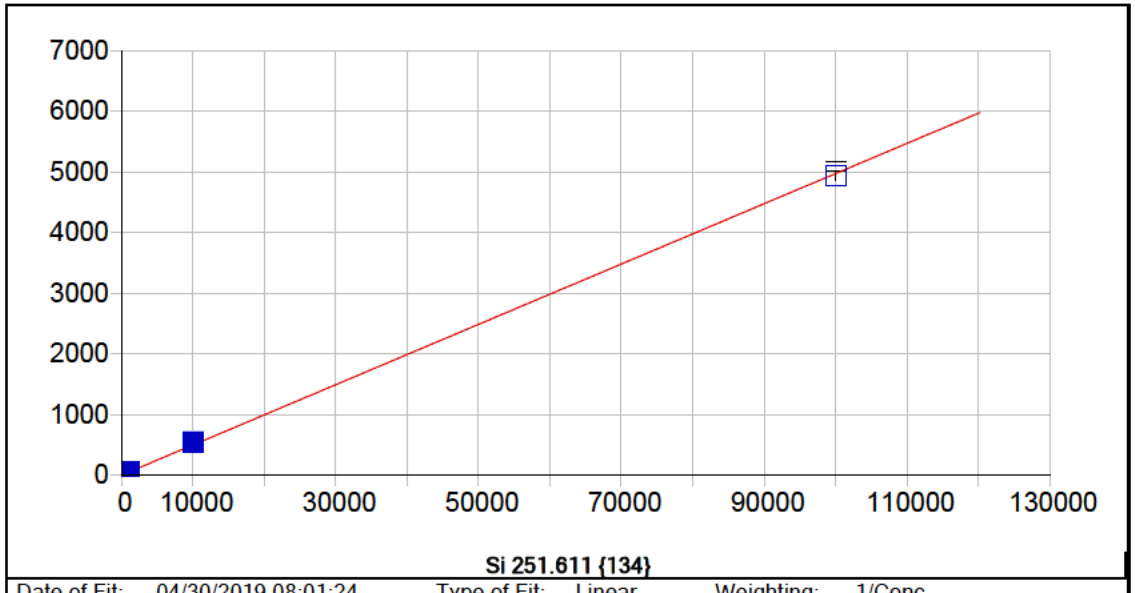



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000353 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999651 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 7.542021 | | |
| Predicted MQL: | 25.140069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .44012 | .440 | .000 | .00036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 814.88 | -185. | -18.5 | .00408 | .000 | 1 |
| CalStd10=10 | 10000. | 7422.4 | -2580. | -25.8 | .03432 | .000 | 1 |
| CalibStd15= | 1000000. | 1002800. | 2760. | .276 | 4.5893 | .089 | 1 |

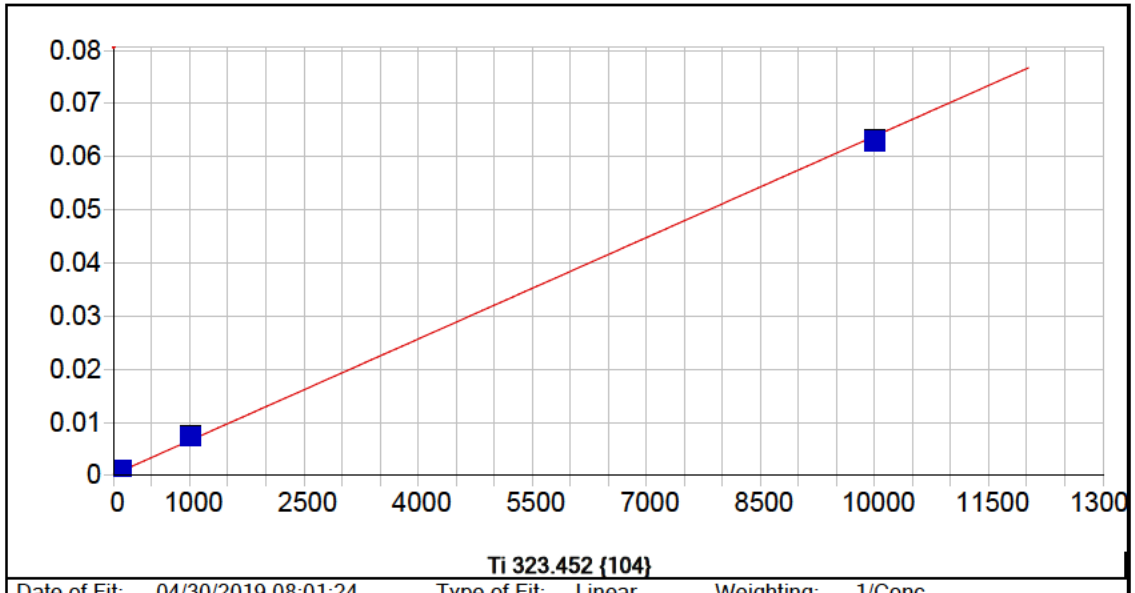



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 5.496233 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.049700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999713 | Status: | OK. |
| Std Error of Est: | 0.563773 | | |
| Predicted MDL: | 25.456914 | | |
| Predicted MQL: | 84.856379 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05943 | -.059 | .000 | 5.4933 | 3.24 | 1 |
| CalStd9=100 | 1000.0 | 991.13 | -8.87 | -.887 | 58.676 | 3.89 | 1 |
| CalStd10=10 | 10000. | 10762. | 762. | 7.62 | 565.27 | 4.29 | 1 |
| CalibStd15= | 100000. | 99209. | -791. | -.791 | 4936.2 | 82.1 | 1 |

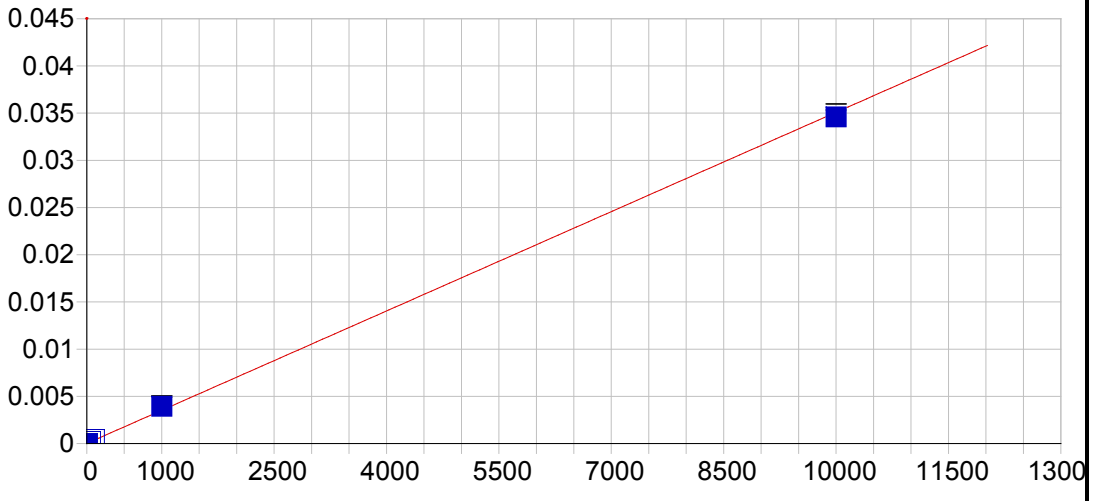



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000229 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000006 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998823 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 1.679766 | | |
| Predicted MQL: | 5.599219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00312 | -.003 | .000 | .00023 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.426 | 1.43 | 14.3 | .00030 | .000 | 1 |
| CalStd8=100 | 100.00 | 121.46 | 21.5 | 21.5 | .00100 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1118.2 | 118. | 11.8 | .00735 | .000 | 1 |
| CalStd10=10 | 10000. | 9843.9 | -156. | -1.56 | .06295 | .000 | 1 |
| CalStd7=50 | 50.000 | 65.862 | 15.9 | 31.7 | .00065 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.2356 | -.764 | -15.3 | .00026 | .000 | 1 |

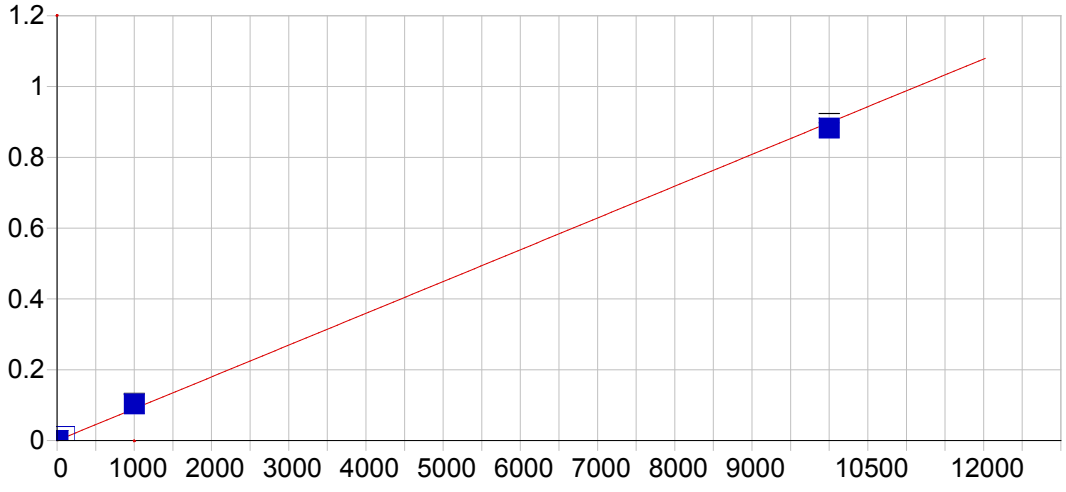



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999000 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.153927 | | |
| Predicted MQL: | 7.179758 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00023 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.431 | .431 | 4.31 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.46 | 18.5 | 18.5 | .00043 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1115.8 | 116. | 11.6 | .00393 | .000 | 1 |
| CalStd10=10 | 10000. | 9857.1 | -143. | -1.43 | .03460 | .000 | 1 |
| CalStd7=50 | 50.000 | 60.626 | 10.6 | 21.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 2.5173 | -2.48 | -49.7 | .00002 | .000 | 1 |

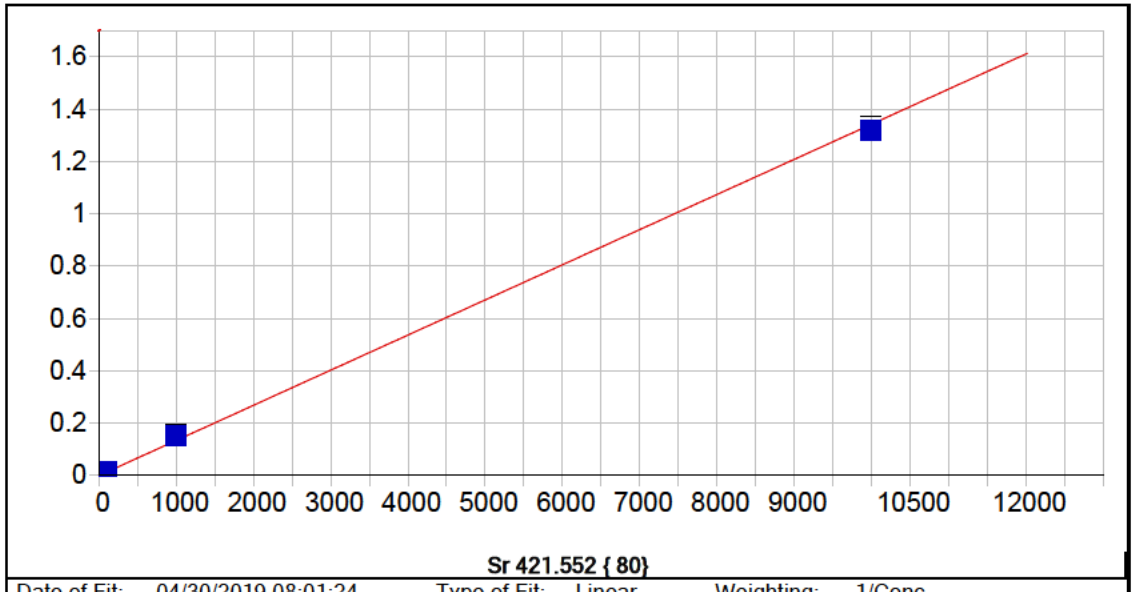



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000090 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000090 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998548 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.191487 | | |
| Predicted MQL: | 0.638289 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00094 | -.001 | .000 | .00009 | .000 | 1 |
| CalStd3=1 | 1.0000 | .96922 | -.031 | -3.08 | .00018 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.2802 | 1.28 | 25.6 | .00065 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.494 | 3.49 | 34.9 | .00130 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.84 | 23.8 | 23.8 | .01121 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1148.3 | 148. | 14.8 | .10324 | .002 | 1 |
| CalStd10=10 | 10000. | 9823.1 | -177. | -1.77 | .88250 | .013 | 1 |

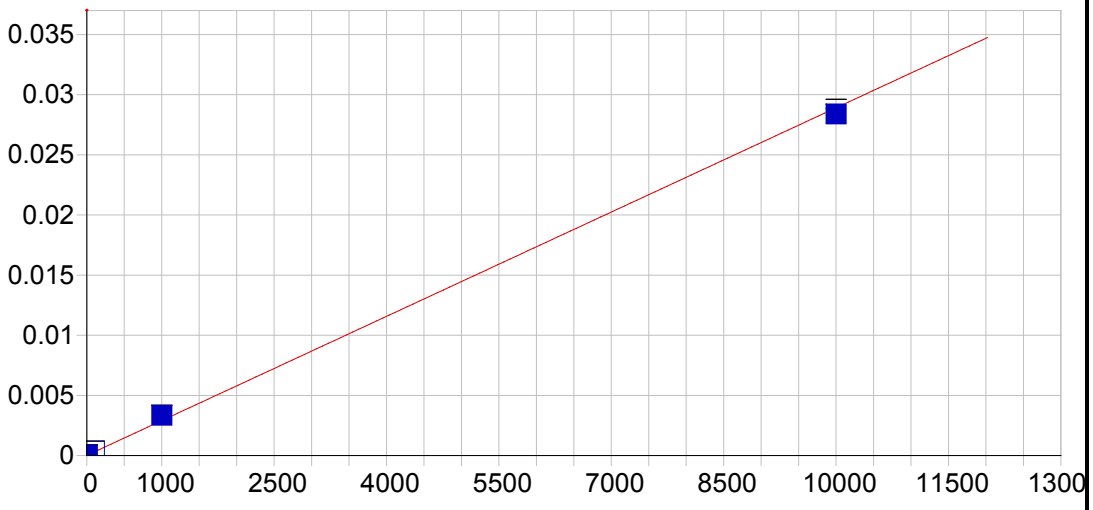



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000064 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000134 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998725 | Status: | OK. |
| Std Error of Est: | 0.000027 | | |
| Predicted MDL: | 0.129437 | | |
| Predicted MQL: | 0.431456 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.000 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | .59172 | -.408 | -40.8 | .00014 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.0861 | 1.09 | 21.7 | .00088 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.395 | 3.40 | 34.0 | .00186 | .000 | 1 |
| CalStd8=100 | 100.00 | 123.02 | 23.0 | 23.0 | .01657 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1137.3 | 137. | 13.7 | .15263 | .003 | 1 |
| CalStd10=10 | 10000. | 9835.6 | -164. | -1.64 | 1.3195 | .013 | 1 |

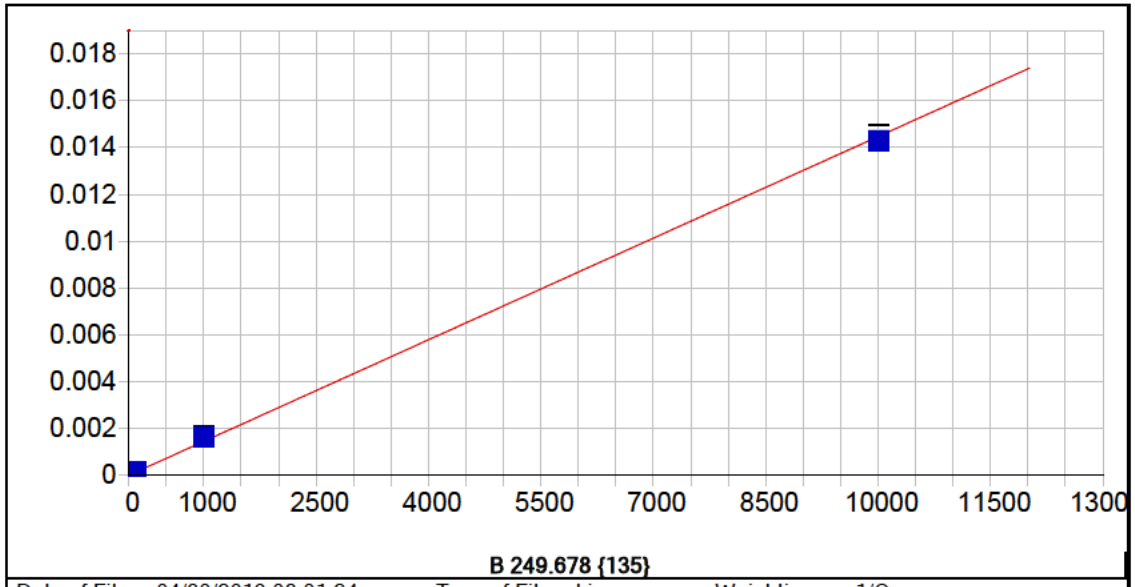



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998477 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 1.686047 | | |
| Predicted MQL: | 5.620155 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00781 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9819.9 | -180. | -1.80 | .02839 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1151.1 | 151. | 15.1 | .00334 | .000 | 1 |
| CalStd8=100 | 100.00 | 125.03 | 25.0 | 25.0 | .00037 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.973 | 3.97 | 39.7 | .00005 | .000 | 1 |

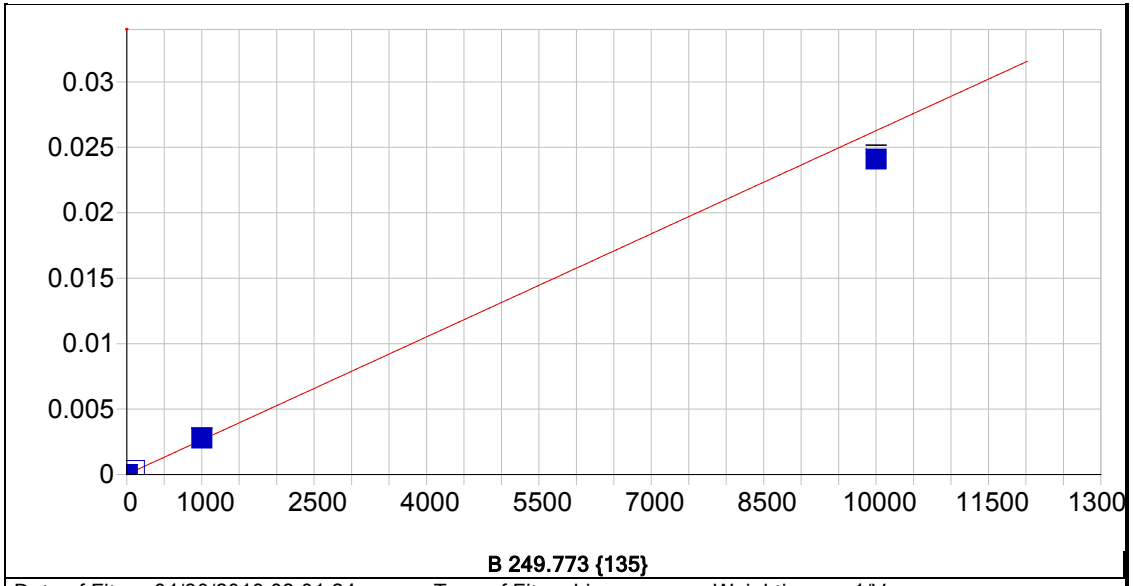



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999110 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.384749 | | |
| Predicted MQL: | 4.615829 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00023 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.83 | 15.8 | 15.8 | .00018 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1048 | -2.90 | -29.0 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1121.6 | 122. | 12.2 | .00164 | .000 | 1 |
| CalStd10=10 | 10000. | 9865.4 | -135. | -1.35 | .01433 | .000 | 1 |

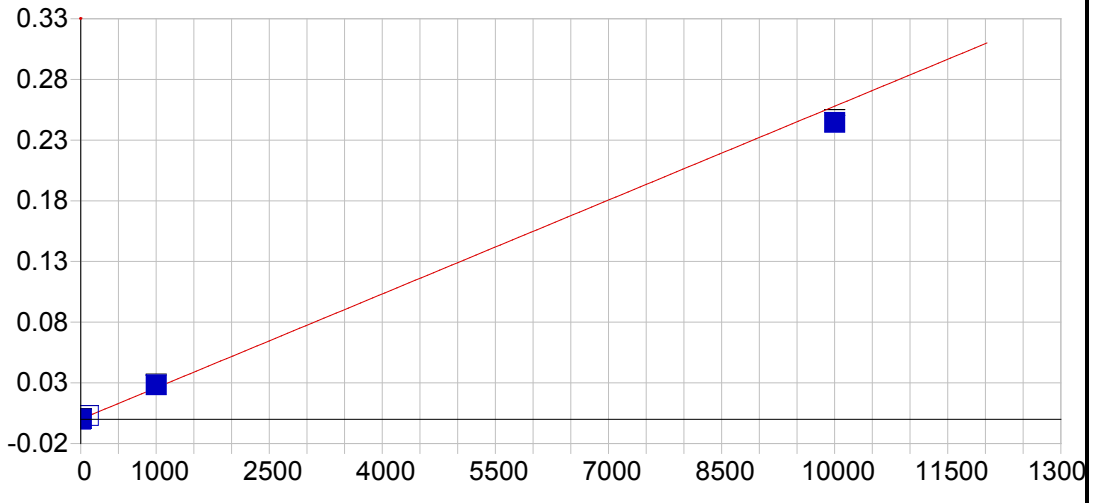



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996375 | Status: | OK. |
| Std Error of Est: | 0.000019 | | |
| Predicted MDL: | 0.746113 | | |
| Predicted MQL: | 2.487044 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .98371 | .984 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.20 | 10.2 | 10.2 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.9208 | -2.08 | -20.8 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1051.7 | 51.7 | 5.17 | .00278 | .000 | 1 |
| CalStd10=10 | 10000. | 9170.7 | -829. | -8.29 | .02410 | .000 | 1 |

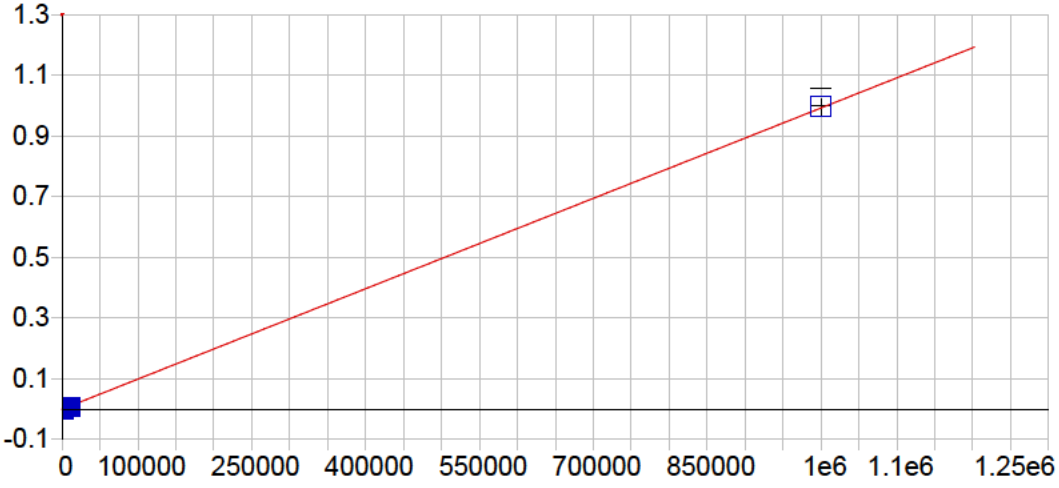



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000113 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996196 | Status: | OK. |
| Std Error of Est: | 0.000316 | | |
| Predicted MDL: | 1.644438 | | |
| Predicted MQL: | 5.481459 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -7.7449 | -7.74 | .000 | -.00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.4820 | -3.52 | -35.2 | .00028 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.33 | 12.3 | 12.3 | .00301 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1095.5 | 95.5 | 9.55 | .02836 | .001 | 1 |
| CalStd10=10 | 10000. | 9480.5 | -520. | -5.20 | .24456 | .002 | 1 |

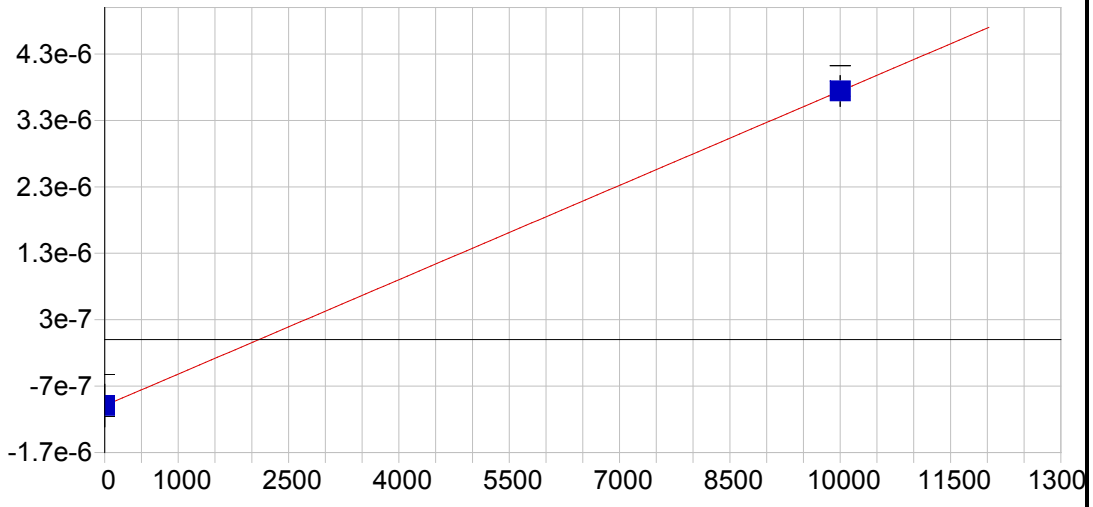



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999481 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 53.224850 | | |
| Predicted MQL: | 177.416168 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .55818 | .558 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 750.89 | -249. | -24.9 | .00072 | .000 | 1 |
| CalStd10=10 | 10000. | 6875.5 | -3120. | -31.2 | .00680 | .000 | 1 |
| CalibStd15= | 1000000. | 1003400. | 3370. | .337 | .99608 | .027 | 1 |

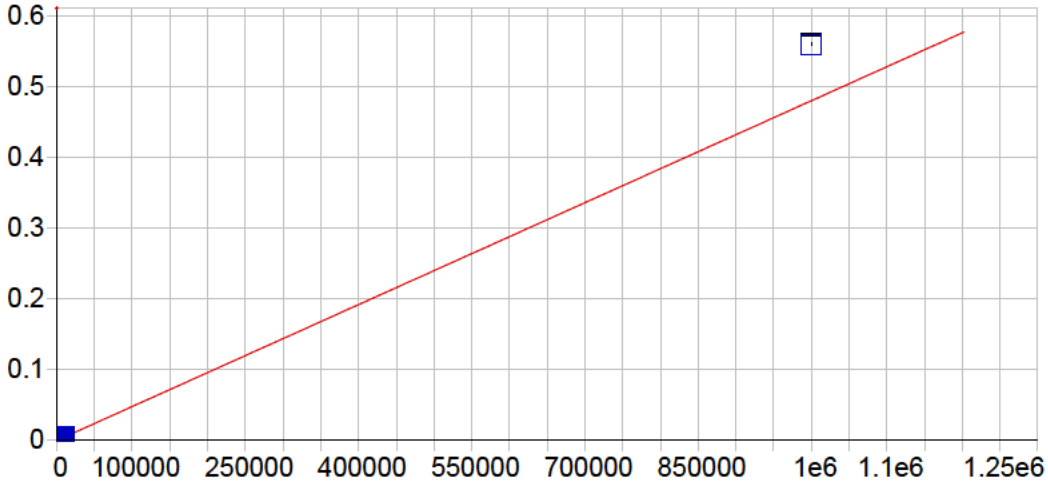



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1106.155392 | | |
| Predicted MQL: | 3687.184641 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00000 | .000 | 1 |

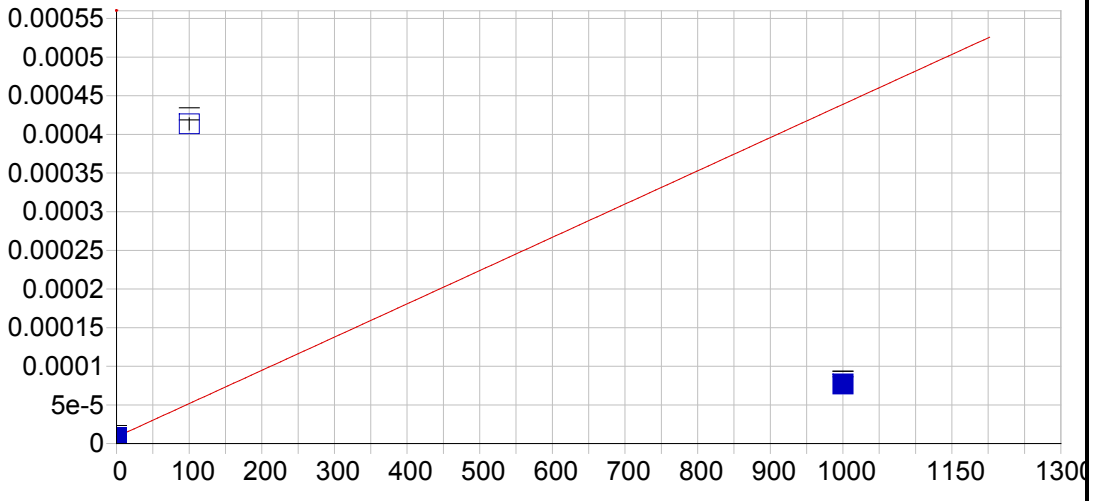



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 6.539657 | | |
| Predicted MQL: | 21.798855 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.09299 | -.093 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1103.6 | 104. | 10.4 | .00056 | .000 | 1 |
| CalStd10=10 | 10000. | 9912.2 | -87.8 | -.878 | .00479 | .000 | 1 |
| CalibStd15= | 1000000. | 1166000. | 166000. | 16.6 | .55925 | .001 | 1 |

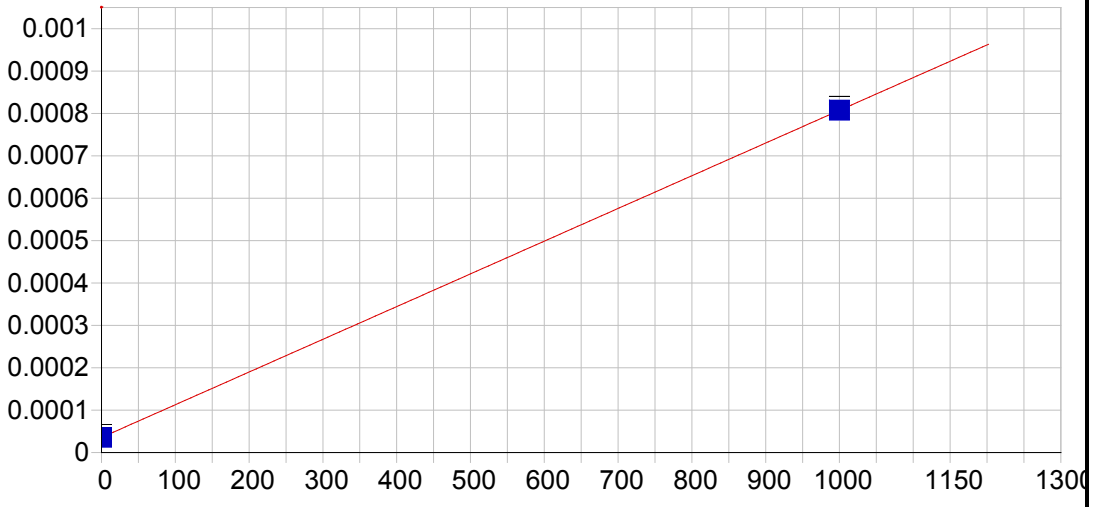



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000009 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.351706 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 8.769662 | | |
| Predicted MQL: | 29.232206 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75710 | -.757 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 941.22 | 841. | 841. | .00041 | .000 | 1 |
| CalStd9=100 | 1000.0 | 158.78 | -841. | -84.1 | .00008 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 08:01:24 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000036 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 22.280330 | | |
| Predicted MQL: | 74.267767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00081 | .000 | 1 |

Sample Name: Blank Acquired: 04/29/2019 14:05:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **-.595** | **-.000** | **.000** | **.011** | **-.000** | **.000** | **.000** | **.008** | **-.000** |
| Stddev | .000 | .000 | .000 | .623 | .000 | .000 | .000 | .000 | .000 | .000 | .007 | .000 |
| %RSD | 21.1 | 19.7 | 44.3 | 105. | 1380. | 95.5 | 2.89 | 1.22 | 136. | 31.2 | 84.8 | 17.3 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **32.9** | **7.18** | **.000** | **.000** | **.000** | **-.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 1.2 | 2.95 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 13.5 | 57.1 | 10.1 | 74.1 | 84.2 | 3.76 | 41.1 | 1.97 | 17.8 | 25.0 | 263. | 5.86 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.35 | 50.7 | 26.0 | 86.5 | 234. | 16.4 | 200. | 9.31 | 190. | 77.9 | 46.1 | 122. |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 129. | 53.8 | 28.8 | 40.4 | 12.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1295600.** | **287860.** |
| Stddev | 632. | 3609. | 9201. |
| %RSD | .49904 | .27857 | 3.1964 |

Sample Name: CalStd2=0.5 Acquired: 04/29/2019 14:11:53 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.22 | 142. | 3.55 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **126980.** | **1297900.** |
| Stddev | 274. | 2751. |
| %RSD | .21587 | .21197 |

Sample Name: CalStd3=1 Acquired: 04/29/2019 14:18:32 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 19.2 | 22.5 | 1.42 | 9.82 | 6.90 | 16.6 | 23.9 | 50.9 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126700.** | **1298300.** | **279670.** |
| Stddev | 1171. | 9813. | 1746. |
| %RSD | .92435 | .75586 | .62446 |

Sample Name: CalStd4=5 Acquired: 04/29/2019 14:24:48 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** | **.001** | **.000** | **11.2** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2.3 | .000 | .000 | .000 | .000 |
| %RSD | 101. | 10.9 | 840. | 123. | 28.5 | 37.1 | 35.4 | 20.7 | 17.1 | 35.4 | 46.7 | 45.9 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 21.1 | 52.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **117820.** | **1258200.** | **279990.** |
| Stddev | 1002. | 22700. | 4543. |
| %RSD | .85066 | 1.8042 | 1.6225 |

Sample Name: CalStd5=10 Acquired: 04/29/2019 14:38:57 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.95** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **39.7** |
| Stddev | .000 | .000 | .99 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 3.3 |
| %RSD | 3.06 | 3.33 | 50.8 | 29.0 | 2.78 | 1.22 | .861 | 1.90 | 1.46 | 1.04 | 1.45 | 8.29 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.3** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | 2.9 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 23.9 | 1.07 | 1.95 | 4.86 | 2.85 | 22.0 | 10.6 | 8.52 | 5.57 | 6.62 | 12.2 | 3.48 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 1.54 | .513 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127470.** | **1314900.** | **279840.** |
| Stddev | 543. | 5916. | 2698. |
| %RSD | .42597 | .44994 | .96416 |

Sample Name: CalStd6=20 Acquired: 04/29/2019 14:45:45 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **45.1** | **15.2** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .7 | 3.2 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.50 | 1.46 | 20.8 | 4.06 | 1.08 | 2.09 | 7.34 | 4.05 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127230.** | **1336500.** | **281290.** |
| Stddev | 281. | 43722. | 4762. |
| %RSD | .22067 | 3.2714 | 1.6930 |

Sample Name: CalStd7=50 Acquired: 04/29/2019 14:51:59 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **9.47** | **.000** | **.000** | **.001** | **.003** | **.001** | **.001** | **.000** | **60.4** | **28.6** | **.001** | **.000** |
| Stddev | .59 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .7 | 1.7 | .000 | .000 |
| %RSD | 6.20 | 13.3 | 6.05 | .715 | .561 | .416 | .571 | 4.00 | 1.12 | 5.76 | 3.81 | .557 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.92 | .610 | 2.57 | 4.98 | 4.00 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127250.** | **1316800.** | **277460.** |
| Stddev | 420. | 21696. | 1525. |
| %RSD | .32990 | 1.6476 | .54972 |

Sample Name: CalStd8=100 Acquired: 04/29/2019 14:58:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **20.4** | **.000** | **.001** | **.018** | **.006** | **.000** | **.019** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .5 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .963 | 1.50 | 2.42 | 3.40 | 1.41 | .981 | 1.80 | 2.05 | 1.32 | 1.97 | 1.86 | 1.68 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **85.4** | **46.3** | **.004** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 1.2 | 5.1 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.44 | 2.03 | 1.56 | 1.42 | 10.9 | 1.66 | 1.75 | 1.48 | 1.88 | 1.49 | 1.90 | 3.34 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.003** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 2.75 | 3.28 | 1.72 | 9.43 | 1.14 | 9.36 | 2.05 | 1.72 | 2.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127180.** | **1310400.** | **281060.** |
| Stddev | 947. | 4674. | 2562. |
| %RSD | .74427 | .35668 | .91156 |

Sample Name: CalStd9=1000 Acquired: 04/29/2019 15:04:23 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **187.** | **.001** | **.010** | **.075** | **.057** | **.002** | **.000** | **.136** | **.025** | **.048** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .001 | .000 | .000 | .002 | .000 | .000 |
| %RSD | .200 | 3.18 | .600 | .448 | .355 | 1.58 | 2.26 | 1.21 | 2.00 | 1.68 | .171 | .112 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.021** | **.002** | **.015** | **.003** | **501.** | **354.** | **.000** | **.000** | **.001** | **.000** | **.030** | **.010** |
| Stddev | .000 | .000 | .000 | .000 | 10. | 7. | .000 | .000 | .000 | .000 | .001 | .000 |
| %RSD | .177 | 2.19 | .085 | 2.28 | 1.98 | 1.93 | 2.35 | 1.99 | 1.63 | 7.99 | 2.19 | 2.33 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.012** | **.012** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.08 | .308 | .184 | .205 | .238 | .841 | .510 | .345 | .214 | .911 | 3.43 | .458 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.019** | **.027** |
| Stddev | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | 2.36 | .194 | .212 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127570.** | **1307300.** | **280800.** |
| Stddev | 349. | 1896. | 1299. |
| %RSD | .27346 | .14504 | .46270 |

Sample Name: CalStd10=10000 Acquired: 04/29/2019 15:10:04 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.006** | **.561** | **.003** | **1.10** | **.180** | **.019** | **.129** | **.023** | **4030.** | **2930.** | **.004** |
| Stddev | .000 | .000 | .003 | .000 | .01 | .003 | .000 | .002 | .001 | 18. | 26. | .000 |
| %RSD | 1.36 | 1.33 | .608 | .509 | 1.17 | 1.45 | 2.27 | 1.41 | 2.34 | .443 | .897 | 2.36 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.009** | **.000** | **.231** | **.084** | **.029** | **.045** | **.099** | **.105** | **.010** | **.019** | **.019** |
| Stddev | .000 | .000 | .000 | .004 | .002 | .000 | .001 | .001 | .002 | .000 | .000 | .000 |
| %RSD | .808 | .895 | 1.21 | 1.72 | 1.97 | .795 | 1.32 | 1.49 | 1.45 | 1.24 | 1.27 | 1.21 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.020** | **.007** | **.064** | **.158** |
| Stddev | .000 | .000 | .000 | .002 | .003 |
| %RSD | 1.31 | 1.21 | 1.12 | 2.37 | 1.61 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **125980.** | **1287600.** | **280530.** |
| Stddev | 699. | 6558. | 1857. |
| %RSD | .55457 | .50933 | .66194 |

Sample Name: CalStd12=100K  Acquired: 04/29/2019 15:16:31  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.28** | **43500.** | **32400.** | **.308** | **.110** | **1.57** |
| Stddev | .00 | 365. | 356. | .005 | .000 | .00 |
| %RSD | .220 | .838 | 1.10 | 1.48 | .171 | .244 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126080.** | **1291400.** | **280400.** |
| Stddev | 291. | 5332. | 3029. |
| %RSD | .23081 | .41287 | 1.0804 |

Sample Name: CalStd13=100000 Acquired: 04/29/2019 15:22:50 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.137** | **.034** | **.045** | **.023** | **.108** | **.003** |
| Stddev | .001 | .001 | .000 | .000 | .001 | .000 |
| %RSD | .846 | 1.58 | .264 | 1.03 | 1.09 | 1.34 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **122870.** | **1255700.** | **276750.** |
| Stddev | 346. | 2861. | 2131. |
| %RSD | .28177 | .22782 | .77016 |

Sample Name: CalStd14=500000 Acquired: 04/29/2019 15:29:16 Type: Cal
Method: DOD Calibration Updated 060614(v3321) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.747** | **.174** | **.113** | **.523** | **.019** |
| Stddev | .053 | .010 | .007 | .032 | .001 |
| %RSD | 7.08 | 5.95 | 6.23 | 6.16 | 5.67 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **113070.** | **256400.** |
| Stddev | 158. | 15182. |
| %RSD | .13942 | 5.9212 |

Sample Name: CalibStd15=1000k  Acquired: 04/29/2019 15:35:54  Type: Cal
Method: DOD Calibration Updated 060614(v3321)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.50** | **.346** | **.215** | **.038** |
| Stddev | .04 | .013 | .007 | .001 |
| %RSD | 3.02 | 3.65 | 3.25 | 3.63 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **100510.** | **240940.** |
| Stddev | 265. | 3898. |
| %RSD | .26327 | 1.6180 |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **43.1** | **9800.** | **1980.** | **2230.** | **2200.** | **47.0** | **8230.** | **47.2** | **53.9** | **567.** | **220.** | **261.** |
| Stddev | .9 | 149. | 22. | 31. | 36. | .8 | 95. | .3 | .7 | 7. | 3. | 3. |
| %RSD | 2.04 | 1.52 | 1.13 | 1.40 | 1.65 | 1.77 | 1.15 | .728 | 1.23 | 1.26 | 1.50 | 1.18 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **266.** | **5250.** | **10400.** | **489.** | **521.** | **465.** | **487.** | **566.** | **565.** | **504.** | **454.** | **558.** |
| Stddev | 8. | 77. | 198. | 9. | 10. | 6. | 5. | 8. | 8. | 13. | 11. | 7. |
| %RSD | 3.18 | 1.46 | 1.90 | 1.87 | 1.91 | 1.24 | .992 | 1.46 | 1.33 | 2.48 | 2.32 | 1.32 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **553.** | **1940.** | **2280.** | **545.** | **552.** | **516.** | **463.** |
| Stddev | 7. | 36. | 21. | 7. | 11. | 8. | 8. |
| %RSD | 1.28 | 1.87 | .934 | 1.24 | 2.07 | 1.49 | 1.77 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/29/2019 15:55:27 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127840.** | **1307600.** | **282500.** |
| Stddev | 723. | 3041. | 3053. |
| %RSD | .56570 | .23256 | 1.0807 |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **29.7** | **1190.** | **1090.** | **62.9** | **29.9** | **11.9** | **1690.** | **15.5** | **15.6** | **34.8** | **35.4** | **33.5** |
| Stddev | .6 | 4. | 10. | 2.2 | .6 | .0 | 19. | .2 | .1 | .6 | .8 | 5.8 |
| %RSD | 2.07 | .337 | .895 | 3.47 | 2.00 | .210 | 1.10 | 1.29 | .722 | 1.84 | 2.40 | 17.5 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 60.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Cu3273 | Fe2343 | Mg2790 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **34.9** | **1010.** | F **2000.** | **1770.** | **31.3** | **30.8** | **36.0** | **27.9** | F **73.5** | **65.8** | **71.9** | **34.5** |
| Stddev | 9.5 | 7. | 9. | 11. | .1 | .4 | .2 | 1.2 | 3.3 | 3.7 | 1.4 | .2 |
| %RSD | 27.2 | .689 | .472 | .607 | .360 | 1.44 | .578 | 4.12 | 4.43 | 5.66 | 1.91 | .643 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 1500. | | | | | | 60.0 | | | |
| Range | | | 20.0% | | | | | | 20.0% | | | |

| Elem | Zn2138 |
|---|---|
| Avg | **30.8** |
| Stddev | .5 |
| %RSD | 1.78 |
| Check ? | Chk Pass |
| Value | |
| Range | |

Sample Name: ICVLL Acquired: 04/29/2019 16:01:43 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126440.** | **1299100.** | **281370.** |
| Stddev | 219. | 5591. | 1830. |
| %RSD | .17330 | .43034 | .65021 |

Sample Name: icb Acquired: 04/29/2019 16:14:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-1.28** | **-7.66** | **-3.49** | **-.678** | **.040** | **-65.2** | **-.007** | **-.012** | **-.389** | **-1.22** | **-4.14** | **-25.7** |
| Stddev | .34 | .15 | 1.09 | .359 | .035 | .2 | .032 | .075 | .382 | .46 | 9.91 | 1.7 |
| %RSD | 26.3 | 1.92 | 31.4 | 53.0 | 88.7 | .234 | 459. | 599. | 98.2 | 37.6 | 240. | 6.64 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-45.1** | **-2.33** | **-.779** | **-.444** | **-1.13** | **-1.37** | **-3.02** | **.005** | **-.886** | **-.475** |
| Stddev | .0 | .06 | .620 | .386 | 1.46 | 2.34 | 3.42 | 1.60 | .585 | .118 |
| %RSD | .069 | 2.49 | 79.6 | 87.1 | 129. | 171. | 113. | 35200. | 66.0 | 24.9 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127950.** | **1314600.** | **279150.** |
| Stddev | 183. | 1396. | 1497. |
| %RSD | .14280 | .10615 | .53616 |

Sample Name: MRL/LLOQ  Acquired: 04/29/2019 16:20:21  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **9.83** | **399.** | **17.3** | **9.58** | **3.95** | **517.** | **5.09** | **5.18** | **11.3** | **11.0** | F **13.3** | **7.86** |
| Stddev | 1.05 | 1. | 2.5 | .18 | .05 | 14. | .17 | .15 | .5 | .5 | 4.8 | 7.22 |
| %RSD | 10.7 | .244 | 14.5 | 1.86 | 1.29 | 2.78 | 3.44 | 2.86 | 4.58 | 4.90 | 36.2 | 91.9 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | 20.0 | | | | | | | | | | 10.0 | |
| Range | -30.0% | | | | | | | | | | 30.0% | |

| Elem | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **307.** | **557.** | **8.25** | **9.62** | **11.6** | **8.10** | **21.4** | **19.7** | **23.6** | **10.9** | **10.8** |
| Stddev | 2. | 4. | .12 | .52 | .7 | 1.19 | .9 | 3.6 | 1.2 | .6 | .2 |
| %RSD | .663 | .694 | 1.39 | 5.44 | 5.69 | 14.7 | 4.16 | 18.0 | 4.87 | 5.32 | 1.75 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127160.** | **1305200.** | **281920.** |
| Stddev | 119. | 3887. | 2379. |
| %RSD | .09325 | .29784 | .84390 |

Sample Name: ICSA Acquired: 04/29/2019 16:26:32 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.57** | **526000.** | **.004** | **.000** | **-.667** | **500000.** | **-.001** | **1.18** | **-.018** | **-1.26** | **.003** |
| Stddev | 1.50 | 23900. | 6.63 | 1.21 | .217 | 7850. | .538 | .23 | .727 | 1.07 | 6.54 |
| %RSD | 95.8 | 4.54 | 159000. | 2500000. | 32.5 | 1.57 | 58400. | 19.2 | 4030. | 84.3 | 198000. |
| Check ? | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **542000.** | **473000.** | **-5.48** | **2.51** | **-.575** | **1.54** | **-4.63** | **-11.4** | **-.063** | **13300.** | **-6.89** |
| Stddev | 8100. | 7050. | .16 | .71 | 1.79 | 2.10 | 5.91 | 8.1 | 1.69 | 228. | 1.94 |
| %RSD | 1.49 | 1.49 | 2.86 | 28.5 | 311. | 136. | 128. | 71.3 | 2680. | 1.71 | 28.2 |
| Check ? | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **112330.** | **1167300.** | **261400.** |
| Stddev | 184. | 5118. | 4079. |
| %RSD | .16359 | .43841 | 1.5603 |

Sample Name: ICSAB  Acquired: 04/29/2019 16:33:05  Type: QC
Method: DOD Calibration Updated 060614(v3321)  Mode: CONC  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **457.** | **431000.** | **536.** | **577.** | **460.** | **533.** | **447.** | **407000.** | **484.** | **514.** | **523.** |
| Stddev | 1. | 3080. | 4. | 12. | 6. | 2. | 5. | 4890. | 7. | 8. | 4. |
| %RSD | .232 | .714 | .730 | 2.06 | 1.40 | .354 | 1.09 | 1.20 | 1.47 | 1.63 | .686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2395 | Mg2025 | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **456.** | **498.** | **446000.** | **402000.** | **452.** | **521.** | **454.** | **480.** | **503.** | **504.** | F **765.** |
| Stddev | 4. | 12. | 2900. | 6120. | 2. | 7. | 7. | 8. | 8. | 7. | 23. |
| %RSD | .885 | 2.37 | .651 | 1.52 | .475 | 1.27 | 1.59 | 1.59 | 1.58 | 1.40 | 3.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | | | 500. |
| Range | | | | | | | | | | | 20.0% |

| Elem | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F **395.** | **502.** | **528.** | **444.** | **534.** | **550.** | **539.** | **482.** | **444.** |
| Stddev | 11. | 6. | 16. | 11. | 8. | 7. | 3. | 7. | 8. |
| %RSD | 2.70 | 1.22 | 3.02 | 2.45 | 1.51 | 1.28 | .483 | 1.39 | 1.80 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | | | | | | | |
| Range | -20.0% | | | | | | | | |

Sample Name: ICSAB Acquired: 04/29/2019 16:33:05 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **114940.** | **1185100.** | **265530.** |
| Stddev | 897. | 3486. | 319. |
| %RSD | .78024 | .29412 | .12000 |

Sample Name: lcss71590 Acquired: 04/29/2019 17:17:46 Type: Unk
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **87.2** | **661.** | **1770.** | **2080.** | **157.** | **190.** | **.132** | **16100.** | **-.054** | **7.18** | **1.75** | **146.** |
| Stddev | 1.1 | 4. | 9. | 10. | 1. | 1. | .039 | 297. | .083 | .08 | .15 | 2. |
| %RSD | 1.27 | .559 | .530 | .501 | .485 | .691 | 29.4 | 1.85 | 154. | 1.10 | 8.75 | 1.39 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2576 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **86.6** | **86.9** | **11000.** | **6760.** | **1830.** | **2150.** | **2.08** | **37.4** | **13.6** | **.269** | **5.94** | **2.39** |
| Stddev | 4.8 | 5.7 | 98. | 107. | 22. | 24. | .27 | .8 | .8 | 1.47 | 4.76 | 2.61 |
| %RSD | 5.58 | 6.61 | .891 | 1.58 | 1.21 | 1.09 | 13.2 | 2.09 | 5.85 | 545. | 80.0 | 109. |

| Elem | V_2924 | Zn2138 |
|---|---|---|
| Units | ug/L | ug/L |
| Avg | **.926** | **92.3** |
| Stddev | .291 | .3 |
| %RSD | 31.5 | .334 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123260.** | **1292900.** | **270160.** |
| Stddev | 509. | 9363. | 1594. |
| %RSD | .41256 | .72419 | .59014 |

Sample Name: ccv1 Acquired: 04/29/2019 17:49:42 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **460.** | F **4050.** | **5450.** | **5400.** | **459.** | F **4140.** | **485.** | **5340.** | **4640.** | **5180.** | **5240.** | **5390.** |
| Stddev | 23. | 56. | 22. | 119. | 10. | 64. | 1. | 231. | 5. | 83. | 101. | 145. |
| %RSD | 4.89 | 1.38 | .395 | 2.20 | 2.25 | 1.53 | .210 | 4.32 | .106 | 1.61 | 1.93 | 2.68 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 5000. | | | | 5000. | | | | | | |
| Range | | -10.4% | | | | -10.4% | | | | | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **5320.** | **4980.** | F **5680.** | **5170.** | **5450.** | **4810.** | F **5640.** | **5330.** | **5300.** |
| Stddev | 118. | 28. | 24. | 34. | 22. | 36. | 28. | 105. | 16. |
| %RSD | 2.22 | .563 | .413 | .664 | .403 | .738 | .505 | 1.96 | .302 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 5000. | | | | 5000. | | |
| Range | | | 10.4% | | | | 10.4% | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **123080.** | **1257500.** | **274160.** |
| Stddev | 473. | 75307. | 1908. |
| %RSD | .38434 | 5.9889 | .69588 |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.8** | **480.** | **485.** | **503.** | F **587.** | **49.4** | **50.2** | **527.** | **52.0** | **52.2** | F **591.** | F **552.** |
| Stddev | .5 | 1. | 3. | . | 2. | .6 | 1.1 | 2. | .3 | .1 | 1. | 5. |
| %RSD | 1.01 | .272 | .694 | .096 | .255 | 1.19 | 2.10 | .320 | .565 | .221 | .179 | .948 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail |
| Value | | | | | 500. | | | | | | 500. | 500. |
| Range | | | | | 10.4% | | | | | | 10.4% | 10.4% |

| Elem | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **561.** | **514.** | **510.** | **544.** | **472.** | **491.** | **514.** | F **596.** | F **592.** | **545.** | **480.** | F **565.** |
| Stddev | 4. | 12. | 5. | 7. | 5. | 1. | 1. | . | 1. | 4. | 3. | 1. |
| %RSD | .784 | 2.34 | 1.03 | 1.33 | 1.15 | .260 | .267 | .047 | .196 | .745 | .704 | .182 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Fail |
| Value | 500. | | | | | | | 500. | 500. | | | 500. |
| Range | 10.4% | | | | | | | 10.4% | 10.4% | | | 10.4% |

| Elem | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | F **558.** | **498.** | F **615.** | F **554.** | **544.** | **552.** | **455.** |
| Stddev | 3. | 5. | 4. | 11. | 5. | 2. | 1. |
| %RSD | .537 | .979 | .574 | 1.95 | .948 | .367 | .247 |
| Check ? | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | 500. | | 500. | 500. | | | |
| Range | 10.4% | | 10.4% | 10.4% | | | |

Sample Name: ccv2 Acquired: 04/29/2019 17:55:11 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 126540. | 1325700. | 275670. |
| Stddev | 143. | 8007. | 1112. |
| %RSD | .11323 | .60400 | .40336 |

Sample Name: ccb Acquired: 04/29/2019 18:00:55 Type: QC
Method: DOD Calibration Updated 060614(v3321) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

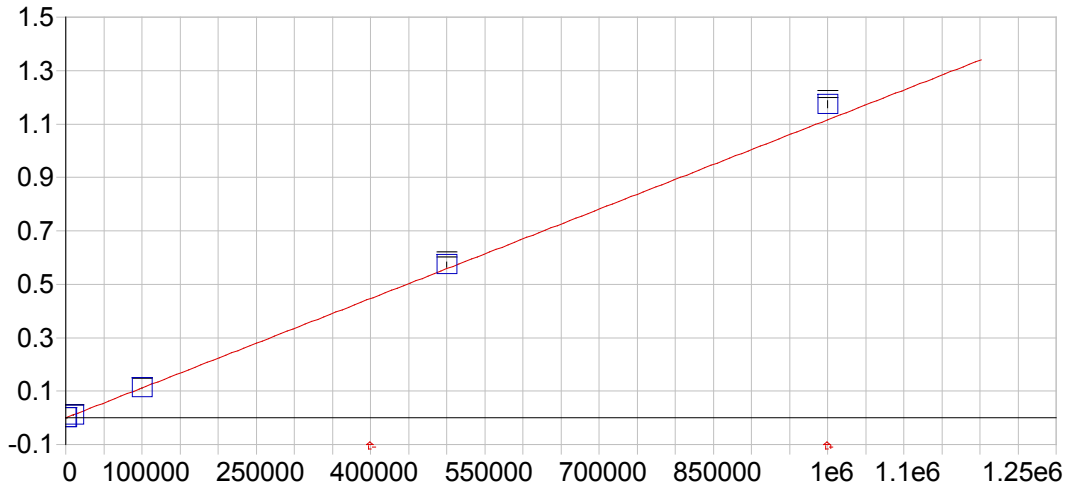
| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.615** | **-12.1** | **-4.13** | **-.238** | **.260** | **-64.5** | **.217** | **.078** | **.468** | **.061** | **-3.75** | **-28.2** |
| Stddev | .604 | .2 | 3.07 | .527 | .060 | .6 | .114 | .159 | .143 | .576 | 6.55 | 1.5 |
| %RSD | 98.2 | 1.65 | 74.3 | 221. | 23.2 | .865 | 52.5 | 205. | 30.5 | 946. | 175. | 5.41 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-47.9** | **-1.73** | **1.70** | **.564** | **-.448** | **-.133** | **-1.41** | **1.69** | **.185** | **.066** |
| Stddev | .1 | .15 | .60 | .584 | 3.79 | 2.55 | 3.40 | 2.46 | .360 | .070 |
| %RSD | .188 | 8.63 | 35.3 | 104. | 848. | 1920. | 241. | 146. | 195. | 106. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **126900.** | **1349400.** | **276260.** |
| Stddev | 436. | 24445. | 4406. |
| %RSD | .34375 | 1.8115 | 1.5949 |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Al 396.152 { 85} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999998 | 0.000004 | 9.943596 | 33.145320 |
| | As 193.759 {474} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999936 | 0.000001 | 2.923645 | 9.745483 |
| | As 197.262 {471} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999963 | 0.000000 | 21.884844 | 72.949480 |
| | Ca 315.887 {107} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | 0.000055 | 0.000001 | 0.000000 | 1.000000 | 0.999981 | 0.000006 | 6.003072 | 20.010240 |
| | Fe 234.349 {144} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | None | 0.004816 | 0.000000 | 0.000000 | 1.000000 | 0.994129 | 0.016975 | 2.351614 | 7.838712 |
| | Fe 239.562 {141} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.999829 | 0.000008 | 2.269530 | 7.565100 |
| | Mg 279.079 {121} | 04/26/2019 08:20:38 | 04/25/2019 11:46:07 | Curvili | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999983 | 0.000001 | 19.513946 | 65.046487 |
| | Pb 216.999 {455} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | -0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.999795 | 0.000000 | 6.807207 | 22.690691 |
| | Pb 220.353 {153} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Var | 0.000003 | 0.000000 | 0.000000 | 1.000000 | 0.999702 | 0.000003 | 4.483850 | 14.946168 |
| | Pb 220.353 {453} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Conc | 0.000001 | 0.000000 | 0.000000 | 1.000000 | 0.999726 | 0.000000 | 2.144750 | 7.149168 |
| | Y 324.228 {104}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 371.030 { 91}* | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Y 224.306 {451} | 04/26/2019 08:20:38 | 04/25/2019 10:51:40 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| | Mn 257.610 {131} | 04/26/2019 08:20:38 | 04/25/2019 11:23:32 | Linear | 1/Var | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999561 | 0.000006 | 0.362333 | 1.207777 |
| | Mn 259.373 {130} | 04/26/2019 08:20:38 | 04/25/2019 11:29:08 | Linear | 1/Conc | 0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999960 | 0.000003 | 0.429061 | 1.430205 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451} | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |

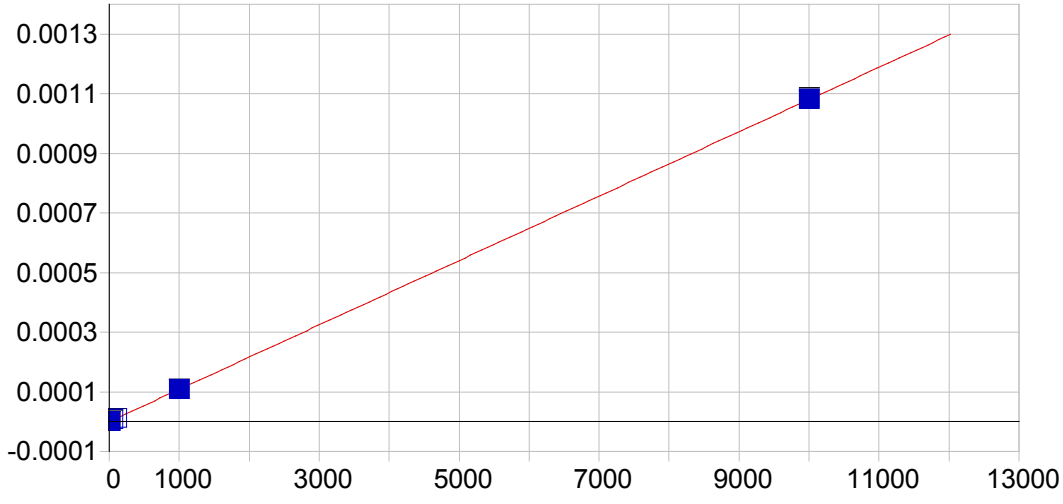



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999998 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 9.943596 | | |
| Predicted MQL: | 33.145320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02779 | -.028 | .000 | .00000 | .000 | 1 |
| CalStd14-10 | 1000000. | 1052300. | 52300. | 5.23 | 1.1740 | .013 | 1 |
| CalStd13=50 | 500000. | 513940. | 13900. | 2.79 | .57338 | .010 | 1 |
| CalStd10=10 | 10000. | 9873.1 | -127. | -1.27 | .01102 | .000 | 1 |
| CalStd12-10 | 100000. | 100190. | 193. | .193 | .11178 | .001 | 1 |
| CalStd9=100 | 1000.0 | 1043.2 | 43.2 | 4.32 | .00117 | .000 | 1 |

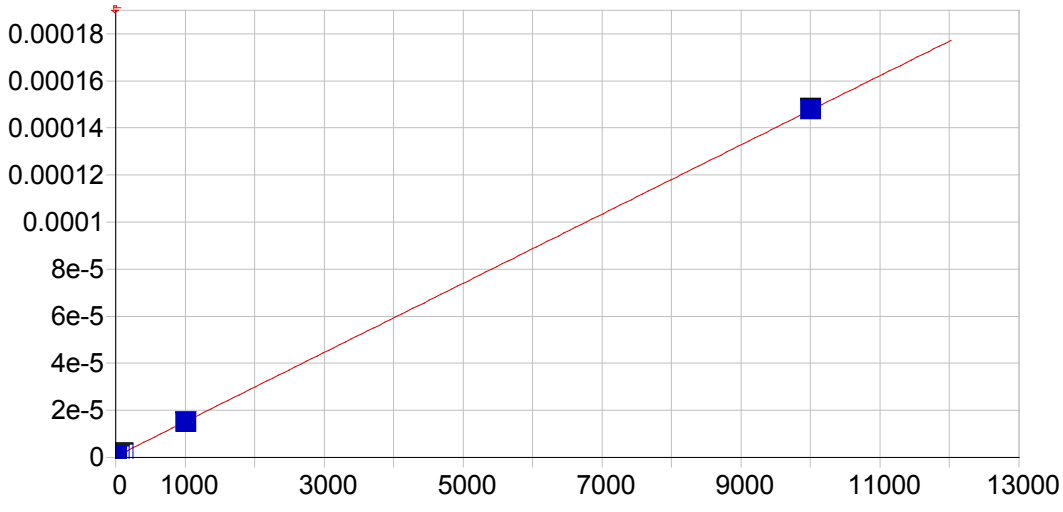



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.923645 | | |
| Predicted MQL: | 9.745483 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.7572 | -3.76 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 997.40 | -2.60 | -.260 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.984 | 2.98 | 5.97 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8190 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.82 | 6.82 | 6.82 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10005. | 5.29 | .053 | .00108 | .000 | 1 |

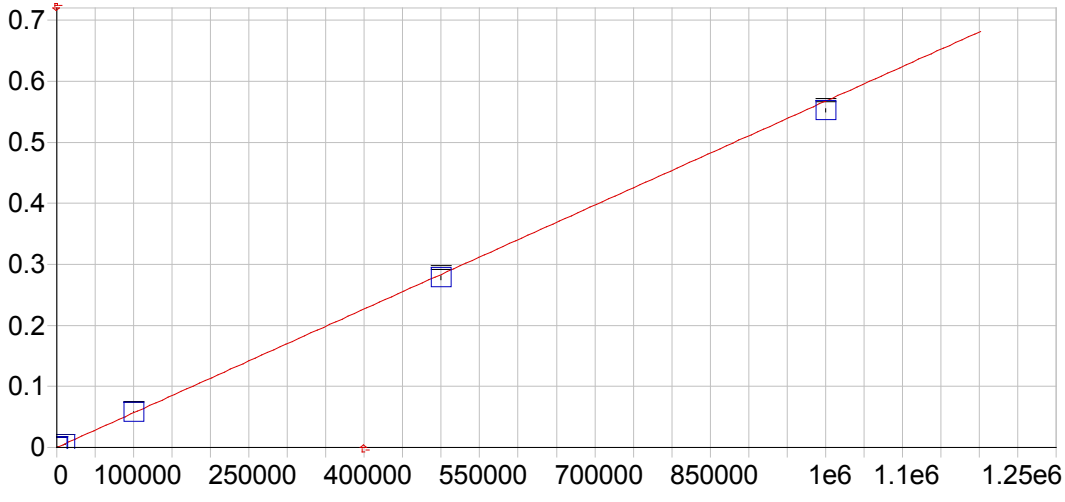



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 21.884844 | | |
| Predicted MQL: | 72.949480 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 2.3371 | 2.34 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 974.29 | -25.7 | -2.57 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 31.834 | -18.2 | -36.3 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | -4.8874 | -14.9 | -149. | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 81.761 | -18.2 | -18.2 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10006. | 5.84 | .058 | .00015 | .000 | 1 |

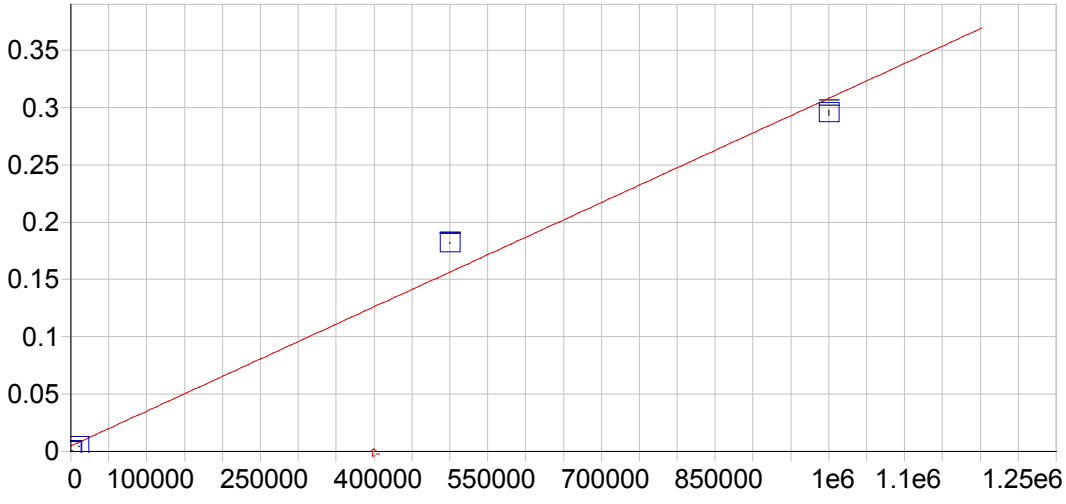



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999981 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 6.003072 | | |
| Predicted MQL: | 20.010240 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05815 | -.058 | .000 | .00005 | .000 | 1 |
| CalStd10=10 | 10000. | 9882.5 | -118. | -1.18 | .00566 | .000 | 1 |
| CalStd13=50 | 500000. | 489950. | -10100. | -2.01 | .27790 | .003 | 1 |
| CalStd14-10 | 1000000. | 973540. | -26500. | -2.65 | .55215 | .003 | 1 |
| CalStd9=100 | 1000.0 | 1056.6 | 56.6 | 5.66 | .00065 | .000 | 1 |
| CalStd12-10 | 100000. | 101510. | 1510. | 1.51 | .05762 | .001 | 1 |

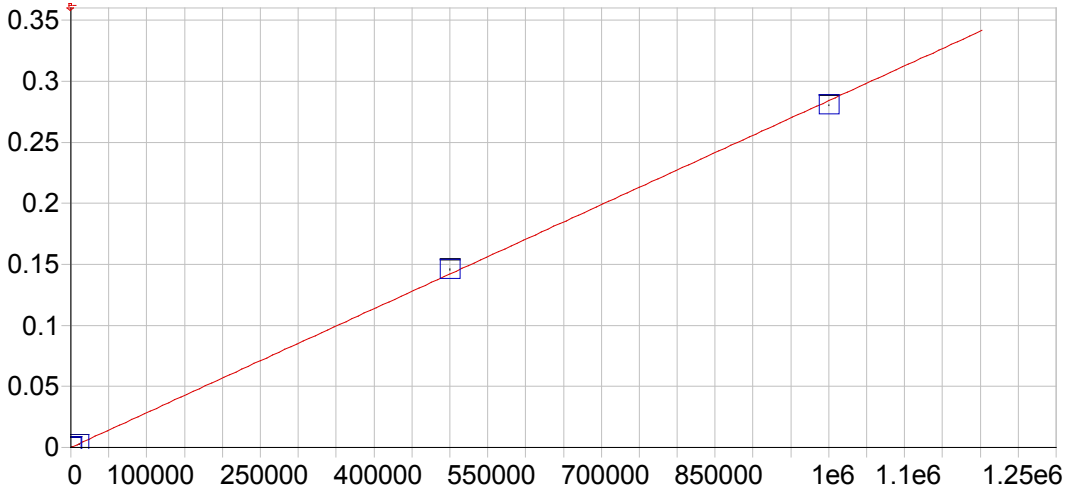



**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004816 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.994129 | Status: | OK. |
| Std Error of Est: | 0.016975 | | |
| Predicted MDL: | 2.351614 | | |
| Predicted MQL: | 7.838712 | | |

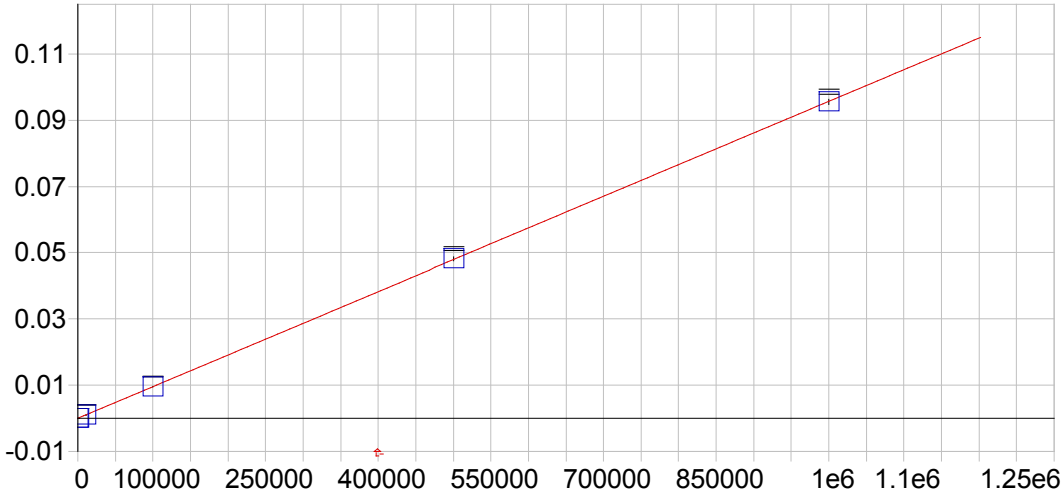
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -15823. | -15800. | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | -1005.7 | -11000. | -110. | .00451 | .000 | 1 |
| CalStd13=50 | 500000. | 583930. | 83900. | 16.8 | .18189 | .001 | 1 |
| CalStd14-10 | 1000000. | 958160. | -41800. | -4.18 | .29538 | .002 | 1 |
| CalStd9=100 | 1000.0 | -14264. | -15300. | -1530. | .00049 | .000 | 1 |




**Fe 239.562 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000006 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999829 | | Status: | OK. | |
| Std Error of Est: | 0.000008 | | | | |
| Predicted MDL: | 2.269530 | | | | |
| Predicted MQL: | 7.565100 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.03580 | -.036 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10040. | 40.0 | .400 | .00286 | .000 | 1 |
| CalStd13=50 | 500000. | 513100. | 13100. | 2.62 | .14577 | .001 | 1 |
| CalStd14-10 | 1000000. | 986850. | -13200. | -1.32 | .28036 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00029 | .000 | 1 |

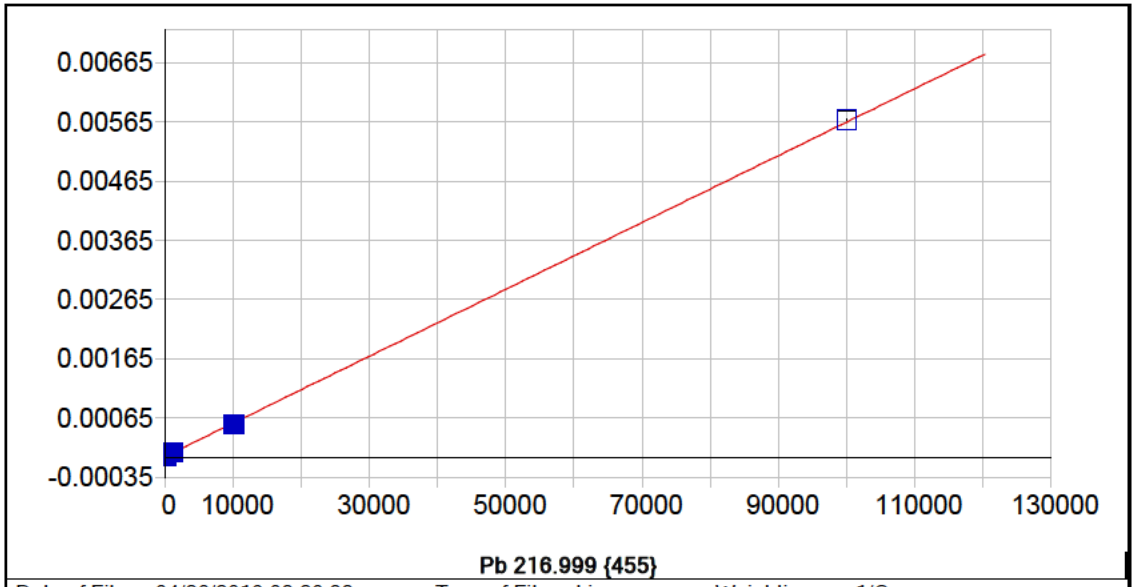



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999983 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 19.513946 | | |
| Predicted MQL: | 65.046487 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .06559 | .066 | .000 | -.00000 | .000 | 1 |
| CalStd13=50 | 500000. | 502930. | 2930. | .586 | .04815 | .001 | 1 |
| CalStd10=10 | 10000. | 9538.6 | -461. | -4.61 | .00091 | .000 | 1 |
| CalStd14-10 | 1000000. | 998520. | -1480. | -.148 | .09559 | .001 | 1 |
| CalStd12-10 | 100000. | 98875. | -1120. | -1.12 | .00946 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.23 | -12.8 | -1.28 | .00009 | .000 | 1 |

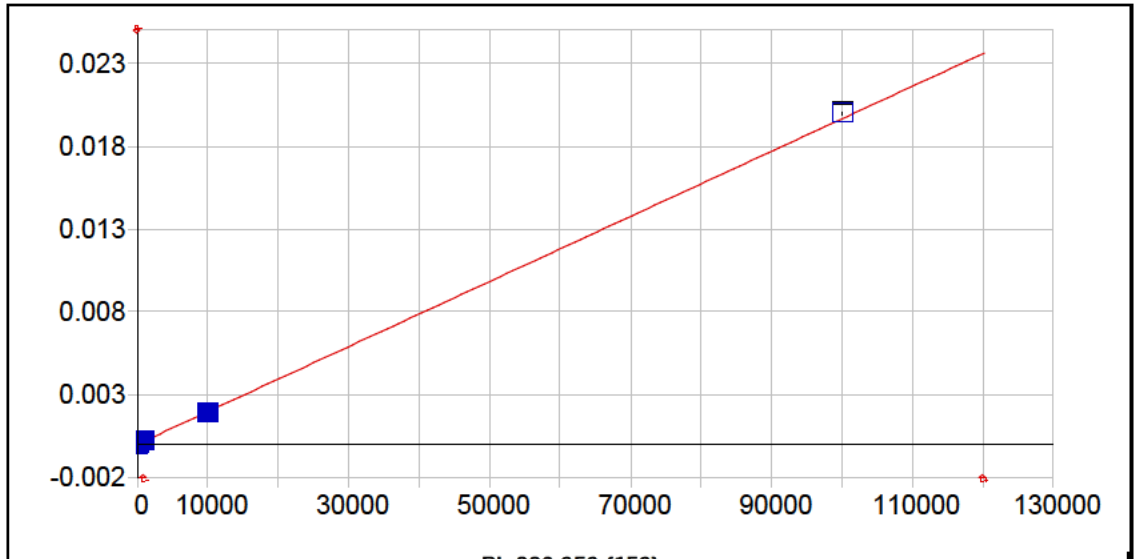



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999795 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.807207 | | |
| Predicted MQL: | 22.690691 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00716 | -.007 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 998.48 | -1.52 | -.152 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9404.6 | -595. | -5.95 | .00053 | .000 | 1 |
| CalStd11-10 | 100000. | 100570. | 574. | .574 | .00568 | .000 | 1 |
| CalStd8=100 | 100.00 | 118.54 | 18.5 | 18.5 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 15.860 | 5.86 | 58.6 | .00000 | .000 | 1 |

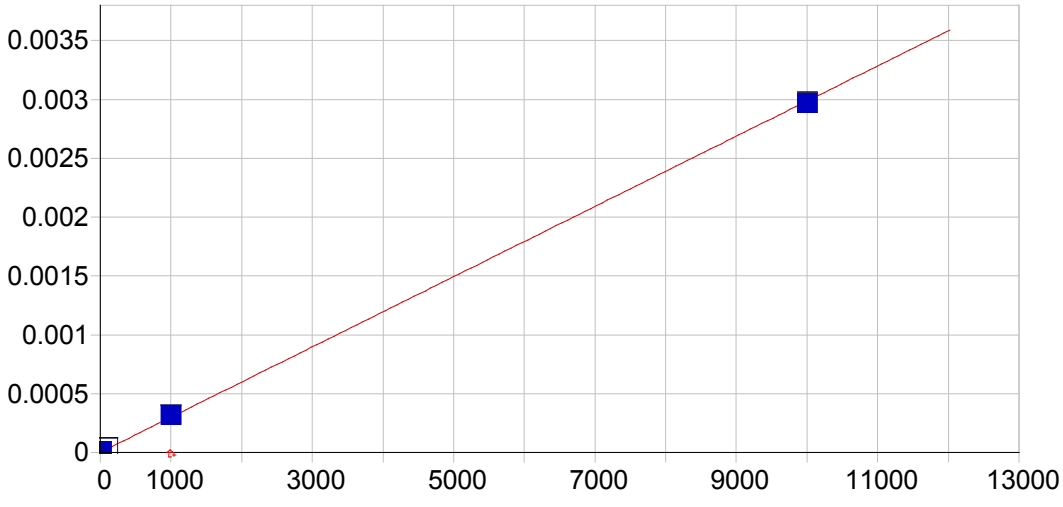



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 4.483850 | | |
| Predicted MQL: | 14.946168 | | |

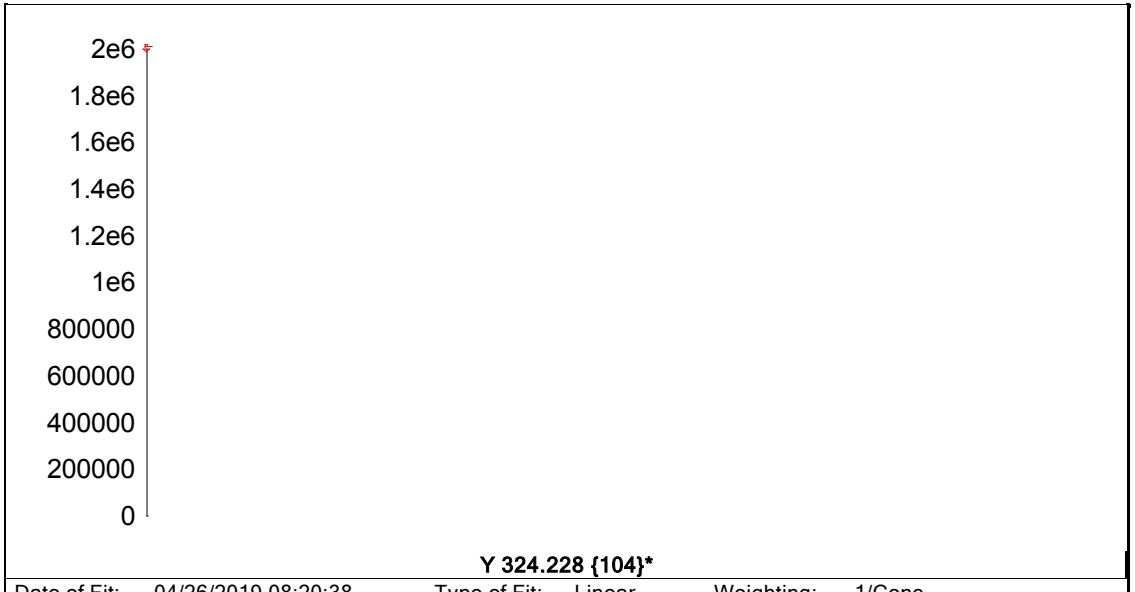
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -10.891 | -10.9 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 989.46 | -10.5 | -1.05 | .00020 | .000 | 1 |
| CalStd10=10 | 10000. | 9612.3 | -388. | -3.88 | .00189 | .000 | 1 |
| CalStd8=100 | 100.00 | 101.81 | 1.81 | 1.81 | .00002 | .000 | 1 |
| CalStd11-10 | 100000. | 101710. | 1710. | 1.71 | .01999 | .000 | 1 |




**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000001 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999726 | | Status: | OK. | |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | 2.144750 | | | | |
| Predicted MQL: | 7.149168 | | | | |

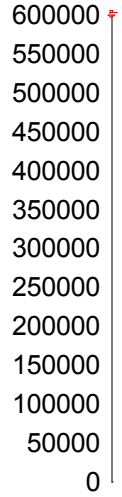
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00379 | -.004 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.444 | 2.44 | 24.4 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 116.27 | 16.3 | 16.3 | .00004 | .000 | 1 |
| CalStd4=5 | 5.0000 | 6.5643 | 1.56 | 31.3 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.0 | 44.0 | 4.40 | .00031 | .000 | 1 |
| CalStd10=10 | 10000. | 9935.7 | -64.3 | -.643 | .00297 | .000 | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

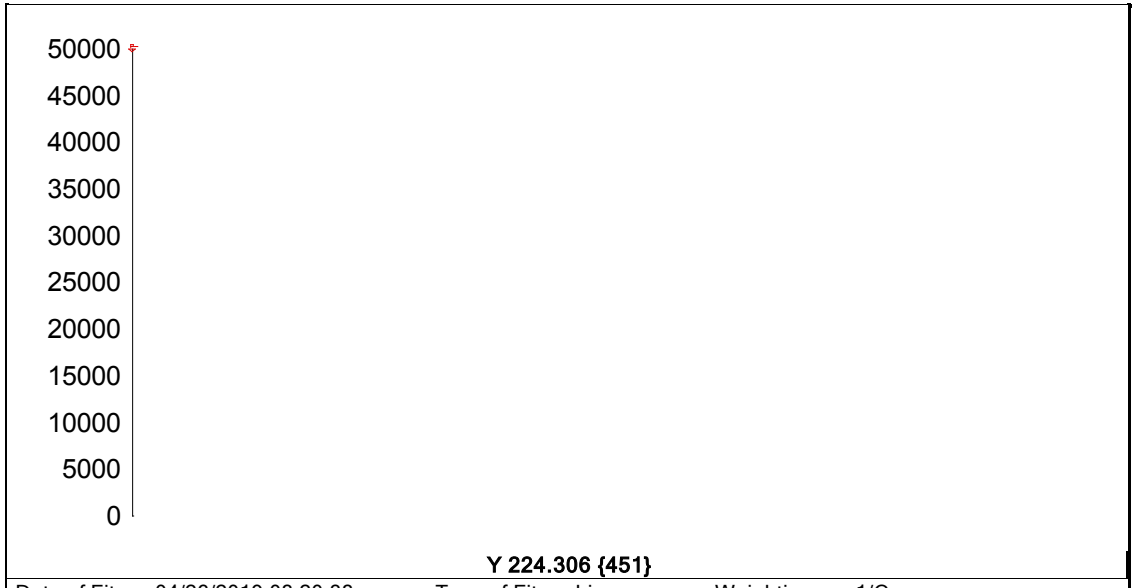
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1838300. | 3910. | 1 |




**Y 371.030 { 91}***

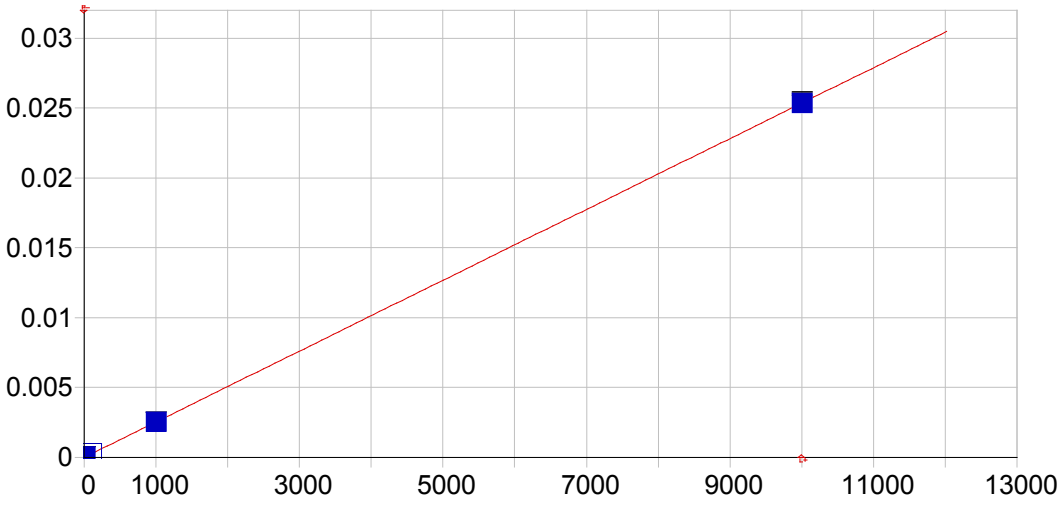
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 517290. | 3060. | 1 |




| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc | |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | | |
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 47117. | 95.3 | 1 |

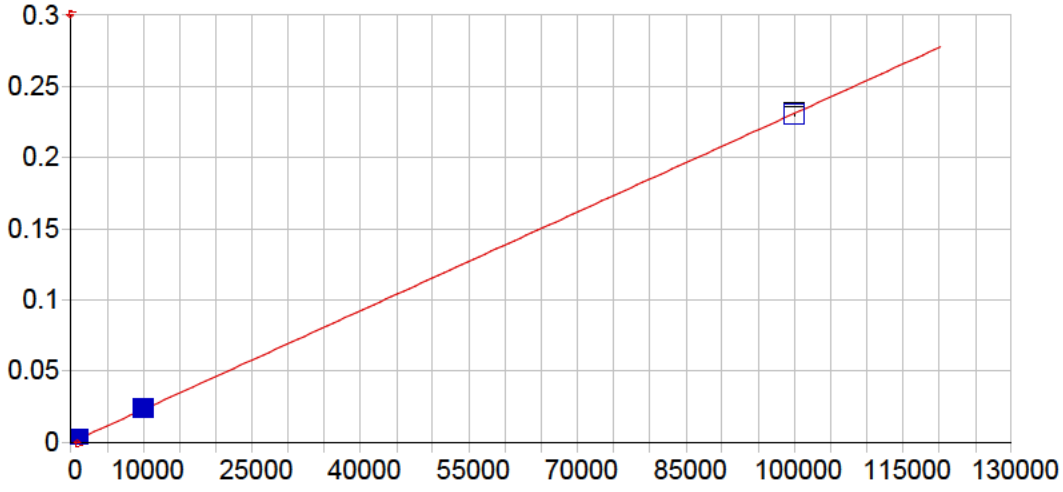



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999561 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.362333 | | |
| Predicted MQL: | 1.207777 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.82619 | -.826 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9982.9 | -17.1 | -.171 | .02532 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.63 | -12.4 | -1.24 | .00251 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.77 | 6.77 | 6.77 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.323 | .323 | 3.23 | .00003 | .000 | 1 |




**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/26/2019 08:20:38 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000003 | | |
| Predicted MDL: | 0.429061 | | |
| Predicted MQL: | 1.430205 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01566 | -.016 | .000 | .00000 | .000 | 1 |
| CalStd11-10 | 100000. | 99717. | -283. | -.283 | .23028 | .001 | 1 |
| CalStd10=10 | 10000. | 10252. | 252. | 2.52 | .02371 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.8 | 18.8 | 1.88 | .00236 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.55 | 11.5 | 11.5 | .00026 | .000 | 1 |

Sample Name: Blank Acquired: 04/25/2019 10:46:25 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 539. | 178. | 4.24 | 5.00 | 80.5 | 22.9 | 52.3 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1838300.** | **517290.** |
| Stddev | 3912. | 3064. |
| %RSD | .21280 | .59225 |

Sample Name: CalStd4=5 Acquired: 04/25/2019 10:51:43 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| | |
|---|---|
| Int. Std. | Y_3242 |
| Units | Cts/S |
| Avg | **1841800.** |
| Stddev | 7568. |
| %RSD | .41090 |

Sample Name: CalStd5=10 Acquired: 04/25/2019 10:57:05 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 18.8 | 1.51 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1848400.** |
| Stddev | 954. |
| %RSD | .05159 |

Sample Name: CalStd7=50 Acquired: 04/25/2019 11:02:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 |
|---|---|
| Units | Cts/S |
| Avg | .000 |
| Stddev | .000 |
| %RSD | 6.76 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | 1846900. |
| Stddev | 8226. |
| %RSD | .44538 |

Sample Name: CalStd8=100 Acquired: 04/25/2019 11:07:48 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | Mn2576 | Mn2593 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | .606 | .413 | .850 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1851300.** |
| Stddev | 7813. |
| %RSD | .42201 |

Sample Name: CalStd9=1000 Acquired: 04/25/2019 11:13:10 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.000** | **.001** | **.000** | **.000** | **.003** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.52 | .514 | .950 | .537 | 1.59 | .192 | .259 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1839100.** | **528940.** |
| Stddev | 3631. | 3970. |
| %RSD | .19743 | .75046 |

Sample Name: CalStd10=10000 Acquired: 04/25/2019 11:18:27 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.011** | **.001** | **.006** | **.003** | **.001** | **.025** | **.024** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.35 | .322 | 1.20 | .397 | 1.36 | .532 | .421 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1789300.** | **527900.** |
| Stddev | 6317. | 6066. |
| %RSD | .35307 | 1.1491 |

Sample Name: CalStd11-100k Acquired: 04/25/2019 11:23:35 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Mn2593 |
|---|---|
| Units | Cts/S |
| Avg | **.230** |
| Stddev | .001 |
| %RSD | .611 |

| Int. Std. | Y_3242 |
|---|---|
| Units | Cts/S |
| Avg | **1816500.** |
| Stddev | 4728. |
| %RSD | .26025 |

Sample Name: CalStd12-100000 Acquired: 04/25/2019 11:29:11 Type: Cal

Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | Ca3158 | Mg2790 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.112** | **.058** | **.009** |
| Stddev | .001 | .001 | .000 |
| %RSD | 1.17 | 1.10 | 1.01 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | **523370.** |
| Stddev | 5416. |
| %RSD | 1.0348 |

Sample Name: CalStd13=500000 Acquired: 04/25/2019 11:34:26 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.573** | **.278** | **.146** | **.048** |
| Stddev | .010 | .003 | .001 | .001 |
| %RSD | 1.66 | 1.17 | .383 | 1.34 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1640000.** | **514060.** |
| Stddev | 5264. | 6838. |
| %RSD | .32096 | 1.3302 |

Sample Name: CalStd14-1000k Acquired: 04/25/2019 11:40:14 Type: Cal
Method: As & Pb & Mn(v5) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.17** | **.552** | **.280** | **.096** |
| Stddev | .01 | .003 | .000 | .001 |
| %RSD | 1.10 | .512 | .134 | .816 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1478800.** | **472860.** |
| Stddev | 1412. | 4250. |
| %RSD | .09548 | .89880 |

Sample Name: ICV2 Acquired: 04/25/2019 11:56:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **11500.** | **2110.** | **9840.** | **5010.** | **9500.** | **511.** |
| Stddev | 248. | 18. | 202. | 21. | 218. | 4. |
| %RSD | 2.16 | .846 | 2.06 | .415 | 2.29 | .742 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1821400.** | **519330.** |
| Stddev | 8077. | 10917. |
| %RSD | .44345 | 2.1021 |

Sample Name: ICVLL Acquired: 04/25/2019 12:02:08 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1320.** | **69.5** | **1680.** | **1030.** | **1620.** | **33.7** |
| Stddev | 13. | 3.3 | 25. | 3. | 9. | .1 |
| %RSD | 1.02 | 4.79 | 1.51 | .317 | .536 | .372 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825000.** | **519800.** |
| Stddev | 7373. | 6574. |
| %RSD | .40399 | 1.2647 |

Sample Name: icb Acquired: 04/25/2019 12:07:27 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-3.37** | **-2.12** | **35.3** | **.654** | **3.46** | **-.816** |
| Stddev | 2.12 | .41 | 5.4 | 1.37 | 6.99 | .147 |
| %RSD | 63.0 | 19.4 | 15.2 | 209. | 202. | 18.0 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1842700.** | **527560.** |
| Stddev | 2154. | 3142. |
| %RSD | .11691 | .59558 |

Sample Name: MRL Acquired: 04/25/2019 12:12:50 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **412.** | **17.0** | **541.** | **336.** | **510.** | **10.5** |
| Stddev | 13. | 1.5 | 10. | 3. | 21. | .3 |
| %RSD | 3.19 | 8.55 | 1.91 | 1.02 | 4.02 | 2.85 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1823400.** | **528440.** |
| Stddev | 7276. | 7292. |
| %RSD | .39904 | 1.3799 |

Sample Name: icsa Acquired: 04/25/2019 12:18:12 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **465000.** | **.006** | **448000.** | **463000.** | **459000.** | **-3.69** |
| Stddev | 6730. | 6.40 | 3260. | 1190. | 3440. | .65 |
| %RSD | 1.45 | 107000. | .728 | .257 | .749 | 17.6 |
| Check ? | None | Chk Pass | None | None | None | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1642700.** | **513560.** |
| Stddev | 4085. | 3635. |
| %RSD | .24870 | .70770 |

Sample Name: icsab Acquired: 04/25/2019 12:23:48 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **537000.** | **577.** | **511000.** | **527000.** | **526000.** | **589.** |
| Stddev | 4350. | 11. | 2880. | 4130. | 2140. | 5. |
| %RSD | .810 | 1.94 | .563 | .784 | .406 | .838 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1623800.** | **508300.** |
| Stddev | 10217. | 1528. |
| %RSD | .62923 | .30065 |

Sample Name: ccv1 Acquired: 04/25/2019 16:51:34 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5010.** | **5090.** | **4810.** | **4930.** | **4670.** | **4870.** | **4970.** |
| Stddev | 56. | 16. | 66. | 46. | 74. | 21. | 24. |
| %RSD | 1.13 | .314 | 1.37 | .935 | 1.58 | .432 | .478 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1789200.** | **510010.** |
| Stddev | 6215. | 5469. |
| %RSD | .34736 | 1.0724 |

Sample Name: ccv2 Acquired: 04/25/2019 16:56:44 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **511.** | **505.** | **508.** | **485.** | **486.** | **480.** |
| Stddev | 9. | 3. | 11. | 4. | 11. | 2. |
| %RSD | 1.79 | .545 | 2.17 | .731 | 2.35 | .343 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1844100.** | **508160.** |
| Stddev | 3048. | 6221. |
| %RSD | .16527 | 1.2243 |

Sample Name: ccb Acquired: 04/25/2019 17:02:04 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-4.26** | **-2.73** | **-7.11** | **-2.45** | **7.40** | **-.624** |
| Stddev | 6.79 | .60 | 2.43 | 1.07 | 8.46 | .394 |
| %RSD | 159. | 22.1 | 34.2 | 43.8 | 114. | 63.1 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1854700.** | **508930.** |
| Stddev | 6758. | 2242. |
| %RSD | .36440 | .44043 |

Sample Name: lcss71588 Acquired: 04/25/2019 17:57:08 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **736.** | **2020.** | **22300.** | **10400.** | **6830.** | **2050.** | **2100.** |
| Stddev | 15. | 4. | 177. | 12. | 66. | 4. | 6. |
| %RSD | 2.05 | .175 | .792 | .117 | .970 | .196 | .272 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1786700.** | **491380.** |
| Stddev | 4028. | 5305. |
| %RSD | .22542 | 1.0797 |

Sample Name: ccv1 Acquired: 04/25/2019 18:02:23 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5090.** | **5120.** | **4890.** | **4850.** | **4770.** | **4850.** | **4940.** |
| Stddev | 45. | 25. | 53. | 20. | 40. | 15. | 20. |
| %RSD | .882 | .492 | 1.08 | .419 | .841 | .313 | .395 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1784800.** | **497350.** |
| Stddev | 5866. | 3234. |
| %RSD | .32867 | .65034 |

Sample Name: ccv2 Acquired: 04/25/2019 18:07:34 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **522.** | **506.** | **505.** | **480.** | **491.** | **482.** |
| Stddev | 13. | 3. | 9. | 6. | 11. | 4. |
| %RSD | 2.39 | .664 | 1.87 | 1.17 | 2.18 | .748 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1844200.** | **499270.** |
| Stddev | 6596. | 4533. |
| %RSD | .35768 | .90795 |

Sample Name: ccb Acquired: 04/25/2019 18:12:54 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **1.19** | **-2.13** | **-3.81** | **-1.74** | **19.3** | **-.299** |
| Stddev | 13.9 | 2.09 | 1.60 | .48 | 5.1 | .303 |
| %RSD | 1160. | 98.2 | 41.9 | 27.9 | 26.4 | 101. |
| | | | | | | |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1847500.** | **498910.** |
| Stddev | 13461. | 4780. |
| %RSD | .72861 | .95804 |

Sample Name: mbs71588 Acquired: 04/25/2019 18:18:16 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3730.** | **5.21** | **37100.** | **38800.** | **8560.** | **550.** |
| Stddev | 55. | 1.87 | 468. | 179. | 85. | 3. |
| %RSD | 1.48 | 35.9 | 1.26 | .460 | .997 | .540 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1775300.** | **495870.** |
| Stddev | 5129. | 5652. |
| %RSD | .28890 | 1.1397 |

Sample Name: 259495 Acquired: 04/25/2019 18:23:31 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **387000.** | **429.** | **245000.** | **492000.** | **80600.** | **26300.** |
| Stddev | 3730. | 7. | 2660. | 1320. | 979. | 55. |
| %RSD | .963 | 1.57 | 1.09 | .269 | 1.22 | .210 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1714300.** | **505650.** |
| Stddev | 3209. | 5913. |
| %RSD | .18720 | 1.1693 |

Sample Name: dup259495 Acquired: 04/25/2019 18:28:53 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **370000.** | **429.** | **242000.** | **494000.** | **79200.** | **26000.** |
| Stddev | 2850. | 5. | 2220. | 739. | 812. | 143. |
| %RSD | .769 | 1.18 | .918 | .150 | 1.03 | .550 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1705800.** | **511130.** |
| Stddev | 1931. | 4727. |
| %RSD | .11320 | .92490 |

Sample Name: trip259495 Acquired: 04/25/2019 18:34:17 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **357000.** | **441.** | **250000.** | **477000.** | **79900.** | **26600.** |
| Stddev | 2560. | 4. | 2300. | 1520. | 716. | 72. |
| %RSD | .718 | .947 | .920 | .319 | .896 | .272 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1712700.** | **504770.** |
| Stddev | 2456. | 4450. |
| %RSD | .14341 | .88167 |

Sample Name: 259496 Acquired: 04/25/2019 18:39:40 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **426000.** | **407.** | **273000.** | **538000.** | **92100.** | **21900.** |
| Stddev | 5000. | 5. | 2610. | 3130. | 999. | 119. |
| %RSD | 1.17 | 1.16 | .954 | .582 | 1.09 | .545 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1702800.** | **503630.** |
| Stddev | 4956. | 4973. |
| %RSD | .29103 | .98733 |

Sample Name: I259496 Acquired: 04/25/2019 18:45:10 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **93600.** | **75.7** | **62100.** | **121000.** | **20900.** | **4530.** | **4730.** |
| Stddev | 2360. | 7.0 | 1520. | 1600. | 491. | 57. | 54. |
| %RSD | 2.53 | 9.20 | 2.45 | 1.32 | 2.35 | 1.25 | 1.13 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1810900.** | **510740.** |
| Stddev | 4788. | 4990. |
| %RSD | .26437 | .97702 |

Sample Name: dup259496 Acquired: 04/25/2019 18:50:24 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **425000.** | **392.** | **272000.** | **526000.** | **91700.** | **21600.** |
| Stddev | 2140. | 10. | 777. | 399. | 393. | 50. |
| %RSD | .504 | 2.53 | .285 | .076 | .429 | .234 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1703000.** | **498680.** |
| Stddev | 4014. | 2432. |
| %RSD | .23571 | .48775 |

Sample Name: trip259496 Acquired: 04/25/2019 18:55:57 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **419000.** | **395.** | **280000.** | **524000.** | **92700.** | **22000.** |
| Stddev | 7310. | 13. | 1920. | 2100. | 582. | 89. |
| %RSD | 1.74 | 3.34 | .686 | .400 | .627 | .405 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1698100.** | **501070.** |
| Stddev | 2049. | 2381. |
| %RSD | .12068 | .47521 |

Sample Name: mss259496 Acquired: 04/25/2019 19:01:28 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **405000.** | **18900.** | **274000.** | **507000.** | **90300.** | **42000.** |
| Stddev | 4040. | 53. | 2960. | 2280. | 970. | 199. |
| %RSD | .997 | .283 | 1.08 | .451 | 1.07 | .473 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1697500.** | **505540.** |
| Stddev | 5230. | 6890. |
| %RSD | .30810 | 1.3630 |

Sample Name: msds259496 Acquired: 04/25/2019 19:06:52 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **382000.** | **18700.** | **278000.** | **493000.** | **89200.** | **41600.** |
| Stddev | 6420. | 45. | 4470. | 1520. | 1410. | 122. |
| %RSD | 1.68 | .241 | 1.61 | .307 | 1.58 | .294 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1699900.** | **503310.** |
| Stddev | 2761. | 7817. |
| %RSD | .16240 | 1.5530 |

Sample Name: ccv1 Acquired: 04/25/2019 19:12:13 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5040.** | **5120.** | **4800.** | **4870.** | **4660.** | **4790.** | **4860.** |
| Stddev | 42. | 13. | 57. | 41. | 38. | 20. | 21. |
| %RSD | .842 | .246 | 1.20 | .846 | .804 | .415 | .434 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1776900.** | **500370.** |
| Stddev | 4257. | 4389. |
| %RSD | .23960 | .87717 |

Sample Name: ccv2 Acquired: 04/25/2019 19:17:24 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **507.** | **515.** | **501.** | **490.** | **494.** | **480.** |
| Stddev | 7. | 3. | 4. | 3. | 30. | 2. |
| %RSD | 1.38 | .523 | .896 | .668 | 6.15 | .342 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1826700.** | **508910.** |
| Stddev | 4357. | 3243. |
| %RSD | .23851 | .63726 |

Sample Name: ccb Acquired: 04/25/2019 19:22:44 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-11.5** | **-3.46** | **-5.53** | **1.43** | **2.90** | **-.281** |
| Stddev | 10.6 | 2.71 | 3.64 | .72 | 14.8 | .341 |
| %RSD | 91.5 | 78.4 | 65.9 | 50.7 | 510. | 121. |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1834100.** | **505210.** |
| Stddev | 6889. | 3776. |
| %RSD | .37561 | .74742 |

Sample Name: pdss259496 Acquired: 04/25/2019 19:28:06 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **424000.** | **21300.** | **269000.** | **535000.** | **90500.** | **42900.** |
| Stddev | 3920. | 75. | 769. | 530. | 216. | 62. |
| %RSD | .924 | .350 | .286 | .099 | .239 | .145 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1696900.** | **506020.** |
| Stddev | 4594. | 2062. |
| %RSD | .27072 | .40749 |

Sample Name: 259497 Acquired: 04/25/2019 19:33:35 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **357000.** | **155.** | **98900.** | **482000.** | **43600.** | **24800.** |
| Stddev | 5470. | 8. | 1480. | 1310. | 698. | 86. |
| %RSD | 1.53 | 5.03 | 1.49 | .273 | 1.60 | .349 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1733900.** | **508640.** |
| Stddev | 5819. | 7477. |
| %RSD | .33563 | 1.4699 |

Sample Name: 259498 Acquired: 04/25/2019 19:38:57 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **391000.** | **313.** | **67600.** | **525000.** | **43200.** | **22600.** |
| Stddev | 2060. | 8. | 439. | 3220. | 306. | 117. |
| %RSD | .526 | 2.70 | .650 | .613 | .707 | .519 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1734700.** | **508510.** |
| Stddev | 4451. | 3380. |
| %RSD | .25660 | .66471 |

Sample Name: 259499 Acquired: 04/25/2019 19:44:20 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **234000.** | **1440.** | **167000.** | **294000.** | **36600.** | **350000.** |
| Stddev | 2260. | 9. | 1410. | 1840. | 300. | 3410. |
| %RSD | .964 | .595 | .840 | .627 | .821 | .975 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1717400.** | **514110.** |
| Stddev | 10276. | 3273. |
| %RSD | .59835 | .63657 |

Sample Name: 259500 Acquired: 04/25/2019 19:50:06 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **222000.** | **466.** | **151000.** | **274000.** | **31100.** | **108000.** |
| Stddev | 3700. | 3. | 2300. | 767. | 499. | 694. |
| %RSD | 1.66 | .709 | 1.52 | .280 | 1.60 | .644 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1737400.** | **494430.** |
| Stddev | 2388. | 5980. |
| %RSD | .13742 | 1.2094 |

Sample Name: 259501 Acquired: 04/25/2019 19:55:54 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **424000.** | **611.** | **53500.** | **440000.** | **30300.** | **31500.** |
| Stddev | 2630. | 7. | 268. | 2570. | 186. | 208. |
| %RSD | .621 | 1.08 | .500 | .584 | .614 | .661 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1743600.** | **504860.** |
| Stddev | 8941. | 2499. |
| %RSD | .51276 | .49492 |

Sample Name: 259502 Acquired: 04/25/2019 20:01:19 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **435000.** | **713.** | **32100.** | **453000.** | **34500.** | **15800.** |
| Stddev | 2540. | 8. | 364. | 2300. | 388. | 79. |
| %RSD | .585 | 1.12 | 1.13 | .508 | 1.13 | .498 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1750100.** | **505680.** |
| Stddev | 8245. | 5860. |
| %RSD | .47113 | 1.1589 |

Sample Name: 259503 Acquired: 04/25/2019 20:06:57 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **274000.** | **261.** | **13700.** | **417000.** | **23300.** | **4260.** | **4870.** |
| Stddev | 4070. | 3. | 160. | 1870. | 290. | 16. | 19. |
| %RSD | 1.48 | 1.02 | 1.16 | .449 | 1.25 | .385 | .392 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1769300.** | **504300.** |
| Stddev | 5516. | 6274. |
| %RSD | .31178 | 1.2441 |

Sample Name: 259504 Acquired: 04/25/2019 20:12:22 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **309000.** | **208.** | **13500.** | **478000.** | **26300.** | **2740.** | **3450.** |
| Stddev | 3390. | 4. | 141. | 1820. | 329. | 14. | 14. |
| %RSD | 1.10 | 2.10 | 1.04 | .381 | 1.25 | .513 | .419 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1762700.** | **501800.** |
| Stddev | 3782. | 3801. |
| %RSD | .21457 | .75755 |

Sample Name: 259505 Acquired: 04/25/2019 20:17:49 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **284000.** | **3700.** | **211000.** | **512000.** | **72200.** | **68000.** |
| Stddev | 3930. | 18. | 2590. | 2660. | 913. | 514. |
| %RSD | 1.38 | .482 | 1.23 | .519 | 1.26 | .756 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1715500.** | **495120.** |
| Stddev | 6323. | 6750. |
| %RSD | .36856 | 1.3633 |

Sample Name: ccv1 Acquired: 04/25/2019 20:23:23 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5110.** | **5180.** | **4860.** | **4870.** | **4740.** | **4830.** | **4880.** |
| Stddev | 29. | 25. | 24. | 19. | 48. | 19. | 22. |
| %RSD | .575 | .487 | .496 | .380 | 1.01 | .386 | .446 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1776300.** | **495460.** |
| Stddev | 6244. | 2256. |
| %RSD | .35153 | .45528 |

Sample Name: ccv2 Acquired: 04/25/2019 20:28:32 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **497.** | **513.** | **502.** | **479.** | **494.** | **480.** |
| Stddev | 13. | 4. | 5. | 7. | 16. | 4. |
| %RSD | 2.70 | .854 | 1.04 | 1.50 | 3.13 | .778 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1825600.** | **505660.** |
| Stddev | 9149. | 5673. |
| %RSD | .50113 | 1.1219 |

Sample Name: ccb Acquired: 04/25/2019 20:33:52 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-24.7** | **-3.04** | **12.1** | **-2.79** | **7.72** | **-1.26** |
| Stddev | 7.6 | 2.16 | 3.4 | 1.82 | 13.7 | .24 |
| %RSD | 30.7 | 71.1 | 28.2 | 65.1 | 177. | 19.4 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1833900.** | **495160.** |
| Stddev | 7963. | 3877. |
| %RSD | .43420 | .78301 |

Sample Name: 259506 Acquired: 04/25/2019 20:39:14 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **247000.** | **4430.** | **204000.** | **437000.** | **56700.** | **36100.** |
| Stddev | 2730. | 14. | 2160. | 1210. | 645. | 100. |
| %RSD | 1.10 | .315 | 1.06 | .276 | 1.14 | .278 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1713300.** | **493940.** |
| Stddev | 5423. | 5454. |
| %RSD | .31652 | 1.1041 |

Sample Name: 260386 Acquired: 04/25/2019 20:44:39 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **333000.** | **2860.** | **772000.** | **513000.** | **140000.** | **80700.** |
| Stddev | 2600. | 5. | 5540. | 1920. | 682. | 396. |
| %RSD | .780 | .164 | .718 | .375 | .487 | .490 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1648700.** | **487810.** |
| Stddev | 4390. | 1708. |
| %RSD | .26630 | .35005 |

Sample Name: 260459 Acquired: 04/25/2019 20:50:24 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **294000.** | **2130.** | **353000.** | **555000.** | **77800.** | **21800.** |
| Stddev | 3420. | 13. | 4130. | 1090. | 988. | 43. |
| %RSD | 1.16 | .612 | 1.17 | .196 | 1.27 | .196 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1685700.** | **488390.** |
| Stddev | 3341. | 5925. |
| %RSD | .19818 | 1.2132 |

Sample Name: 260460 Acquired: 04/25/2019 20:55:47 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **302000.** | **605.** | **270000.** | **531000.** | **94400.** | **94500.** |
| Stddev | 3430. | 7. | 3270. | 2340. | 1130. | 247. |
| %RSD | 1.13 | 1.15 | 1.21 | .441 | 1.20 | .262 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1688700.** | **497930.** |
| Stddev | 4481. | 5465. |
| %RSD | .26538 | 1.0975 |

Sample Name: 260461 Acquired: 04/25/2019 21:01:35 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **230000.** | **330.** | **74400.** | **478000.** | **38200.** | **12300.** |
| Stddev | 4230. | 5. | 1430. | 2710. | 730. | 73. |
| %RSD | 1.84 | 1.59 | 1.92 | .565 | 1.91 | .589 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1731800.** | **491250.** |
| Stddev | 6391. | 8240. |
| %RSD | .36902 | 1.6774 |

Sample Name: 260462 Acquired: 04/25/2019 21:07:00 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **306000.** | **877.** | **1030000.** | **493000.** | **382000.** | **249000.** |
| Stddev | 5850. | 5. | 20500. | 2080. | 6190. | 1260. |
| %RSD | 1.91 | .594 | 1.99 | .422 | 1.62 | .506 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1575900.** | **478440.** |
| Stddev | 4253. | 7999. |
| %RSD | .26990 | 1.6719 |

Sample Name: 260463 Acquired: 04/25/2019 21:12:59 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **272000.** | **426.** | **162000.** | **573000.** | **52000.** | **31600.** |
| Stddev | 2900. | 10. | 1320. | 1360. | 444. | 65. |
| %RSD | 1.07 | 2.42 | .815 | .238 | .852 | .205 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1711100.** | **491830.** |
| Stddev | 3316. | 4353. |
| %RSD | .19377 | .88513 |

Sample Name: 260464 Acquired: 04/25/2019 21:18:24 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **360000.** | **1670.** | **910000.** | **480000.** | **294000.** | **230000.** |
| Stddev | 3450. | 4. | 9520. | 1700. | 2480. | 1310. |
| %RSD | .958 | .250 | 1.05 | .355 | .844 | .571 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1595400.** | **481100.** |
| Stddev | 2152. | 3468. |
| %RSD | .13486 | .72084 |

Sample Name: 260465 Acquired: 04/25/2019 21:24:21 Type: Unk
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2593 |
|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **247000.** | **481.** | **308000.** | **466000.** | **91300.** | **35900.** |
| Stddev | 3440. | 8. | 4660. | 1960. | 1360. | 170. |
| %RSD | 1.39 | 1.56 | 1.51 | .420 | 1.49 | .474 |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **1686400.** | **484630.** |
| Stddev | 3117. | 6562. |
| %RSD | .18485 | 1.3540 |

Sample Name: ccv1 Acquired: 04/25/2019 21:35:11 Type: QC

Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000

User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 | Mn2593 |
|---|---|---|---|---|---|---|---|
| Avg | **5210.** | **5190.** | **4940.** | **4820.** | **4800.** | **4850.** | **4890.** |
| Stddev | 47. | 32. | 39. | 11. | 40. | 28. | 27. |
| %RSD | .900 | .615 | .788 | .235 | .831 | .572 | .551 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1769600.** | **485940.** |
| Stddev | 8473. | 3324. |
| %RSD | .47882 | .68399 |

Sample Name: ccv2 Acquired: 04/25/2019 21:40:21 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **520.** | **521.** | **512.** | **479.** | **488.** | **478.** |
| Stddev | 12. | 3. | 11. | 4. | 9. | 3. |
| %RSD | 2.39 | .506 | 2.06 | .935 | 1.74 | .563 |
| Check ? | None | Chk Pass | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1828300.** | **492780.** |
| Stddev | 5377. | 3718. |
| %RSD | .29410 | .75454 |

Sample Name: ccb Acquired: 04/25/2019 21:45:41 Type: QC
Method: As & Pb & Mn(v5) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1937 | Ca3158 | Fe2395 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|
| Avg | **-5.22** | **-3.44** | **9.63** | **-1.95** | **1.73** | **-.932** |
| Stddev | 5.39 | 2.40 | 3.72 | 3.51 | 12.0 | .143 |
| %RSD | 103. | 69.9 | 38.6 | 179. | 697. | 15.3 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

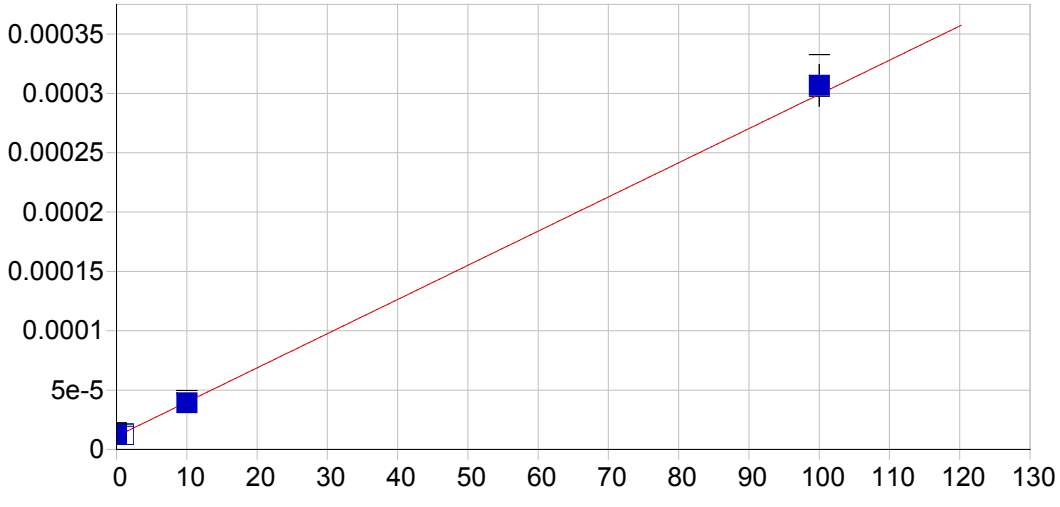
| Int. Std. | Y_3242 | Y_3710 |
|---|---|---|
| Avg | **1827000.** | **496340.** |
| Stddev | 2392. | 4073. |
| %RSD | .13091 | .82066 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag 328.068 {103} | 04/30/2019 09:55:03 | 04/26/2019 15:37:28 | Linear | 1/Var | 0.000011 | 0.000003 | 0.000000 | 1.000000 | 0.996125 | 0.000002 | 0.816738 | 2.722461 |
| Ag 338.289 {100} | 04/30/2019 09:55:03 | 04/26/2019 15:43:06 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.978080 | 0.000002 | 17.624638 | 58.748794 |
| Al 167.079 {501} | 04/30/2019 09:55:03 | 04/26/2019 15:43:06 | Linear | None | 0.000038 | 0.000004 | 0.000000 | 1.000000 | 0.999953 | 0.000020 | 0.674854 | 2.249514 |
| Al 308.215 {109} | 04/30/2019 09:55:03 | 04/26/2019 16:02:33 | Linear | 1/Var | 0.000053 | 0.000000 | 0.000000 | 1.000000 | 0.999311 | 0.000074 | 33.254156 | 110.84718 |
| Al 396.152 { 85} | 04/30/2019 09:55:03 | 04/26/2019 16:16:11 | Curvili | 1/Conc | -0.000035 | 0.000001 | 0.000000 | 1.000000 | 0.999985 | 0.000013 | 14.042924 | 46.809746 |
| As 193.759 {474} | 04/30/2019 09:55:03 | 04/26/2019 15:43:07 | Linear | 1/Var | 0.312922 | 0.102413 | 0.000000 | 1.000000 | 0.999753 | 0.295512 | 4.474510 | 14.915035 |
| As 197.262 {471} | 04/30/2019 09:55:03 | 04/26/2019 15:49:43 | Linear | 1/Conc | -0.000002 | 0.000001 | 0.000000 | 1.000000 | 0.999896 | 0.000000 | 6.711927 | 22.373091 |
| Ba 233.527 {445} | 04/30/2019 09:55:03 | 04/26/2019 15:43:07 | Linear | 1/Conc | -0.000003 | 0.000010 | 0.000000 | 1.000000 | 0.999356 | 0.000000 | 0.418616 | 1.395388 |
| Ba 455.403 { 74} | 04/30/2019 09:55:03 | 04/26/2019 15:49:43 | Linear | 1/Conc | 0.000104 | 0.000048 | 0.000000 | 1.000000 | 0.999756 | 0.000004 | 0.392687 | 1.308956 |
| Ba 493.409 { 68} | 04/30/2019 09:55:03 | 04/26/2019 15:49:43 | Linear | 1/Conc | 0.010554 | 0.000056 | 0.000000 | 1.000000 | 0.999882 | 0.000040 | 0.868193 | 2.893977 |
| Be 313.042 {108} | 04/30/2019 09:55:03 | 04/26/2019 15:43:07 | Linear | 1/Conc | -0.000191 | 0.000053 | 0.000000 | 1.000000 | 0.999323 | 0.000002 | 0.054359 | 0.181196 |
| Be 234.861 {144} | 04/30/2019 09:55:03 | 04/26/2019 15:43:07 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999359 | 0.000001 | 1.422831 | 4.742771 |
| Ca 315.887 {107} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Curvili | 1/Var | 0.000034 | 0.000000 | 0.000000 | 1.000000 | 0.999414 | 0.000033 | 13.887083 | 46.290278 |
| Ca 317.933 {106} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Linear | 1/Conc | 0.002847 | 0.000001 | 0.000000 | 1.000000 | 0.999951 | 0.000011 | 7.111240 | 23.704135 |
| Ca 393.366 { 86} | 04/30/2019 09:55:03 | 04/26/2019 15:43:08 | Linear | 1/Var | 0.003427 | 0.000198 | 0.000000 | 1.000000 | 0.991447 | 0.003361 | 0.066622 | 0.222075 |
| Ca 396.847 { 85} | 04/30/2019 09:55:03 | 04/26/2019 15:49:44 | Linear | 1/Conc | 0.001779 | 0.000115 | 0.000000 | 1.000000 | 0.999173 | 0.000219 | 0.109141 | 0.363803 |
| Cd 226.502 {449} | 04/30/2019 09:55:03 | 04/26/2019 15:43:08 | Linear | 1/Conc | -0.000008 | 0.000023 | 0.000000 | 1.000000 | 0.999470 | 0.000001 | 0.250801 | 0.836002 |
| Cd 228.802 {447} | 04/30/2019 09:55:03 | 04/26/2019 15:43:08 | Linear | 1/Conc | 0.000025 | 0.000045 | 0.000000 | 1.000000 | 0.999378 | 0.000001 | 0.164850 | 0.549498 |
| Co 228.616 {447} | 04/30/2019 09:55:03 | 04/26/2019 15:49:44 | Linear | 1/Conc | 0.000011 | 0.000019 | 0.000000 | 1.000000 | 0.999752 | 0.000002 | 0.436683 | 1.455612 |
| Co 238.892 {141} | 04/30/2019 09:55:03 | 04/26/2019 15:49:44 | Linear | 1/Conc | 0.000003 | 0.000002 | 0.000000 | 1.000000 | 0.999768 | 0.000002 | 0.868075 | 2.893582 |
| Cr 205.560 {464} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Var | 0.000025 | 0.000014 | 0.000000 | 1.000000 | 0.999346 | 0.000050 | 0.329099 | 1.096995 |
| Cr 267.716 {126} | 04/30/2019 09:55:03 | 04/26/2019 15:49:44 | Linear | 1/Conc | -0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999762 | 0.000000 | 0.915940 | 3.053132 |
| Cu 224.700 {450} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Conc | -0.000002 | 0.000007 | 0.000000 | 1.000000 | 0.999445 | 0.000012 | 0.404593 | 1.348644 |
| Cu 324.754 {104} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Conc | 152.60236 | 0.481135 | 0.000000 | 1.000000 | 0.999754 | 0.410373 | 4.722044 | 15.740146 |
| Cu 327.396 {103} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Conc | 9.879293 | 0.362890 | 0.000000 | 1.000000 | 0.999702 | 0.236687 | 8.931508 | 29.771695 |
| Fe 234.349 {144} | 04/30/2019 09:55:03 | 04/26/2019 16:02:33 | Curvili | 1/Var | 0.000018 | 0.000000 | 0.000000 | 1.000000 | 0.999859 | 0.000004 | 1.864255 | 6.214182 |
| Fe 239.562 {140} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Linear | 1/Var | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999418 | 0.000025 | 15.524856 | 51.749520 |
| Fe 259.940 {129} | 04/30/2019 09:55:03 | 04/26/2019 16:09:09 | Curvili | 1/Var | 0.000005 | 0.000001 | 0.000000 | 1.000000 | 0.999821 | 0.000053 | 4.606947 | 15.356490 |
| Mg 202.582 {466} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Linear | 1/Var | -0.000004 | 0.000002 | 0.000000 | 1.000000 | 0.999670 | 0.000133 | 2.519477 | 8.398256 |
| Mg 279.079 {121} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Full Fit | 1/Conc | -0.000002 | 0.000000 | 0.000000 | 1.050000 | 0.999996 | 0.000000 | 133.11053 | 443.70178 |
| Mg 280.270 {120} | 04/30/2019 09:55:03 | 04/26/2019 15:49:45 | Linear | 1/Var | 0.000201 | 0.000027 | 0.000000 | 1.000000 | 0.999921 | 0.000014 | 0.045828 | 0.152761 |
| Mn 257.610 {131} | 04/30/2019 09:55:03 | 04/26/2019 15:49:46 | Linear | 1/Conc | 0.000003 | 0.000009 | 0.000000 | 1.000000 | 0.999475 | 0.000002 | 0.136894 | 0.456314 |
| Mn 259.373 {130} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Conc | 0.000004 | 0.000003 | 0.000000 | 1.000000 | 0.999852 | 0.000024 | 1.509629 | 5.032097 |
| Mo 202.030 {466} | 04/30/2019 09:55:03 | 04/26/2019 15:43:10 | Linear | 1/Conc | 0.000003 | 0.000008 | 0.000000 | 1.000000 | 0.999483 | 0.000001 | 0.515116 | 1.717053 |
| Mo 203.844 {465} | 04/30/2019 09:55:03 | 04/26/2019 15:43:10 | Linear | 1/Var | 0.000013 | 0.000007 | 0.000000 | 1.000000 | 0.999687 | 0.000008 | 0.762596 | 2.541988 |
| Mo 204.598 {464} | 04/30/2019 09:55:03 | 04/26/2019 15:49:46 | Linear | 1/Var | 0.000021 | 0.000005 | 0.000000 | 1.000000 | 0.999060 | 0.000024 | 0.997649 | 3.325496 |
| Ni 221.647 {452} | 04/30/2019 09:55:03 | 04/26/2019 15:49:46 | Linear | 1/Conc | -0.000002 | 0.000010 | 0.000000 | 1.000000 | 0.999745 | 0.000011 | 0.749478 | 2.498260 |
| Ni 231.604 {445} | 04/30/2019 09:55:03 | 04/26/2019 15:49:46 | Linear | 1/Conc | -0.000023 | 0.000011 | 0.000000 | 1.000000 | 0.999699 | 0.000001 | 0.711112 | 2.370373 |
| Pb 216.999 {455} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Var | 0.000008 | 0.000001 | 0.000000 | 1.000000 | 0.999167 | 0.000084 | 4.334763 | 14.449211 |
| Pb 220.353 {453} | 04/30/2019 09:55:03 | 04/26/2019 15:43:11 | Linear | 1/Conc | 0.000022 | 0.000003 | 0.000000 | 1.000000 | 0.999563 | 0.000000 | 2.740836 | 9.136121 |
| Pb 220.353 {153} | 04/30/2019 09:55:03 | 04/26/2019 15:56:06 | Linear | 1/Conc | 0.000002 | 0.000000 | 0.000000 | 1.000000 | 0.999635 | 0.000001 | 6.825444 | 22.751481 |
| Sb 206.833 {463} | 04/30/2019 09:55:03 | 04/26/2019 15:49:46 | Linear | 1/Conc | -0.000001 | 0.000002 | 0.000000 | 1.000000 | 0.999889 | 0.000000 | 2.426101 | 8.087004 |
| Sb 217.581 {455} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Linear | 1/Conc | 0.000002 | 0.000002 | 0.000000 | 1.000000 | 0.999794 | 0.000000 | 2.685209 | 8.950698 |
| Se 196.090 {472} | 04/30/2019 09:55:03 | 04/26/2019 15:43:11 | Linear | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 0.999594 | 0.000000 | 4.609288 | 15.364293 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Ag 328.068 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 338.289 {100} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 167.079 {501} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 193.759 {474} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 197.262 {471} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 233.527 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 493.409 { 68} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 234.861 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 315.887 {107} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 393.366 { 86} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 396.847 { 85} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 226.502 {449} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 238.892 {141} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 205.560 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 327.396 {103} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 234.349 {144} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 239.562 {140} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {129} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 202.582 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 280.270 {120} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 259.373 {130} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {466} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 203.844 {465} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 204.598 {464} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 221.647 {452} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {445} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 216.999 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {153} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 217.581 {455} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | OK. | 1.000000 | 0.000000 | 1 | 0 |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL | Predicted MQL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se 206.279 {463} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Curvili | 1/Conc | 0.000005 | 0.000000 | 0.000000 | 1.000000 | 0.999993 | 0.000000 | 29.897348 | 99.657827 |
| Tl 190.856 {476} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Linear | 1/Conc | 0.000005 | 0.000002 | 0.000000 | 1.000000 | 0.999574 | 0.000001 | 2.143954 | 7.146514 |
| Tl 190.856 {477} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Linear | 1/Conc | -0.000003 | 0.000001 | 0.000000 | 1.000000 | 0.999482 | 0.000000 | 5.214067 | 17.380222 |
| V 290.882 {116} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Linear | 1/Conc | 0.000004 | 0.000001 | 0.000000 | 1.000000 | 0.999933 | 0.000000 | 7.363833 | 24.546109 |
| V 292.402 {115} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Linear | 1/Conc | 0.000002 | 0.000007 | 0.000000 | 1.000000 | 0.999779 | 0.000002 | 0.610512 | 2.035041 |
| Zn 206.200 {463} | 04/30/2019 09:55:03 | 04/26/2019 15:56:07 | Linear | 1/Var | 0.000033 | 0.000017 | 0.000000 | 1.000000 | 0.998422 | 0.000094 | 0.309576 | 1.031922 |
| Zn 213.856 {457} | 04/30/2019 09:55:03 | 04/26/2019 15:43:12 | Linear | 1/Conc | 0.000035 | 0.000046 | 0.000000 | 1.000000 | 0.999376 | 0.000008 | 0.121383 | 0.404609 |
| Y 224.306 {450}* | 04/30/2019 09:55:03 | 04/26/2019 14:54:08 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 324.228 {104}* | 04/30/2019 09:55:03 | 04/26/2019 14:54:08 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Y 371.030 { 91}* | 04/30/2019 09:55:03 | 04/26/2019 14:54:08 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 | -1.000000 |
| Na 588.995 { 57} | 04/30/2019 09:55:03 | 04/26/2019 15:49:47 | Linear | 1/Conc | 0.004725 | 0.000005 | 0.000000 | 1.000000 | 0.999959 | 0.000008 | 10.321234 | 34.404114 |
| Na 589.592 { 57} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Linear | 1/Conc | 0.000116 | 0.000004 | 0.000000 | 1.000000 | 0.999939 | 0.000064 | 7.978860 | 26.596201 |
| Si 251.611 {134} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Linear | 1/Conc | 1.320361 | 0.046849 | 0.000000 | 1.000000 | 0.999289 | 0.836614 | 26.899489 | 89.664963 |
| Ti 323.452 {104} | 04/30/2019 09:55:03 | 04/26/2019 15:49:48 | Linear | 1/Conc | 0.000215 | 0.000007 | 0.000000 | 1.000000 | 0.999912 | 0.000001 | 1.545674 | 5.152246 |
| Ti 334.941 {101} | 04/30/2019 09:55:03 | 04/26/2019 15:49:48 | Linear | 1/Conc | 0.000001 | 0.000003 | 0.000000 | 1.000000 | 0.999856 | 0.000001 | 2.088161 | 6.960537 |
| Sr 407.771 { 83} | 04/30/2019 09:55:03 | 04/26/2019 15:49:48 | Linear | 1/Conc | 0.000063 | 0.000094 | 0.000000 | 1.000000 | 0.999873 | 0.000006 | 0.174707 | 0.582355 |
| Sr 421.552 { 80} | 04/30/2019 09:55:03 | 04/26/2019 15:49:48 | Linear | 1/Conc | 0.000012 | 0.000133 | 0.000000 | 1.000000 | 0.999883 | 0.000008 | 0.124524 | 0.415079 |
| Sn 189.989 {477} | 04/30/2019 09:55:03 | 04/26/2019 15:49:48 | Linear | 1/Conc | 0.000015 | 0.000003 | 0.000000 | 1.000000 | 0.999847 | 0.000001 | 1.680899 | 5.602996 |
| B 249.678 {135} | 04/30/2019 09:55:03 | 04/26/2019 15:49:48 | Linear | 1/Conc | 0.000008 | 0.000001 | 0.000000 | 1.000000 | 0.999936 | 0.000000 | 1.385612 | 4.618708 |
| B 249.773 {135} | 04/30/2019 09:55:03 | 04/26/2019 15:49:49 | Linear | 1/Var | 0.000016 | 0.000003 | 0.000000 | 1.000000 | 0.999952 | 0.000006 | 0.779918 | 2.599727 |
| Li 670.784 { 50} | 04/30/2019 09:55:03 | 04/26/2019 15:49:49 | Linear | 1/Var | 0.000083 | 0.000026 | 0.000000 | 1.000000 | 0.999318 | 0.000156 | 1.559987 | 5.199957 |
| K 766.490 { 44} | 04/30/2019 09:55:03 | 04/26/2019 16:16:12 | Linear | 1/Conc | -0.000018 | 0.000001 | 0.000000 | 1.000000 | 0.999871 | 0.000020 | 56.860421 | 189.53473 |
| P 213.618 {457} | 04/30/2019 09:55:03 | 04/26/2019 15:49:49 | Linear | 1/Conc | -0.000001 | 0.000000 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 302.98770 | 1009.9590 |
| S 182.034 {485} | 04/30/2019 09:55:03 | 04/26/2019 16:16:13 | Curvili | 1/Conc | 0.000006 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 6.113742 | 20.379139 |
| Hg 184.950 {482} | 04/30/2019 09:55:03 | 04/26/2019 15:43:14 | Linear | 1/Conc | 0.000006 | 0.000000 | 0.000000 | 1.000000 | 0.353416 | 0.000020 | 9.065699 | 30.218996 |
| Ce 404.076 { 83} | 04/30/2019 09:55:03 | 04/26/2019 15:43:14 | Linear | 1/Conc | 0.000038 | 0.000001 | 0.000000 | 1.000000 | 1.000000 | 0.000000 | 23.308678 | 77.695594 |

| | Element, Wavelength and Order | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|
| | | | Slope | Y-int | Slope factor | Offset |
| | Se 206.279 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {476} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 290.882 {116} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {463} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 213.856 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {450}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 324.228 {104}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Na 588.995 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 251.611 {134} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 323.452 {104} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.941 {101} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 421.552 { 80} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.773 {135} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 213.618 {457} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Hg 184.950 {482} | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ce 404.076 { 83} | OK. | 1.000000 | 0.000000 | 1 | 0 |

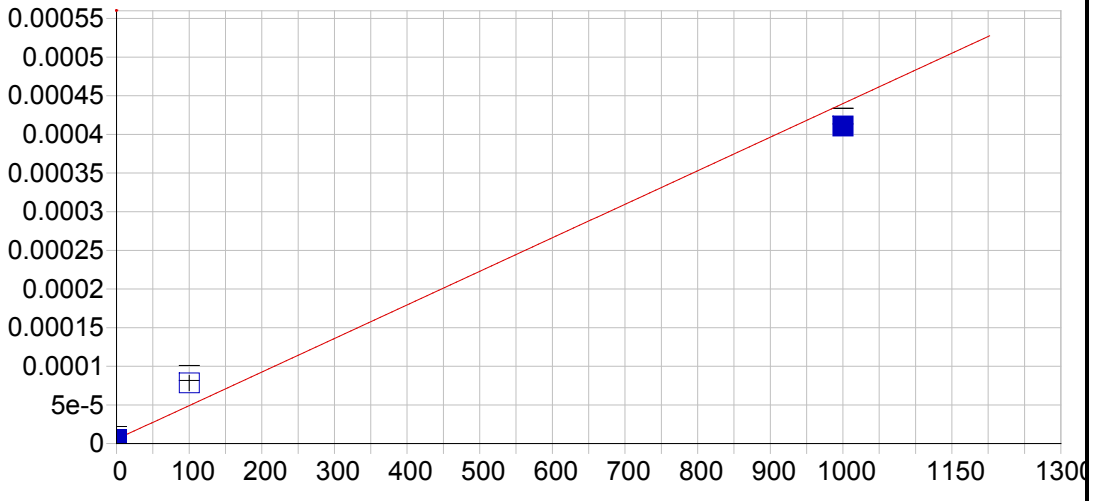



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.996125 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.816738 | | |
| Predicted MQL: | 2.722461 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .52004 | .520 | .000 | .00001 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7826 | -.217 | -2.17 | .00004 | .000 | 1 |
| CalStd8=100 | 100.00 | 102.65 | 2.65 | 2.65 | .00031 | .000 | 1 |
| CalStd3=1 | 1.0000 | .45966 | -.540 | -54.0 | .00001 | .000 | 1 |

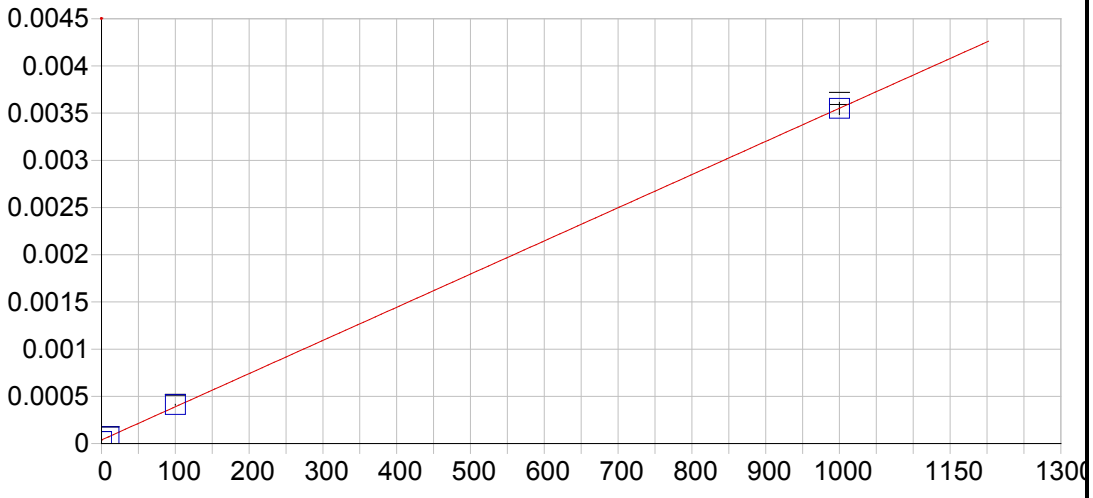



**Ag 338.289 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.978080 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 17.624638 | | |
| Predicted MQL: | 58.748794 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.06057 | -.061 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 167.29 | 67.3 | 67.3 | .00008 | .000 | 1 |
| CalStd9=100 | 1000.0 | 932.71 | -67.3 | -6.73 | .00041 | .000 | 1 |

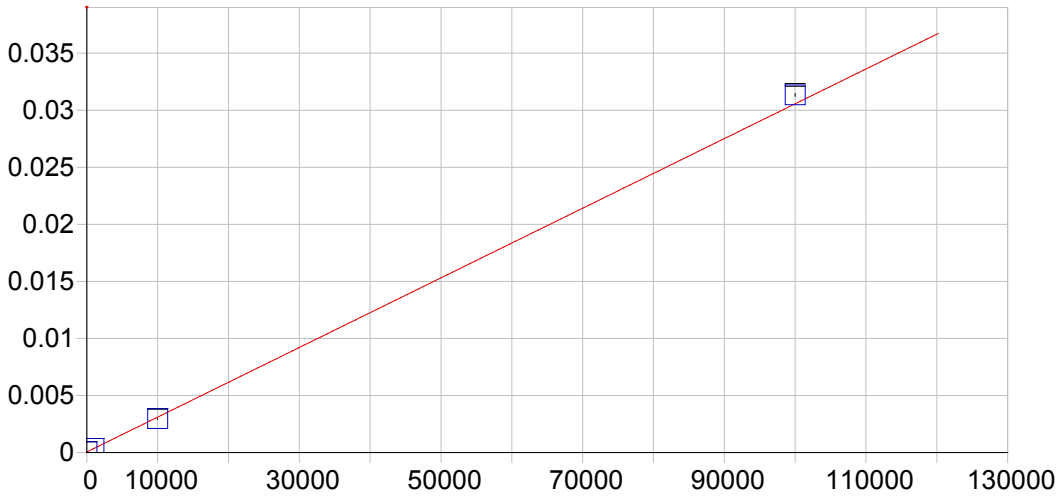



**Al 167.079 {501}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | None |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999953 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 0.674854 | | |
| Predicted MQL: | 2.249514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -4.9924 | -4.99 | .000 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 999.37 | -.626 | -.063 | .00355 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.2854 | -.715 | -7.15 | .00007 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.33 | 6.33 | 6.33 | .00041 | .000 | 1 |

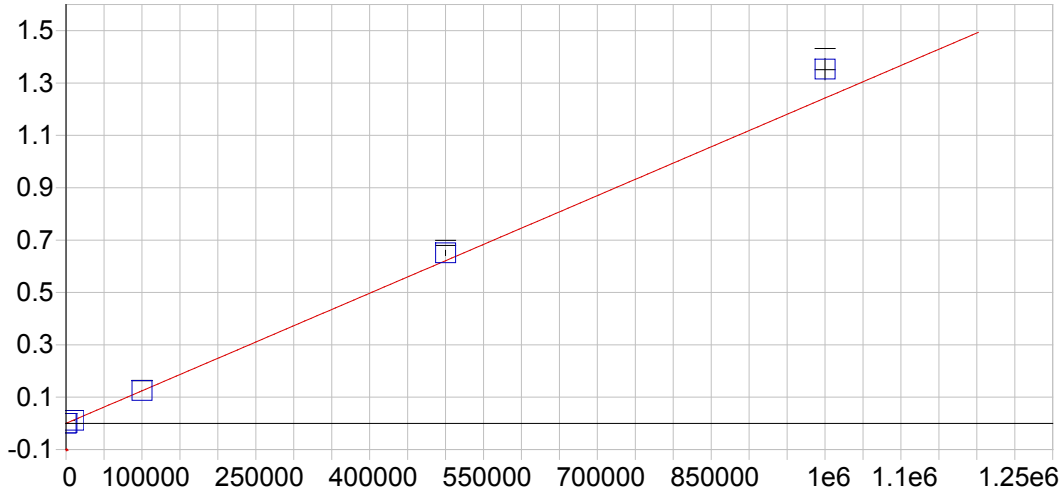



**Al 308.215 {109}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000053 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999311 | Status: | OK. |
| Std Error of Est: | 0.000074 | | |
| Predicted MDL: | 33.254156 | | |
| Predicted MQL: | 110.847188 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 45.439 | 45.4 | .000 | .00007 | .000 | 1 |
| CalStd10=10 | 10000. | 9510.0 | -490. | -4.90 | .00295 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1005.5 | 5.52 | .552 | .00036 | .000 | 1 |
| CalStd13=10 | 100000. | 102550. | 2550. | 2.55 | .03134 | .000 | 1 |

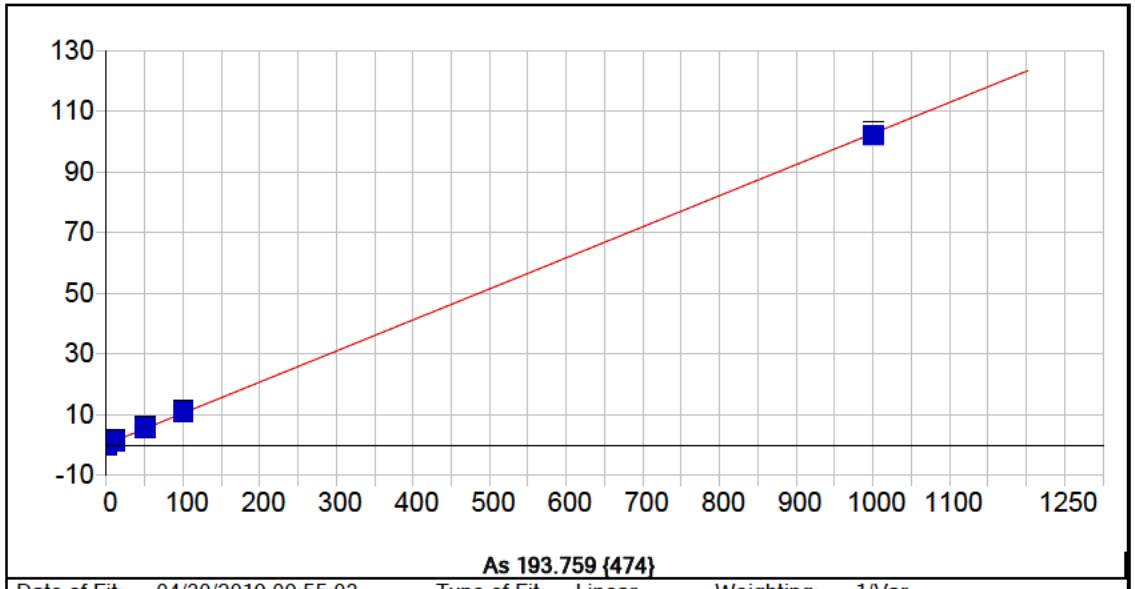



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000013 | | |
| Predicted MDL: | 14.042924 | | |
| Predicted MQL: | 46.809746 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .07348 | .073 | .000 | -.00004 | .000 | 1 |
| CalStd14=50 | 500000. | 523960. | 24000. | 4.79 | .65112 | .010 | 1 |
| CalStd13=10 | 100000. | 100800. | 796. | .796 | .12523 | .001 | 1 |
| CalStd10=10 | 10000. | 9304.1 | -696. | -6.96 | .01153 | .000 | 1 |
| CalStd9=100 | 1000.0 | 995.69 | -4.31 | -.431 | .00120 | .000 | 1 |
| CalibStd15= | 1000000. | 1088700. | 88700. | 8.87 | 1.3530 | .040 | 1 |

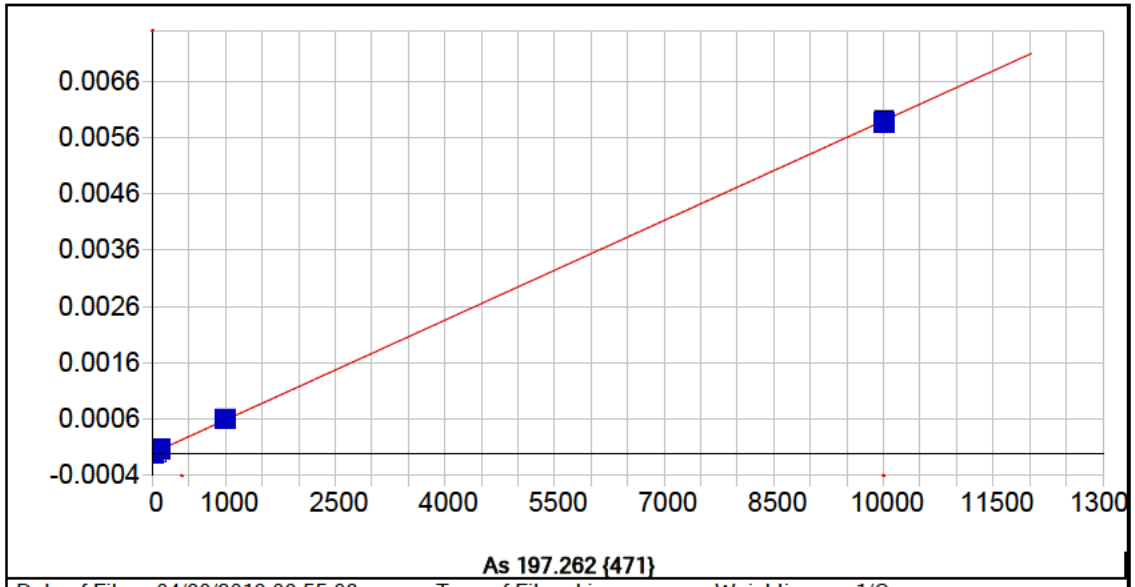



**As 193.759 {474}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.312922 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.102413 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999753 | Status: | OK. |
| Std Error of Est: | 0.295512 | | |
| Predicted MDL: | 4.474510 | | |
| Predicted MQL: | 14.915035 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -2.5555 | -2.56 | .000 | .05121 | .231 | 1 |
| CalStd9=100 | 1000.0 | 994.59 | -5.41 | -.541 | 101.81 | 1.32 | 1 |
| CalStd7=50 | 50.000 | 51.724 | 1.72 | 3.45 | 5.5985 | .636 | 1 |
| CalStd5=10 | 10.000 | 10.631 | .631 | 6.31 | 1.3988 | .178 | 1 |
| CalStd8=100 | 100.00 | 104.98 | 4.98 | 4.98 | 11.028 | .430 | 1 |

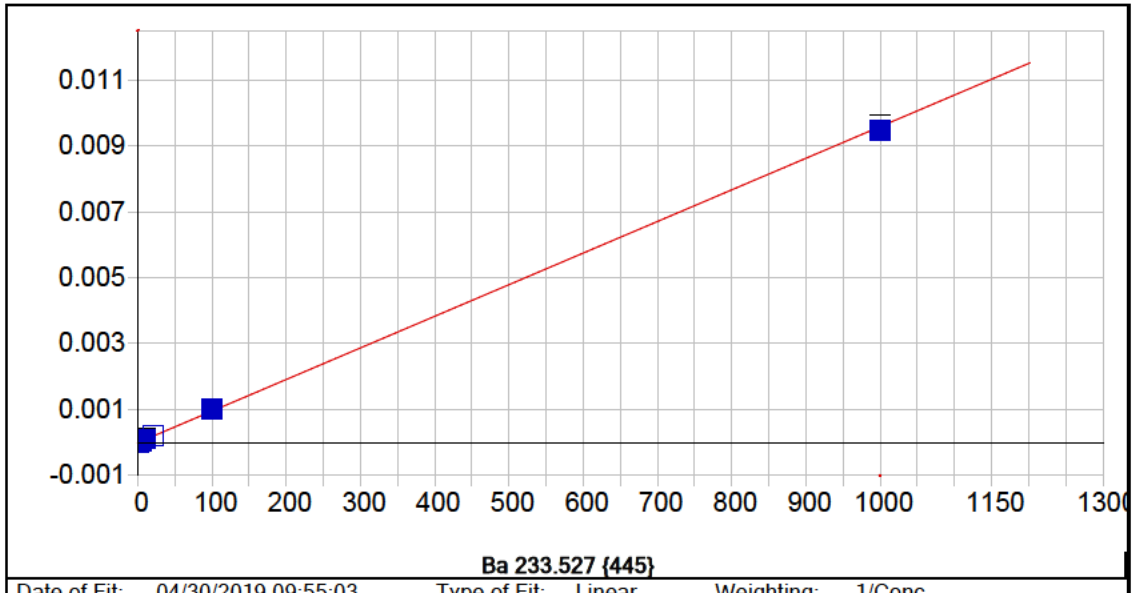



**As 197.262 {471}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999896 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.711927 | | |
| Predicted MQL: | 22.373091 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00117 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.4 | 22.4 | 2.24 | .00060 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.756 | 6.76 | 13.5 | .00003 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.8176 | -1.18 | -11.8 | .00000 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.18 | 8.18 | 8.18 | .00006 | .000 | 1 |
| CalStd10=10 | 10000. | 9963.9 | -36.1 | -.361 | .00591 | .000 | 1 |

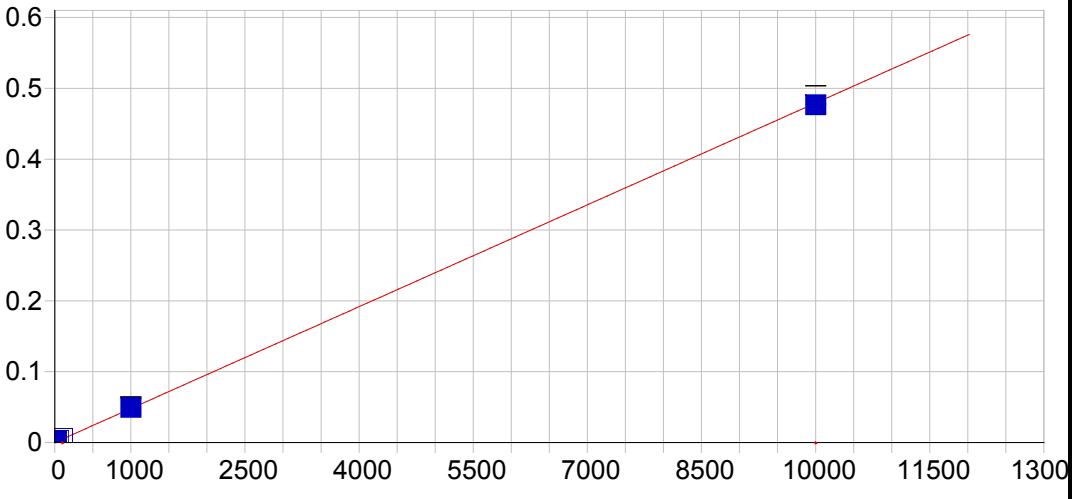



**Ba 233.527 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999356 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.418616 | | |
| Predicted MQL: | 1.395388 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00073 | -.001 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.581 | 1.58 | 15.8 | .00011 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.467 | 2.47 | 12.3 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.69 | 7.69 | 7.69 | .00103 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7190 | .719 | 14.4 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.31 | -12.7 | -1.27 | .00946 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2362 | .236 | 23.6 | .00001 | .000 | 1 |

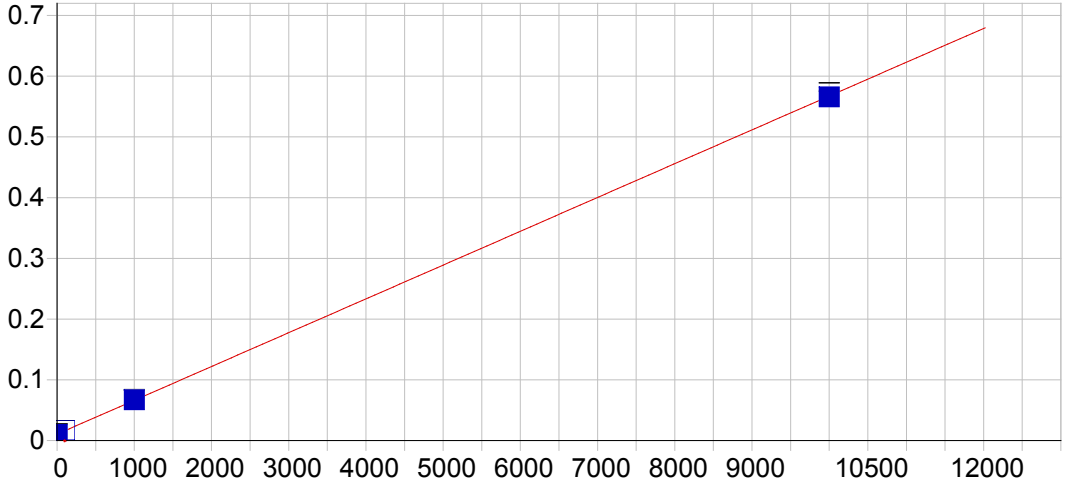



**Ba 455.403 { 74}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000104 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000048 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999756 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.392687 | | |
| Predicted MQL: | 1.308956 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00096 | -.001 | .000 | .00010 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.917 | 6.92 | 13.8 | .00283 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.070 | 2.07 | 20.7 | .00068 | .000 | 1 |
| CalStd6=20 | 20.000 | 22.902 | 2.90 | 14.5 | .00120 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.05 | 15.0 | 15.0 | .00562 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7458 | .746 | 14.9 | .00038 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.2 | 30.2 | 3.02 | .04947 | .001 | 1 |
| CalStd3=1 | 1.0000 | 1.1463 | .146 | 14.6 | .00016 | .000 | 1 |
| CalStd10=10 | 10000. | 9941.9 | -58.1 | -.581 | .47652 | .013 | 1 |

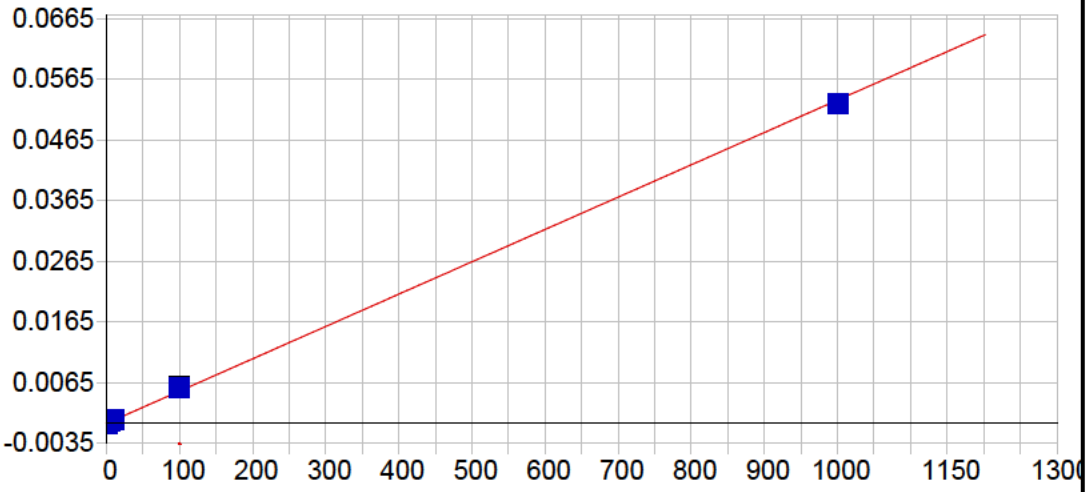



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010554 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000056 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999882 | Status: | OK. |
| Std Error of Est: | 0.000040 | | |
| Predicted MDL: | 0.868193 | | |
| Predicted MQL: | 2.893977 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01643 | -.016 | .000 | .01055 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.1 | 12.1 | 1.21 | .06690 | .001 | 1 |
| CalStd8=100 | 100.00 | 115.50 | 15.5 | 15.5 | .01698 | .000 | 1 |
| CalStd10=10 | 10000. | 9972.4 | -27.6 | -.276 | .56581 | .007 | 1 |

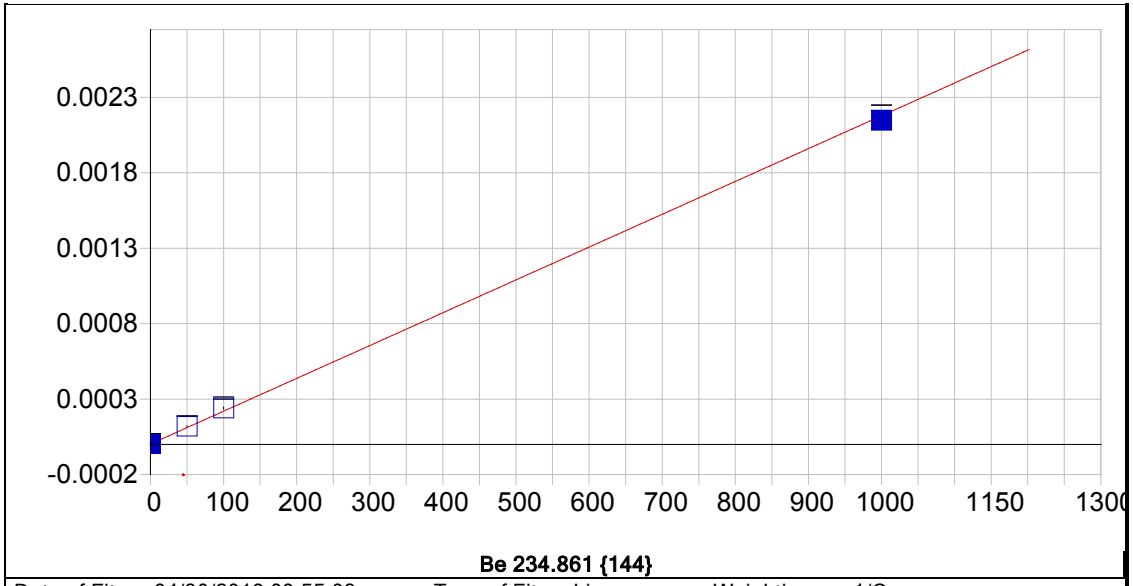



**Be 313.042 {108}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000191 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000053 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999323 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.054359 | | |
| Predicted MQL: | 0.181196 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00024 | -.000 | .000 | -.00019 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.408 | 1.41 | 14.1 | .00042 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.49 | 10.5 | 10.5 | .00569 | .000 | 1 |
| CalStd2=0.5 | .50000 | .54073 | .041 | 8.15 | -.00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5027 | .503 | 10.1 | .00010 | .000 | 1 |
| CalStd9=100 | 1000.0 | 987.50 | -12.5 | -1.25 | .05241 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0621 | .062 | 6.21 | -.00013 | .000 | 1 |

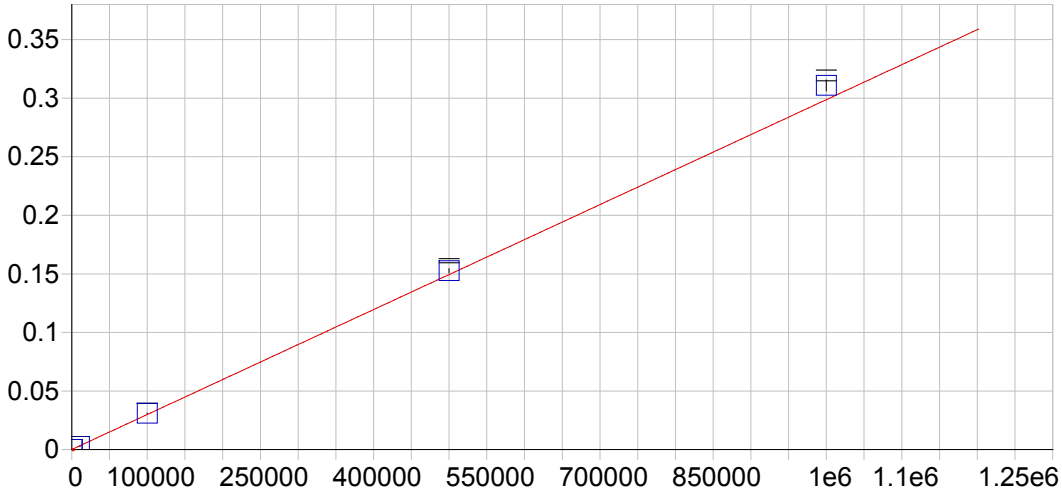



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999359 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.422831 | | |
| Predicted MQL: | 4.742771 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00837 | -.008 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.15 | -13.8 | -1.38 | .00215 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.58 | 9.58 | 9.58 | .00024 | .000 | 1 |
| CalStd7=50 | 50.000 | 54.271 | 4.27 | 8.54 | .00012 | .000 | 1 |

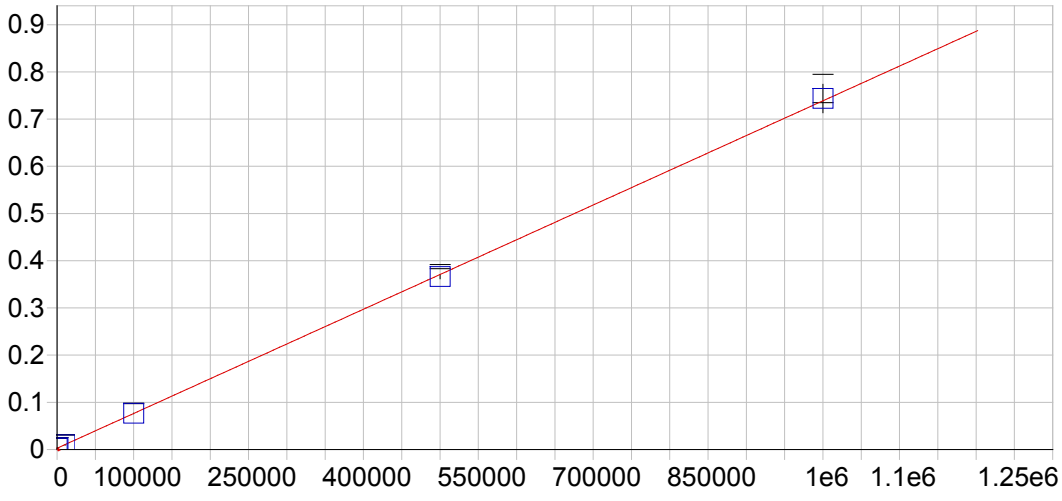



**Ca 315.887 {107}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000034 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999414 | Status: | OK. |
| Std Error of Est: | 0.000033 | | |
| Predicted MDL: | 13.887083 | | |
| Predicted MQL: | 46.290278 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 14.946 | 14.9 | .000 | .00004 | .000 | 1 |
| CalStd10=10 | 10000. | 9472.6 | -527. | -5.27 | .00286 | .000 | 1 |
| CalStd13=10 | 100000. | 103400. | 3400. | 3.40 | .03092 | .000 | 1 |
| CalStd14=50 | 500000. | 510780. | 10800. | 2.16 | .15262 | .002 | 1 |
| CalStd9=100 | 1000.0 | 987.81 | -12.2 | -1.22 | .00033 | .000 | 1 |
| CalibStd15= | 1000000. | 1040500. | 40500. | 4.05 | .31086 | .005 | 1 |

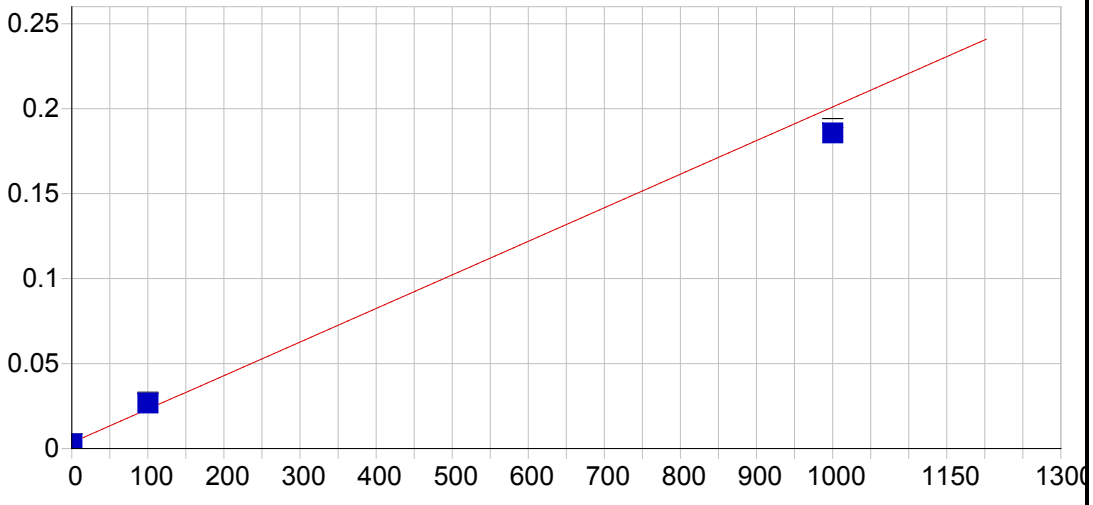



**Ca 317.933 {106}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002847 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999951 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 7.111240 | | |
| Predicted MQL: | 23.704135 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .05049 | .050 | .000 | .00285 | .000 | 1 |
| CalStd10=10 | 10000. | 9400.9 | -599. | -5.99 | .00976 | .000 | 1 |
| CalStd13=10 | 100000. | 100170. | 172. | .172 | .07656 | .000 | 1 |
| CalStd14=50 | 500000. | 493800. | -6200. | -1.24 | .36622 | .004 | 1 |
| CalStd9=100 | 1000.0 | 1013.5 | 13.5 | 1.35 | .00359 | .000 | 1 |
| CalibStd15= | 1000000. | 1006600. | 6620. | .662 | .74359 | .030 | 1 |

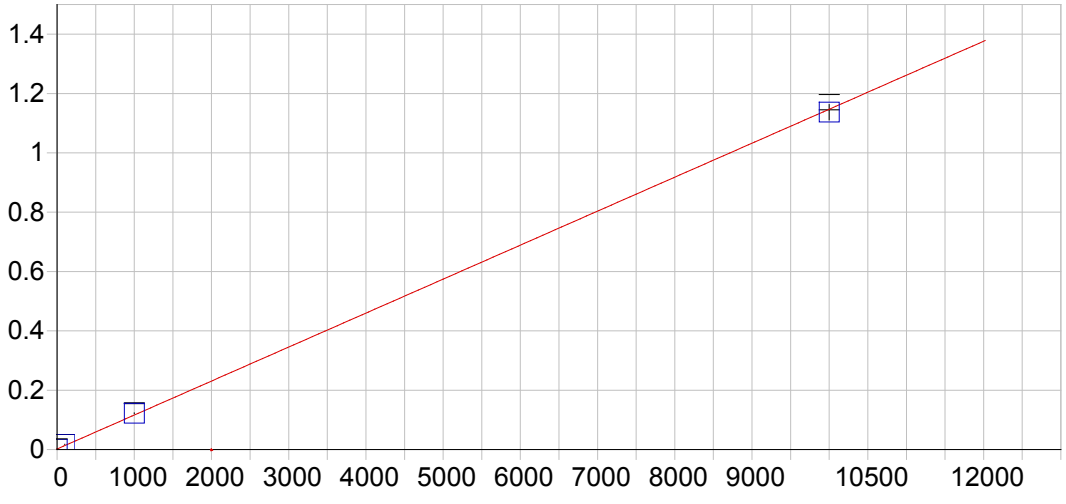



**Ca 393.366 { 86}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.003427 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000198 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.991447 | Status: | OK. |
| Std Error of Est: | 0.003361 | | |
| Predicted MDL: | 0.066622 | | |
| Predicted MQL: | 0.222075 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.6567 | -3.66 | .000 | .00270 | .000 | 1 |
| CalStd9=100 | 1000.0 | 922.22 | -77.8 | -7.78 | .18563 | .003 | 1 |
| CalStd8=100 | 100.00 | 118.12 | 18.1 | 18.1 | .02676 | .000 | 1 |

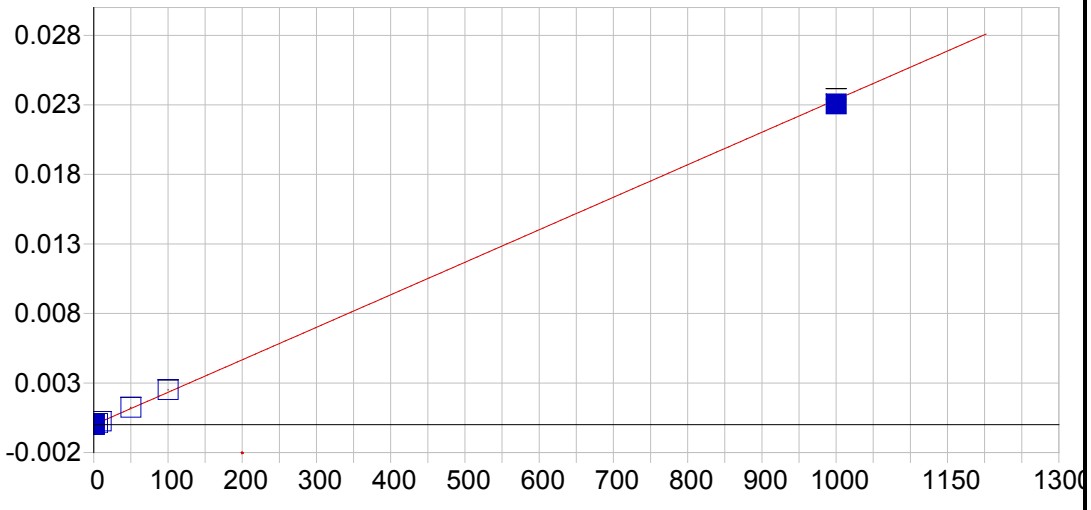



**Ca 396.847 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001779 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000115 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999173 | Status: | OK. |
| Std Error of Est: | 0.000219 | | |
| Predicted MDL: | 0.109141 | | |
| Predicted MQL: | 0.363803 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.04291 | -.043 | .000 | .00177 | .000 | 1 |
| CalStd10=10 | 10000. | 9910.7 | -89.3 | -.893 | 1.1369 | .026 | 1 |
| CalStd8=100 | 100.00 | 138.75 | 38.8 | 38.8 | .01767 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1050.5 | 50.5 | 5.05 | .12210 | .001 | 1 |

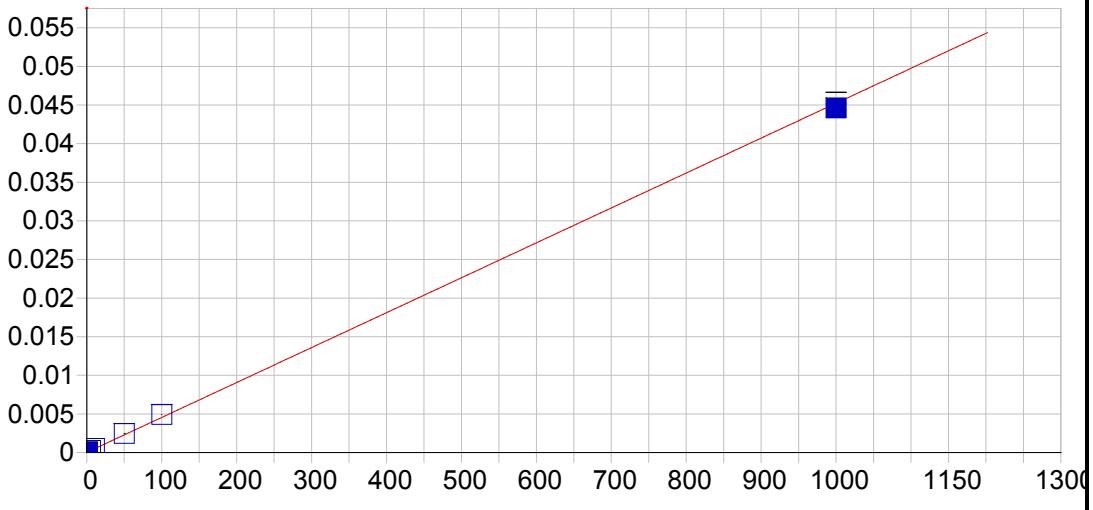



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000023 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999470 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.250801 | | |
| Predicted MQL: | 0.836002 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00018 | -.000 | .000 | -.00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.654 | 3.65 | 7.31 | .00125 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.1050 | .105 | 10.5 | .00002 | .000 | 1 |
| CalStd2=0.5 | .50000 | .45638 | -.044 | -8.72 | .00000 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.3448 | .345 | 6.90 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.73 | 7.73 | 7.73 | .00251 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.280 | 1.28 | 12.8 | .00026 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.93 | -13.1 | -1.31 | .02306 | .000 | 1 |

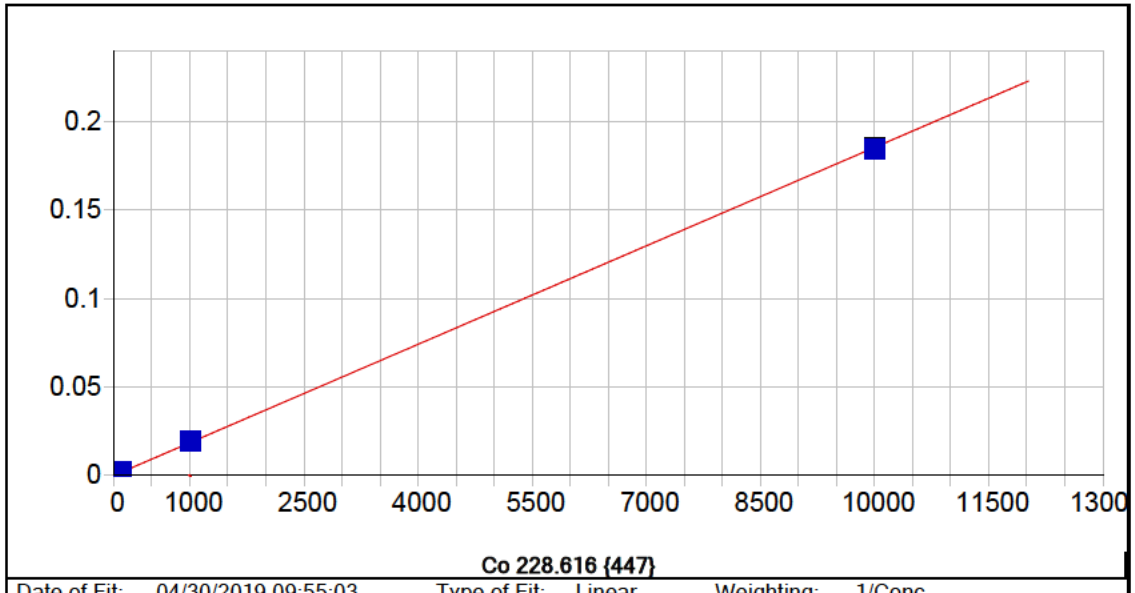



**Cd 228.802 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000045 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999378 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.164850 | | |
| Predicted MQL: | 0.549498 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00028 | -.000 | .000 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.749 | 3.75 | 7.50 | .00245 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0253 | .025 | 2.53 | .00007 | .000 | 1 |
| CalStd2=0.5 | .50000 | .56813 | .068 | 13.6 | .00005 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4644 | .464 | 9.29 | .00027 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.22 | 8.22 | 8.22 | .00492 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.559 | 1.56 | 15.6 | .00055 | .000 | 1 |
| CalStd9=100 | 1000.0 | 985.91 | -14.1 | -1.41 | .04460 | .001 | 1 |

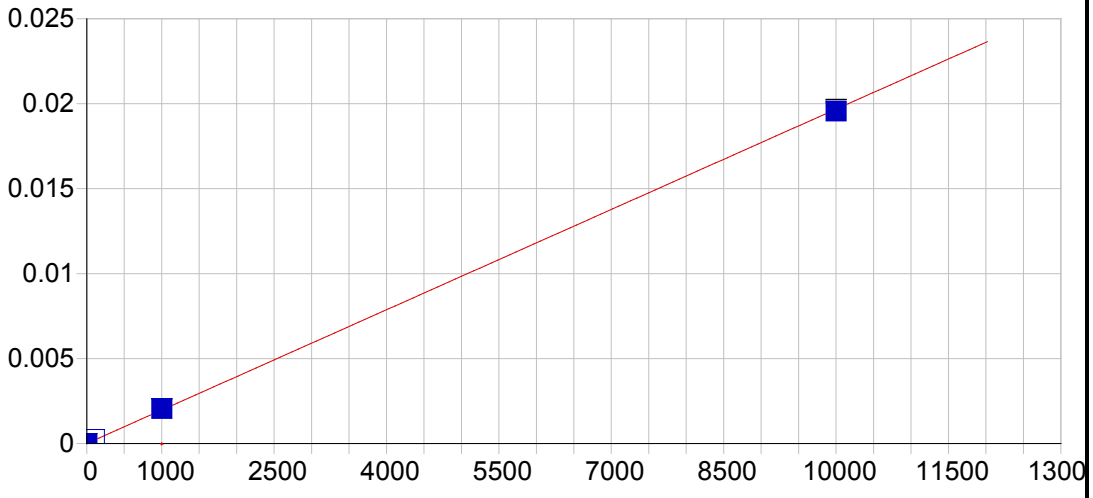



**Co 228.616 {447}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999752 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.436683 | | |
| Predicted MQL: | 1.455612 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00059 | -.001 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.578 | 6.58 | 13.2 | .00106 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.836 | 1.84 | 18.4 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7395 | .740 | 14.8 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.52 | 13.5 | 13.5 | .00212 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1044.5 | 44.5 | 4.45 | .01939 | .000 | 1 |
| CalStd3=1 | 1.0000 | .95854 | -.041 | -4.15 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9933.0 | -67.0 | -.670 | .18449 | .001 | 1 |

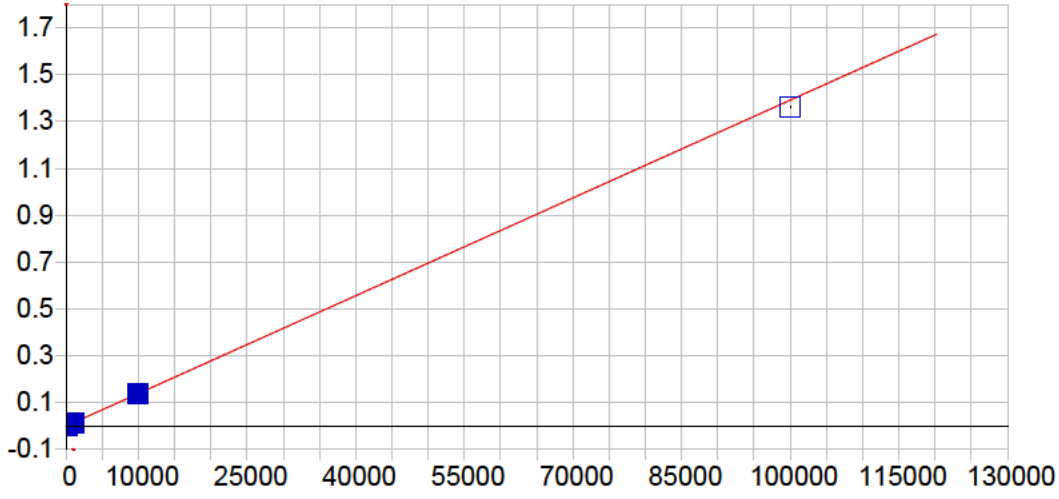



**Co 238.892 {141}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999768 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.868075 | | |
| Predicted MQL: | 2.893582 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02133 | -.021 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1040.2 | 40.2 | 4.02 | .00205 | .000 | 1 |
| CalStd10=10 | 10000. | 9941.9 | -58.1 | -.581 | .01957 | .000 | 1 |
| CalStd8=100 | 100.00 | 117.89 | 17.9 | 17.9 | .00023 | .000 | 1 |

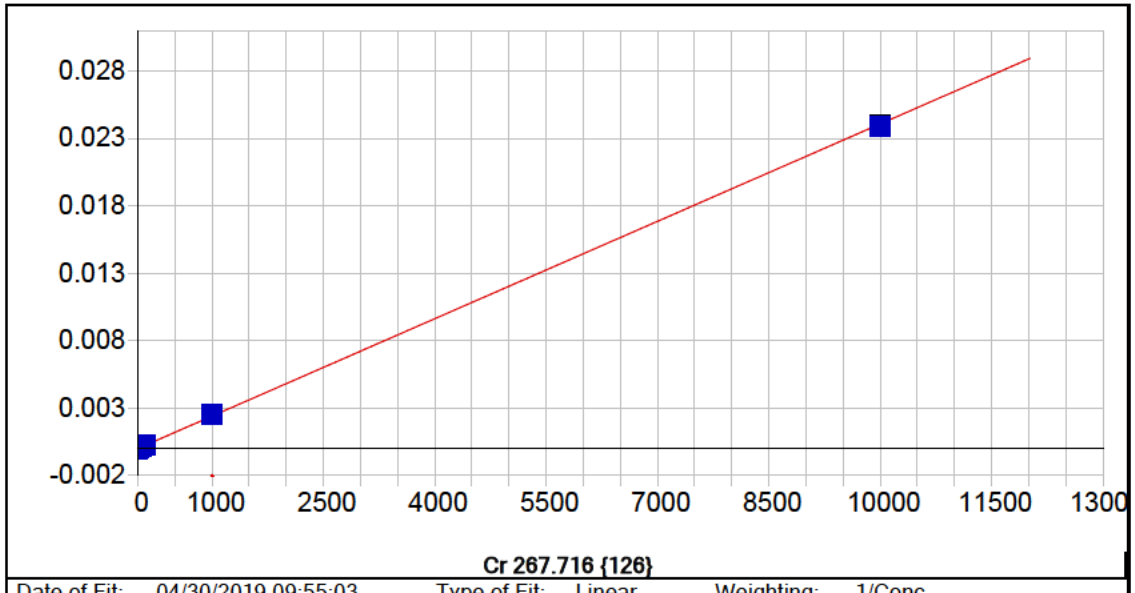



**Cr 205.560 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000025 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000014 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999346 | Status: | OK. |
| Std Error of Est: | 0.000050 | | |
| Predicted MDL: | 0.329099 | | |
| Predicted MQL: | 1.096995 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.9645 | -1.96 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.108 | .108 | 1.08 | .00017 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.049 | 5.05 | 10.1 | .00079 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1059.3 | 59.3 | 5.93 | .01477 | .000 | 1 |
| CalStd8=100 | 100.00 | 112.70 | 12.7 | 12.7 | .00159 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.1948 | -.805 | -16.1 | .00008 | .000 | 1 |
| CalStd3=1 | 1.0000 | -.98755 | -1.99 | -199. | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 10048. | 48.2 | .482 | .13989 | .000 | 1 |
| CalStd12=10 | 100000. | 97873. | -2130. | -2.13 | 1.3624 | .002 | 1 |

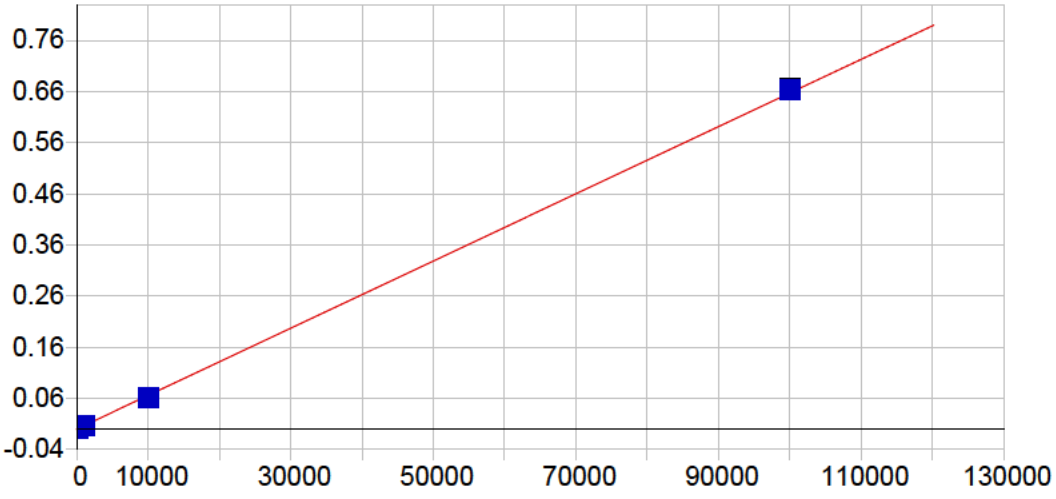



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999762 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 0.915940 | | |
| Predicted MQL: | 3.053132 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00320 | -.003 | .000 | -.00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.496 | 1.50 | 15.0 | .00003 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.420 | 6.42 | 12.8 | .00013 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1036.1 | 36.1 | 3.61 | .00249 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.62 | 15.6 | 15.6 | .00028 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.8784 | .878 | 17.6 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9939.5 | -60.5 | -.605 | .02393 | .000 | 1 |

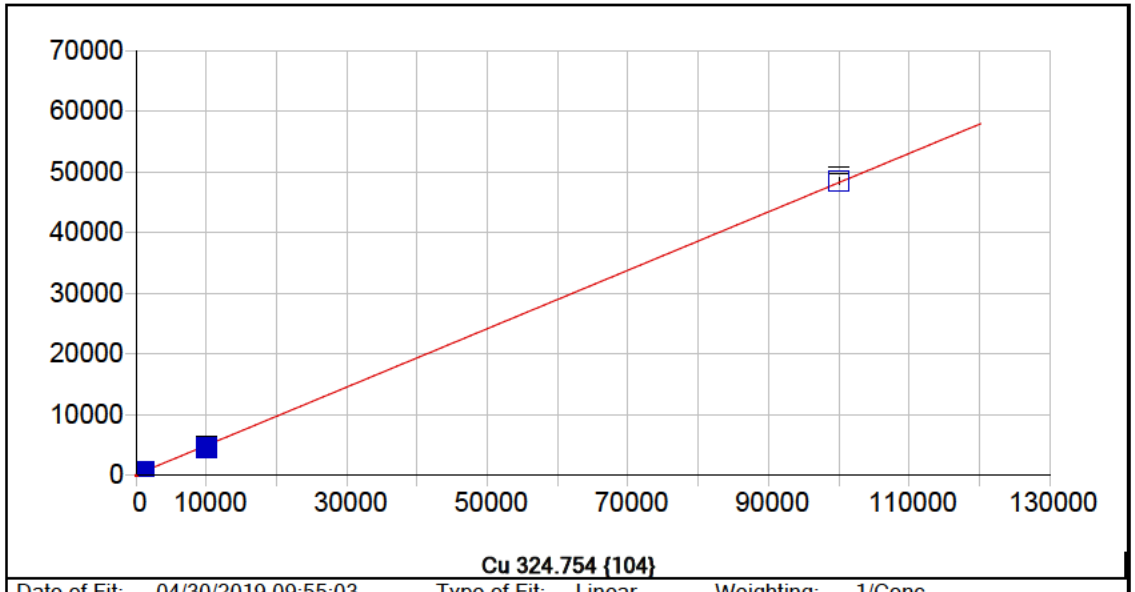



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999445 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.404593 | | |
| Predicted MQL: | 1.348644 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .03932 | .039 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 936.28 | -63.7 | -6.37 | .00615 | .000 | 1 |
| CalStd7=50 | 50.000 | 18.337 | -31.7 | -63.3 | .00012 | .000 | 1 |
| CalStd8=100 | 100.00 | 59.373 | -40.6 | -40.6 | .00039 | .000 | 1 |
| CalStd6=20 | 20.000 | 4.1201 | -15.9 | -79.4 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 100940. | 935. | .935 | .66313 | .004 | 1 |
| CalStd10=10 | 10000. | 9216.5 | -784. | -7.84 | .06055 | .000 | 1 |

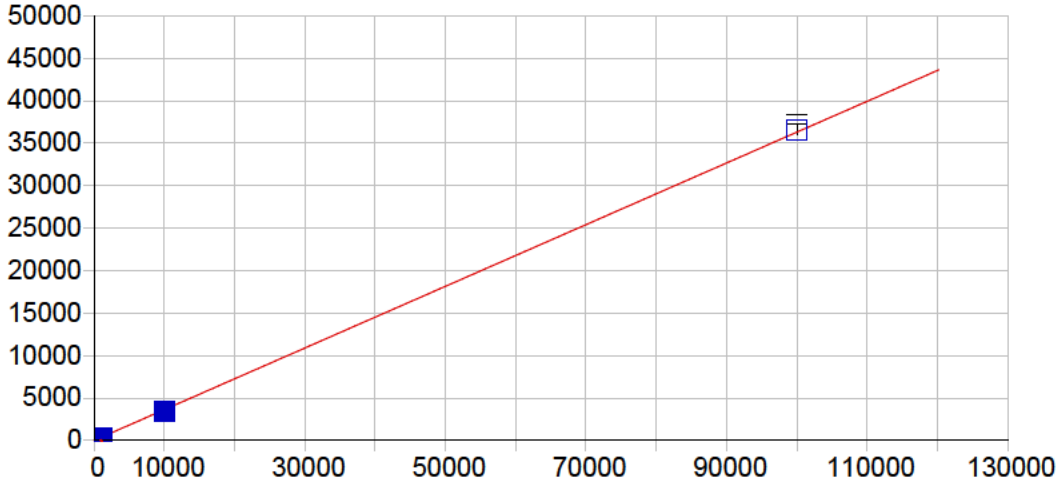



**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 152.602360 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.481135 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999754 | Status: | OK. |
| Std Error of Est: | 0.410373 | | |
| Predicted MDL: | 4.722044 | | |
| Predicted MQL: | 15.740146 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00776 | .008 | .000 | 152.61 | 2.63 | 1 |
| CalStd9=100 | 1000.0 | 961.44 | -38.6 | -3.86 | 615.15 | 5.49 | 1 |
| CalStd8=100 | 100.00 | 105.68 | 5.68 | 5.68 | 203.45 | 2.67 | 1 |
| CalStd10=10 | 10000. | 9359.2 | -641. | -6.41 | 4655.3 | 45.5 | 1 |
| CalStd12=10 | 100000. | 100680. | 679. | .679 | 48593. | 556. | 1 |
| CalStd5=10 | 10.000 | 1.6186 | -8.38 | -83.8 | 153.38 | 1.99 | 1 |
| CalStd6=20 | 20.000 | 21.529 | 1.53 | 7.65 | 162.96 | 1.27 | 1 |
| CalStd7=50 | 50.000 | 51.252 | 1.25 | 2.50 | 177.26 | 1.21 | 1 |

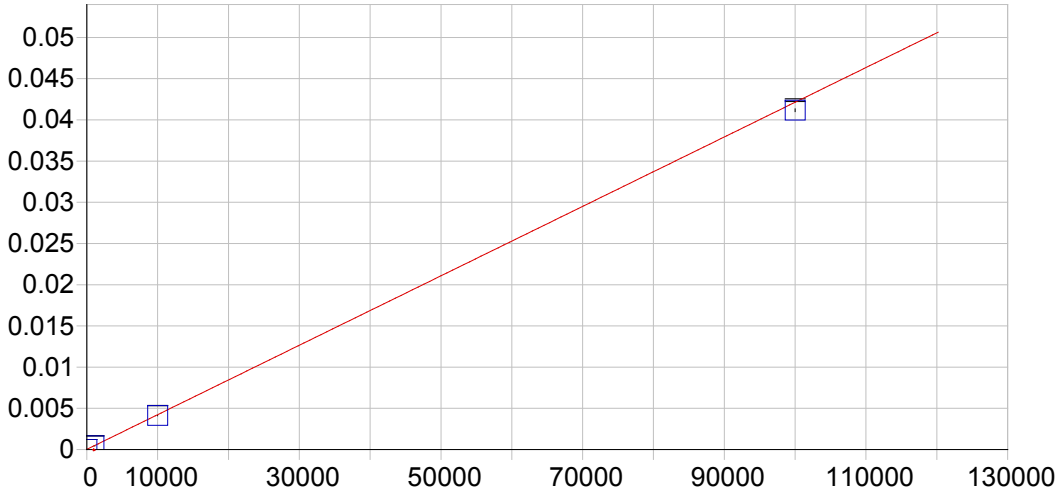



**Cu 327.396 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 9.879293 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.362890 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.236687 | | |
| Predicted MDL: | 8.931508 | | |
| Predicted MQL: | 29.771695 | | |

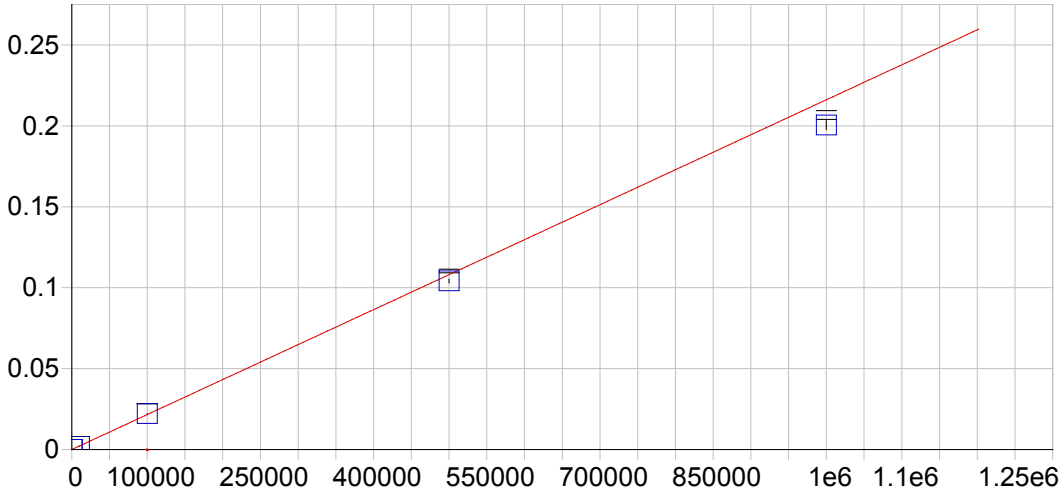
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00094 | .001 | .000 | 9.8796 | 2.22 | 1 |
| CalStd6=20 | 20.000 | 15.015 | -4.99 | -24.9 | 15.324 | 3.98 | 1 |
| CalStd7=50 | 50.000 | 53.153 | 3.15 | 6.31 | 29.157 | 1.19 | 1 |
| CalStd8=100 | 100.00 | 99.709 | -.291 | -.291 | 46.041 | .607 | 1 |
| CalStd9=100 | 1000.0 | 950.81 | -49.2 | -4.92 | 354.69 | 4.85 | 1 |
| CalStd10=10 | 10000. | 9256.5 | -743. | -7.43 | 3368.9 | 30.8 | 1 |
| CalStd12=10 | 100000. | 100790. | 793. | .793 | 36587. | 555. | 1 |
| CalStd4=5 | 5.0000 | 4.2097 | -.790 | -15.8 | 11.406 | 1.93 | 1 |
| CalStd5=10 | 10.000 | 12.745 | 2.75 | 27.5 | 14.502 | .669 | 1 |




**Fe 234.349 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Curvilinear | Weighting: | 1/Var |
| A0 (Offset): | 0.000018 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.999859 | | Status: | OK. | |
| Std Error of Est: | 0.000004 | | | | |
| Predicted MDL: | 1.864255 | | | | |
| Predicted MQL: | 6.214182 | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.44379 | -.444 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9733.4 | -267. | -2.67 | .00412 | .000 | 1 |
| CalStd13=10 | 100000. | 97686. | -2310. | -2.31 | .04116 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1022.1 | 22.1 | 2.21 | .00045 | .000 | 1 |

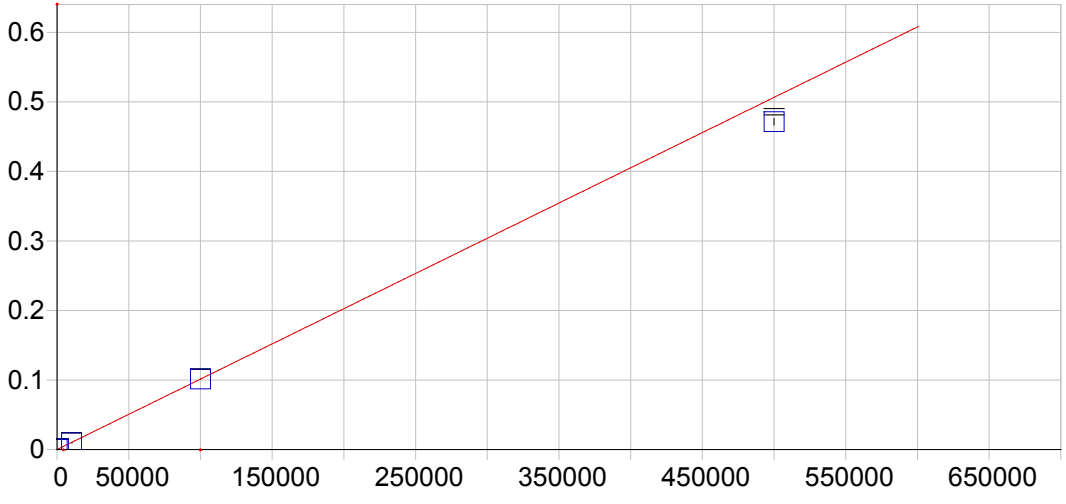



**Fe 239.562 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999418 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 15.524856 | | |
| Predicted MQL: | 51.749520 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 11.843 | 11.8 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9706.8 | -293. | -2.93 | .00210 | .000 | 1 |
| CalStd13=10 | 100000. | 102420. | 2420. | 2.42 | .02214 | .000 | 1 |
| CalStd14=50 | 500000. | 481790. | -18200. | -3.64 | .10413 | .001 | 1 |
| CalStd9=100 | 1000.0 | 991.29 | -8.71 | -.871 | .00022 | .000 | 1 |
| CalibStd15= | 1000000. | 927780. | -72200. | -7.22 | .20051 | .003 | 1 |

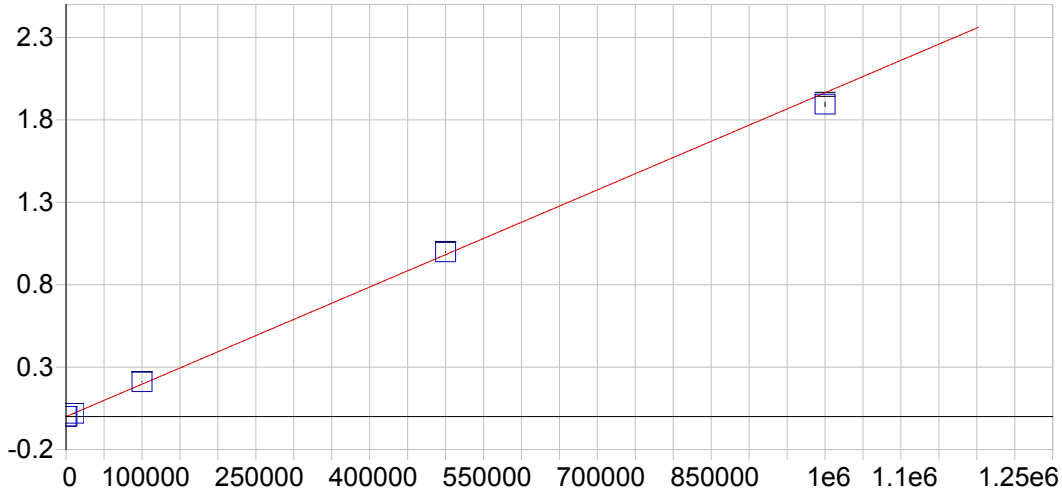



**Fe 259.940 {129}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Curvilinear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999821 | Status: | OK. |
| Std Error of Est: | 0.000053 | | |
| Predicted MDL: | 4.606947 | | |
| Predicted MQL: | 15.356490 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 6.8162 | 6.82 | .000 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9489.3 | -511. | -5.11 | .00962 | .000 | 1 |
| CalStd13=10 | 100000. | 99907. | -92.6 | -.093 | .10120 | .000 | 1 |
| CalStd14=50 | 500000. | 465380. | -34600. | -6.92 | .47137 | .005 | 1 |
| CalStd9=100 | 1000.0 | 979.44 | -20.6 | -2.06 | .00100 | .000 | 1 |

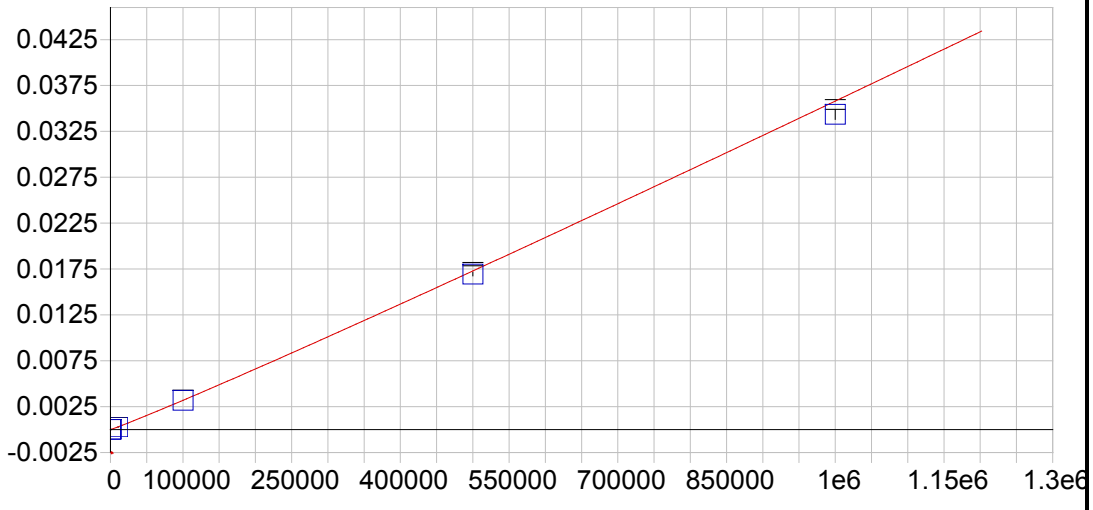



**Mg 202.582 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999670 | Status: | OK. |
| Std Error of Est: | 0.000133 | | |
| Predicted MDL: | 2.519477 | | |
| Predicted MQL: | 8.398256 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | 1.5113 | 1.51 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 107520. | 7520. | 7.52 | .21123 | .001 | 1 |
| CalStd10=10 | 10000. | 9857.6 | -142. | -1.42 | .01936 | .000 | 1 |
| CalStd14=50 | 500000. | 508490. | 8490. | 1.70 | .99901 | .002 | 1 |
| CalStd9=100 | 1000.0 | 1111.4 | 111. | 11.1 | .00218 | .000 | 1 |
| CalibStd15= | 1000000. | 964300. | -35700. | -3.57 | 1.8945 | .012 | 1 |

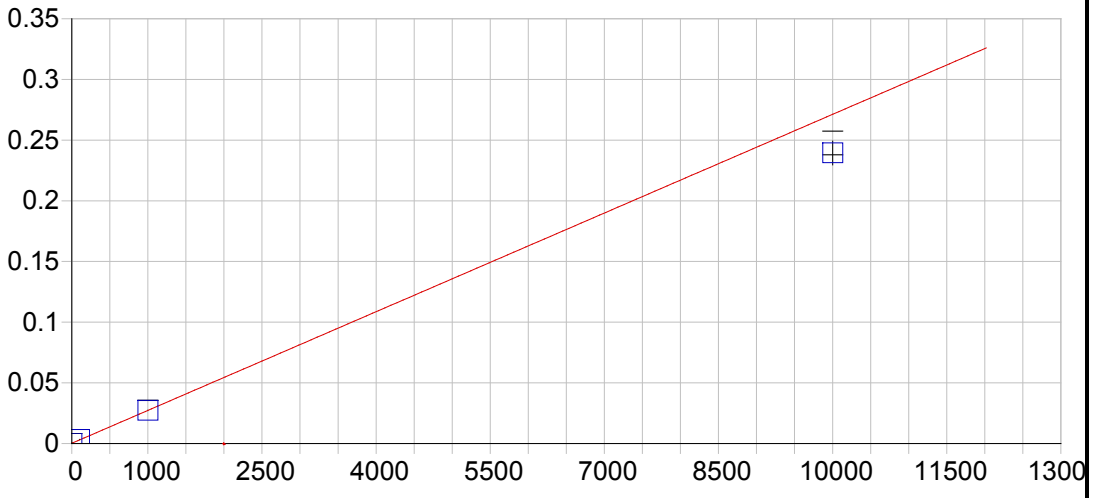



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Full Fit | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.050000 | | |
| Correlation: | 0.999996 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 133.110534 | | |
| Predicted MQL: | 443.701781 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd13=10 | 100000. | 99896. | -104. | -.104 | .00319 | .000 | 1 |
| CalStd10=10 | 10000. | 9844.2 | -156. | -1.56 | .00028 | .000 | 1 |
| CalStd14=50 | 500000. | 490330. | -9670. | -1.93 | .01694 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1123.4 | 123. | 12.3 | .00003 | .000 | 1 |
| CalibStd15= | 1000000. | 961250. | -38700. | -3.87 | .03435 | .001 | 1 |

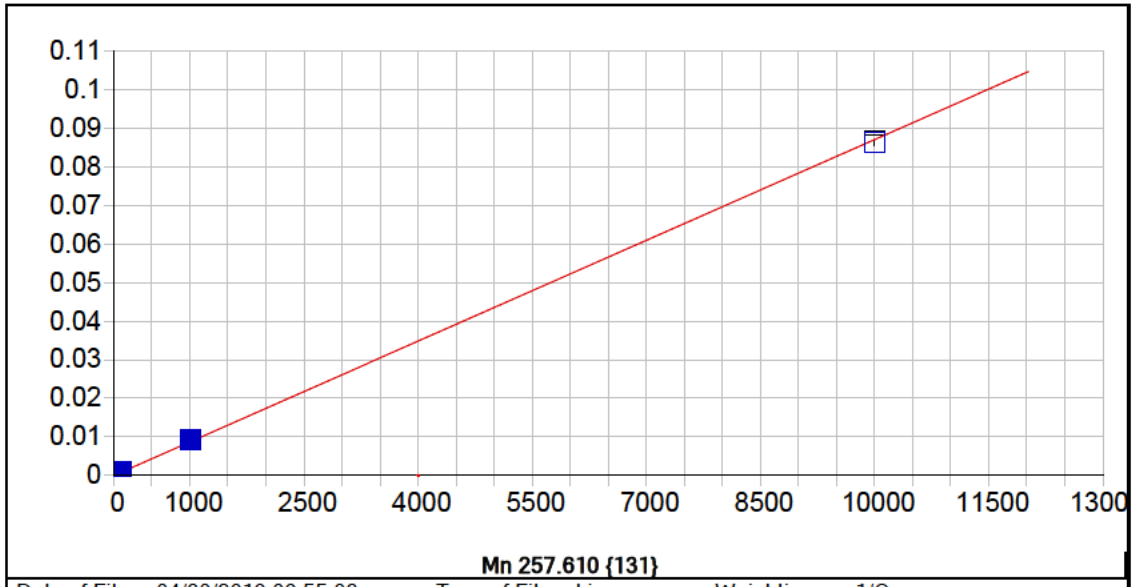



**Mg 280.270 {120}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000201 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000027 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999921 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.045828 | | |
| Predicted MQL: | 0.152761 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00329 | -.003 | .000 | .00020 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.6 | .644 | .064 | .02732 | .000 | 1 |
| CalStd10=10 | 10000. | 8825.4 | -1170. | -11.7 | .23939 | .010 | 1 |
| CalStd8=100 | 100.00 | 114.01 | 14.0 | 14.0 | .00329 | .000 | 1 |

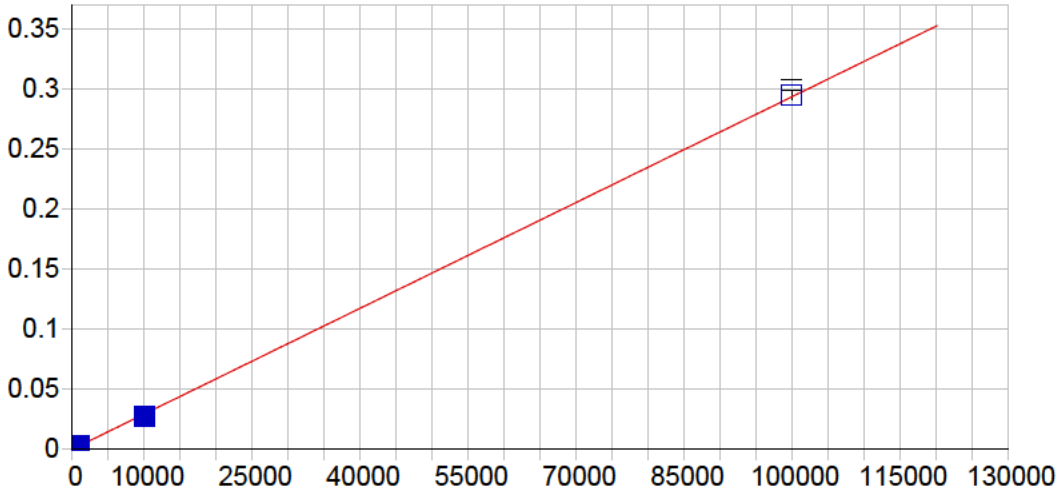



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000009 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999475 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.136894 | | |
| Predicted MQL: | 0.456314 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00533 | -.005 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.487 | 2.49 | 24.9 | .00011 | .000 | 1 |
| CalStd7=50 | 50.000 | 59.361 | 9.36 | 18.7 | .00052 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.723 | 3.72 | 18.6 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.50 | 20.5 | 20.5 | .00105 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.9506 | .951 | 19.0 | .00006 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1058.2 | 58.2 | 5.82 | .00921 | .000 | 1 |
| CalStd10=10 | 10000. | 9904.8 | -95.2 | -.952 | .08618 | .001 | 1 |

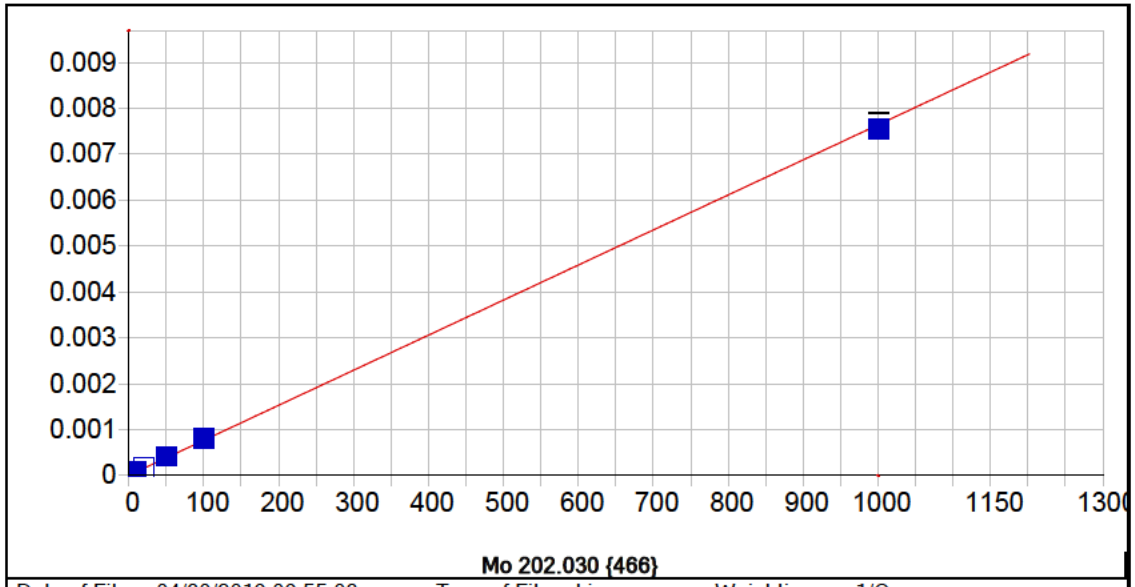



**Mn 259.373 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999852 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 1.509629 | | |
| Predicted MQL: | 5.032097 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .08101 | .081 | .000 | .00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9465.2 | -535. | -5.35 | .02781 | .000 | 1 |
| CalStd9=100 | 1000.0 | 966.78 | -33.2 | -3.32 | .00284 | .000 | 1 |
| CalStd12=10 | 100000. | 100570. | 569. | .569 | .29508 | .004 | 1 |

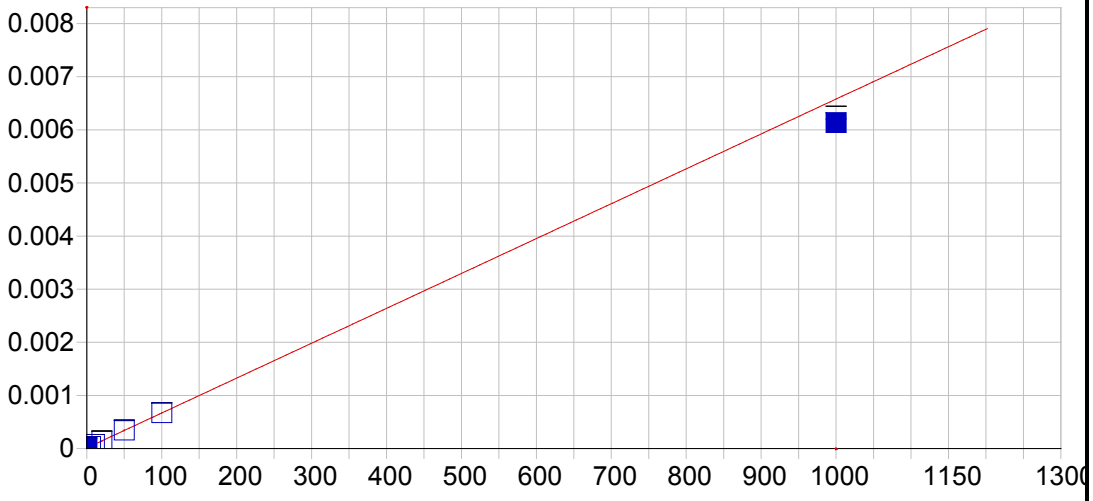



**Mo 202.030 {466}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000008 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999483 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.515116 | | |
| Predicted MQL: | 1.717053 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00215 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.675 | 3.68 | 7.35 | .00041 | .000 | 1 |
| CalStd6=20 | 20.000 | 21.946 | 1.95 | 9.73 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.234 | 1.23 | 12.3 | .00009 | .000 | 1 |
| CalStd8=100 | 100.00 | 106.32 | 6.32 | 6.32 | .00082 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4276 | .428 | 8.55 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 986.40 | -13.6 | -1.36 | .00756 | .000 | 1 |

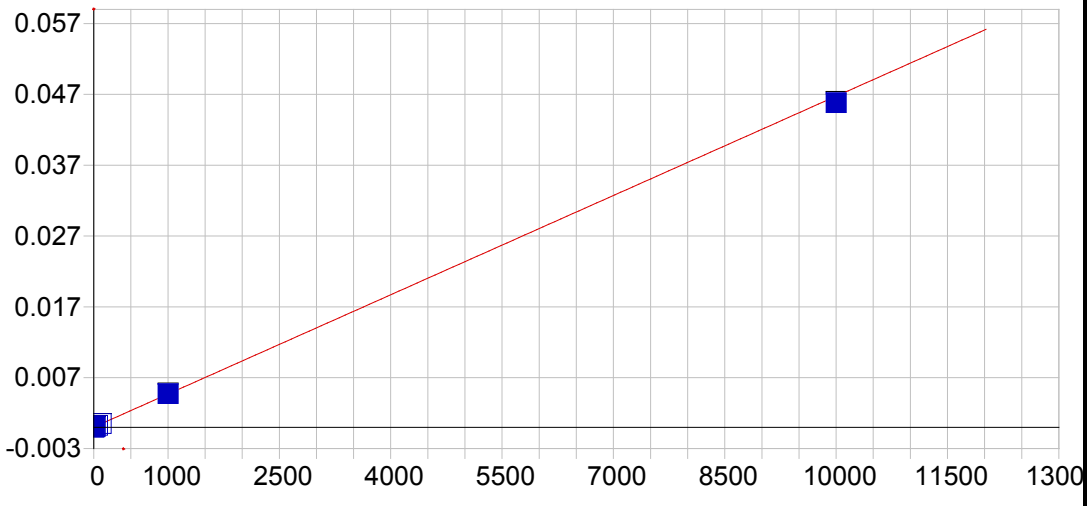



**Mo 203.844 {465}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000013 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999687 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.762596 | | |
| Predicted MQL: | 2.541988 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.31354 | -.314 | .000 | .00001 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.511 | .511 | 1.02 | .00034 | .000 | 1 |
| CalStd6=20 | 20.000 | 19.547 | -.453 | -2.27 | .00014 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.460 | .460 | 4.60 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 100.47 | .473 | .473 | .00067 | .000 | 1 |
| CalStd4=5 | 5.0000 | 4.3493 | -.651 | -13.0 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 932.32 | -67.7 | -6.77 | .00613 | .000 | 1 |

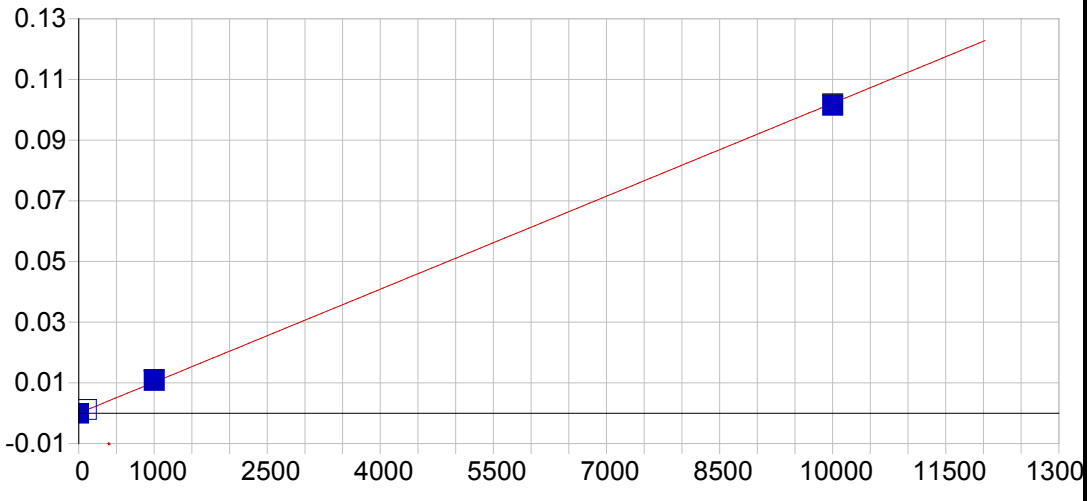



**Mo 204.598 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000021 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999060 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.997649 | | |
| Predicted MQL: | 3.325496 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -3.6362 | -3.64 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 50.103 | .103 | .206 | .00025 | .000 | 1 |
| CalStd6=20 | 20.000 | 17.618 | -2.38 | -11.9 | .00010 | .000 | 1 |
| CalStd5=10 | 10.000 | 7.1051 | -2.89 | -28.9 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 105.65 | 5.65 | 5.65 | .00051 | .000 | 1 |
| CalStd4=5 | 5.0000 | .49514 | -4.50 | -90.1 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1008.1 | 8.14 | .814 | .00473 | .000 | 1 |
| CalStd10=10 | 10000. | 9801.6 | -198. | -1.98 | .04582 | .000 | 1 |

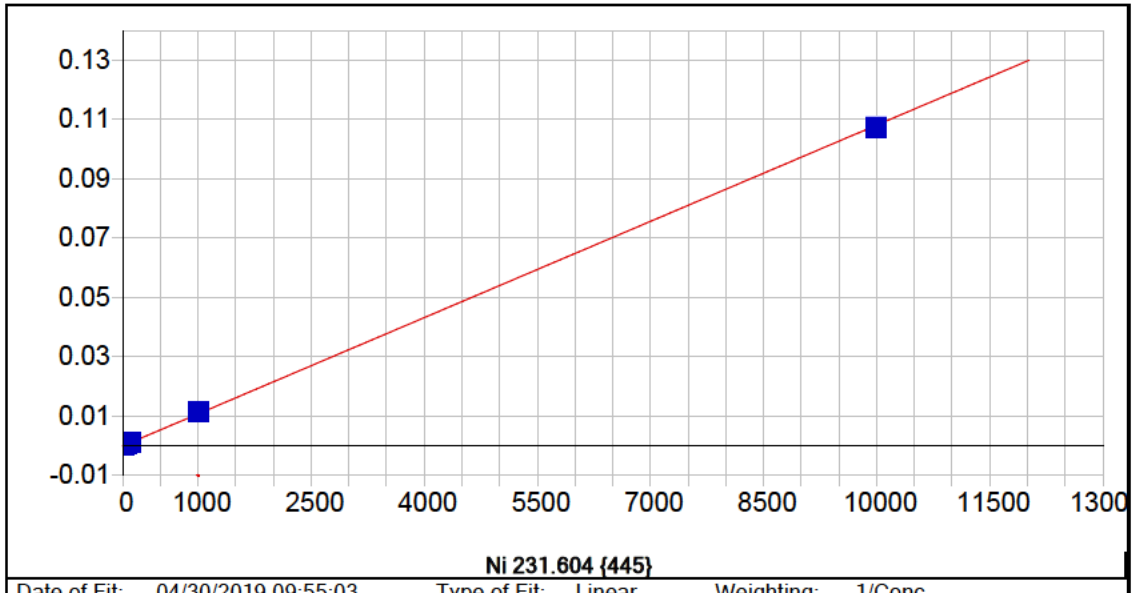



**Ni 221.647 {452}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000010 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999745 | Status: | OK. |
| Std Error of Est: | 0.000011 | | |
| Predicted MDL: | 0.749478 | | |
| Predicted MQL: | 2.498260 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01977 | -.020 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 9931.0 | -69.0 | -.690 | .10146 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.06 | 15.1 | 15.1 | .00117 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1054.0 | 54.0 | 5.40 | .01077 | .000 | 1 |

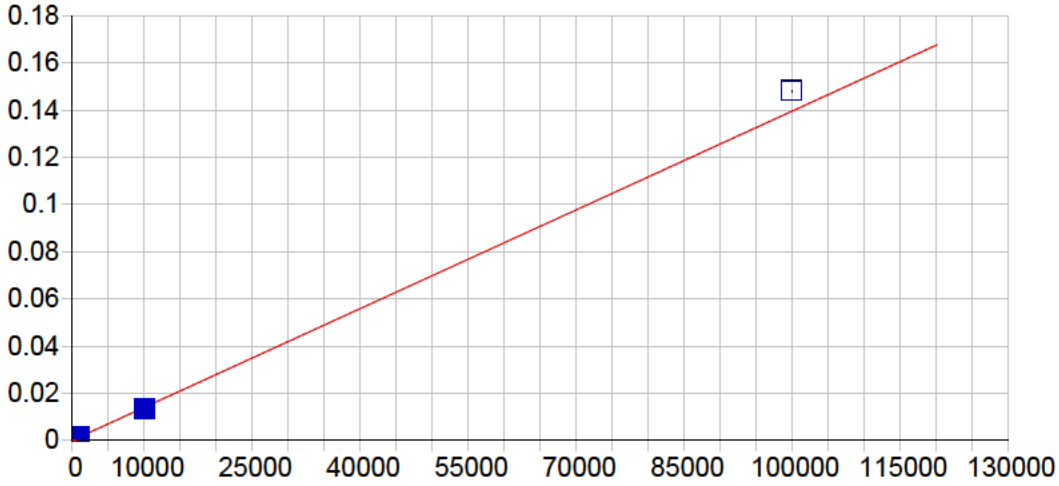



**Ni 231.604 {445}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000023 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000011 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999699 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 0.711112 | | |
| Predicted MQL: | 2.370373 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00083 | -.001 | .000 | -.00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.687 | 6.69 | 13.4 | .00059 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.461 | 1.46 | 14.6 | .00010 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.65 | 14.7 | 14.7 | .00122 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.4399 | .440 | 8.80 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1052.9 | 52.9 | 5.29 | .01137 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.2723 | .272 | 27.2 | -.00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9923.7 | -76.3 | -.763 | .10750 | .000 | 1 |

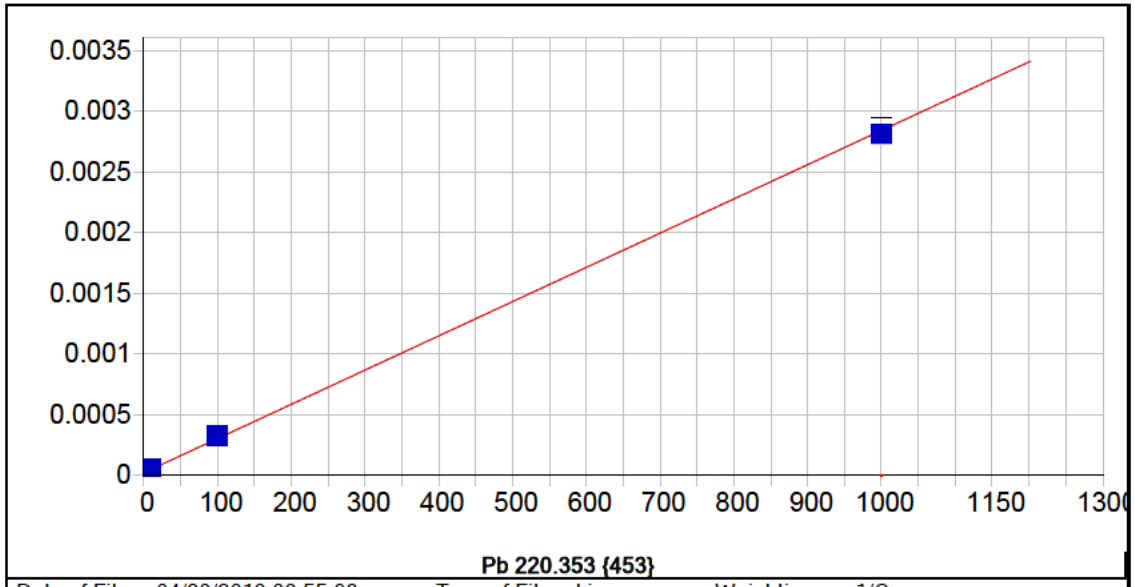



**Pb 216.999 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999167 | Status: | OK. |
| Std Error of Est: | 0.000084 | | |
| Predicted MDL: | 4.334763 | | |
| Predicted MQL: | 14.449211 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -1.0668 | -1.07 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1035.0 | 35.0 | 3.50 | .00146 | .000 | 1 |
| CalStd10=10 | 10000. | 9735.3 | -265. | -2.65 | .01359 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.16 | 9.16 | 9.16 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.450 | 2.45 | 24.5 | .00003 | .000 | 1 |
| CalStd12=10 | 100000. | 106240. | 6240. | 6.24 | .14820 | .000 | 1 |

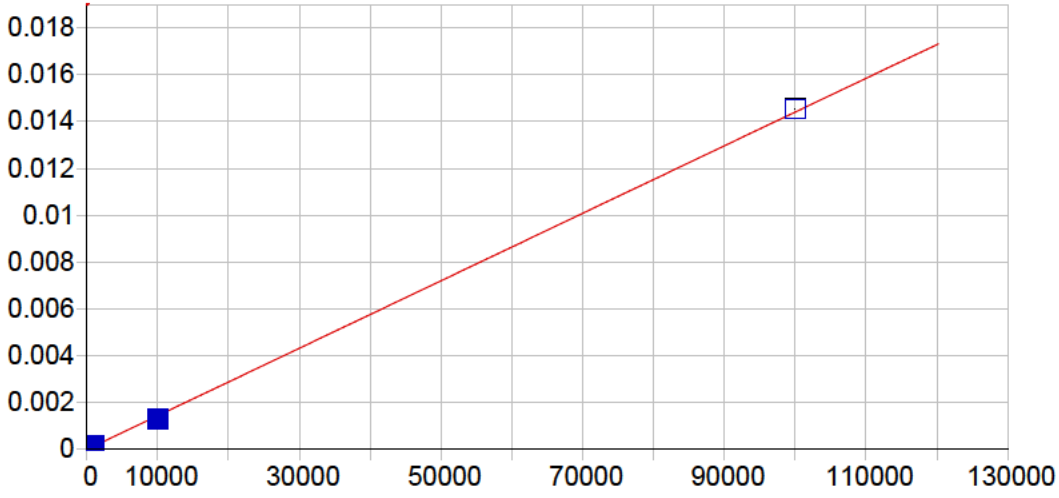



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000022 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999563 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.740836 | | |
| Predicted MQL: | 9.136121 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00117 | -.001 | .000 | .00002 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.297 | .297 | 2.97 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 108.89 | 8.89 | 8.89 | .00033 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.6216 | .622 | 12.4 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.20 | -9.80 | -.980 | .00281 | .000 | 1 |

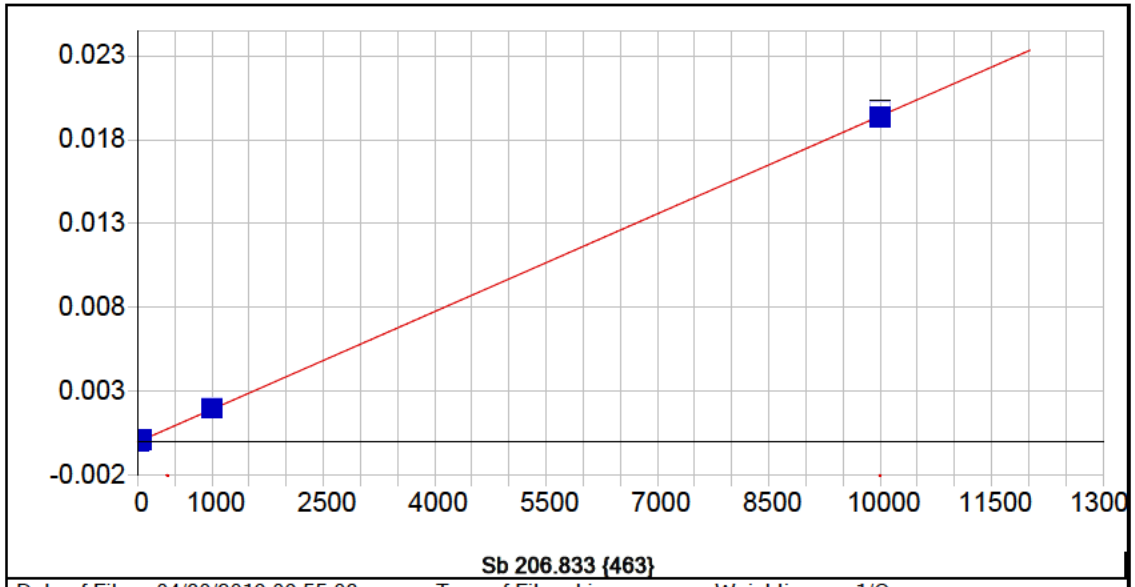



**Pb 220.353 {153}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999635 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 6.825444 | | |
| Predicted MQL: | 22.751481 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00017 | -.000 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 976.59 | -23.4 | -2.34 | .00014 | .000 | 1 |
| CalStd10=10 | 10000. | 9150.2 | -850. | -8.50 | .00132 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.15 | 10.1 | 10.1 | .00002 | .000 | 1 |
| CalStd12=10 | 100000. | 100860. | 863. | .863 | .01453 | .000 | 1 |

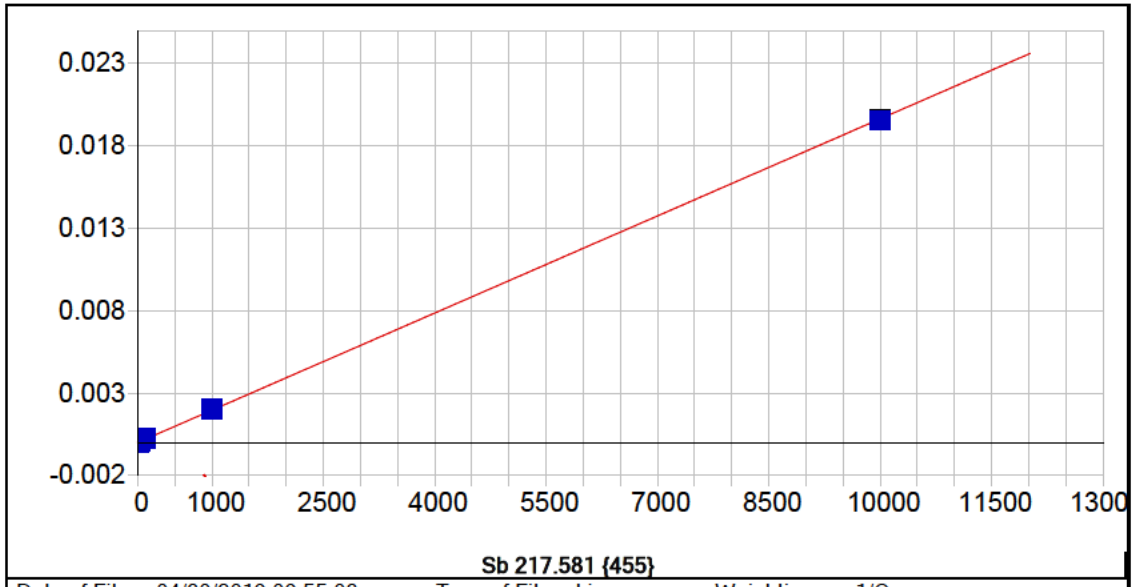



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999889 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.426101 | | |
| Predicted MQL: | 8.087004 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00397 | -.004 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1030.1 | 30.1 | 3.01 | .00203 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.340 | 2.34 | 23.4 | .00002 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.856 | 6.86 | 13.7 | .00011 | .000 | 1 |
| CalStd10=10 | 10000. | 9960.7 | -39.3 | -.393 | .01969 | .000 | 1 |

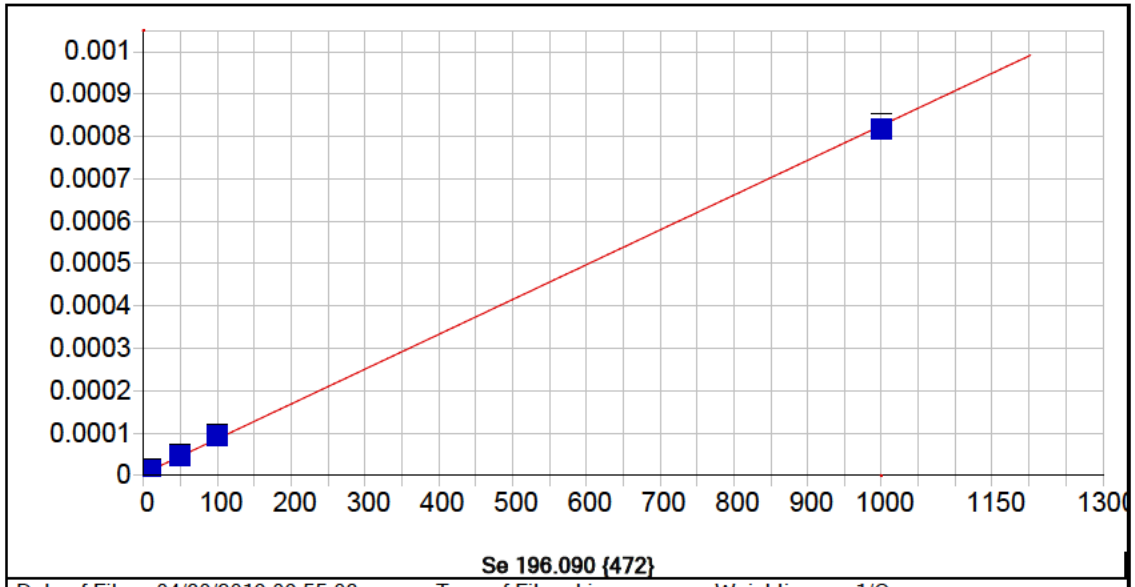



**Sb 217.581 {455}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999794 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 2.685209 | | |
| Predicted MQL: | 8.950698 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00267 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1033.4 | 33.4 | 3.34 | .00203 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.026 | 3.03 | 15.1 | .00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.004 | 2.00 | 20.0 | .00003 | .000 | 1 |
| CalStd8=100 | 100.00 | 115.27 | 15.3 | 15.3 | .00023 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0034 | .003 | .069 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9946.3 | -53.7 | -.537 | .01954 | .000 | 1 |

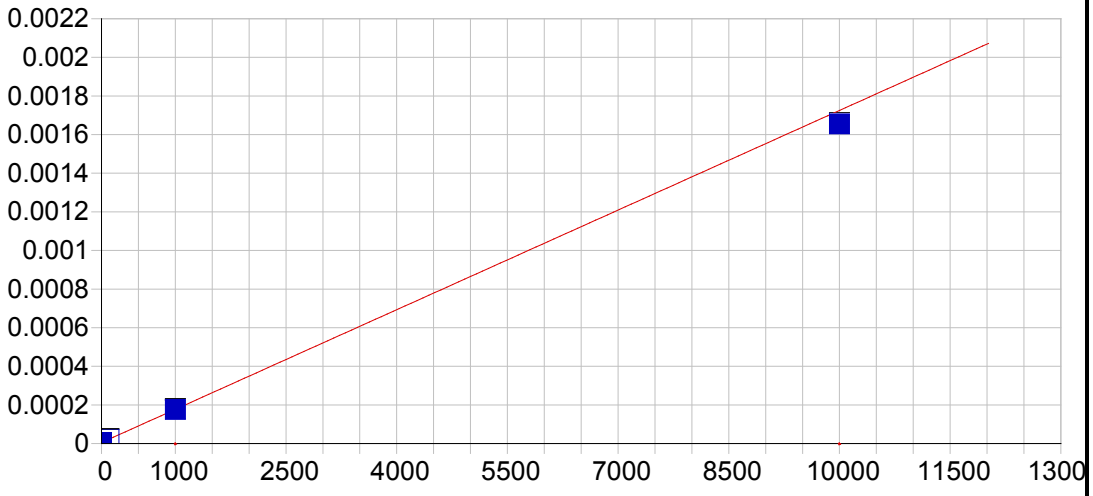



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999594 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 4.609288 | | |
| Predicted MQL: | 15.364293 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00173 | -.002 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 52.853 | 2.85 | 5.71 | .00005 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.73 | -11.3 | -1.13 | .00082 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.473 | .473 | 4.73 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 107.94 | 7.94 | 7.94 | .00009 | .000 | 1 |

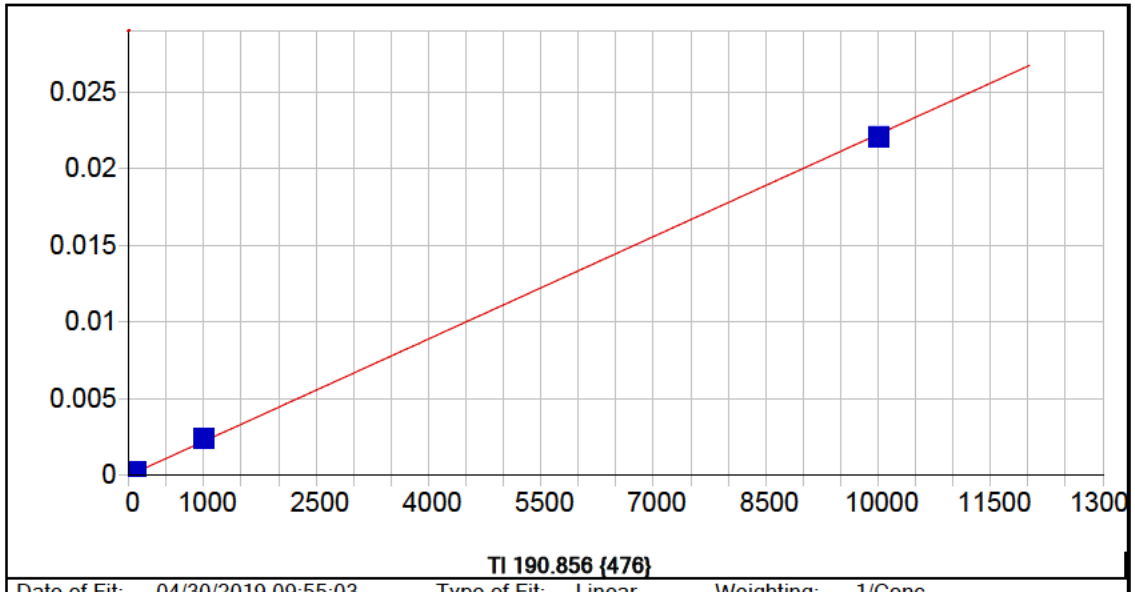



**Se 206.279 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999993 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 29.897348 | | |
| Predicted MQL: | 99.657827 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00325 | -.003 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 991.90 | -8.10 | -.810 | .00018 | .000 | 1 |
| CalStd10=10 | 10000. | 9590.7 | -409. | -4.09 | .00166 | .000 | 1 |
| CalStd8=100 | 100.00 | 103.61 | 3.61 | 3.61 | .00002 | .000 | 1 |

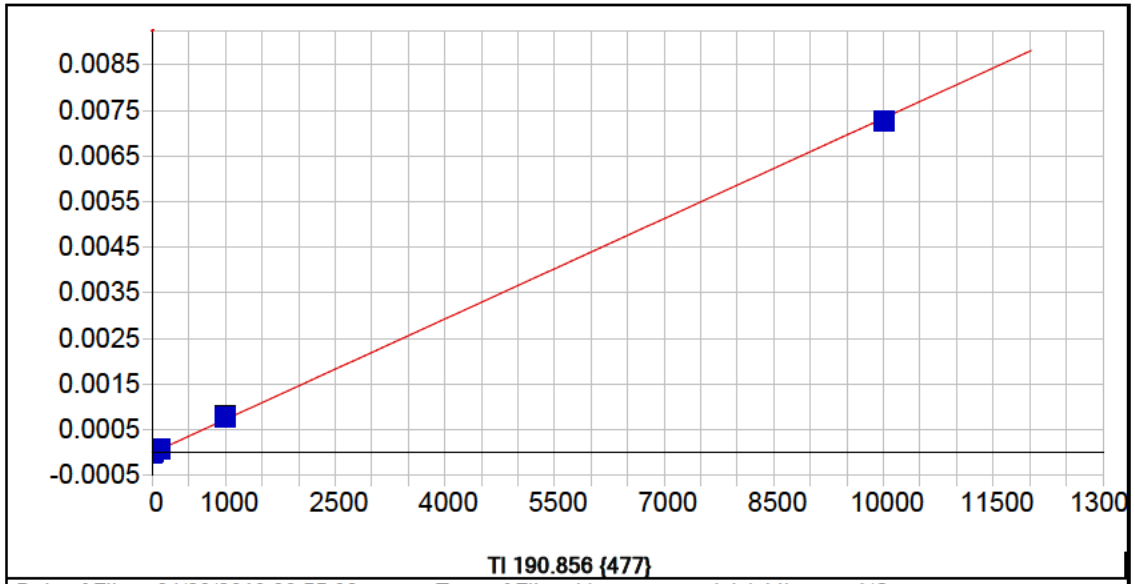



**Tl 190.856 {476}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000002 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999574 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.143954 | | |
| Predicted MQL: | 7.146514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00306 | -.003 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1074.2 | 74.2 | 7.42 | .00240 | .000 | 1 |
| CalStd8=100 | 100.00 | 117.72 | 17.7 | 17.7 | .00027 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.638 | .638 | 6.38 | .00003 | .000 | 1 |
| CalStd10=10 | 10000. | 9907.5 | -92.5 | -.925 | .02212 | .000 | 1 |

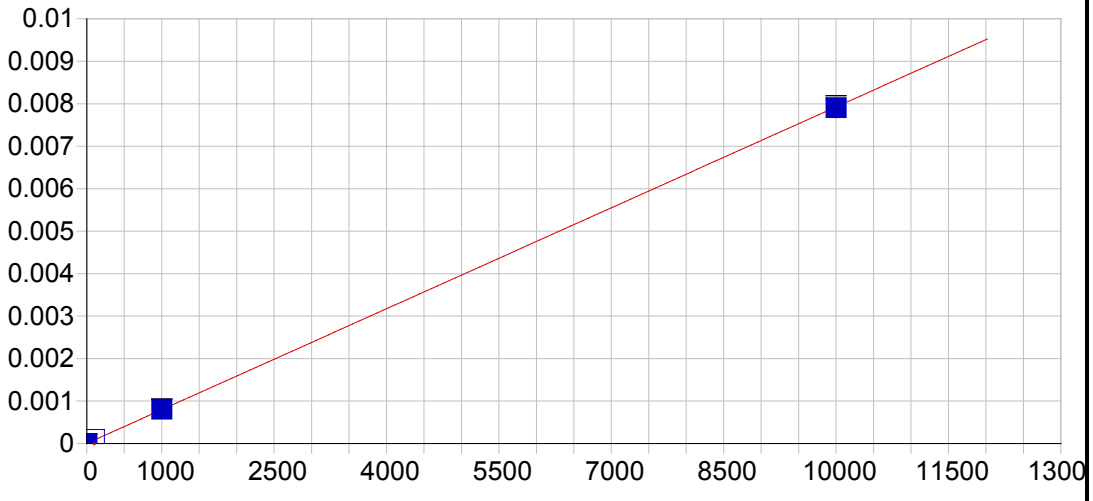



**Tl 190.856 {477}**

Date of Fit: 04/30/2019 09:55:03 Type of Fit: Linear Weighting: 1/Conc

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000003 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999482 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 5.214067 | | |
| Predicted MQL: | 17.380222 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00538 | -.005 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1075.6 | 75.6 | 7.56 | .00079 | .000 | 1 |
| CalStd8=100 | 100.00 | 120.30 | 20.3 | 20.3 | .00009 | .000 | 1 |
| CalStd5=10 | 10.000 | 12.692 | 2.69 | 26.9 | .00001 | .000 | 1 |
| CalStd10=10 | 10000. | 9901.4 | -98.6 | -.986 | .00726 | .000 | 1 |

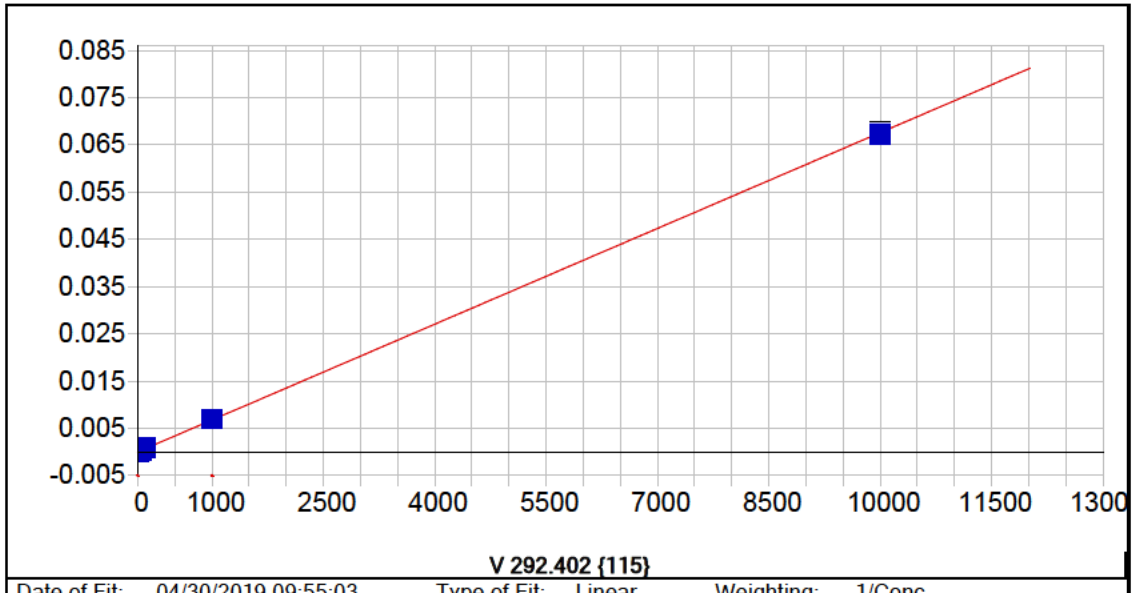



**V 290.882 {116}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999933 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 7.363833 | | |
| Predicted MQL: | 24.546109 | | |

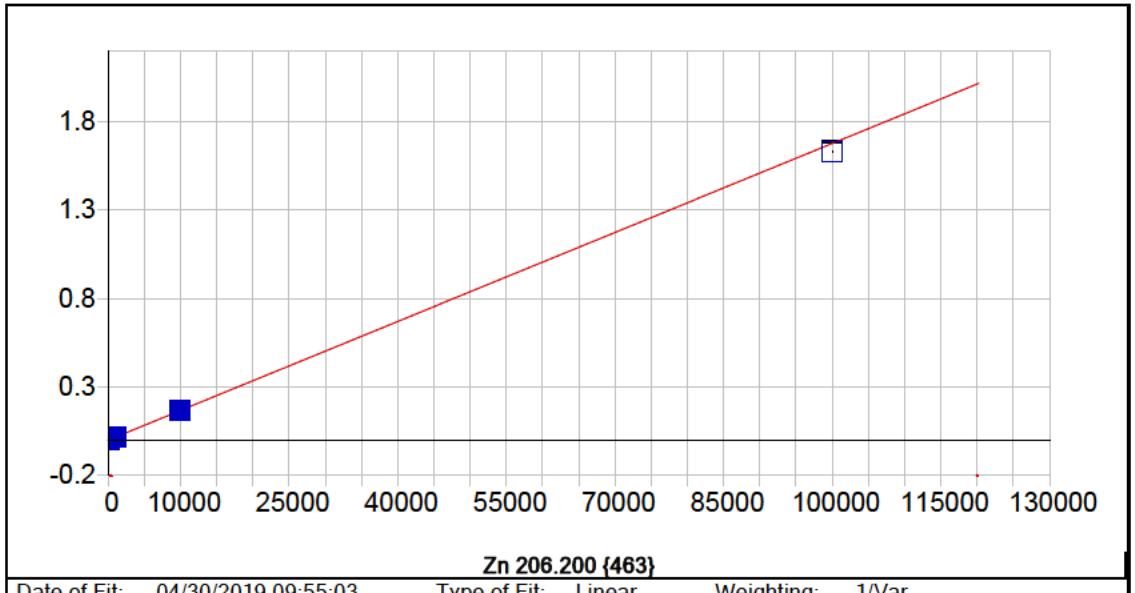
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.01220 | -.012 | .000 | .00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1013.7 | 13.7 | 1.37 | .00081 | .000 | 1 |
| CalStd10=10 | 10000. | 9975.3 | -24.7 | -.247 | .00791 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.08 | 11.1 | 11.1 | .00009 | .000 | 1 |




| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000002 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999779 | Status: | OK. |
| Std Error of Est: | 0.000002 | | |
| Predicted MDL: | 0.610512 | | |
| Predicted MQL: | 2.035041 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00649 | -.006 | .000 | .00000 | .000 | 1 |
| CalStd7=50 | 50.000 | 56.889 | 6.89 | 13.8 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1026.4 | 26.4 | 2.64 | .00694 | .000 | 1 |
| CalStd6=20 | 20.000 | 23.054 | 3.05 | 15.3 | .00016 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.885 | 1.89 | 18.9 | .00008 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.93 | 14.9 | 14.9 | .00078 | .000 | 1 |
| CalStd10=10 | 10000. | 9947.1 | -52.9 | -.529 | .06748 | .000 | 1 |

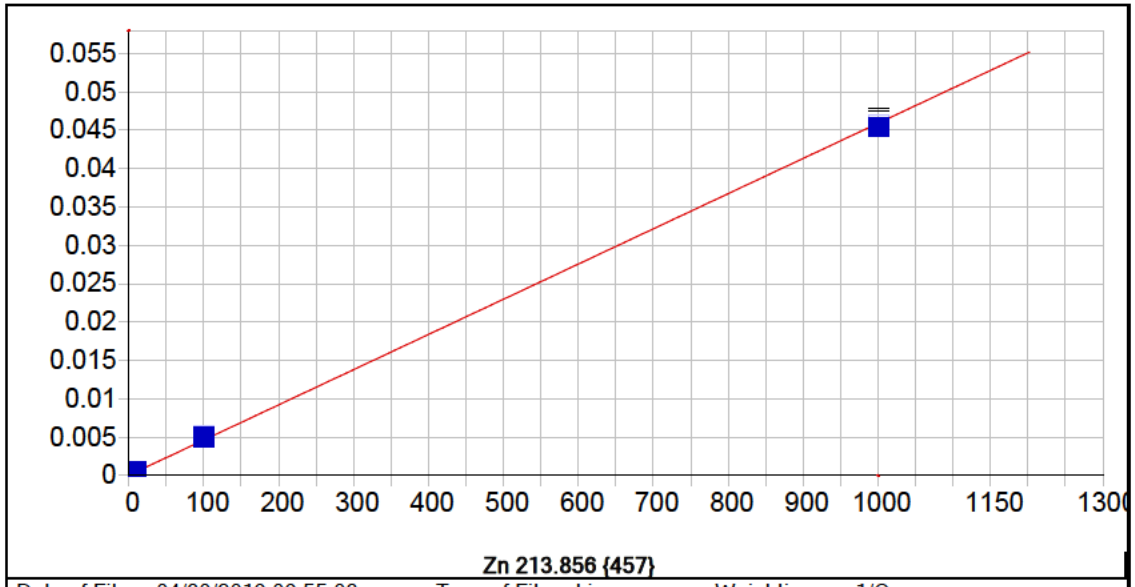



**Zn 206.200 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000017 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998422 | Status: | OK. |
| Std Error of Est: | 0.000094 | | |
| Predicted MDL: | 0.309576 | | |
| Predicted MQL: | 1.031922 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| CalStd10=10 | 10000. | 9910.8 | -89.2 | -.892 | .16619 | .001 | 1 |
| Blank | .00000 | -2.0971 | -2.10 | .000 | -.00000 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1050.8 | 50.8 | 5.08 | .01765 | .000 | 1 |
| CalStd12=10 | 100000. | 97242. | -2760. | -2.76 | 1.6303 | .005 | 1 |
| CalStd5=10 | 10.000 | 10.293 | .293 | 2.93 | .00021 | .000 | 1 |
| CalStd8=100 | 100.00 | 114.34 | 14.3 | 14.3 | .00195 | .000 | 1 |

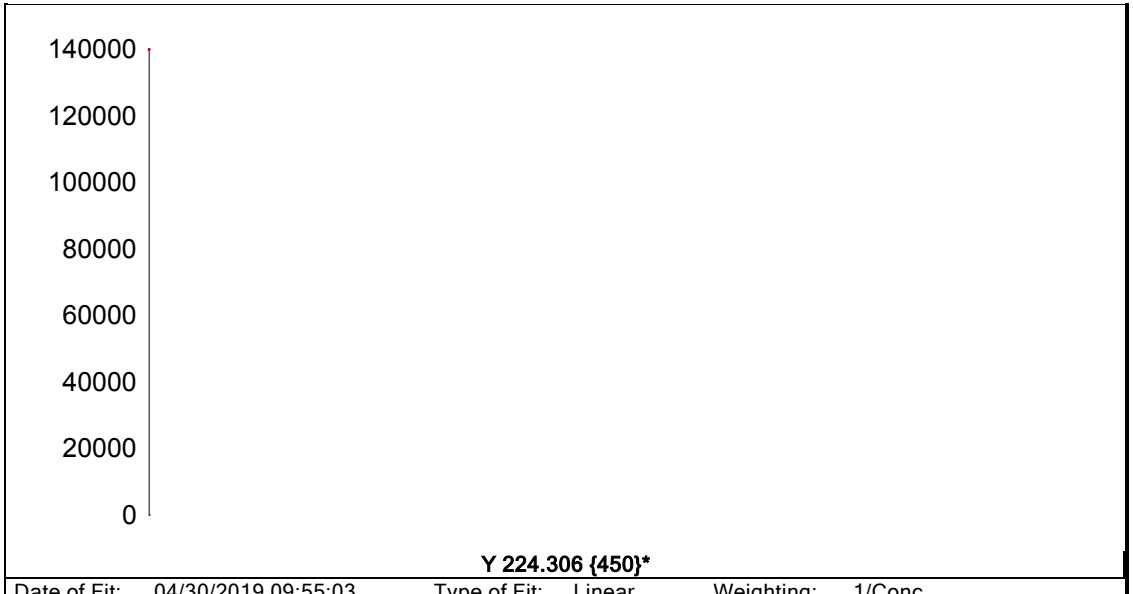



**Zn 213.856 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000035 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000046 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999376 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.121383 | | |
| Predicted MQL: | 0.404609 | | |

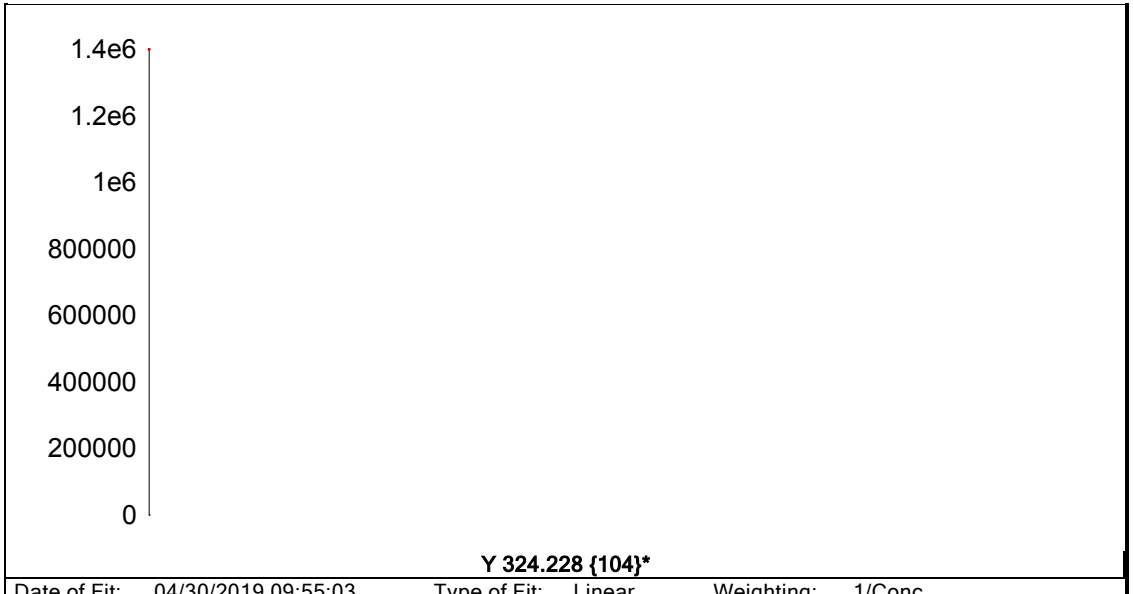
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00261 | -.003 | .000 | .00003 | .000 | 1 |
| CalStd9=100 | 1000.0 | 988.44 | -11.6 | -1.16 | .04569 | .001 | 1 |
| CalStd5=10 | 10.000 | 11.740 | 1.74 | 17.4 | .00057 | .000 | 1 |
| CalStd8=100 | 100.00 | 109.84 | 9.84 | 9.84 | .00510 | .000 | 1 |




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

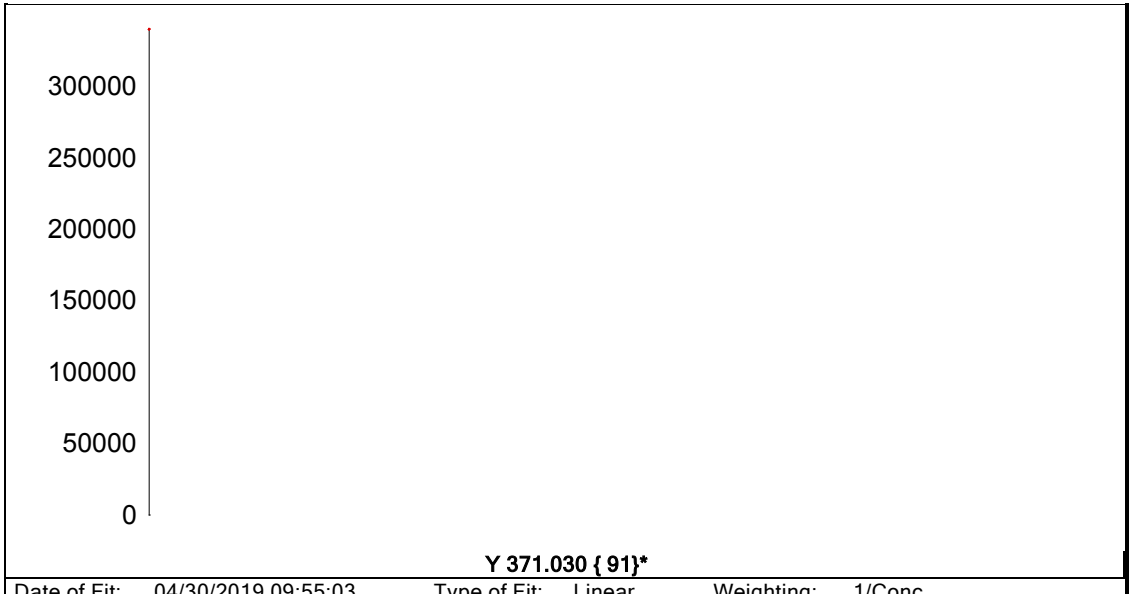
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 128510. | 181. | 1 |




**Y 324.228 {104}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

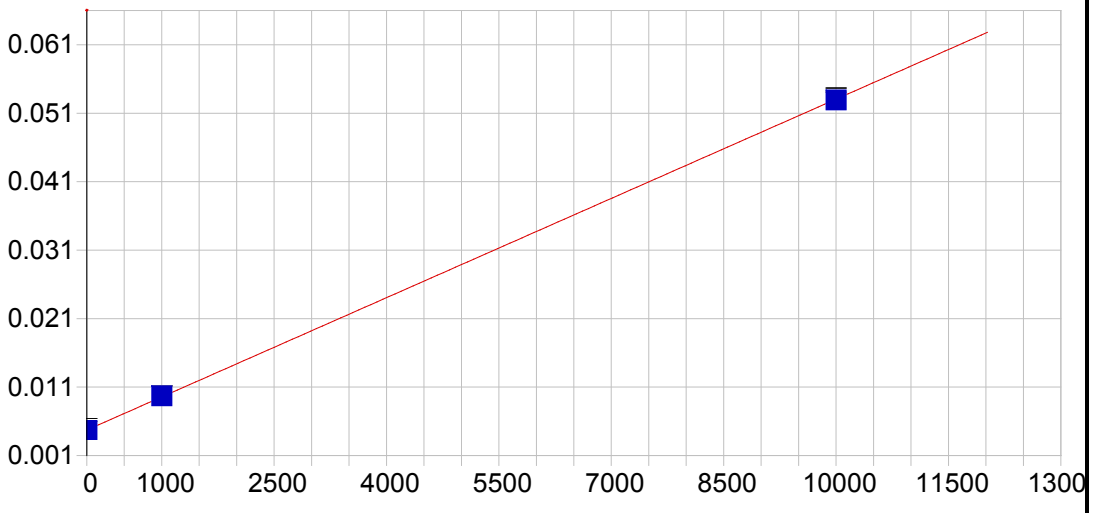
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 1290300. | 7080. | 1 |




**Y 371.030 { 91}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | 306760. | 9100. | 1 |

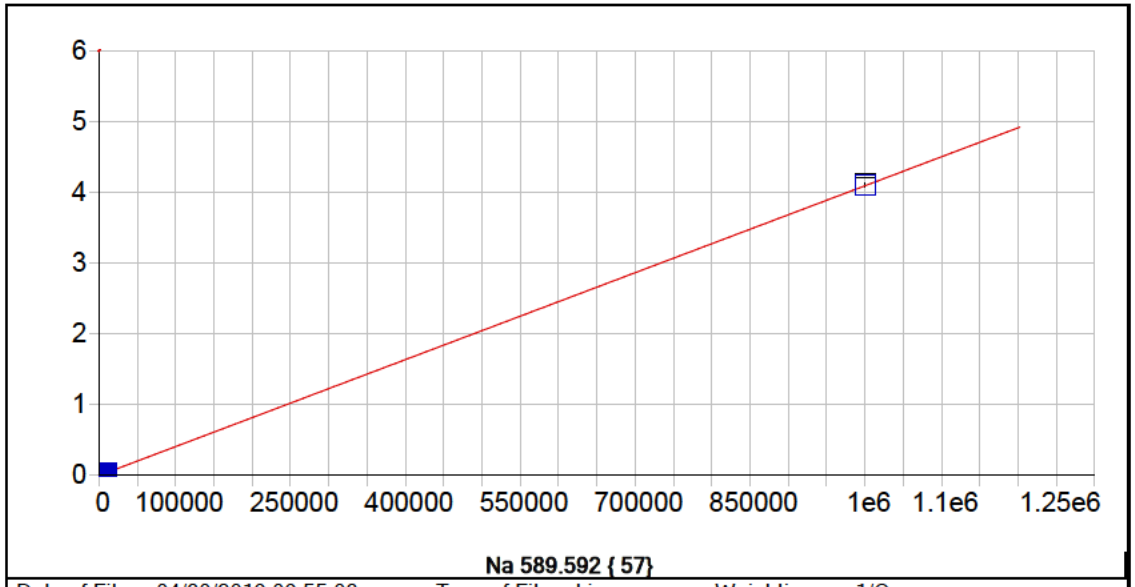



**Na 588.995 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.004725 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000005 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999959 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 10.321234 | | |
| Predicted MQL: | 34.404114 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.02581 | -.026 | .000 | .00472 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1028.7 | 28.7 | 2.87 | .00970 | .000 | 1 |
| CalStd10=10 | 10000. | 9971.3 | -28.7 | -.287 | .05292 | .000 | 1 |

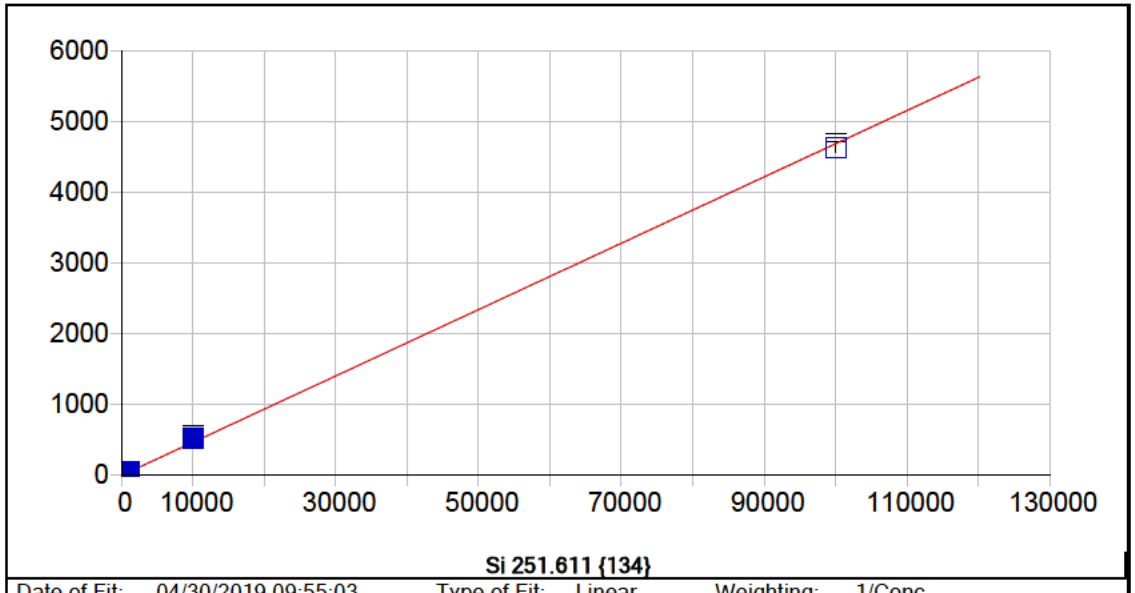



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000116 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000064 | | |
| Predicted MDL: | 7.978860 | | |
| Predicted MQL: | 26.596201 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .20216 | .202 | .000 | .00012 | .000 | 1 |
| CalStd9=100 | 1000.0 | 903.06 | -96.9 | -9.69 | .00381 | .000 | 1 |
| CalStd10=10 | 10000. | 8936.2 | -1060. | -10.6 | .03669 | .000 | 1 |
| CalibStd15= | 1000000. | 1001200. | 1160. | .116 | 4.0977 | .025 | 1 |

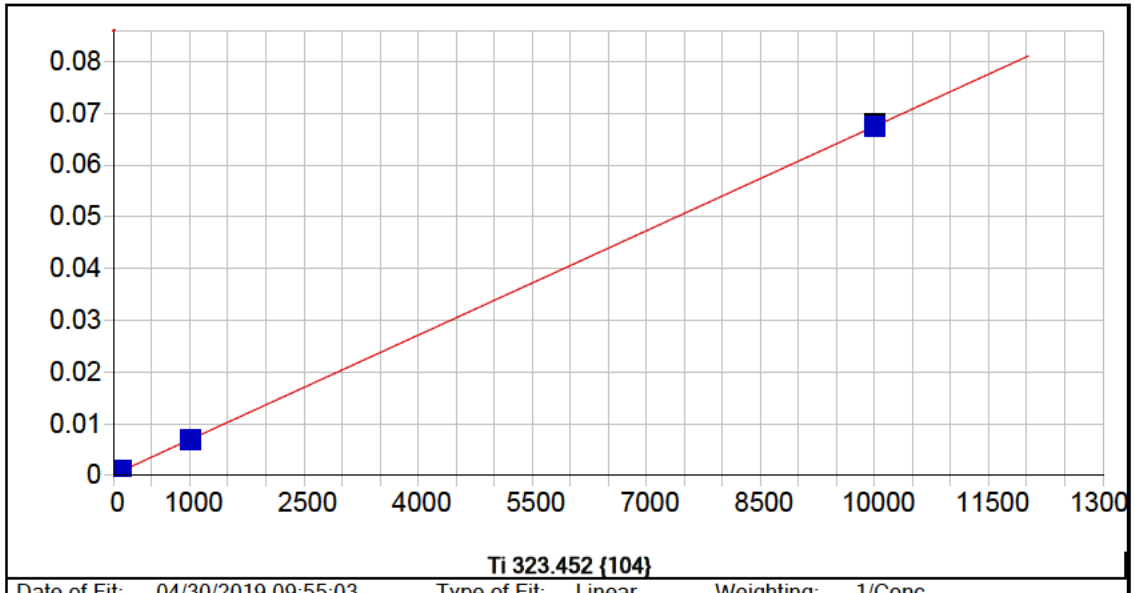



**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 1.320361 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.046849 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999289 | Status: | OK. |
| Std Error of Est: | 0.836614 | | |
| Predicted MDL: | 26.899489 | | |
| Predicted MQL: | 89.664963 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.05771 | -.058 | .000 | 1.3177 | .967 | 1 |
| CalStd9=100 | 1000.0 | 950.25 | -49.7 | -4.97 | 49.534 | 2.02 | 1 |
| CalStd10=10 | 10000. | 11195. | 1190. | 11.9 | 549.24 | 5.29 | 1 |
| CalibStd15= | 100000. | 98799. | -1200. | -1.20 | 4630.0 | 60.3 | 1 |

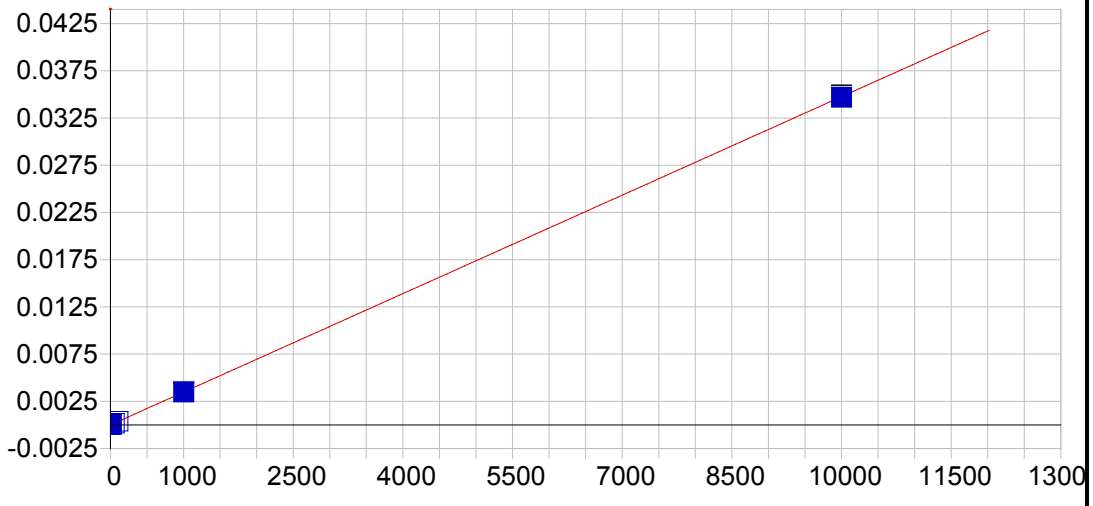



**Ti 323.452 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000215 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999912 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.545674 | | |
| Predicted MQL: | 5.152246 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00168 | -.002 | .000 | .00022 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.231 | 1.23 | 12.3 | .00029 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.10 | 11.1 | 11.1 | .00096 | .000 | 1 |
| CalStd9=100 | 1000.0 | 992.05 | -7.95 | -.795 | .00689 | .000 | 1 |
| CalStd10=10 | 10000. | 9990.5 | -9.50 | -.095 | .06748 | .000 | 1 |
| CalStd7=50 | 50.000 | 55.071 | 5.07 | 10.1 | .00059 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0468 | .047 | .936 | .00025 | .000 | 1 |

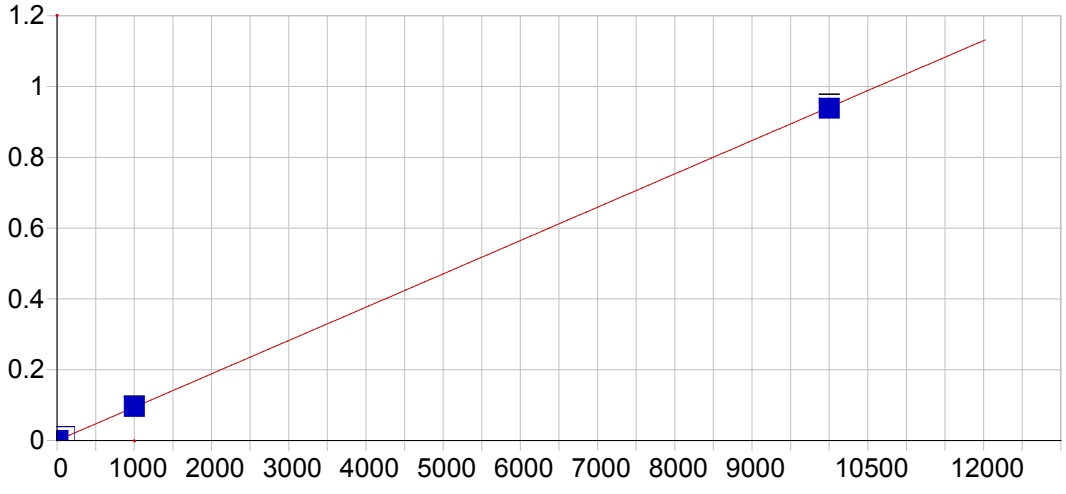



**Ti 334.941 {101}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999856 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 2.088161 | | |
| Predicted MQL: | 6.960537 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00292 | -.003 | .000 | .00000 | .000 | 1 |
| CalStd5=10 | 10.000 | 13.882 | 3.88 | 38.8 | .00005 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.82 | 11.8 | 11.8 | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.9 | .931 | .093 | .00348 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.7 | -20.3 | -.203 | .03470 | .000 | 1 |
| CalStd7=50 | 50.000 | 53.600 | 3.60 | 7.20 | .00019 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.0303 | .030 | .605 | .00002 | .000 | 1 |

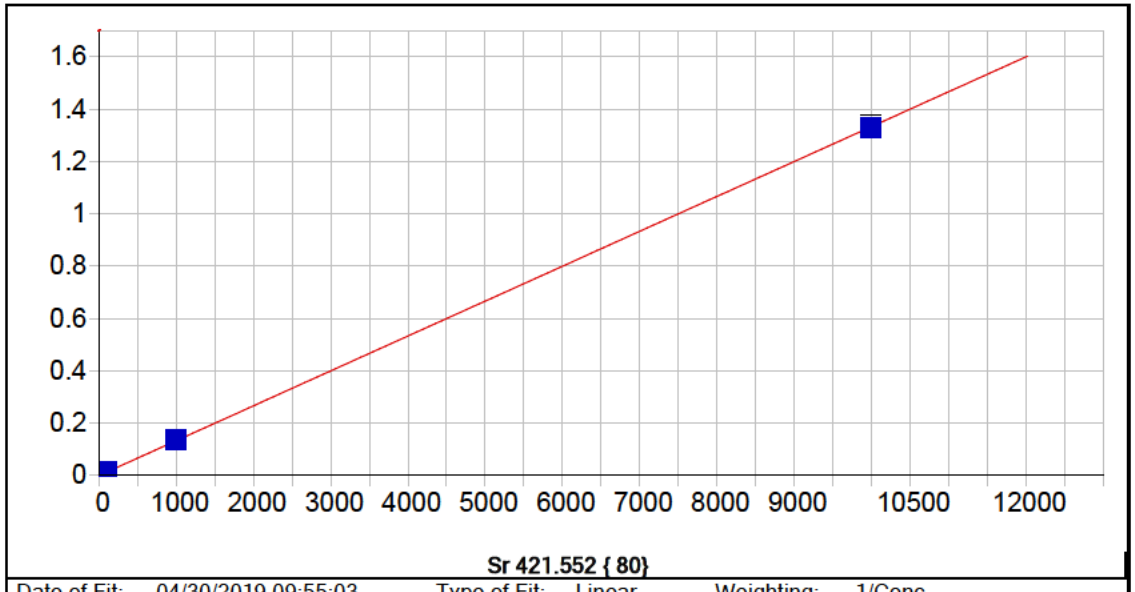



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000063 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000094 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999873 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.174707 | | |
| Predicted MQL: | 0.582355 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00050 | -.001 | .000 | .00006 | .000 | 1 |
| CalStd3=1 | 1.0000 | 1.0042 | .004 | .417 | .00016 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.7815 | .782 | 15.6 | .00061 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.891 | 1.89 | 18.9 | .00118 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.62 | 13.6 | 13.6 | .01076 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1018.9 | 18.9 | 1.89 | .09602 | .001 | 1 |
| CalStd10=10 | 10000. | 9964.8 | -35.2 | -.352 | .93855 | .012 | 1 |

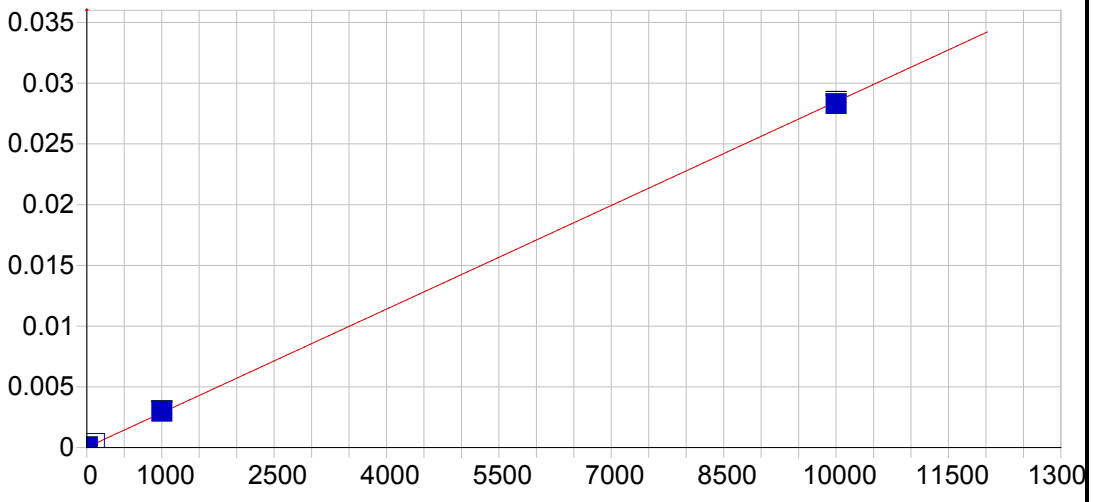



**Sr 421.552 { 80}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000012 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000133 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999883 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.124524 | | |
| Predicted MQL: | 0.415079 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00026 | -.000 | .000 | .00001 | .000 | 1 |
| CalStd3=1 | 1.0000 | .82037 | -.180 | -18.0 | .00012 | .000 | 1 |
| CalStd4=5 | 5.0000 | 5.5257 | .526 | 10.5 | .00075 | .000 | 1 |
| CalStd5=10 | 10.000 | 11.851 | 1.85 | 18.5 | .00159 | .000 | 1 |
| CalStd8=100 | 100.00 | 113.25 | 13.2 | 13.2 | .01510 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1017.7 | 17.7 | 1.77 | .13561 | .001 | 1 |
| CalStd10=10 | 10000. | 9966.9 | -33.1 | -.331 | 1.3280 | .012 | 1 |

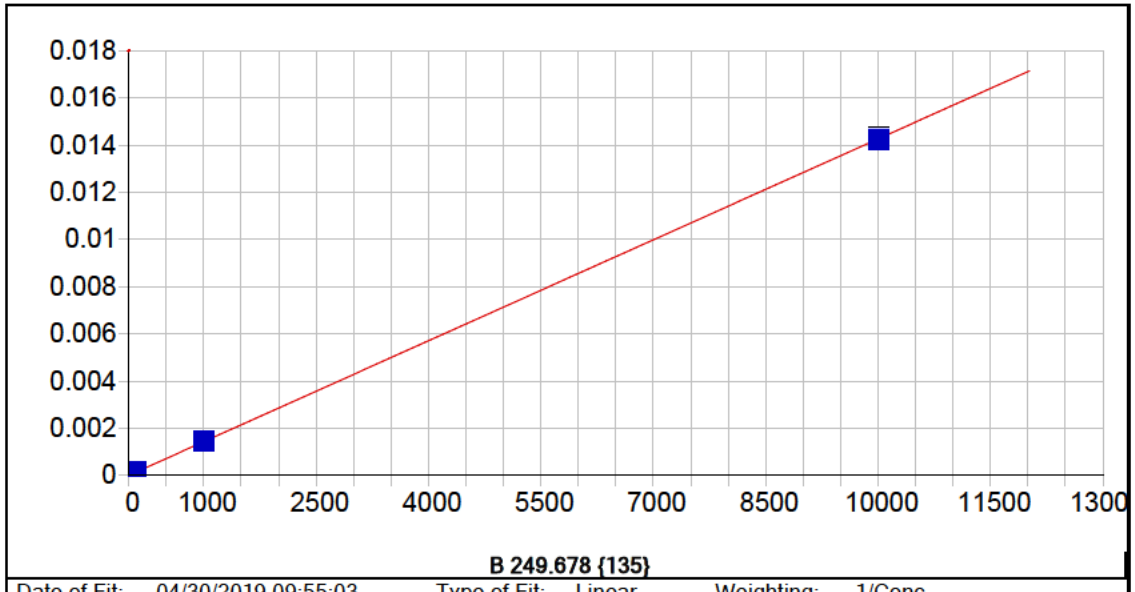



**Sn 189.989 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000015 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999847 | Status: | OK. |
| Std Error of Est: | 0.000001 | | |
| Predicted MDL: | 1.680899 | | |
| Predicted MQL: | 5.602996 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00214 | -.002 | .000 | .00002 | .000 | 1 |
| CalStd10=10 | 10000. | 9946.3 | -53.7 | -.537 | .02832 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1041.4 | 41.4 | 4.14 | .00298 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.69 | 11.7 | 11.7 | .00033 | .000 | 1 |
| CalStd5=10 | 10.000 | 10.606 | .606 | 6.06 | .00005 | .000 | 1 |

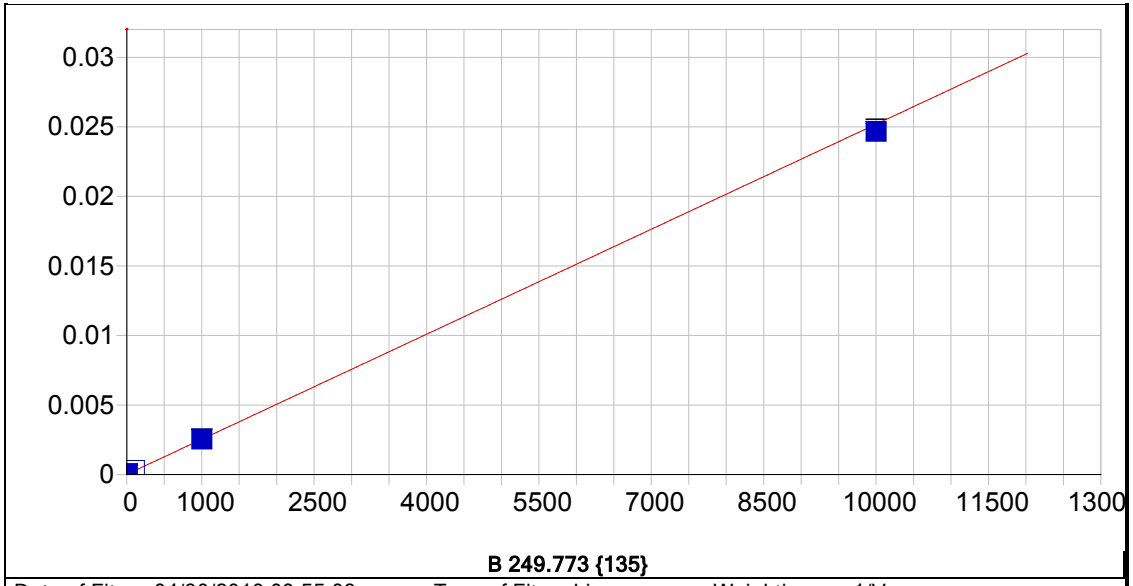



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000008 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999936 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 1.385612 | | |
| Predicted MQL: | 4.618708 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00043 | .000 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 110.05 | 10.0 | 10.0 | .00017 | .000 | 1 |
| CalStd5=10 | 10.000 | 8.4627 | -1.54 | -15.4 | .00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1012.1 | 12.1 | 1.21 | .00146 | .000 | 1 |
| CalStd10=10 | 10000. | 9979.4 | -20.6 | -.206 | .01429 | .000 | 1 |

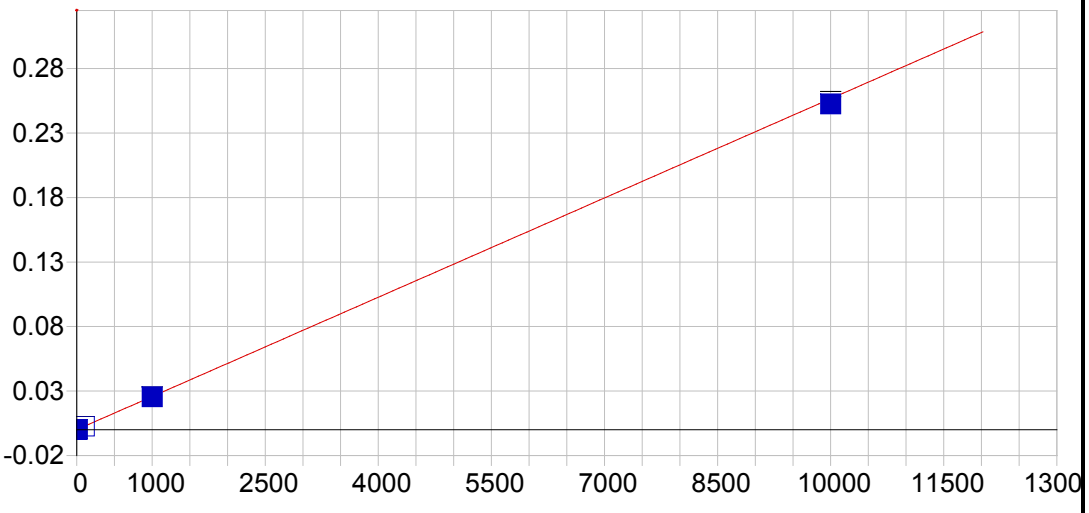



**B 249.773 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000016 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000003 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999952 | Status: | OK. |
| Std Error of Est: | 0.000006 | | |
| Predicted MDL: | 0.779918 | | |
| Predicted MQL: | 2.599727 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .15474 | .155 | .000 | .00002 | .000 | 1 |
| CalStd8=100 | 100.00 | 111.31 | 11.3 | 11.3 | .00030 | .000 | 1 |
| CalStd5=10 | 10.000 | 9.7468 | -.253 | -2.53 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1003.4 | 3.44 | .344 | .00254 | .000 | 1 |
| CalStd10=10 | 10000. | 9789.7 | -210. | -2.10 | .02467 | .000 | 1 |

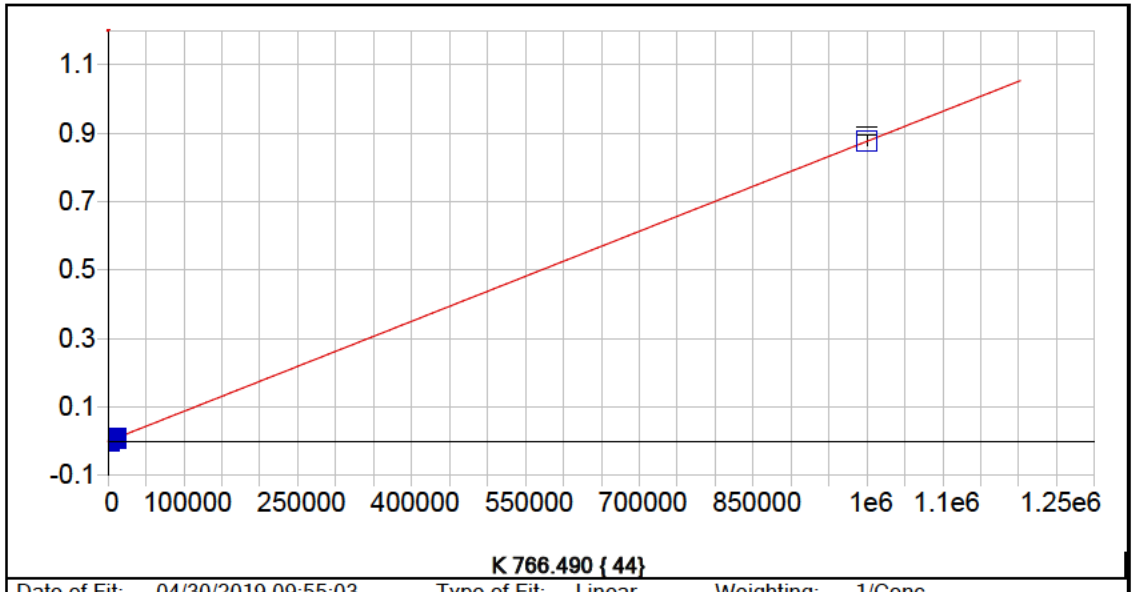



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Var |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000083 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000026 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999318 | Status: | OK. |
| Std Error of Est: | 0.000156 | | |
| Predicted MDL: | 1.559987 | | |
| Predicted MQL: | 5.199957 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -5.2557 | -5.26 | .000 | -.00005 | .000 | 1 |
| CalStd5=10 | 10.000 | 6.1546 | -3.85 | -38.5 | .00024 | .000 | 1 |
| CalStd8=100 | 100.00 | 104.49 | 4.49 | 4.49 | .00276 | .000 | 1 |
| CalStd9=100 | 1000.0 | 990.08 | -9.92 | -.992 | .02548 | .000 | 1 |
| CalStd10=10 | 10000. | 9837.2 | -163. | -1.63 | .25247 | .002 | 1 |

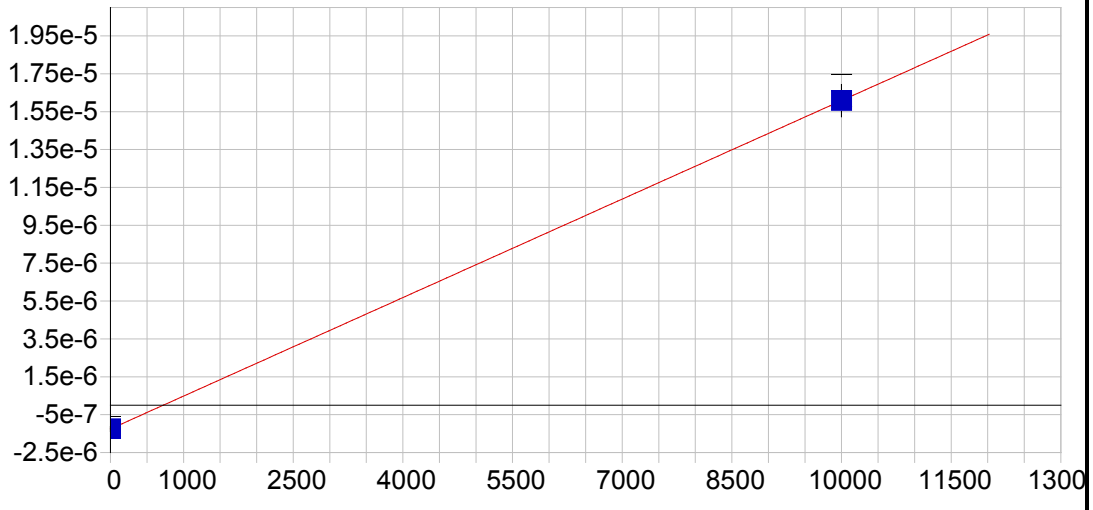



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000018 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999871 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 56.860421 | | |
| Predicted MQL: | 189.534736 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .33660 | .337 | .000 | -.00002 | .000 | 1 |
| CalStd9=100 | 1000.0 | 810.68 | -189. | -18.9 | .00069 | .000 | 1 |
| CalStd10=10 | 10000. | 8510.4 | -1490. | -14.9 | .00744 | .000 | 1 |
| CalibStd15= | 1000000. | 1001700. | 1680. | .168 | .87784 | .013 | 1 |

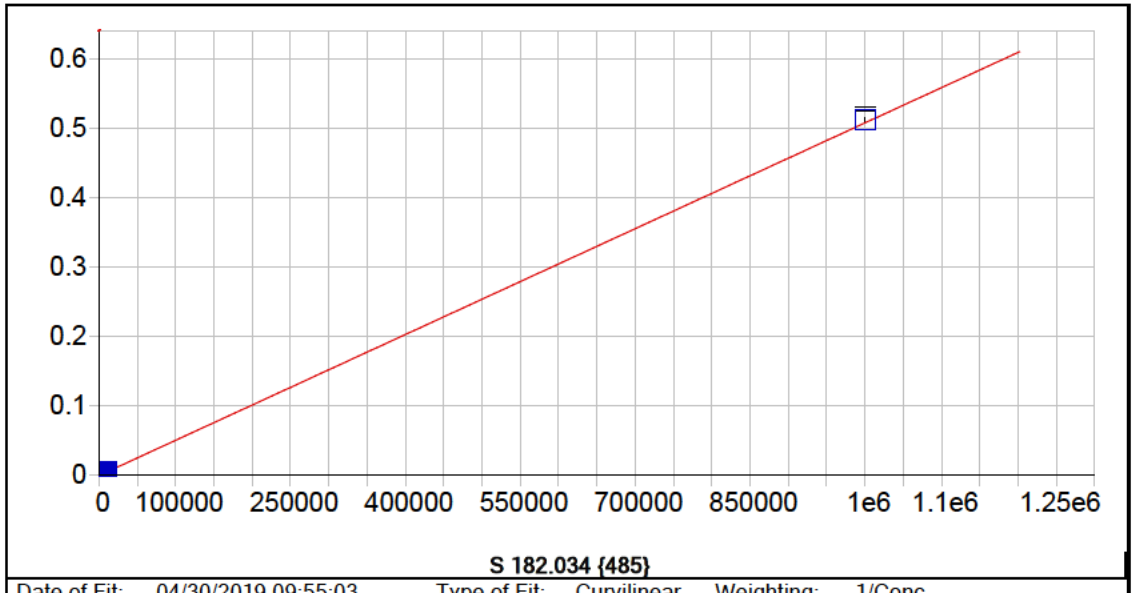



**P 213.618 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000001 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 302.987704 | | |
| Predicted MQL: | 1009.959012 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | -.00000 | .000 | 1 |
| CalStd10=10 | 10000. | 10000. | .000 | .000 | .00002 | .000 | 1 |

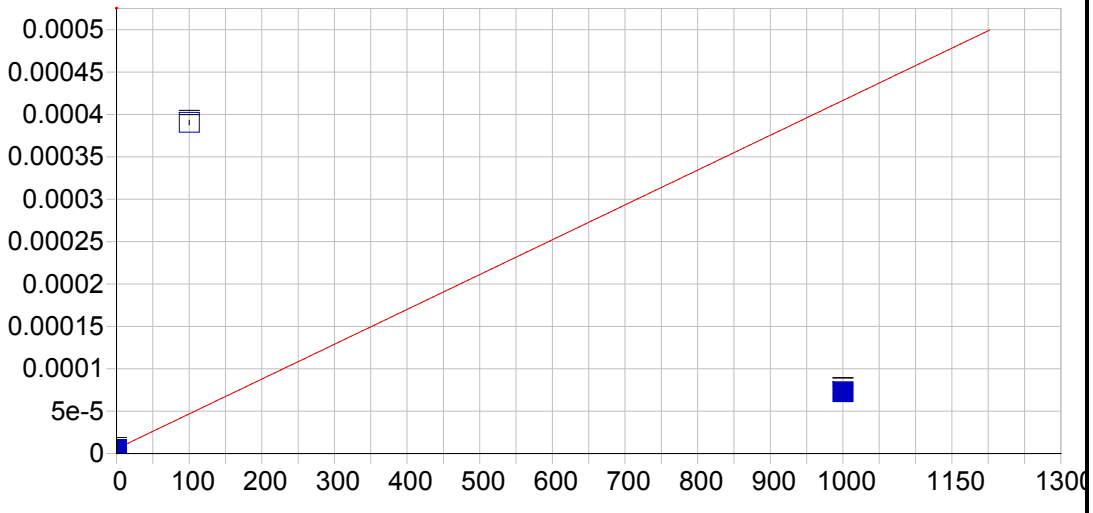



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Curvilinear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 6.113742 | | |
| Predicted MQL: | 20.379139 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.00845 | -.008 | .000 | .00001 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1009.4 | 9.41 | .941 | .00052 | .000 | 1 |
| CalStd10=10 | 10000. | 9991.5 | -8.49 | -.085 | .00509 | .000 | 1 |
| CalibStd15= | 1000000. | 1009900. | 9940. | .994 | .51238 | .003 | 1 |

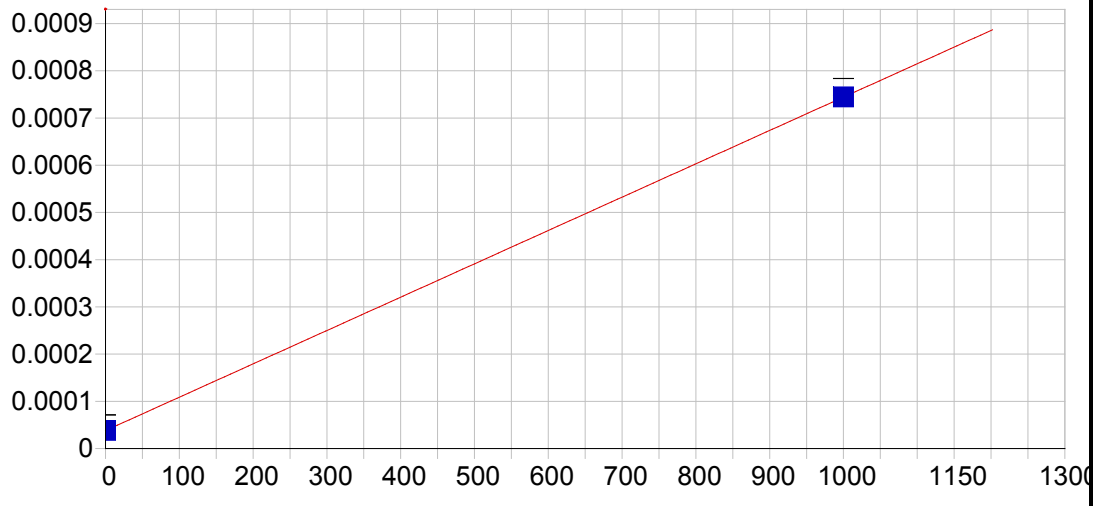



**Hg 184.950 {482}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000006 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000000 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.353416 | Status: | OK. |
| Std Error of Est: | 0.000020 | | |
| Predicted MDL: | 9.065699 | | |
| Predicted MQL: | 30.218996 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | -.75292 | -.753 | .000 | .00001 | .000 | 1 |
| CalStd8=100 | 100.00 | 936.57 | 837. | 837. | .00039 | .000 | 1 |
| CalStd9=100 | 1000.0 | 163.43 | -837. | -83.7 | .00007 | .000 | 1 |




**Ce 404.076 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 04/30/2019 09:55:03 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000038 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.000001 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 1.000000 | Status: | OK. |
| Std Error of Est: | 0.000000 | | |
| Predicted MDL: | 23.308678 | | |
| Predicted MQL: | 77.695594 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| Blank | .00000 | .00000 | .000 | .000 | .00004 | .000 | 1 |
| CalStd9=100 | 1000.0 | 1000.0 | .000 | .000 | .00074 | .000 | 1 |

Sample Name: Blank Acquired: 04/26/2019 14:47:56 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.051** | **-.000** | **-.000** | **.011** | **-.000** | **.000** | **.000** | **.002** | **-.000** |
| Stddev | .000 | .000 | .000 | .231 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 9.48 | 9.61 | 41.4 | 451. | 76.3 | 55.3 | 3.02 | 1.91 | 109. | 8.73 | 6.55 | 68.9 |

| Elem | Cd2288 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **-.000** | **153.** | **9.88** | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | 3. | 2.22 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 14.6 | 47.3 | 71.0 | 191. | 99.1 | 1.72 | 22.5 | 1.94 | 70.2 | 39.0 | 93.7 | 1.30 |

| Elem | Mn2576 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **-.000** | **-.000** | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 16.8 | 48.2 | 60.5 | 106. | 187. | 19.7 | 55.9 | 22.3 | 111. | 215. | 72.3 | 53.3 |

| Elem | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **-.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 80.6 | 45.2 | 153. | 207. | 14.2 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128510.** | **1290300.** | **306760.** |
| Stddev | 181. | 7076. | 9100. |
| %RSD | .14050 | .54844 | 2.9664 |

Sample Name: CalStd2=0.5 Acquired: 04/26/2019 14:54:12 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Be3130 | Cd2265 | Cd2288 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **-.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 |
| %RSD | 1.11 | 173. | 12.8 |

| Int. Std. | Y_2243 | Y_3242 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **128550.** | **1297300.** |
| Stddev | 146. | 6590. |
| %RSD | .11360 | .50800 |

Sample Name: CalStd3=1 Acquired: 04/26/2019 15:00:27 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **-.000** | **.000** | **.000** | **.000** | **.000** | **-.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 10.5 | 44.5 | 1.36 | 16.0 | 12.7 | 28.9 | 21.5 | 58.8 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128640.** | **1298700.** | **302810.** |
| Stddev | 139. | 3700. | 3603. |
| %RSD | .10798 | .28488 | 1.1899 |

Sample Name: CalStd4=5 Acquired: 04/26/2019 15:06:42 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **11.4** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1.9 | .000 | .000 | .000 | .000 |
| %RSD | 4.62 | 3.29 | 4.07 | 1.09 | 2.81 | 6.38 | 9.57 | 17.0 | 1.14 | 6.17 | 19.0 | 8.30 |

| Elem | Pb2203 | Sb2175 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.000** |
| Stddev | .000 | .000 |
| %RSD | 19.8 | 41.0 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128560.** | **1288200.** | **301120.** |
| Stddev | 181. | 6371. | 1571. |
| %RSD | .14097 | .49456 | .52178 |

Sample Name: CalStd5=10 Acquired: 04/26/2019 15:12:58 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Be3130 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **1.40** | **.000** | **.000** | **.000** | **.000** | **.001** | **.000** | **.000** | **.000** | **153.** |
| Stddev | .000 | .000 | .18 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 2. |
| %RSD | 5.06 | 2.01 | 12.7 | 94.0 | 3.76 | 1.29 | 1.88 | 1.69 | 2.91 | 1.25 | 8.07 | 1.30 |

| Elem | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **14.5** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .7 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 4.61 | .259 | 4.69 | 9.45 | 6.01 | 14.0 | 10.5 | 17.4 | 6.76 | 21.2 | 17.6 | 2.87 |

| Elem | Zn2062 | Zn2138 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **.000** | **.001** |
| Stddev | .000 | .000 |
| %RSD | 2.26 | .658 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128230.** | **1299500.** | **303870.** |
| Stddev | 157. | 4404. | 4583. |
| %RSD | .12240 | .33889 | 1.5081 |

Sample Name: CalStd6=20 Acquired: 04/26/2019 15:19:13 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ba2335 | Cu3247 | Cu3273 | Mn2576 | Mo2020 | Mo2045 | Sb2175 | V_2924 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **163.** | **15.3** | **.000** | **.000** | **.000** | **.000** | **.000** |
| Stddev | .000 | 1. | 4.0 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.84 | .777 | 25.9 | 1.95 | 1.73 | 3.88 | 5.19 | 1.79 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128600.** | **1280700.** | **304090.** |
| Stddev | 114. | 34251. | 1208. |
| %RSD | .08895 | 2.6745 | .39711 |

Sample Name: CalStd7=50 Acquired: 04/26/2019 15:25:23 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | As1937 | As1972 | Be2348 | Cd2265 | Cd2288 | Co2286 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mn2576 | Mo2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **5.60** | **.000** | **.000** | **.001** | **.002** | **.001** | **.001** | **.000** | **177.** | **29.2** | **.001** | **.000** |
| Stddev | .64 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 1. | 1.2 | .000 | .000 |
| %RSD | 11.4 | 6.72 | 2.26 | .424 | .322 | .380 | .576 | 4.12 | .684 | 4.07 | 1.85 | .472 |

| Elem | Mo2045 | Ni2316 | Sb2068 | Se1960 | V_2924 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.001** | **.000** | **.000** | **.000** |
| Stddev | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.55 | 1.01 | 1.34 | 6.93 | 1.87 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128480.** | **1289600.** | **301590.** |
| Stddev | 112. | 5316. | 2303. |
| %RSD | .08717 | .41224 | .76345 |

Sample Name: CalStd8=100 Acquired: 04/26/2019 15:31:32 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **11.0** | **.000** | **.001** | **.017** | **.006** | **.000** | **.018** | **.003** | **.005** | **.002** |
| Stddev | .000 | .000 | .4 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.70 | 1.01 | 3.90 | 6.09 | .457 | 1.03 | 5.35 | 2.98 | 1.73 | .178 | .264 | .487 |

| Elem | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.002** | **.000** | **203.** | **46.0** | **.003** | **.001** | **.001** | **.001** | **.001** | **.001** | **.000** |
| Stddev | .000 | .000 | .000 | 3. | .6 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 5.73 | .503 | 5.50 | 1.31 | 1.32 | 5.62 | 5.54 | .529 | .546 | .446 | .705 | 3.68 |

| Elem | Pb2203 | Sb2175 | Se1960 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.000** | **.000** | **.000** | **.000** | **.000** | **.000** | **.001** | **.002** | **.005** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .833 | 2.75 | 4.23 | 14.7 | 2.48 | 3.16 | 5.23 | .513 | .079 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128620.** | **1262000.** | **300420.** |
| Stddev | 178. | 72241. | 3007. |
| %RSD | .13868 | 5.7244 | 1.0009 |

Sample Name: CalStd9=1000 Acquired: 04/26/2019 15:37:38 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al1670 | Al3961 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3158 | Ca3968 | Cd2265 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.004** | **.001** | **102.** | **.001** | **.009** | **.067** | **.052** | **.002** | **.000** | **.122** | **.023** | **.045** |
| Stddev | .000 | .000 | 1. | .000 | .000 | .001 | .000 | .000 | .000 | .001 | .000 | .001 |
| %RSD | 1.82 | 1.38 | 1.30 | 2.17 | 1.87 | .993 | .284 | 1.63 | 1.42 | 1.10 | 1.64 | 1.69 |

| Elem | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.019** | **.002** | **.015** | **.002** | **615.** | **355.** | **.000** | **.000** | **.001** | **.000** | **.027** | **.009** |
| Stddev | .000 | .000 | .000 | .000 | 5. | 5. | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.73 | .220 | 1.84 | .404 | .892 | 1.37 | .524 | 1.53 | .917 | 6.13 | .323 | .327 |

| Elem | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 | Sb2175 | Se1960 | Se2062 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.003** | **.008** | **.005** | **.011** | **.011** | **.001** | **.003** | **.002** | **.002** | **.001** | **.000** | **.002** |
| Stddev | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .943 | 1.64 | 1.64 | 1.73 | 1.72 | 1.79 | 1.90 | 1.71 | 1.90 | 1.52 | 2.10 | 1.66 |

| Elem | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.001** | **.007** | **.018** | **.046** |
| Stddev | .000 | .000 | .000 | .001 |
| %RSD | .786 | .222 | 1.99 | 1.74 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127980.** | **1296600.** | **304860.** |
| Stddev | 784. | 3905. | 2453. |
| %RSD | .61229 | .30118 | .80452 |

Sample Name: CalStd10=10000 Acquired: 04/26/2019 15:43:17 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | As1972 | Ba4934 | Ca3158 | Ca3968 | Co2286 | Co2388 | Cr2055 | Cr2677 | Cu3247 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.012** | **.006** | **.566** | **.003** | **1.14** | **.184** | **.020** | **.140** | **.024** | **4660.** | **3370.** | **.004** |
| Stddev | .000 | .000 | .007 | .000 | .03 | .001 | .000 | .000 | .000 | 46. | 31. | .000 |
| %RSD | .879 | .231 | 1.20 | .851 | 2.25 | .352 | .500 | .157 | .331 | .977 | .915 | .567 |

| Elem | Fe2395 | Fe2599 | Mg2790 | Mg2802 | Mn2576 | Mn2593 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.010** | **.000** | **.239** | **.086** | **.028** | **.046** | **.101** | **.107** | **.014** | **.020** | **.020** |
| Stddev | .000 | .000 | .000 | .010 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| %RSD | 1.18 | .824 | .799 | 4.07 | .707 | .927 | .372 | .368 | .352 | .174 | .200 | .328 |

| Elem | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.002** | **.022** | **.008** | **.067** | **.166** |
| Stddev | .000 | .000 | .000 | .000 | .001 |
| %RSD | .274 | .195 | .592 | .522 | .321 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126250.** | **1271000.** | **301710.** |
| Stddev | 248. | 7329. | 2256. |
| %RSD | .19605 | .57661 | .74756 |

Sample Name: CalStd12=100K  Acquired: 04/26/2019 15:49:53  Type: Cal
Method: DOD Calibration Updated 060614(v3319)  Mode: IR  Corr. Factor: 1.000000
User: [redacted]  ICAP6500:  PrepBatch:  Post Digestion dilution: 1
Comment:

| Elem | Cr2055 | Cu3247 | Cu3273 | Mn2593 | Pb2169 | Zn2062 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.36** | **48600.** | **36600.** | **.295** | **.148** | **1.63** |
| Stddev | .00 | 556. | 555. | .004 | .000 | .01 |
| %RSD | .164 | 1.14 | 1.52 | 1.36 | .247 | .297 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **126660.** | **1281600.** | **299080.** |
| Stddev | 159. | 3286. | 1095. |
| %RSD | .12570 | .25637 | .36610 |

Sample Name: CalStd13=100000 Acquired: 04/26/2019 15:56:10 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2343 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.125** | **.031** | **.041** | **.022** | **.101** | **.003** |
| Stddev | .001 | .000 | .000 | .000 | .000 | .000 |
| %RSD | .529 | .524 | .401 | .467 | .259 | .491 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **123860.** | **1260100.** | **297440.** |
| Stddev | 291. | 2554. | 1454. |
| %RSD | .23476 | .20270 | .48890 |

Sample Name: CalStd14=500000 Acquired: 04/26/2019 16:02:38 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.651** | **.153** | **.104** | **.471** | **.017** |
| Stddev | .010 | .002 | .001 | .005 | .000 |
| %RSD | 1.50 | 1.15 | 1.08 | .976 | 1.05 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **114590.** | **285760.** |
| Stddev | 198. | 3017. |
| %RSD | .17249 | 1.0558 |

Sample Name: CalibStd15=1000k Acquired: 04/26/2019 16:09:13 Type: Cal
Method: DOD Calibration Updated 060614(v3319) Mode: IR Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Al3961 | Ca3158 | Fe2395 | Mg2790 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.35** | **.311** | **.201** | **.034** |
| Stddev | .04 | .005 | .003 | .001 |
| %RSD | 2.99 | 1.49 | 1.34 | 1.54 |

| Int. Std. | Y_2243 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **102190.** | **262370.** |
| Stddev | 368. | 2245. |
| %RSD | .35982 | .85573 |

Sample Name: icv Acquired: 04/26/2019 16:28:52 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | As1972 | Ba4934 | Be3130 | Be2348 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **47.8** | **10700.** | **2010.** | **2050.** | **2060.** | **51.9** | **47.4** | **9300.** | **48.3** | **54.6** | **524.** | **216.** |
| Stddev | 5.8 | 88. | 3. | 15. | 30. | 5.3 | .7 | 146. | .3 | .4 | 1. | 23. |
| %RSD | 12.1 | .824 | .140 | .739 | 1.46 | 10.2 | 1.52 | 1.57 | .626 | .731 | .155 | 10.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 | Sb2068 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **238.** | **230.** | **4740.** | **10000.** | **479.** | **495.** | **503.** | **520.** | **519.** | **477.** | **488.** | **516.** |
| Stddev | 1. | 7. | 54. | 23. | 8. | 2. | 1. | 3. | 2. | 3. | 3. | 1. |
| %RSD | .550 | 2.94 | 1.15 | .227 | 1.70 | .476 | .131 | .558 | .334 | .718 | .534 | .127 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2175 | Se2062 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Avg | **514.** | **2000.** | **2100.** | **510.** | **544.** | **510.** | **482.** |
| Stddev | . | 18. | 8. | 6. | 60. | 2. | . |
| %RSD | .040 | .913 | .367 | 1.11 | 11.1 | .313 | .095 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

Sample Name: icv Acquired: 04/26/2019 16:28:52 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **128270.** | **1236300.** | **299330.** |
| Stddev | 136. | 87147. | 1972. |
| %RSD | .10623 | 7.0491 | .65864 |

Sample Name: ICVLL Acquired: 04/26/2019 16:35:09 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **30.3** | **1210.** | **1170.** | **60.3** | **30.8** | **12.2** | **1580.** | **15.6** | **15.7** | **32.4** | **32.5** | F **19.0** |
| Stddev | .8 | 5. | 14. | 2.4 | .6 | .1 | 4. | .2 | .2 | .4 | 1.0 | 1.8 |
| %RSD | 2.79 | .404 | 1.17 | 4.01 | 1.86 | .669 | .271 | 1.10 | 1.11 | 1.38 | 3.15 | 9.65 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | 60.0 | | | | | | | | | | | 30.0 |
| Range | -30.0% | | | | | | | | | | | -20.0% |

| Elem | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **28.2** | **979.** | **1520.** | **36.0** | **32.8** | **32.9** | **30.1** | **71.5** | **68.4** | **63.5** | **32.0** | **31.2** |
| Stddev | 3.7 | 9. | 10. | .2 | .4 | .6 | 1.8 | 1.5 | 3.1 | 1.1 | .4 | .1 |
| %RSD | 13.2 | .947 | .669 | .585 | 1.27 | 1.72 | 6.03 | 2.13 | 4.58 | 1.76 | 1.35 | .197 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127520.** | **1299400.** | **300830.** |
| Stddev | 131. | 5664. | 704. |
| %RSD | .10291 | .43590 | .23415 |

Sample Name: icb Acquired: 04/26/2019 16:47:28 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **.308** | **-2.48** | **-2.91** | **.174** | **-.065** | **-9.97** | **-.160** | **.002** | **.077** | **-.312** | **-3.06** | **3.17** |
| Stddev | .459 | 1.08 | 3.15 | .355 | .305 | .35 | .087 | .139 | .237 | .710 | 4.31 | 4.00 |
| %RSD | 149. | 43.5 | 108. | 204. | 471. | 3.53 | 54.3 | 6990. | 307. | 227. | 141. | 126. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-2.92** | **-.252** | **-.377** | **.265** | **-.534** | **.879** | **-1.37** | **-.969** | **.102** | **-.137** |
| Stddev | .45 | .054 | .440 | .650 | 2.74 | 1.82 | 3.51 | 1.73 | .398 | .127 |
| %RSD | 15.3 | 21.4 | 117. | 245. | 513. | 207. | 256. | 178. | 391. | 92.3 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **128390.** | **1265200.** | **300760.** |
| Stddev | 171. | 97582. | 571. |
| %RSD | .13324 | 7.7129 | .18995 |

Sample Name: MRL/LLOQ Acquired: 04/26/2019 16:53:44 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Fe2343 | Mg2802 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **10.1** | **408.** | **19.0** | **10.3** | **4.10** | **511.** | **5.15** | **5.21** | **10.8** | **10.4** | **313.** | **500.** |
| Stddev | .3 | 2. | 3.8 | .2 | .05 | 15. | .23 | .17 | .1 | .4 | 1. | 1. |
| %RSD | 2.78 | .542 | 20.0 | 1.63 | 1.13 | 3.01 | 4.52 | 3.22 | 1.16 | 3.45 | .320 | .281 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 20.0 | | | | | | | | | | | |
| Range | -30.0% | | | | | | | | | | | |

| Elem | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **11.4** | **11.2** | **10.9** | **9.56** | **22.7** | **22.1** | **19.5** | **10.4** | **11.3** |
| Stddev | .2 | .1 | .6 | 1.52 | 1.8 | 4.4 | 1.7 | .7 | .1 |
| %RSD | 1.75 | 1.19 | 5.47 | 15.9 | 7.80 | 19.7 | 8.93 | 6.64 | .831 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127470.** | **1303500.** | **301010.** |
| Stddev | 144. | 5051. | 1792. |
| %RSD | .11326 | .38751 | .59543 |

Sample Name: ICSA Acquired: 04/26/2019 16:59:55 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **1.60** | **534000.** | **.081** | **.000** | **-.569** | **525000.** | **-.001** | **-.000** | **.264** | **.858** | **.001** |
| Stddev | .95 | 9050. | 10.8 | .678 | .164 | 10100. | 1.01 | .163 | .707 | 1.71 | 5.05 |
| %RSD | 59.3 | 1.70 | 13400. | 341000. | 28.9 | 1.92 | 154000. | 4530000. | 267. | 200. | 572000. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **481000.** | **509000.** | **-4.32** | **.492** | **-.541** | **-1.28** | **.000** | **.002** | **-.056** | **11400.** | **-2.12** |
| Stddev | 8920. | 9800. | .18 | .963 | 1.16 | 5.50 | 2.84 | 6.06 | 2.16 | 256. | 2.02 |
| %RSD | 1.85 | 1.93 | 4.22 | 196. | 214. | 431. | 2830000. | 263000. | 3880. | 2.25 | 95.4 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **113890.** | **1174900.** | **282990.** |
| Stddev | 352. | 1978. | 2581. |
| %RSD | .30909 | .16833 | .91216 |

Sample Name: ICSAB Acquired: 04/26/2019 17:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba2335 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **483.** | **445000.** | **521.** | **458.** | **471.** | **449.** | **437000.** | **476.** | **463.** | **465.** | **383.** |
| Stddev | 3. | 4260. | 4. | 1. | 5. | 4. | 5160. | . | 1. | 4. | 4. |
| %RSD | .681 | .956 | .777 | .277 | 1.15 | .880 | 1.18 | .082 | .126 | .958 | 1.01 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Cu3273 | Fe2395 | Mg2790 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2203 | Sb2068 | Sb2175 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **436.** | **405000.** | **424000.** | **479.** | **467.** | **486.** | **452.** | **453.** | **398.** | **445.** | **483.** |
| Stddev | 9. | 3420. | 4750. | 2. | 2. | 2. | 1. | 2. | 7. | 5. | 5. |
| %RSD | 2.01 | .843 | 1.12 | .487 | .384 | .437 | .262 | .413 | 1.65 | 1.15 | 1.00 |
| Check ? | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|
| Avg | **452.** | **481.** | **484.** | **478.** | **456.** | **455.** |
| Stddev | 12. | 6. | 12. | 4. | 1. | . |
| %RSD | 2.59 | 1.18 | 2.50 | .912 | .315 | .067 |
| Check ? | None | None | None | None | None | None |
| Value | | | | | | |
| Range | | | | | | |

Sample Name: ICSAB Acquired: 04/26/2019 17:06:25 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **115660.** | **1197500.** | **285620.** |
| Stddev | 207. | 5162. | 507. |
| %RSD | .17884 | .43110 | .17760 |

Sample Name: ccv1 Acquired: 04/26/2019 19:41:57 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **465.** | **4580.** | **4950.** | **5050.** | **477.** | F **6460.** | **485.** | **4890.** | **4890.** | F **4460.** | **5310.** | **5080.** |
| Stddev | 3. | 121. | 41. | 45. | 9. | 2820. | 5. | 12. | 58. | 19. | 707. | 106. |
| %RSD | .553 | 2.64 | .834 | .899 | 1.85 | 43.7 | 1.06 | .254 | 1.19 | .435 | 13.3 | 2.09 |
| Check ? | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | 5000. | | | | 5000. | | |
| Range | | | | | | 10.4% | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4620.** | **4990.** | **5060.** | **4730.** | **4940.** | **4720.** | **4910.** | **4920.** | **4960.** |
| Stddev | 58. | 49. | 50. | 46. | 45. | 39. | 50. | 82. | 61. |
| %RSD | 1.27 | .987 | .980 | .966 | .909 | .825 | 1.01 | 1.66 | 1.22 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **125140.** | **1277100.** | **291920.** |
| Stddev | 516. | 4217. | 1711. |
| %RSD | .41203 | .33016 | .58600 |

Sample Name: ccv2 Acquired: 04/26/2019 19:47:35 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **45.2** | **473.** | **479.** | **485.** | **484.** | **512.** | **49.7** | **48.8** | **505.** | **49.8** | **51.1** | **509.** |
| Stddev | .7 | 1. | 3. | 10. | 1. | 5. | .2 | 2.5 | 8. | .1 | .1 | 1. |
| %RSD | 1.45 | .188 | .706 | 2.11 | .292 | .975 | .309 | 5.14 | 1.56 | .270 | .278 | .106 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **497.** | **453.** | **452.** | **496.** | **471.** | **517.** | **487.** | **494.** | **514.** | **511.** | **498.** | **481.** |
| Stddev | 1. | 8. | 1. | 4. | 2. | 1. | 1. | 1. | 1. | 1. | 2. | 2. |
| %RSD | .167 | 1.87 | .316 | .778 | .370 | .258 | .178 | .211 | .233 | .292 | .433 | .491 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **501.** | **501.** | **489.** | **524.** | **492.** | **493.** | **506.** | **479.** |
| Stddev | 3. | 4. | 6. | 4. | 14. | 2. | 1. | 1. |
| %RSD | .649 | .745 | 1.21 | .729 | 2.76 | .359 | .103 | .137 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/26/2019 19:47:35 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **128240.** | **1308300.** | **297410.** |
| Stddev | 126. | 3755. | 1709. |
| %RSD | .09792 | .28701 | .57472 |

Sample Name: ccb Acquired: 04/26/2019 19:53:18 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.512** | **-6.74** | **-2.71** | **.325** | **.153** | **-6.06** | **-.083** | **.055** | **.514** | **-.204** | **-2.92** | **1.04** |
| Stddev | .530 | .57 | 1.54 | .230 | .033 | 4.77 | .154 | .153 | .366 | 1.13 | 5.14 | 1.27 |
| %RSD | 104. | 8.50 | 56.7 | 70.6 | 21.6 | 78.6 | 187. | 278. | 71.2 | 552. | 176. | 122. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-4.32** | **.162** | **1.98** | **.073** | **.117** | **.820** | **3.93** | **-1.59** | **.310** | **.040** |
| Stddev | .06 | .047 | .22 | .481 | 2.09 | 1.58 | 2.15 | .95 | .206 | .057 |
| %RSD | 1.27 | 28.7 | 11.0 | 660. | 1790. | 193. | 54.8 | 59.7 | 66.5 | 144. |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **128040.** | **1311800.** | **297350.** |
| Stddev | 342. | 5970. | 3168. |
| %RSD | .26679 | .45509 | 1.0653 |

Sample Name: 259499 Acquired: 04/26/2019 20:12:39 Type: Unk
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **12.2** | **22800.** | **144.** | **238.** | **275.** | **1.20** | **18400.** | **2.11** | **3.36** | **8.20** | **34.6** | **53.1** |
| Stddev | 1.0 | 624. | 4. | 1. | 9. | .04 | 582. | .18 | .10 | .10 | 1.0 | 4.8 |
| %RSD | 7.87 | 2.74 | 2.58 | .599 | 3.28 | 3.36 | 3.17 | 8.53 | 2.91 | 1.25 | 2.95 | 8.93 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **47.9** | **31000.** | **4420.** | **39900.** | **-1.23** | **17.8** | **339.** | **5.03** | **7.97** | **19.9** | **71.1** | **354.** |
| Stddev | 8.0 | 910. | 134. | 1030. | .24 | .5 | 3. | 2.30 | 4.40 | 1.7 | 1.4 | 1. |
| %RSD | 16.7 | 2.93 | 3.04 | 2.58 | 19.4 | 2.92 | .950 | 45.8 | 55.2 | 8.42 | 1.99 | .264 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **129880.** | **1317600.** | **304980.** |
| Stddev | 251. | 1187. | 3067. |
| %RSD | .19308 | .09008 | 1.0058 |

Sample Name: 259500 Acquired: 04/26/2019 20:19:21 Type: Unk
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 5
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **11.8** | **68000.** | **150.** | **673.** | **969.** | **3.51** | **50600.** | **-1.44** | **2.63** | **18.1** | **118.** | **88.6** |
| Stddev | 1.2 | 1980. | 8. | 57. | 32. | .16 | 1100. | .25 | .23 | 1.2 | 4. | 9.5 |
| %RSD | 10.1 | 2.92 | 5.04 | 8.54 | 3.32 | 4.49 | 2.17 | 17.1 | 8.60 | 6.79 | 3.43 | 10.7 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **92.6** | **91400.** | **11200.** | **35300.** | **1.53** | **45.6** | **217.** | **3.61** | **4.48** | **25.0** | **249.** | **214.** |
| Stddev | 4.7 | 2130. | 262. | 838. | .59 | 3.7 | 20. | 3.52 | 6.21 | .7 | 8. | 10. |
| %RSD | 5.12 | 2.33 | 2.34 | 2.37 | 38.4 | 8.22 | 9.27 | 97.5 | 139. | 2.68 | 3.14 | 4.49 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **326.** |
| Stddev | 29. |
| %RSD | 8.97 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **128260.** | **1296400.** | **300230.** |
| Stddev | 268. | 2516. | 2128. |
| %RSD | .20932 | .19410 | .70871 |

Sample Name: 260462 Acquired: 04/26/2019 20:26:00 Type: Unk
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **3.35** | **31200.** | **92.7** | **412.** | **555.** | **1.37** | **124000.** | **-.700** | **2.11** | **48.6** | **99.0** |
| Stddev | .67 | 807. | 7.2 | 12. | 15. | .10 | 2560. | .099 | .08 | 1.8 | 4.6 |
| %RSD | 20.0 | 2.58 | 7.78 | 2.84 | 2.63 | 7.56 | 2.07 | 14.1 | 3.88 | 3.64 | 4.62 |

| Elem | Cu3247 | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **137.** | **144.** | **55800.** | **44300.** | **28900.** | **8.61** | **187.** | **245.** | **1.14** | **3.65** | **16.3** |
| Stddev | 7. | 8. | 1380. | 851. | 627. | .35 | 6. | 6. | .79 | 4.29 | 1.0 |
| %RSD | 4.86 | 5.64 | 2.48 | 1.92 | 2.17 | 4.12 | 3.00 | 2.49 | 69.0 | 117. | 6.05 |

| Elem | V_2908 | V_2924 | Zn2138 |
|---|---|---|---|
| Units | ug/L | ug/L | ug/L |
| Avg | **143.** | **124.** | **267.** |
| Stddev | 11. | 6. | 8. |
| %RSD | 7.55 | 4.95 | 3.17 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127010.** | **1285000.** | **301090.** |
| Stddev | 203. | 3571. | 1498. |
| %RSD | .16010 | .27786 | .49751 |

Sample Name: 260464 Acquired: 04/26/2019 20:32:26 Type: Unk
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 10
Comment:

| Elem | Ag3280 | Al3961 | As1937 | Ba2335 | Ba4934 | Be3130 | Ca3158 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3247 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **2.23** | **31900.** | **153.** | **435.** | **516.** | **2.61** | **95700.** | **-.201** | **1.94** | **28.3** | **74.9** | **124.** |
| Stddev | 1.02 | 708. | 4. | 2. | 12. | .04 | 2020. | .272 | .23 | .2 | 1.6 | 5. |
| %RSD | 45.8 | 2.22 | 2.86 | .549 | 2.32 | 1.38 | 2.11 | 135. | 11.7 | .827 | 2.18 | 4.39 |

| Elem | Cu3273 | Fe2599 | Mg2790 | Mn2593 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Avg | **129.** | **47900.** | **30400.** | **22900.** | **7.57** | **78.2** | **223.** | **1.93** | **8.04** | **15.2** | **214.** | **199.** |
| Stddev | 7. | 968. | 595. | 494. | .84 | .8 | 3. | 2.00 | 7.00 | 2.4 | 12. | 3. |
| %RSD | 5.23 | 2.02 | 1.96 | 2.16 | 11.2 | 1.04 | 1.16 | 103. | 87.1 | 16.0 | 5.73 | 1.42 |

| Elem | Zn2138 |
|---|---|
| Units | ug/L |
| Avg | **232.** |
| Stddev | 1. |
| %RSD | .619 |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **127800.** | **1293800.** | **301890.** |
| Stddev | 307. | 5648. | 2150. |
| %RSD | .24040 | .43658 | .71220 |

Sample Name: ccv1 Acquired: 04/26/2019 21:03:08 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al3961 | As1972 | Ba4934 | Be2348 | Ca3158 | Cd2288 | Co2388 | Cr2055 | Cu3247 | Fe2599 | Mg2790 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **467.** | F **4470.** | **4930.** | **4890.** | **474.** | **4750.** | **485.** | **4890.** | **4960.** | F **4420.** | **4780.** | **4990.** |
| Stddev | 1. | 49. | 13. | 47. | 5. | 23. | . | 16. | 5. | 36. | 48. | 146. |
| %RSD | .157 | 1.10 | .267 | .968 | 1.05 | .476 | .057 | .336 | .097 | .820 | .999 | 2.93 |
| Check ? | None | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | 5000. | | | | | | | | 5000. | | |
| Range | | -10.4% | | | | | | | | -10.4% | | |

| Elem | Mn2593 | Mo2045 | Ni2216 | Pb2169 | Sb2068 | Se2062 | Tl1908 | V_2908 | Zn2062 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | **4630.** | **4880.** | **4940.** | **4720.** | **4910.** | **4750.** | **4870.** | **4890.** | **4980.** |
| Stddev | 59. | 9. | 12. | 6. | 8. | 25. | 10. | 50. | 11. |
| %RSD | 1.27 | .183 | .239 | .121 | .167 | .523 | .209 | 1.02 | .215 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **127260.** | **1283200.** | **295030.** |
| Stddev | 269. | 3697. | 715. |
| %RSD | .21136 | .28813 | .24248 |

Sample Name: ccv2 Acquired: 04/26/2019 21:08:41 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | As1972 | Ba2335 | Ba4934 | Be3130 | Be2348 | Ca3968 | Cd2265 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | F **44.7** | **473.** | **483.** | **492.** | **478.** | **510.** | **49.9** | **48.0** | **496.** | **49.3** | **50.7** | **499.** |
| Stddev | 1.3 | 2. | 1. | 7. | 3. | 5. | .3 | 3.1 | 5. | .2 | .2 | 2. |
| %RSD | 2.83 | .338 | .308 | 1.46 | .536 | .993 | .511 | 6.40 | .954 | .491 | .442 | .347 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 50.0 | | | | | | | | | | | |
| Range | -10.4% | | | | | | | | | | | |

| Elem | Cr2677 | Cu3247 | Cu3273 | Fe2343 | Mg2802 | Mn2576 | Mo2020 | Mo2045 | Ni2216 | Ni2316 | Pb2169 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **501.** | **459.** | **463.** | **495.** | **471.** | **517.** | **479.** | **488.** | **505.** | **504.** | **499.** | **477.** |
| Stddev | 3. | 14. | 8. | 2. | 2. | 3. | 2. | 2. | 1. | 3. | 2. | 2. |
| %RSD | .558 | 3.03 | 1.74 | .405 | .444 | .494 | .371 | .419 | .282 | .533 | .415 | .369 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Sb2068 | Sb2175 | Se1960 | Tl1908 | V_2908 | V_2924 | Zn2062 | Zn2138 |
|---|---|---|---|---|---|---|---|---|
| Avg | **500.** | **500.** | **489.** | **521.** | **499.** | **498.** | **507.** | **478.** |
| Stddev | 3. | 2. | 7. | 2. | 8. | 2. | . | 1. |
| %RSD | .685 | .404 | 1.43 | .429 | 1.68 | .499 | .066 | .177 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

Sample Name: ccv2 Acquired: 04/26/2019 21:08:41 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | 129780. | 1310300. | 298160. |
| Stddev | 234. | 4011. | 2824. |
| %RSD | .17994 | .30613 | .94703 |

Sample Name: ccb Acquired: 04/26/2019 21:14:26 Type: QC
Method: DOD Calibration Updated 060614(v3319) Mode: CONC Corr. Factor: 1.000000
User: [redacted] ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

| Elem | Ag3280 | Al1670 | As1937 | Ba2335 | Be3130 | Ca3968 | Cd2265 | Cd2288 | Co2286 | Cr2677 | Cu3273 | Fe2343 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-.590** | **-6.43** | **.960** | **.876** | **.143** | **-7.96** | **-.032** | **.012** | **.258** | **.077** | **-4.11** | **-1.48** |
| Stddev | .397 | .29 | 2.72 | .284 | .041 | 1.60 | .340 | .090 | .365 | .910 | 9.58 | 1.82 |
| %RSD | 67.4 | 4.54 | 283. | 32.5 | 28.5 | 20.1 | 1060. | 783. | 142. | 1180. | 233. | 122. |
| Check ? | None | None | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | | | |
| Range | | | | | | | | | | | | |

| Elem | Mg2802 | Mn2576 | Mo2020 | Ni2316 | Pb2203 | Sb2175 | Se1960 | Tl1908 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | **-3.56** | **.421** | **2.04** | **.997** | **-.768** | **.175** | **2.11** | **-1.13** | **.515** | **.268** |
| Stddev | .04 | .118 | .40 | .562 | 2.73 | 2.79 | 5.66 | 1.53 | .430 | .058 |
| %RSD | 1.13 | 28.1 | 19.8 | 56.3 | 355. | 1590. | 268. | 135. | 83.6 | 21.7 |
| Check ? | None | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Int. Std. | Y_2243 | Y_3242 | Y_3710 |
|---|---|---|---|
| Avg | **129900.** | **1313200.** | **299730.** |
| Stddev | 190. | 3658. | 1480. |
| %RSD | .14622 | .27852 | .49360 |

CT LABORATORIES
delivering more than data from your environmental analyses

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## General Parameters

*Method :* Arsenic
*Operator :* [redacted]
*Instrument Mode:* Furnace
*Autosampler :* Furnace

## Analysis Details

*Analysis Name:* Analysis 3 05/02/2019
*Spectrometer:* M Series 650779 v1.30
*Operator Name:* [redacted]

## Reagent Details

| Reagent | Reagent Name |
|---|---|
| Matrix Modifier 1 | M13557 |

## Spectrometer Parameters - As

*Element:* As
*Measurement Mode:* Absorbance
*Wavelength:* 193.7nm
*Bandpass:* 0.5nm
*Lamp Current:* 80%
*Background Correction:* Zeeman
*High Resolution:* Off
*Optimise Spectrometer Parameters:* No
*Signal Type:* Transient
*Transient Type:* Area
*Number Of Resamples:* 2
*Measurement Time:* 3.5secs
*Flier Mode:* No
*Measure Peak From:* 0.75
*To:* 2.50secs
*Use RSD Test:* No

## Furnace Parameters - As

*Cuvette Type:* Omega
*Injection Temperature:* 20°C

**Furnace Programme (130.6secs)**

| Phase | Temp (°C) | Time (sec) | Ramp (°C/sec) | Gas Type | Gas Flow | Commands |
|---|---|---|---|---|---|---|
| 1 | 110 | 20.0 | 100 | 1 | 0.2L/min | |
| 2 | 130 | 30.0 | 1 | 1 | 0.2L/min | |
| 3 | 300 | 10.0 | 50 | 1 | 0.2L/min | |
| 4 | 1100 | 20.0 | 100 | 2 | 0.2L/min | NL |
| 5 | 2600 | 3.5 | 0 | 2 | Off | RD TC |
| 6 | 2800 | 3.5 | 0 | 2 | 0.3L/min | TC |

## Sampling Parameters - As

*Sampling:* Furnace
*Automatic Spike Prep:* 20.0µL
*Working Volume:* 20.0µL
*Sample Volume:* 20.0µL

**Matrix Modifiers**

| Modifier | Method | Volume | Order |
|---|---|---|---|
| 1 M13557 | Wet-mixed | 5.0µL | 1 |
| 2 | None | 20.0µL | 2 |
| 3 | None | 20.0µL | 3 |
| 4 | None | 20.0µL | 4 |
| 5 | None | 20.0µL | 5 |
| 6 | None | 20.0µL | 6 |

*Sample Preparation:* Int. Dilution
*Intelligent Dilution Threshold:* 90%
*Standard Preparation:* Fixed
*Std Additions:* None
*Slow Solution Uptake:* No
*Slow Injection:* No
*Sampling Delay:* No
*Number Of Washes:* 2

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Calibration Parameters - As

*Calibration Mode:* Normal
*Concentration Units:* µg/L
*Acceptable Fit:* 0.995
*Master Standard:* 25.0000
*Line Fit:* Linear
*Scaled Units:* µg/L
*Rescale Limit:* 10.0%
*Use Stored Calibration:* No
*Scaling Factor:* 1.0000
*Failure Action:* Retest

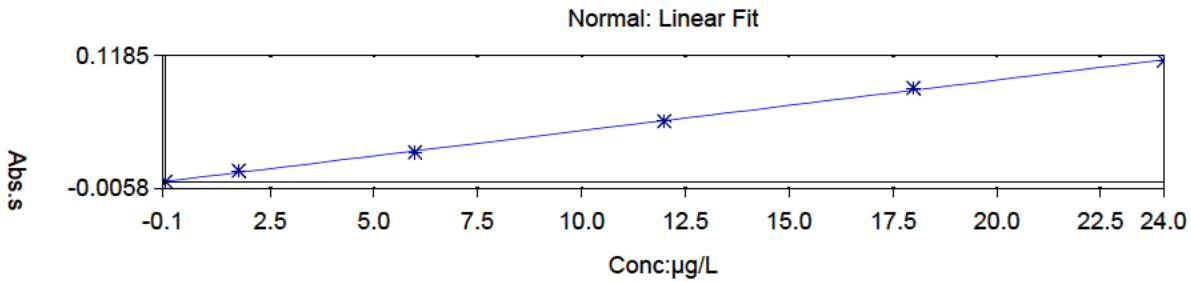
| | | | |
|---|---|---|---|
| Standard 1 | 1.7500 | Standard 4 | 18.0000 |
| Standard 2 | 6.0000 | Standard 5 | 24.0000 |
| Standard 3 | 12.0000 | | |

## QC Parameters - As

| Test | Conc:µg/L | Limits | Action | Repeat |
|---|---|---|---|---|
| CCB | 0.5000 | -0.010 to 0.100Abs.s | Retest | Continue |
| ICV | 10.0000 | 90.0 to 110.0% | Retest | Continue |
| CCV | 10.0000 | 90.0 to 110.0% | Retest | Continue |
| QC Anal Spike | 10.0000 | 85.0 to 115.0% | Retest | Continue |

## Solution Results - As

Y = 0.00472x + 0.0003
*Fit:* 0.9992
*Characteristic Conc:* 0.9317




| Sample ID | | Signal | Rsd | Conc | Corrected Conc |
|---|---|---|---|---|---|
| | | Abs.s (Area) | % | µg/L | µg/L |
| **As Blank** | | **-0.000** | **>99** | **0.0000** | |
| | 1 | -0.001 | Background: 0.029 | | 05/02/2019 13:29:59 |
| | 2 | 0.000 | Background: 0.028 | | 05/02/2019 13:32:59 |
| **As Standard 1** | | **0.010** | **11.1** | **1.7500** | |
| | 1 | 0.009 | Background: 0.030 | | 05/02/2019 13:35:58 |
| | 2 | 0.011 | Background: 0.028 | | 05/02/2019 13:38:58 |
| **As Standard 2** | | **0.027** | **1.8** | **6.0000 U** | |
| | 1 | 0.027 | Background: 0.029 | | 05/02/2019 13:41:57 |
| | 2 | 0.028 | Background: 0.031 | | 05/02/2019 13:44:57 |
| **As Standard 3** | | **0.056** | **3.2** | **12.0000** | |
| | 1 | 0.055 | Background: 0.033 | | 05/02/2019 13:47:56 |
| | 2 | 0.058 | Background: 0.031 | | 05/02/2019 13:50:57 |
| **As Standard 4** | | **0.087** | **2.4** | **18.0000** | |
| | 1 | 0.089 | Background: 0.031 | | 05/02/2019 13:53:56 |
| | 2 | 0.086 | Background: 0.033 | | 05/02/2019 13:56:56 |
| **As Standard 5** | | **0.113** | **1.6** | **24.0000** | |
| | 1 | 0.112 | Background: 0.035 | | 05/02/2019 13:59:56 |
| | 2 | 0.114 | Background: 0.034 | | 05/02/2019 14:02:57 |

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Solution Results - As

| Sample ID | Signal | Rsd | Conc | Corrected Conc |
|---|---|---|---|---|
| | Abs.s (Area) | % | µg/L | µg/L |
| **As ICV** | **0.049** | **5.6** | **10.3468** | **10.3468** |
| 1 | 0.047 | Background: 0.040 | | 05/02/2019 14:08:08 |
| 2 | 0.051 | Background: 0.032 | | 05/02/2019 14:11:07 |
| **As CCB** | **-0.000** | **>99** | **-0.1023 C** | **-0.1023 C** |
| 1 | -0.001 | Background: 0.033 | | 05/02/2019 14:14:07 |
| 2 | 0.000 | Background: 0.033 | | 05/02/2019 14:17:06 |
| **As 274295lcss 71761** | **0.071** | **0.3** | **14.9522** | **14.9522** |
| 1 | 0.071 | Background: 0.035 | | 05/02/2019 14:20:05 |
| 2 | 0.071 | Background: 0.035 | | 05/02/2019 14:23:04 |
| **As 274294mbs 71761** | **0.028** | **3.3** | **5.8479** | **5.8479** |
| 1 | 0.029 | Background: 0.078 | | 05/02/2019 14:26:04 |
| 2 | 0.027 | Background: 0.076 | | 05/02/2019 14:29:02 |
| **As 257647** | **0.083 O** | **12.1** | **17.4216** | **17.4216** |
| 1 | 0.075 O | Background: 2.177 O | | 05/02/2019 14:32:03 |
| 2 | 0.090 O | Background: 2.200 O | | 05/02/2019 14:35:02 |
| **As Analysis Spike** | **0.146 O** | **14.9** | **30.7504 C** | **30.7504 C** |
| 1 | 0.161 O | Background: 2.161 O | | 05/02/2019 14:38:00 |
| 2 | 0.130 O | Background: 2.201 O | | 05/02/2019 14:41:01 |
| **As Analysis Spike** | **0.043 I** | **0.9** | **9.1110** | **26.0314** |
| 1 | 0.043 | Background: 0.897 | | 05/02/2019 14:45:03 |
| 2 | 0.044 | Background: 0.888 | | 05/02/2019 14:48:02 |
| **As I257647** | **0.017** | **2.0** | **3.4687** | **3.4687** |
| 1 | 0.017 | Background: 0.572 | | 05/02/2019 14:52:07 |
| 2 | 0.016 | Background: 0.570 | | 05/02/2019 14:55:07 |
| **As 274296dup 257647 X5** | **0.028** | **3.9** | **5.9386** | **5.9386** |
| 1 | 0.029 | Background: 0.585 | | 05/02/2019 14:58:06 |
| 2 | 0.028 | Background: 0.576 | | 05/02/2019 15:01:05 |
| **As 274297dup 257647 X5** | **0.035** | **3.4** | **7.2874** | **7.2874** |
| 1 | 0.036 | Background: 0.564 | | 05/02/2019 15:04:05 |
| 2 | 0.034 | Background: 0.566 | | 05/02/2019 15:07:04 |
| **As 274298mss 257647 X5** | **0.049** | **2.6** | **10.2921** | **10.2921** |
| 1 | 0.050 | Background: 0.650 | | 05/02/2019 15:10:04 |
| 2 | 0.048 | Background: 0.651 | | 05/02/2019 15:13:03 |
| **As CCV** | **0.049** | **1.1** | **10.3782** | **10.3782** |
| 1 | 0.050 | Background: 0.082 | | 05/02/2019 15:16:02 |
| 2 | 0.049 | Background: 0.050 | | 05/02/2019 15:19:02 |
| **As CCB** | **-0.001** | **93.0** | **-0.2975 C** | **-0.2975 C** |
| 1 | -0.002 | Background: 0.051 | | 05/02/2019 15:22:01 |
| 2 | -0.000 | Background: 0.049 | | 05/02/2019 15:25:00 |
| **As 274299msds 257647 X** | **0.045** | **1.9** | **9.4810** | **9.4810** |
| 1 | 0.044 | Background: 0.595 | | 05/02/2019 15:27:59 |
| 2 | 0.046 | Background: 0.627 | | 05/02/2019 15:30:58 |

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Solution Results - As

| Sample ID | | Signal | Rsd | Conc | Corrected Conc | |
|---|---|---|---|---|---|---|
| | | Abs.s (Area) | % | µg/L | µg/L | |
| **As 257648 X5** | | **0.038** | **0.8** | **8.0429** | **8.0429** | |
| | 1 | 0.038 | | Background: 0.600 | | 05/02/2019 15:33:58 |
| | 2 | 0.038 | | Background: 0.587 | | 05/02/2019 15:36:57 |
| **As 257649 X5** | | **0.044** | **3.4** | **9.2617** | **9.2617** | |
| | 1 | 0.043 | | Background: 0.586 | | 05/02/2019 15:40:14 |
| | 2 | 0.045 | | Background: 0.592 | | 05/02/2019 15:43:13 |
| **As 257650 X5** | | **0.038** | **1.1** | **7.9964** | **7.9964** | |
| | 1 | 0.038 | | Background: 0.570 | | 05/02/2019 15:46:12 |
| | 2 | 0.038 | | Background: 0.566 | | 05/02/2019 15:49:12 |
| **As 257651 X5** | | **0.041** | **4.6** | **8.6183** | **8.6183** | |
| | 1 | 0.042 | | Background: 0.545 | | 05/02/2019 15:52:12 |
| | 2 | 0.040 | | Background: 0.545 | | 05/02/2019 15:55:11 |
| **As 257652 X5** | | **0.031** | **2.4** | **6.5403** | **6.5403** | |
| | 1 | 0.032 | | Background: 0.561 | | 05/02/2019 15:58:11 |
| | 2 | 0.031 | | Background: 0.561 | | 05/02/2019 16:01:10 |
| **As 257653 X5** | | **0.047** | **1.6** | **9.9444** | **9.9444** | |
| | 1 | 0.048 | | Background: 0.571 | | 05/02/2019 16:04:08 |
| | 2 | 0.047 | | Background: 0.566 | | 05/02/2019 16:07:08 |
| **As 257654 X5** | | **0.042** | **5.2** | **8.8959** | **8.8959** | |
| | 1 | 0.041 | | Background: 0.737 | | 05/02/2019 16:10:08 |
| | 2 | 0.044 | | Background: 0.741 | | 05/02/2019 16:13:06 |
| **As CCV** | | **0.051** | **1.8** | **10.7456** | **10.7456** | |
| | 1 | 0.050 | | Background: 0.094 | | 05/02/2019 16:16:05 |
| | 2 | 0.052 | | Background: 0.047 | | 05/02/2019 16:19:04 |
| **As CCB** | | **-0.000** | **>99** | **-0.0617** | **-0.0617** | |
| | 1 | 0.001 | | Background: 0.047 | | 05/02/2019 16:22:04 |
| | 2 | -0.001 | | Background: 0.048 | | 05/02/2019 16:25:03 |
| **As 257655 X5** | | **0.033** | **0.6** | **6.8669** | **6.8669** | |
| | 1 | 0.033 | | Background: 0.556 | | 05/02/2019 16:28:02 |
| | 2 | 0.033 | | Background: 0.591 | | 05/02/2019 16:31:01 |
| **As 257657 X5** | | **0.028** | **7.1** | **5.8664** | **5.8664** | |
| | 1 | 0.029 | | Background: 0.832 | | 05/02/2019 16:34:01 |
| | 2 | 0.027 | | Background: 0.853 | | 05/02/2019 16:37:01 |
| **As 257659 X5** | | **0.027** | **4.7** | **5.6589** | **5.6589** | |
| | 1 | 0.026 | | Background: 0.851 | | 05/02/2019 16:40:00 |
| | 2 | 0.028 | | Background: 0.857 | | 05/02/2019 16:42:59 |
| **As 257661 X5** | | **0.033** | **1.1** | **6.9886** | **6.9886** | |
| | 1 | 0.033 | | Background: 0.904 | | 05/02/2019 16:45:59 |
| | 2 | 0.034 | | Background: 0.903 | | 05/02/2019 16:48:58 |
| **As 259436 X5** | | **0.062** | **6.6** | **13.0305** | **13.0305** | |
| | 1 | 0.065 | | Background: 0.973 | | 05/02/2019 16:51:57 |
| | 2 | 0.059 | | Background: 0.971 | | 05/02/2019 16:54:56 |

# SOLAAR AA Report

*Operator Name:* [redacted]
*Results File:* [redacted]slr

*Report Date:* 05/03/2019 06:45:17

## Solution Results - As

| Sample ID | Signal | Rsd | Conc | Corrected Conc | |
|---|---|---|---|---|---|
| | Abs.s (Area) | % | µg/L | µg/L | |
| **As 274300dup 259436 X5** | **0.046** | **2.1** | **9.7520** | **9.7520** | |
| 1 | 0.046 | Background: 0.886 | | | 05/02/2019 16:57:55 |
| 2 | 0.047 | Background: 0.890 | | | 05/02/2019 17:00:56 |
| **As 274301dup 259436 X5** | **0.050** | **1.4** | **10.5187** | **10.5187** | |
| 1 | 0.050 | Background: 0.907 | | | 05/02/2019 17:03:54 |
| 2 | 0.049 | Background: 0.905 | | | 05/02/2019 17:06:54 |
| **As 260475 X5** | **0.028** | **5.1** | **5.9667** | **5.9667** | |
| 1 | 0.027 | Background: 0.511 | | | 05/02/2019 17:09:53 |
| 2 | 0.029 | Background: 0.501 | | | 05/02/2019 17:12:52 |
| **As 257647 X5** | **0.015** | **1.9** | **3.1758** | **3.1758** | |
| 1 | 0.015 | Background: 0.530 | | | 05/02/2019 17:15:51 |
| 2 | 0.015 | Background: 0.525 | | | 05/02/2019 17:18:51 |
| **As Analysis Spike** | **0.065** | **0.2** | **13.6470** | **13.6470** | |
| 1 | 0.065 | Background: 0.508 | | | 05/02/2019 17:21:50 |
| 2 | 0.065 | Background: 0.513 | | | 05/02/2019 17:24:50 |
| **As CCV** | **0.048** | **0.6** | **10.1741** | **10.1741** | |
| 1 | 0.048 | Background: 0.080 | | | 05/02/2019 17:27:50 |
| 2 | 0.049 | Background: 0.050 | | | 05/02/2019 17:30:49 |
| **As CCB** | **-0.000** | **>99** | **-0.0859** | **-0.0859** | |
| 1 | 0.001 | Background: 0.049 | | | 05/02/2019 17:33:48 |
| 2 | -0.001 | Background: 0.053 | | | 05/02/2019 17:36:48 |

# METALS
# LOGBOOK
# DOCUMENTS

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271472 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | | | | |
| | 270958 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 270959 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 270960 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 270961 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 265277 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71473 | | | |
| | 265276 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71473 | | | |
| 143900 | 258271 | | 03/28/2019 | 0935 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU10 | | | Designated MS/MSD | | | | | 71473 | | | |
| | 270962 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 258271 | | | | 0 | | | |
| | 265289 | | 03/28/2019 | 0935 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU10 | | | DUP | 258271 | | | | 71473 | | | |
| | 265290 | | 03/28/2019 | 0935 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU10 | | | MSS | 258271 | | | | 71473 | | | |
| | 265291 | | 03/28/2019 | 0935 | | | | | ICP QSM 5.0 | | | | |
| | | DU2B-SU10 | | | MSDS | 265290 | | | | 71473 | | | |
| | 270963 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 258271 | | | | 0 | | | |
| | 270964 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 270965 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270966 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143900 | 258272 | | 03/28/2019 | 1105 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU05 | | | | | | | | 71473 | | | |
| 143900 | 258273 | | 03/28/2019 | 1105 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU05 | | | | | | | | 71473 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143900 | 258275 | | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU04 | | | | | | 71473 | | | |
| 143900 | 258276 | | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU03 | | | | | | 71473 | | | |
| 143900 | 258277 | | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU03 | | | | | | 71473 | | | |
| 143965 | 259433 | | 03/28/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU13 | | Designated MS/MSD | | | | 71473 | | | |
| | 270967 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 259433 | | | | 0 | | | |
| | 265292 | | 03/28/2019 0830 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU13 | | DUP 259433 | | | | 71473 | | | |
| | 265293 | | 03/28/2019 0830 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU13 | | MSS 259433 | | | | 71473 | | | |
| | 265294 | | 03/28/2019 0830 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU13 | | MSDS 265293 | | | | 71473 | | | |
| | 270968 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 270969 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 270970 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 270971 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 259433 | | | | 0 | | | |
| 143965 | 259434 | | 03/28/2019 0831 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU13 | | Designated MS/MSD | | | | 71473 | | | |
| | 270972 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 259434 | | | | 0 | | | |
| | 265278 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | DUP 259434 | | | | 71473 | | | |
| | 265279 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | DUP 259434 | | | | 71473 | | | |
| | 265280 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | MSS 259434 | | | | 71473 | | | |
| | 265281 | | 03/28/2019 0831 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU13 | | MSDS 265280 | | | | 71473 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 270973 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 259434 | | | | 0 | | | |
| 143965 | 259435 | | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU14 | | | | | | 71473 | | | |
| 143965 | 259436 | | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU14 | | | | | | 71473 | | | |
| | 270974 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 270975 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 270976 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143965 | 259437 | | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU19 | | | | | | 71473 | | | |
| 143965 | 259459 | | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU19 | | | | | | 71473 | | | |
| 143965 | 259460 | | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU12 | | | | | | 71473 | | | |
| 143965 | 259462 | | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU12 | | | | | | 71473 | | | |
| 143965 | 259463 | | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU36R1 | | | | | | 71473 | | | |
| 143965 | 259464 | | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU36R1 | | | | | | 71473 | | | |
| 143965 | 259465 | | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU36R2 | | | | | | 71473 | | | |
| | 265282 | | 03/29/2019 1005 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU36R2 | | DUP 259465 | | | | 71473 | | | |
| | 265283 | | 03/29/2019 1005 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU36R2 | | DUP 259465 | | | | 71473 | | | |
| 143965 | 259466 | | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU36R2 | | | | | | 71473 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 270977 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 270978 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270979 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143965 | 259467 | | 03/29/2019 | 1010 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU36R3 | | | | | | | | 71473 | | | |
| 143965 | 259468 | | 03/29/2019 | 1010 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU36R3 | | | | | | | | 71473 | | | |
| | 270980 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 270981 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 270982 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 271952 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 271953 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 271954 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 271955 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | MRL | | | | | 0 | | | |
| | 271956 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 271957 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| 143965 | 259433 | | 03/28/2019 | 0830 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU13 | | | Designated MS/MSD | | | | | 71473 | | | |
| | 272087 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 259433 | | | | | | | |
| | 265292 | | 03/28/2019 | 0830 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU13 | | | DUP | 259433 | | | | 71473 | | | |
| | 271958 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 159931 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271959 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271960 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 265293 | | 03/28/2019 | 0830 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU13 | | | MSS | 259433 | | | | 71473 | | | |
| | 265294 | | 03/28/2019 | 0830 | | | | | ICP QSM 5.0 | | | | |
| RERUN | | DU1A-SU13 | | | MSDS | 265293 | | | | 71473 | | | |
| | 272088 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | PDSS | 259433 | | | | | | | |
| 143965 | 259462 | | 03/28/2019 | 1344 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1B-SU12 | | | | | | | | 71473 | | | |
| | 271961 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271962 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271963 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 271964 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271965 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271966 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| 143965 | 259460 | | 03/28/2019 | 1344 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU12 | | | | | | | | 71473 | | | |
| | 271967 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271968 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271969 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |

**86** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160109 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 272019 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 272020 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 272021 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 272022 | | | | | | MICP SOIL QSM | | | | |
| | | | | MRL | | | | 0 | | | |
| | 272023 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 272024 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 272025 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 272026 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 272027 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 268965 | | | | | | ICP QSM 5.0 | | | | |
| | | | | LCSS | | | | 71590 | | | |
| | 272028 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 272029 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 272030 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 268964 | | | | | | ICP QSM 5.0 | | | | |
| | | | | MBS | | | | 71590 | | | |
| 144004 | 260466 | | 04/02/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU4A-SU06 | | | | | | 71590 | | | |
| 144004 | 260467 | | 04/02/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU4B-SU06 | | | | | | 71590 | | | |
| 144004 | 260468 | | 04/02/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU4A-SU07R1 | | | | | | 71590 | | | |
| 144004 | 260469 | | 04/02/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | | **4** |
| | | DU4B-SU07R1 | | | | | | 71590 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 160109 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 144004 | 260470 | | 04/02/2019 1135 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4A-SU07R2 | | | | | | 71590 | | | |
| 144004 | 260471 | | 04/02/2019 1135 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4B-SU07R2 | | | | | | 71590 | | | |
| 144004 | 260472 | | 04/02/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4A-SU07R3 | | | | | | 71590 | | | |
| 144004 | 260473 | | 04/02/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4B-SU07R3 | | | | | | 71590 | | | |
| 144004 | 260474 | | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4A-SU05 | | | | | | 71590 | | | |
| | 272031 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 272032 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 272033 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 144004 | 260475 | | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4B-SU05 | | | | | | 71590 | | | |
| 144017 | 260924 | | 04/03/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4A-SU04 | | Designated MS/MSD | | | | 71590 | | | |
| | 272034 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 260924 | | | | 0 | | | |
| | 268949 | | 04/03/2019 0955 | | | | ICP QSM 5.0 | | | | |
| | | DU4A-SU04 | | DUP 260924 | | | | 71590 | | | |
| | 268950 | | 04/03/2019 0955 | | | | ICP QSM 5.0 | | | | |
| | | DU4A-SU04 | | DUP 260924 | | | | 71590 | | | |
| | 268951 | | 04/03/2019 0955 | | | | ICP QSM 5.0 | | | | |
| | | DU4A-SU04 | | MSS 260924 | | | | 71590 | | | |
| | 268952 | | 04/03/2019 0955 | | | | ICP QSM 5.0 | | | | |
| | | DU4A-SU04 | | MSDS 268951 | | | | 71590 | | | |
| | 272035 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 260924 | | | | 0 | | | |
| 144017 | 260925 | | 04/03/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU4B-SU04 | | Designated MS/MSD | | | | 71590 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160109 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 272036 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | L | 260925 | | | | 0 | | | |
| | 272037 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 272038 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 272039 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 268956 | | 04/03/2019 0955 | | | | | ICP QSM 5.0 | | | | |
| | | DU4B-SU04 | | DUP | 260925 | | | | 71590 | | | |
| | 268957 | | 04/03/2019 0955 | | | | | ICP QSM 5.0 | | | | |
| | | DU4B-SU04 | | DUP | 260925 | | | | 71590 | | | |
| | 268958 | | 04/03/2019 0955 | | | | | ICP QSM 5.0 | | | | |
| | | DU4B-SU04 | | MSS | 260925 | | | | 71590 | | | |
| | 268959 | | 04/03/2019 0955 | | | | | ICP QSM 5.0 | | | | |
| | | DU4B-SU04 | | MSDS | 268958 | | | | 71590 | | | |
| | 272040 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 260925 | | | | 0 | | | |
| 144017 | 260926 | | 04/03/2019 1005 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU4A-SU03 | | | | | | | 71590 | | | |
| 144017 | 260927 | | 04/03/2019 1005 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU4B-SU03 | | | | | | | 71590 | | | |
| 144017 | 260928 | | 04/03/2019 1050 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU4A-SU02 | | | | | | | 71590 | | | |
| 144017 | 260929 | | 04/03/2019 1050 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU4B-SU02 | | | | | | | 71590 | | | |
| 144017 | 260930 | | 04/03/2019 1205 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU4A-SU01 | | | | | | | 71590 | | | |
| | 272041 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 272042 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 272043 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| 144017 | 260931 | | 04/03/2019 1205 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU4B-SU01 | | | | | | | 71590 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Metals [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160109 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 272044 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 272045 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 272046 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 273368 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICV | | | | 0 | | | |
| | 273369 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICVLL | | | | 0 | | | |
| | 273370 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICB | | | | 0 | | | |
| | 273371 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSA | | | | 0 | | | |
| | 273372 | | | | | | MICP SOIL QSM | | | | |
| | | | | ICSAB | | | | 0 | | | |
| | 268965 | | | | | | ICP QSM 5.0 | | | | |
| RERUN | | | | LCSS | | | | 71590 | | | |
| | 273373 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 273374 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 273375 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |

**65** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160126 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271970 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 271971 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 271972 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 271973 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | MRL | | | | | 0 | | | |
| | 271974 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 271975 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 271976 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271977 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271978 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 268929 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71586 | | | |
| | 268928 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71586 | | | |
| 143965 | 259469 | | 03/29/2019 | 1200 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU34 | | | Designated MS/MSD | | | | | 71586 | | | |
| | 271979 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 259469 | | | | 0 | | | |
| | 268932 | | 03/29/2019 | 1200 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU34 | | | DUP | 259469 | | | | 71586 | | | |
| | 271980 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 271981 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 271982 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 268933 | | 03/29/2019 | 1200 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU34 | | | DUP | 259469 | | | | 71586 | | | |
| | 268934 | | 03/29/2019 | 1200 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU34 | | | MSS | 259469 | | | | 71586 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160126 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 268935 | | 03/29/2019 1200 | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU34 | | MSDS 268934 | | | | 71586 | | | |
| | 271983 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 259469 | | | | 0 | | | |
| 143965 | 259470 | | 03/29/2019 1200 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU34 | | Designated MS/MSD | | | | 71586 | | | |
| | 271984 | | | | | | ICP QSM 5.0 | | | | |
| | | | | L 259470 | | | | 0 | | | |
| | 268936 | | 03/29/2019 1200 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU34 | | DUP 259470 | | | | 71586 | | | |
| | 268937 | | 03/29/2019 1200 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU34 | | DUP 259470 | | | | 71586 | | | |
| | 268938 | | 03/29/2019 1200 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU34 | | MSS 259470 | | | | 71586 | | | |
| | 268939 | | 03/29/2019 1200 | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU34 | | MSDS 268938 | | | | 71586 | | | |
| | 271985 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271986 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271987 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| | 271988 | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS 259470 | | | | 0 | | | |
| 143965 | 259471 | | 03/29/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU10R1 | | | | | | 71586 | | | |
| 143965 | 259472 | | 03/29/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU10R1 | | | | | | 71586 | | | |
| 143965 | 259473 | | 04/01/2019 0820 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU09 | | | | | | 71586 | | | |
| 143965 | 259474 | | 04/01/2019 0820 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU09 | | | | | | 71586 | | | |
| 143965 | 259475 | | 04/01/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU08 | | | | | | 71586 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 160126 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259477 | | 04/01/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU08 | | | | | | 71586 | | | |
| 143965 | 259478 | | 04/01/2019 1035 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU21 | | | | | | 71586 | | | |
| 143965 | 259479 | | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1B-SU21 | | | | | | 71586 | | | |
| 143965 | 259480 | | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU16 | | | | | | 71586 | | | |
| | 271989 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271990 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271991 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |
| 143965 | 259481 | | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU16 | | | | | | 71586 | | | |
| 143965 | 259482 | | 03/29/2019 1020 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU15 | | | | | | 71586 | | | |
| 143965 | 259483 | | 03/29/2019 1020 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU15 | | | | | | 71586 | | | |
| 143965 | 259484 | | 03/29/2019 1240 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU01 | | | | | | 71586 | | | |
| 143965 | 259485 | | 03/29/2019 1240 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU01 | | | | | | 71586 | | | |
| 143965 | 259487 | | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2A-SU17 | | | | | | 71586 | | | |
| 143965 | 259492 | | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU2B-SU17 | | | | | | 71586 | | | |
| 143965 | 259493 | | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | 4 | |
| | | DU1A-SU10R2 | | | | | | 71586 | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 160126 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259494 | | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU10R2 | | | | | | 71586 | | | |
| | 271992 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | 0 | | | |
| | 271993 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | 0 | | | |
| | 271994 | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | 0 | | | |

**55** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MICP SOIL QSM Analytical Run
# 160127 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271996 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | | 0 | | | |
| | 271997 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | | 0 | | | |
| | 271998 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | | 0 | | | |
| | 271999 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | MRL | | | | | 0 | | | |
| | 272000 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | | 0 | | | |
| | 272001 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | | 0 | | | |
| | 272002 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 272003 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 272004 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 268942 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | LCSS | | | | | 71588 | | | |
| | 272005 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | | 0 | | | |
| | 272006 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | | 0 | | | |
| | 272007 | | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | | 0 | | | |
| | 268941 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | MBS | | | | | 71588 | | | |
| 143965 | 259495 | | 03/29/2019 | 1520 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU10R3 | | | | | | | | 71588 | | | |
| | 268943 | | 03/29/2019 | 1520 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU10R3 | | | DUP | 259495 | | | | 71588 | | | |
| | 268944 | | 03/29/2019 | 1520 | | | | | ICP QSM 5.0 | | | | |
| | | DU1A-SU10R3 | | | DUP | 259495 | | | | 71588 | | | |
| 143965 | 259496 | | 03/29/2019 | 1520 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU10R3 | | | | | | | | 71588 | | | |
| | 272008 | | | | | | | | ICP QSM 5.0 | | | | |
| | | | | | L | 259496 | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: [redacted] ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160127 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 268945 | | 03/29/2019 1520 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU10R3 | | DUP | 259496 | | | | 71588 | | | |
| | 268946 | | 03/29/2019 1520 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU10R3 | | DUP | 259496 | | | | 71588 | | | |
| | 268947 | | 03/29/2019 1520 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU10R3 | | MSS | 259496 | | | | 71588 | | | |
| | 268948 | | 03/29/2019 1520 | | | | | ICP QSM 5.0 | | | | |
| | | DU1B-SU10R3 | | MSDS | 268947 | | | | 71588 | | | |
| | 272009 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV1 | | | | | 0 | | | |
| | 272010 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCV2 | | | | | 0 | | | |
| | 272011 | | | | | | | MICP SOIL QSM | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 272012 | | | | | | | ICP QSM 5.0 | | | | |
| | | | | PDSS | 259496 | | | | 0 | | | |
| 143965 | 259497 | | 04/01/2019 0815 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU39 | | | | | | | 71588 | | | |
| 143965 | 259498 | | 04/01/2019 0815 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU39 | | | | | | | 71588 | | | |
| 143965 | 259499 | | 04/01/2019 1015 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU23 | | | | | | | 71588 | | | |
| 143965 | 259500 | | 04/01/2019 1015 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU23 | | | | | | | 71588 | | | |
| 143965 | 259501 | | 04/01/2019 1125 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU29 | | | | | | | 71588 | | | |
| 143965 | 259502 | | 04/01/2019 1125 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU29 | | | | | | | 71588 | | | |
| 143965 | 259503 | | 04/01/2019 1223 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1A-SU52 | | | | | | | 71588 | | | |
| 143965 | 259504 | | 04/01/2019 1223 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU1B-SU52 | | | | | | | 71588 | | | |
| 143965 | 259505 | | 04/01/2019 1330 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU06 | | | | | | | 71588 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: Metals [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160127 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 272013 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 272014 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 272015 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143965 | 259506 | | 04/01/2019 | 1330 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU06 | | | | | | | 71588 | | | |
| 144004 | 260386 | | 04/02/2019 | 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU14 | | | | | | | 71588 | | | |
| 144004 | 260459 | | 04/02/2019 | 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU14 | | | | | | | 71588 | | | |
| 144004 | 260460 | | 04/02/2019 | 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU13 | | | | | | | 71588 | | | |
| 144004 | 260461 | | 04/02/2019 | 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU13 | | | | | | | 71588 | | | |
| 144004 | 260462 | | 04/02/2019 | 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU12 | | | | | | | 71588 | | | |
| 144004 | 260463 | | 04/02/2019 | 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU12 | | | | | | | 71588 | | | |
| 144004 | 260464 | | 04/02/2019 | 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2A-SU11 | | | | | | | 71588 | | | |
| 144004 | 260465 | | 04/02/2019 | 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| | | DU2B-SU11 | | | | | | | 71588 | | | |
| | 272016 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 272017 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 272018 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| | 273140 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICV | | | | 0 | | | |
| | 273141 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICVLL | | | | 0 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

# MICP SOIL QSM Analytical Run
# 160127 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 273142 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICB | | | | 0 | | | |
| | 273143 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSA | | | | 0 | | | |
| | 273144 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | ICSAB | | | | 0 | | | |
| | 273145 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273146 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273147 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |
| 143965 | 259499 | | 04/01/2019 | 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1A-SU23 | | | | | | | 71588 | | | |
| 143965 | 259500 | | 04/01/2019 | 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU1B-SU23 | | | | | | | 71588 | | | |
| 144004 | 260462 | | 04/02/2019 | 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU2A-SU12 | | | | | | | 71588 | | | |
| 144004 | 260464 | | 04/02/2019 | 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | ICP QSM 5.0 | | S | **4** | |
| RERUN | | DU2A-SU11 | | | | | | | 71588 | | | |
| | 273148 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV1 | | | | 0 | | | |
| | 273149 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCV2 | | | | 0 | | | |
| | 273150 | | | | | | | MICP SOIL QSM | | | | |
| | | | | | CCB | | | | 0 | | | |

**66** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MGFAA AS QSM SOIL Analytical Run
# 160412 on 05/07/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 276689 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCVLL | | | | | | | | |
| | 276544 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | ICV | | | | | 0 | | | |
| | 276545 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 274295 | | | | | | | ARSENIC QSM | | | | |
| | | | | LCSS | | | | | 71761 | | | |
| | 274294 | | | | | | | ARSENIC QSM | | | | |
| | | | | MBS | | | | | 71761 | | | |
| | 276687 | | | | | | | ARSENIC QSM | | | | |
| | | | | L | 257647 | | | | | | | |
| | 274296 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | DUP | 257647 | | | | 71761 | | | |
| | 274297 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | DUP | 257647 | | | | 71761 | | | |
| | 274298 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | MSS | 257647 | | | | 71761 | | | |
| | 276546 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCV | | | | | 0 | | | |
| | 276547 | | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | | 0 | | | |
| | 274299 | | 03/27/2019 0925 | | | | | ARSENIC QSM | | | | |
| | | DU1A-SU44R1 | | MSDS | 274298 | | | | 71761 | | | |
| 143856 | 257648 | | 03/27/2019 0926 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU44R1 | | | | | | | 71761 | | | |
| 143856 | 257649 | | 03/27/2019 1010 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU44R2 | | | | | | | 71761 | | | |
| 143856 | 257650 | | 03/27/2019 1011 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU44R2 | | | | | | | 71761 | | | |
| 143856 | 257651 | | 03/27/2019 1105 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU44R3 | | | | | | | 71761 | | | |
| 143856 | 257652 | | 03/27/2019 1106 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU44R3 | | | | | | | 71761 | | | |
| 143856 | 257653 | | 03/27/2019 1225 | | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU48 | | | | | | | 71761 | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# MGFAA AS QSM SOIL Analytical Run
# 160412 on 05/07/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143856 | 257654 | | 03/27/2019 1226 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU48 | | | | | | 71761 | | | |
| | 276548 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCV | | | | 0 | | | |
| | 276549 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | 0 | | | |
| 143856 | 257655 | | 03/27/2019 1400 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU26 | | | | | | 71761 | | | |
| 143856 | 257657 | | 03/27/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU30S1 | | | | | | 71761 | | | |
| 143856 | 257659 | | 03/27/2019 1055 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU30S2 | | | | | | 71761 | | | |
| 143856 | 257661 | | 03/27/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU30S3 | | | | | | 71761 | | | |
| 143965 | 259436 | | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1B-SU14 | | | | | | 71761 | | | |
| | 274300 | | 03/28/2019 1017 | | | | ARSENIC QSM | | | | |
| | | DU1B-SU14 | | DUP 259436 | | | | 71761 | | | |
| | 274301 | | 03/28/2019 1017 | | | | ARSENIC QSM | | | | |
| | | DU1B-SU14 | | DUP 259436 | | | | 71761 | | | |
| 144004 | 260475 | | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU4B-SU05 | | | | | | 71761 | | | |
| 143856 | 257647 | | 03/27/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | ARSENIC QSM | | S | **4** | Y |
| | | DU1A-SU44R1 | | | | | | 71761 | | | |
| | 276688 | | | | | | ARSENIC QSM | | | | |
| | | | | PDSS 257647 | | | | | | | |
| | 276550 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCV | | | | 0 | | | |
| | 276551 | | | | | | MGFAA AS QSM SOIL | | | | |
| | | | | CCB | | | | 0 | | | |

**33** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,473** Date Prepped: 04/21/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 265276 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.95 | | | |
| | 265277 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.01 | | | |
| 143900 | 258271 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 258272 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 258273 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 258275 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 258276 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 258277 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| 143965 | 259433 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259433 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259434 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259435 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 259436 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 259437 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 259459 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259460 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259460 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259462 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 259462 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 259463 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 259464 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 259465 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259466 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 259467 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 259468 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 265278 | DUP | 259434 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265279 | DUP | 259434 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 265280 | MSS | 259434 | ICP QSM 5.0 | SOIL | 50 | 1.96 | | | |
| | 265281 | MSDS | 265280 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265282 | DUP | 259465 | ICP QSM 5.0 | SOIL | 50 | 1.95 | | | |
| | 265283 | DUP | 259465 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |
| | 265289 | DUP | 258271 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 265290 | MSS | 258271 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 265291 | MSDS | 265290 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 265292 | DUP | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |

# PREP WORKSHEET
# on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 265292 | DUP | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 265293 | MSS | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 265293 | MSS | 259433 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 265294 | MSDS | 265293 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 265294 | MSDS | 265293 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,590** Date Prepped: 04/24/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 268964 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.96 | | | |
| | 268965 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.01 | | | |
| | 268965 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.01 | | | |
| 144004 | 260466 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |
| | 260467 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 260468 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 260469 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 260470 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 260471 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 260472 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 260473 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 260474 | | | ICP QSM 5.0 | SOIL | 50 | 2.06 | | 4 | |
| | 260475 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| 144017 | 260924 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 260925 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 260926 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 260927 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 144017 | 260928 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 260929 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 260930 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 260931 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 268949 | DUP | 260924 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 268950 | DUP | 260924 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 268951 | MSS | 260924 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 268952 | MSDS | 268951 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 268956 | DUP | 260925 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 268957 | DUP | 260925 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 268958 | MSS | 260925 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 268959 | MSDS | 268958 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,586** Date Prepped: 04/24/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 268928 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.99 | | | |
| | 268929 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 1.99 | | | |
| 143965 | 259469 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259470 | sample designated for QC | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 259471 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 259472 | | | ICP QSM 5.0 | SOIL | 50 | 2.02 | | 4 | |
| | 259473 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 259474 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 259475 | | | ICP QSM 5.0 | SOIL | 50 | 1.95 | | 4 | |
| | 259477 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 259478 | | | ICP QSM 5.0 | SOIL | 50 | 2.07 | | 4 | |
| | 259479 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 259480 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 259481 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 259482 | | | ICP QSM 5.0 | SOIL | 50 | 1.92 | | 4 | |
| | 259483 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 259484 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259485 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 259487 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 259492 | | | ICP QSM 5.0 | SOIL | 50 | 1.99 | | 4 | |
| | 259493 | | | ICP QSM 5.0 | SOIL | 50 | 1.90 | | 4 | |
| | 259494 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 268932 | DUP | 259469 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 268933 | DUP | 259469 | ICP QSM 5.0 | SOIL | 50 | 1.90 | | | |
| | 268934 | MSS | 259469 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 268935 | MSDS | 268934 | ICP QSM 5.0 | SOIL | 50 | 1.91 | | | |
| | 268936 | DUP | 259470 | ICP QSM 5.0 | SOIL | 50 | 2.02 | | | |
| | 268937 | DUP | 259470 | ICP QSM 5.0 | SOIL | 50 | 2.04 | | | |
| | 268938 | MSS | 259470 | ICP QSM 5.0 | SOIL | 50 | 2.04 | | | |
| | 268939 | MSDS | 268938 | ICP QSM 5.0 | SOIL | 50 | 2.02 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/01/2019

Prep Batch **71,588** Date Prepped: 04/24/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 268941 | MBS | | ICP QSM 5.0 | SOLID | 50 | 1.93 | | | |
| | 268942 | LCSS | | ICP QSM 5.0 | SOLID | 50 | 2.05 | | | |
| 143965 | 259495 | | | ICP QSM 5.0 | SOIL | 50 | 1.98 | | 4 | |
| | 259496 | | | ICP QSM 5.0 | SOIL | 50 | 1.93 | | 4 | |
| | 259497 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 259498 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 259499 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 259499 | | | ICP QSM 5.0 | SOIL | 50 | 1.96 | | 4 | |
| | 259500 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259500 | | | ICP QSM 5.0 | SOIL | 50 | 1.91 | | 4 | |
| | 259501 | | | ICP QSM 5.0 | SOIL | 50 | 2.05 | | 4 | |
| | 259502 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 259503 | | | ICP QSM 5.0 | SOIL | 50 | 2.01 | | 4 | |
| | 259504 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |
| | 259505 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 259506 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| 144004 | 260386 | | | ICP QSM 5.0 | SOIL | 50 | 1.94 | | 4 | |

# PREP WORKSHEET
## on 05/01/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 144004 | 260459 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 260460 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 260461 | | | ICP QSM 5.0 | SOIL | 50 | 2.00 | | 4 | |
| | 260462 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 260462 | | | ICP QSM 5.0 | SOIL | 50 | 2.08 | | 4 | |
| | 260463 | | | ICP QSM 5.0 | SOIL | 50 | 2.04 | | 4 | |
| | 260464 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 260464 | | | ICP QSM 5.0 | SOIL | 50 | 1.97 | | 4 | |
| | 260465 | | | ICP QSM 5.0 | SOIL | 50 | 2.03 | | 4 | |
| | 268943 | DUP | 259495 | ICP QSM 5.0 | SOIL | 50 | 1.99 | | | |
| | 268944 | DUP | 259495 | ICP QSM 5.0 | SOIL | 50 | 1.99 | | | |
| | 268945 | DUP | 259496 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 268946 | DUP | 259496 | ICP QSM 5.0 | SOIL | 50 | 1.93 | | | |
| | 268947 | MSS | 259496 | ICP QSM 5.0 | SOIL | 50 | 1.92 | | | |
| | 268948 | MSDS | 268947 | ICP QSM 5.0 | SOIL | 50 | 1.94 | | | |

Notes:_____

# PREP WORKSHEET
## on 05/07/2019

Prep Batch **71,761** Date Prepped: 05/01/2019 Prepped By [redacted]

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 274294 | MBS | | ARSENIC QSM | SOLID | 50 | 1.94 | | | |
| | 274295 | LCSS | | ARSENIC QSM | SOLID | 50 | 2.00 | | | |
| 143856 | 257647 | | | ARSENIC QSM | SOIL | 50 | 2.04 | | 4 | |
| | 257648 | | | ARSENIC QSM | SOIL | 50 | 1.99 | | 4 | |
| | 257649 | | | ARSENIC QSM | SOIL | 50 | 1.95 | | 4 | |
| | 257650 | | | ARSENIC QSM | SOIL | 50 | 1.90 | | 4 | |
| | 257651 | | | ARSENIC QSM | SOIL | 50 | 1.93 | | 4 | |
| | 257652 | | | ARSENIC QSM | SOIL | 50 | 2.00 | | 4 | |
| | 257653 | | | ARSENIC QSM | SOIL | 50 | 1.97 | | 4 | |
| | 257654 | | | ARSENIC QSM | SOIL | 50 | 2.06 | | 4 | |
| | 257655 | | | ARSENIC QSM | SOIL | 50 | 1.90 | | 4 | |
| | 257657 | | | ARSENIC QSM | SOIL | 50 | 1.95 | | 4 | |
| | 257659 | | | ARSENIC QSM | SOIL | 50 | 1.92 | | 4 | |
| | 257661 | | | ARSENIC QSM | SOIL | 50 | 1.95 | | 4 | |
| 143965 | 259436 | | | ARSENIC QSM | SOIL | 50 | 2.08 | | 4 | |
| 144004 | 260475 | | | ARSENIC QSM | SOIL | 50 | 1.90 | | 4 | |
| | 274296 | DUP | 257647 | ARSENIC QSM | SOIL | 50 | 2.05 | | | |



Distibution: [redacted]PREPWRKSHT.RPT

# PREP WORKSHEET
# on 05/07/2019

| Folder # | Order | QC Type | Link | Test | Matrix | Volume | Weight | Initial Volume | SDG Level | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 274297 | DUP | 257647 | ARSENIC QSM | SOIL | 50 | 2.04 | | | |
| | 274298 | MSS | 257647 | ARSENIC QSM | SOIL | 50 | 2.05 | | | |
| | 274299 | MSDS | 274298 | ARSENIC QSM | SOIL | 50 | 2.03 | | | |
| | 274300 | DUP | 259436 | ARSENIC QSM | SOIL | 50 | 2.08 | | | |
| | 274301 | DUP | 259436 | ARSENIC QSM | SOIL | 50 | 2.07 | | | |

Notes:_____

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: solid

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71473 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/21/2019 |
| **Start Time:** | 14:36 |

Prep Analyst: [redacted]
Balance ID: VOB01

End Date: 04/21/2019
End Time: 18:55
Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 92

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 265276 | (MB) | | 1.95 | | 50 |
| | 265277 | (LCS) | | 2.01 | | 50 |
| | 258271 | | | 1.93 | | 50 |
| | 258272 | Comments: | | 1.99 | | 50 |
| | 258273 | | | 2.04 | | 50 |
| | 258275 | | | 1.98 | | 50 |
| | 258276 | | | 1.95 | | 50 |
| | 258277 | | | 2.05 | | 50 |
| | 259433 | | | 1.91 | | 50 |
| | 259434 | | | 1.95 | | 50 |
| | 259435 | | | 1.96 | | 50 |
| | 259436 | | | 2.03 | | 50 |
| | 259437 | | | 1.92 | | 50 |
| | 259459 | | | 1.91 | | 50 |
| | 259460 | | | 1.95 | | 50 |
| | 259462 | | | 1.99 | | 50 |
| | 259463 | | | 2.05 | | 50 |
| | 259464 | | | 2.00 | | 50 |
| | 259465 | | | 1.95 | | 50 |
| | 259466 | | | 2.05 | | 50 |
| | 259467 | | | 1.90 | | 50 |
| | 259468 | | | 1.94 | | 50 |
| | 265278 | (DUP) | | 1.95 | | 50 |
| | 265280 | (DUP) | Parent Sample | 1.96 | | 50 |
| | 265281 | (MSD) | 259434 | 1.95 | | 50 |
| | 265282 | (DUP) | | 1.95 | | 50 |
| | 265283 | (DUP) | Parent Sample | 1.94 | | 50 |
| | | (MSD) | 259465 | | | 50 |
| | 265289 | (DUP) | | 1.92 | | 50 |
| | 265290 | (MS) | Parent Sample | 1.93 | | 50 |
| | 265291 | (MSD) | 258271 | 1.92 | | 50 |
| Leave >> | 265292 | (DUP) if applicable | | 1.91 | | 50 |
| blank | 265293 | (MS) | Parent Sample | 1.91 | | 50 |
| if N/A | 265294 | (MSD) | 259433 | 1.90 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13753 |
| 0.1 | m13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/06/201914:31

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOLID

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71590 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 04/24/2019 |
| **Start Time:** | 14:28 |

Prep Analyst: [redacted]
Balance ID: VOB01

End Date: 04/24/2019
End Time: 18:52

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 1080839
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 92

| | Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|---|
| | 268964 | (MB) | | 1.96 | | 50 |
| | 268965 | (LCS) | | 2.01 | | 50 |
| | 260466 | | | 2.07 | | 50 |
| | 260467 | Comments: | | 1.99 | | 50 |
| | 260468 | | | 1.97 | | 50 |
| | 260469 | | | 2.00 | | 50 |
| | 260470 | | | 2.05 | | 50 |
| | 260471 | | | 2.03 | | 50 |
| | 260472 | | | 1.95 | | 50 |
| | 260473 | | | 1.92 | | 50 |
| | 260474 | | | 2.06 | | 50 |
| | 260475 | | | 1.93 | | 50 |
| | 260924 | | | 1.92 | | 50 |
| | 260925 | | | 1.92 | | 50 |
| | 260926 | | | 1.90 | | 50 |
| | 260927 | | | 2.03 | | 50 |
| | 260928 | | | 1.93 | | 50 |
| | 260929 | | | 1.98 | | 50 |
| | 260930 | | | 1.90 | | 50 |
| | 260931 | | | 1.91 | | 50 |
| | | | | | | 50 |
| | 268949 | (DUP) | | 1.93 | | 50 |
| | 268950 | (DUP) | | 1.93 | | 50 |
| | 268951 | (MS) | Parent Sample | 1.92 | | 50 |
| | 268952 | (MSD) | 260924 | 1.93 | | 50 |
| | 268956 | (DUP) | | 1.92 | | 50 |
| | 268958 | (MS) | Parent Sample | 1.93 | | 50 |
| | 268959 | (MSD) | 260925 | 1.93 | | 50 |
| Leave >> | 268957 | (DUP) if applicable | | 1.92 | | 50 |
| blank | | (MS) | Parent Sample | | | 50 |
| if N/A | | (MSD) | 260925 | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13616 |
| 0.1 | m13753 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | m13616 |
| 0.1 | m13753 |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/06/201915:15

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71586 |
| **Prep Method:** | 200.2 |
| **Analyst:** | [redacted] |
| **Date:** | 04/24/2019 |
| **Start Time:** | 09:05 |

Prep Analyst: [redacted]
Balance ID: VOB01

End Date: 04/24/2019
End Time: 13:27
Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 90

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

| Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|
| 268928 | (MB) | | 1.99 | | 50 |
| 268929 | (LCS) | | 1.99 | | 50 |
| 259469 | | | 1.91 | | 50 |
| 259470 | **Comments:** | | 2.03 | | 50 |
| 259471 | | | 1.94 | | 50 |
| 259472 | | | 2.02 | | 50 |
| 259473 | | | 2.05 | | 50 |
| 259474 | | | 1.96 | | 50 |
| 259475 | | | 1.95 | | 50 |
| 259477 | | | 1.93 | | 50 |
| 259478 | | | 2.07 | | 50 |
| 259479 | | | 1.92 | | 50 |
| 259480 | | | 1.94 | | 50 |
| 259481 | | | 2.03 | | 50 |
| 259482 | | | 1.92 | | 50 |
| 259483 | | | 2.04 | | 50 |
| 259484 | | | 2.05 | | 50 |
| 259485 | | | 2.01 | | 50 |
| 259487 | | | 1.93 | | 50 |
| 259492 | | | 1.99 | | 50 |
| 259493 | | | 1.90 | | 50 |
| 259494 | | | 1.98 | | 50 |
| 268932 | (DUP) | | 1.90 | | 50 |
| 268933 | (DUP) | | 1.90 | | 50 |
| 268934 | (MS) | Parent Sample | 1.91 | | 50 |
| 268935 | (MSD) | 259469 | 1.91 | | 50 |
| 268936 | (DUP) | | 2.02 | | 50 |
| 268937 | (DUP) | | 2.04 | | 50 |
| 268938 | (MS) | Parent Sample | 2.04 | | 50 |
| 268939 | (MSD) | 259470 | 2.02 | | 50 |
| | (DUP) if applicable | | | | 50 |
| Leave >> | (MS) | Parent Sample | | | 50 |
| blank | (MSD) | | | | 50 |
| if N/A | (MSD) | | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13753 |
| 0.1 | M13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13753 |
| 0.1 | M13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/06/201915:16

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71588 |
| **Prep Method:** | 200.2 |
| **Analyst:** | [redacted] |
| **Date:** | 04/24/2019 |
| **Start Time:** | 09:05 |

Prep Analyst: [redacted]
Balance ID: VOB01

End Date: 04/24/2019
End Time: 13:27
Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 90

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | AB.675 |
| Hydrogen Peroxide: | AB.670 |

| Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|
| 268941 | (MB) | | 1.93 | | 50 |
| 268942 | (LCS) | | 2.05 | | 50 |
| 259495 | | | 1.98 | | 50 |
| 259496 | **Comments:** | | 1.93 | | 50 |
| 259497 | | | 1.97 | | 50 |
| 259498 | | | 2.00 | | 50 |
| 259499 | | | 1.96 | | 50 |
| 259500 | | | 1.91 | | 50 |
| 259501 | | | 2.05 | | 50 |
| 259502 | | | 1.97 | | 50 |
| 259503 | | | 2.01 | | 50 |
| 259504 | | | 1.94 | | 50 |
| 259505 | | | 2.03 | | 50 |
| 259506 | | | 1.97 | | 50 |
| 260386 | | | 1.94 | | 50 |
| 260459 | | | 2.08 | | 50 |
| 260460 | | | 1.97 | | 50 |
| 260461 | | | 2.00 | | 50 |
| 260462 | | | 2.08 | | 50 |
| 260463 | | | 2.04 | | 50 |
| 260464 | | | 1.97 | | 50 |
| 260465 | | | 2.03 | | 50 |
| 268943 | (DUP) | | 1.99 | | 50 |
| 268944 | (DUP) | Parent Sample | 1.99 | | 50 |
| | (MSD) | 259495 | | | 50 |
| 268945 | (DUP) | | 1.93 | | 50 |
| 268946 | (DUP) | | 1.93 | | 50 |
| 268947 | (MS) | Parent Sample | 1.92 | | 50 |
| 268948 | (MSD) | 259496 | 1.94 | | 50 |
| | (MS) | Parent Sample | | | 50 |
| | (MSD) | | | | 50 |
| Leave >> | (DUP) if applicable | | | | 50 |
| blank | (MS) | Parent Sample | | | 50 |
| if N/A | (MSD) | | | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13753 |
| 0.1 | M13616 |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.1 | M13753 |
| 0.1 | M13616 |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/06/201915:16

# Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

| | |
|---|---|
| **Prep Batch #:** | 71761 |
| **Prep Method:** | 3050 |
| **Analyst:** | [redacted] |
| **Date:** | 05/01/2019 |
| **Start Time:** | 12:35 |

Prep Analyst: [redacted]
Balance ID: VOBO1

End Date: 05/01/2019
End Time: 15:51

| Reagent: | Ref. # |
|---|---|
| Nitric Acid: | AB.676 |
| Hydrochloric Acid: | |
| Hydrogen Peroxide: | AB.670 |

Digestion Tube Lot #: 1808349
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 90
Final-Digestion Temp (ºC): 90

| Sample ID | | | (Solids) Sample Weight (g) | (Liquids) Sample Volume (ml) | Final Volume (ml) |
|---|---|---|---|---|---|
| 274294 | (MB) | | 1.94 | | 50 |
| 274295 | (LCS) | | 2.00 | | 50 |
| 257647 | | | 2.04 | | 50 |
| 257648 | **Comments:** | | 1.99 | | 50 |
| 257649 | | | 1.95 | | 50 |
| 257650 | | | 1.90 | | 50 |
| 257651 | | | 1.93 | | 50 |
| 257652 | | | 2.00 | | 50 |
| 257653 | | | 1.97 | | 50 |
| 257654 | | | 2.06 | | 50 |
| 257655 | | | 1.90 | | 50 |
| 257657 | | | 1.95 | | 50 |
| 257659 | | | 1.92 | | 50 |
| 257661 | | | 1.95 | | 50 |
| 259436 | | | 2.08 | | 50 |
| 260475 | | | 1.90 | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| | | | | | 50 |
| 274296 | (DUP) | | 2.05 | | 50 |
| 274287 | (DUP) | | 2.04 | | 50 |
| 274298 | (MS) | Parent Sample | 2.05 | | 50 |
| 274299 | (MSD) | 257647 | 2.03 | | 50 |
| 274300 | (DUP) | | | | 50 |
| | (MS) | Parent Sample | | | 50 |
| | (MSD) | 259436 | 2.08 | | 50 |
| Leave >> 274301 | (DUP) if applicable | | | | 50 |
| blank | (MS) | Parent Sample | | | 50 |
| if N/A | (MSD) | 259436 | 2.07 | | 50 |

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

| MS/MSD Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.075 | m13786 |
| | |
| | |
| | |
| | |
| | |

| LCS Spike Amount (ml) | Spike Ref. # |
|---|---|
| 0.075 | m13786 |
| | |
| | |
| | |
| | |
| | |

Reviewed By/Date: _____

05/07/201912:13

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/23/19, 4/25/19 | Data File: AsMn042519v5, AsMn042319v4 | Date of review: 4/26/19 |
|---|---|---|---|
| Cal Std ID: M13519 LIMS #: 159931 | Analyst: [redacted] | Reviewer: [redacted] | Approved? (Yes) No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / (QSM) / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r ≥ 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL: (70-130%) / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |
| **Preparation Batch Parameters** | **YES** | **NO** | **YES** | **NO** | |
| Prep Batch ID#: 71473 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | Mn >½RL Samples ok |
| Spiked samples in batch: | | | | | |
| a) 258271 matrix = S | ✓ | ✓ | ✓ | - | Invalid As, Failed Mn Dup invalid As |
| b) 259433 matrix = S | ✓ | ✓ | ✓ | - | Invalid As, Dup Failed "Y", MS/MSD Failed Mn |
| c) 259434 matrix = S | ✓ | ✓ | ✓ | - | Invalid As, Dup+Trip Failed Mn "Y", MS/MSD Failed Mn |
| PDS: ±15% / 20% / 25% Sample#: b | ✓ | | - | | b) OK c) OK |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) 259465 matrix = S | ✓ | ✓ | - | ✓ | Dup+Trip invalid As |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4-25-19 | Data File: DOD results | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: 113519 LIMS #: 160109 | Analyst [redacted] | Reviewer: [redacted] | Approved? Yes No |
| Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r > 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | — | | ✓ | | |
| 4) ICSA: < ABS LOD | — | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| Prep Batch ID#: 71590 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | — | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | Mn FLOD "B" |
| Spiked samples in batch: | | | | | |
| a) 260924 matrix = S | ✓ | — | ✓ | ✓ | Duplicate Invalid Invalid |
| b) 260925 matrix = S | — | — | ✓ | ✓ | Invalid, Duplicate "Y" |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix = _____ | | | | | |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix = _____ | | | | | |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix = _____ | | | | | |
| b)_____ matrix = _____ | | | | | |
| c)_____ matrix = _____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4/25/19 | Data File: AsMn042519v5 | Date of review: 4/26/19 |
|---|---|---|---|
| Cal Std ID: M13519 \| LIMS # : 160126 | Analyst: [redacted] | Reviewer: [redacted] | Approved? Yes / No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any ma[redacted]nipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r ≥ 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |
| **Preparation Batch Parameters** | **YES** | **NO** | **YES** | **NO** | |
| Prep Batch ID#: 71586 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD or ≤ ½ RL | ✓ | ✓ | ✓ | ✓ | As > MDL < ½ RL Mn > ½ RL "B" |
| Spiked samples in batch: | | | | | |
| a) 259469 matrix = S | ✓ | ✓ | ✓ | ✓ | Invalid As, failed Mn, Trip Failed As "Y" |
| b) 259470 matrix = S | ✓ | ✓ | ✓ | ✓ | Invalid As, Trip Failed As "Y" |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample#: | | | | | |

| iCAP 6000 / 6500 Data Review Checklist | Analysis Date: 4-25-19 | Data File: DO ONES-025 | Date of review: 4/30/19 |
|---|---|---|---|
| Cal Std ID: 113519 LIMS #: 160127 | Analyst: [redacted] | Reviewer: [redacted] | Approved? (Yes) No |
| Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change) | | | |

| QC Parameters : 6010 / 200.7 / QSM / Other | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity: r ≥ 0.995 / r > 0.998 | ✓ | | ✓ | | |
| 2) ICV: 90-110% / 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% / 80-120% | ✓ | | ✓ | | |
| 3) ICB: < 3X IDL / <LOD / <LOQ | ✓ | | ✓ | | |
| 4) ICSA: < ABS LOD | ✓ | | ✓ | | |
| 5) ICSAB: 80-120% | ✓ | | ✓ | | |
| 6) MRL/LLOQ: 70-130% / 80-120% | ✓ | | ✓ | | |
| 7) MDL Check: >LOD | | | . | | |
| 8) CCV1/CCB1 (CCV: 90-110% ) | ✓ | | ✓ | | |
| 9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ) | | | | | |
| 10) CCV3/CCB3 | | | | | |
| 11) CCV4/CCB4 | | | | | |
| 12) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | |
|---|---|---|---|---|---|
| Prep Batch ID#: 71588 Dig. Meth. 3050 | — | | ✓ | | |
| LCS - generated limits or project specific limits | — | | ✓ | | |
| MB - <LOD or ≤ ½ RL | — | ✓ | ✓ | ✓ | Mn > LOD "B" |
| Spiked samples in batch: | | | | | |
| a) 259496 matrix = S | ✓ | | ✓ | ✓ | Invalid As |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |
| Prep Batch ID#:_____ Dig. Meth._____ | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD or ≤ ½ RL | | | | | |
| Spiked samples in batch: | | | | | |
| a)_____ matrix =_____ | | | | | |
| b)_____ matrix =_____ | | | | | |
| c)_____ matrix =_____ | | | | | |
| PDS: ±15% / 20% / 25% Sample#:_____ | | | | | |

| GFAA / FLAA / CVAA Data Review checklist | | Method: 200.9 | 7000 series AA | 245.1 & 245.2 | 245.7 | 7470a / 7471a |
|---|---|---|---|---|---|---|
| Instrumentation: | THERMO M SERIES AA | | CETAC Hg ANALYZER | | | |
| Analysis Date: 5/2/19 | Data File: As 050219 | Date Review: 5-3-19 | Analyte: As | | | |
| Cal Std ID: M13787 | LIMS #: 160412 | Analyst: [redacted] | Reviewer: [redacted] | Approved? Yes | No | |

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

| Calibration Parameters - | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| 1) Calibration linearity - r > 0.995 | ✓ | | ✓ | | |
| 2) ICV: 90-110% 95-105% | ✓ | | ✓ | | |
| 2) ICVLL: 70-130% 80-120% | ✓ | | ✓ | | |
| 3) ICB: <IDL / <LOD / <LOQ / <½ RL | ✓ | | ✓ | | |
| 6) MRL: 70-130% | | | | | |
| 7) CCV1/CCB1- (CCV: 90-110% / 80-120%) | ✓ | | ✓ | | |
| 8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL) | | | | | |
| 9) CCV3/CCB3 | | | | | |
| 10) CCV4/CCB4 | | | | | |
| 11) CCV5/CCB5 | | | | | |

| Preparation Batch Parameters | YES | NO | YES | NO | Comments: |
|---|---|---|---|---|---|
| Prep Batch ID#: 71761 Dig. Meth. 3050 | ✓ | | ✓ | | |
| LCS - generated limits or project specific limits | ✓ | | ✓ | | |
| MB - <LOD / <2.2X LOD / ≤ ½RL | ✓ | ✓ | ✓ | ✓ | As > ½ RL "B" |
| Spiked samples in batch: | | | | | |
| a) 257647 matrix = S | ✓ | ✓ | ✓ | ✓ | 1 + Dups invalid, MS/MSD Failed |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| d) matrix = | | | | | |
| e) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample# a | ✓ | | ✓ | | ok "V" Samples with results < Adj RL |
| MSA Performed? Yes No | | | | | Diluted because background >1.0 Abs |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD / <2.2X LOD / ≤ ½RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| d) matrix = | | | | | |
| e) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample# | | | | | |
| MSA Performed? Yes No | | | | | |
| Prep Batch ID#: Dig. Meth. | | | | | |
| LCS - generated limits or project specific limits | | | | | |
| MB - <LOD / <2.2X LOD / ≤ ½RL | | | | | |
| Spiked samples in batch: | | | | | |
| a) matrix = | | | | | |
| b) matrix = | | | | | |
| c) matrix = | | | | | |
| d) matrix = | | | | | |
| e) matrix = | | | | | |
| PDS: ±15% / 20% / 25% Sample# | | | | | |
| MSA Performed? Yes No | | | | | |

# CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

| Date | Time Start/End | Analyst | Method | LIMS# or Sample # | Sequence I.D. | Cal. Std | Alt. Source | Pressure (kPa) ~~Comments~~ | Analysis Tube Lot # | ICSA/ ICSAB |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/5/19 | 0915 / 1408 | [redacted] | NaK | 158439, 158477, 158473, 158475 | NaK030519 v1109 | M13705 | M13707 M13709 | 340 | 2894726 | M13660 M13709 |
| 3/6/19 | 1135 / 1955 | | DOD | 157684, 157677, High Std, IDL, MDL | DOD030619 | M13519 | M13661 M13626 | 340 | 2894711 | M13660 M13621 |
| 3/11/19 | 0809 / 1109 | | NaK | 158629, 158569, 158570, 159531, 159609 | NaK031119 v1110 | M13705 | M13707 M13708 | 340 | 2894711 | M13660 M13709 |
| 3/12/19 | 1226 / 1443 | | NaK | 158531, 158628, 158654, 158652, 158658 | NaK031219 v1111 | M13705 | M13707 M13708 | 350 | 2894711 | M13660 M13709 |
| 3/12/19 | 1450 / 1624 | | NaK | 158658, 158655 | NaK032196 v1113 | M13705 | M13707 M13708 | 350 | 2894711 | M13660 M13709 |
| 3/14/19 | 0844 / 1247 | | NaK | 158655, 158673, 158723, 158717, 158732 | NaK031419 v1114 | M13705 | M13707 M13708 | 350 | 2894711 | M13660 M13709 |
| 3/18/19 | 0933 / 1246 | | NaK | 158749, 158796, 158745, 158799 | NaK031819 v1116 | M13705 | M13707 M13708 | 350 | 2837411 | M13660 M13709 |
| 3/19/19 | 1053 / 1253 | | Li | 158806 | Li031919 v263 | M13746 | M13587 M13647 | 290 | 2837401 | M13660 M13747 |
| 3/26/19 | 1029 / 1313 | | NaK | 159009, 159029, 159025, 159011, 159055 | NaK032619 v1117 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 3/29/19 | 1141 / 1354 | | NaK | 159136, 159176, 159178 | NaK032919 v1121 v1119 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 3/29/19 | 1504 / 1821 | | NaK | 159193 159178, 159189, 159196, 159167, 159165 | NaK032919B v1120 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/1/19 | 1133 / 1232 | | NaK | 159176, 159178, 159193, | NaK040119 v1124 ~~v1123~~ ~~v1122~~ | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/2/19 | 1333 / 1638 | | NaK | 159259, 159242, 159263, 159282, 159285 | NaK040219 v1125 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/3/19 | 1343 / 1622 | | NaK | 159289, 159270, 159282, 159285 | NaK040319 v1126 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/5/19 | 1017 / 1244 | | NaK | 159384, 159450, 159381, 159386 | NaK040519 v1127 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/9/19 | 1217 / 1515 | | NaK | 159526, 159523 | NaK040919 v1128 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/10/19 | 1039 / 1338 | | NaK | 159559 159526, 159546, 159597, 159557, 159555 | NaK041019 v1130 v1131 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/11/19 | 1223 / 1633 | | NaK | 159526, 159635 159557, 159605, 159626, 159624, 159629 | NaK041119 v1132 v1133 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/12/19 | 0847 / 2202 | | As+Pb | 159525, 159547, 159548, 159630 | Pb041219 v108 | M13519 | M13661 M13626 | 350 | 2837401 | M13660 M13621 |
| 4/16/19 | 1355 / 1826 | | NaK | 159683, 159735 159526, 159624, 159635, 159687, 159734 | NaK041619 v1134 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/18/19 | 1005 / 1344 | | NaK | 159734, 159802, 159800, 159797, 159816 | NaK041819 v1136 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/19/19 | 1229 / 1710 | | NaK | 159899, 159900, 159902 159902, 159797, 159982, 159897, 159895 | NaK041919 v1137 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/22/19 | 1321 / 1700 | | NaK | 159945, 159935, 159933, 159922, 159941 | NaK042219 v1139 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |
| 4/23/19 | ~~1508~~ 1029 / 0141 | | As+Mn | 159931, 159920 | AsMn042319 v4 | M13519 | M13661 M13626 | 320 | 2837401 | M13660 M13621 |
| 4/24/19 | 1221 / 1520 | | NaK | 159968, 160047, 159980, 159988, 159941 | NaK042419 v1141 | M13705 | M13707 M13709 | 350 | 2837401 | M13660 M13709 |
| 4/25/19 | 0910 / 1026 | | NaK | 159935, 159941 | NaK042519 v1142 | M13705 | M13707 M13708 | 350 | 2837401 | M13660 M13709 |

Checked by: _____ Verified by: _____

# CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

| Date | Time Start/End | Analyst | Method | LIMS# or Sample # | Sequence I.D. | Cal. Std. | Alt. Source | Pressure (kPa) Comments | Analysis Tube Lot # | ICSA/ ICSAB |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/25/19 | 1046 / 0147 | [redacted] | As+Pb+Mn | 159920, 159931, 160126, 160127, 160109 | AsMn042519 v5 | M13519 | M13661 M13626 | 320 | 283740 | M13660 M13621 |
| 4/29/19 | 1235 / 1846 | | NaK | 160247, 160205, 160107, 160114, 160249, 160203 160222, 160228, 160195, 160106, 160202, 160242 | NaK042919 v1184 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 5/1/19 | 1201 / 1655 | | NaK | 160257, 160205, 160339, 160285, 160287, 160289 | NaK050119 v1145 | M13705 | M13707 M13708 | 350 | 283740 | M13660 M13709 |
| 5/3/19 | 0914 / 1131 | | L2 | 160258, 160514 | L2050319 v265 | M13796 | M13798 M13799 | 290 | 283740 | M13760 M13797 |
| 5/3/19 | 1328 / 1458 | | L2 | 160258, 160514 | L2050319 v266 | M13796 | M13798 M13799 | 290 | 283740 | M13760 M13797 |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |
| | / | | | | | | | | | |

Checked by: _____ Verified by: _____

CT Laboratories, LLC

# *ICP-6500 Instrument Run Logbook*

| Date | Time: Start / End | Analyst | Analytes / Sequence I.D. | Method | LIMS # or Sample Description | Nebulizer Pressure (kpa) | Calib. Std ID | Version | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 4/25/19 | 1403 / 4/26 1434 | [redacted] | 042519 | DODCal u | 159294 159916 160125 160128 159549 160048 160124 159883 160105 160121 | 280 | M13616l M13519 | V3329 V3328 V3320 | M13621 M13626 M13633 M13660 M13624 |
| 4/26/19 | 1447 / 1050 | | 042619 | DODCal u | 160120 160145, 160050 160191 160117 160108 160119 160192 159923 159921 160005 160194 | 280 | M13616l M13519 | V3330 V3331 V3329 | M13621 M13626 M13633 M13660 M13624 |
| 4/29/19 | 1405 1800 | | 042819 | DODCal u | 159294 160207 160204 160147 160288 160286 159549 | 280 | M13616l M13519 | V3321 | M13621 M13626 M13633 M13660 M13624 |
| 4/30/19 | 1341 / 1512 | | 043019 | DODCal u | 160230 160224 160256 160237 160290 160227 160051 160245 160243 160225 160224 160216 160244, 160248 | 280 | M13616l M13519 | V3336 V3335 V3337 | M13621 M13626 M13633 M13660 M13624 |
| 5/1/19 | 1518 / 1902 | | 050119 | DODCal u | 160286, 160288, 160290 | 280 | M13616l M13519 | V3339 | M13621 M13626 M13633 M13660 M13624 |
| 5/2/19 | 1511 / 1805 | | 050219 | DODCal u | 159549 | 280 | M13616l M13519 | V3334 | M13621 M13626 M13633 M13660 M13624 |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |
| | / | | | | | | | | |

Comments: _____

_____

Checked By / Date: _____

# CT Laboratories Instrument Run Log

## Instrument ID: Thermo M Series AA

| Date | Start Time | End Time | Analyst | Analyte | LIMS Run # | Data File ID | Analysis ID | Cal. Std ID # | CCV Std ID # | ICV Std ID # | PMT | Char. Conc. | Cuvette Lot # | Sample Cup Lot # | Instrument Check |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/11/19 | 0749 | 0955 | [redacted] | Tl | 159601 | Tl041119 | 1 | M13771 | M13772 | M13773 | 619 | 1.0681 | 103387371 | 0518 | |
| 4/11/19 | 1018 | 1045 | | Tl MSA | 159601 | Tl041119 | 2 | M13771 | — | — | 644 | — | 103387371 | 0518 | |
| 4/11/19 | 1133 | 1415 | | As | 159611 | As041119 | 4 | M13771 | M13772 | M13773 | 458 | 0.8166 | 103387371 | 0518 | ✓ |
| 4/11/19 | 1434 | 1649 | | As | 159612 | As041119 | 5 | M13771 | M13772 | M13773 | 458 | 0.8271 | 103387371 | 0518 | |
| 4/12/19 | 1344 | 1622 | | As | 159712, 159711 | As041219 | 3 | M13771 | M13772 | M13773 | 453 | 1.0873 | 103387371 | 0518 | ✓ |
| 4/16/19 | 0822 | 1202 | | As | 159713 | As041619 | 3 | M13771 | M13772 | M13773 | 457 | 0.9409 | 103387371 | 0518 | |
| 4/18/19 | 1222 | 1450 | | Pb | 159870 | Pb041819 | 4 | M13771 | M13772 | M13773 | 558 | 0.2085 | 103387371 | 0518 | ✓ |
| 4/19/19 | 0853 | 1457 | | As | 159886, 159885 | As041919 | 3 | M13771 | M13772 | M13773 | 458 | 0.7610 | 103387371 | 0518 | ✓ |
| 4/19/19 | 1538 | 1716 | | Sb | 159453 | Sb041919 | 3 | M13787 | M13788 | M13789 | 403 | 1.2514 | 103387371 | 0518 | ✓ |
| 4/23/19 | 0759 | 1155 | | Tl | 159996 | Tl042319 | 3 | M13787 | M13788 | M13789 | 609 | 1.0177 | 103387371 | 0518 | ✓ |
| 4/23/19 | 1621 | 1842 | | Tl | 159996 | Tl042319 | 7 | M13787 | M13788 | M13789 | 639 | 1.4776 | 103387371 | 0518 | |
| 4/24/19 | 0845 | 1041 | | Tl | 159996 | Tl042419 | 3 | M13787 | M13788 | M13789 | 639 | 0.7746 | 103387371 | 0518 | |
| 4/25/19 | 1600 | 1824 | | Tl | 159998 | Tl042519 | 3 | M13787 | M13788 | M13789 | 605 | 0.9556 | 103387371 | 0518 | |
| 4/26/19 | 0800 | 1225 | | Tl | 159997 | Tl042619 | 3 | M13787 | M13788 | M13789 | 595 | 0.9683 | 103387371 | 0518 | |
| 4/26/19 | 1340 | 1553 | | Tl | 159997 | Tl042619 | 5 | M13787 | M13788 | M13789 | 595 | 1.2695 | 103387371 | 0518 | |
| 4/29/19 | 1021 | 1221 | | Tl | 159997 | Tl042919 | 7 | M13787 | M13788 | M13789 | 634 | 0.8905 | 103387371 | 0518 | |
| 4/29/19 | 1248 | 1347 | | Tl MSA | 159998, 159997 | Tl042919 | 9 | M13787 | — | — | 668 | — | 103387371 | 0518 | |
| 4/29/19 | 1455 | 2306 | | As | 160251, 160254, 160250 | As042919 | 3 | M13787 | M13788 | M13789 | 458 | 0.8967 | 103387371 | 4518 | ✓ |
| 4/30/19 | 0734 | 1139 | | As | 160252, 160254 | As043019 | 3 | M13787 | M13788 | M13789 | 457 | 0.9763 | 103387371 | 4518 | ✓ |
| 4/30/19 | 1328 | 1726 | | As | 160312, 160303 | As043019 | 5 | M13787 | M13788 | M13789 | 453 | 0.9319 | 103387371 | 4518 | ✓ |
| 5/1/19 | 1109 | 1425 | | Se | 160257 160307, 160311, 160309 | Se050119 | 7 | M13787 | M13788 | M13789 | 531 | 1.3163 | 103387371 | 4518 | ✓ |
| 5/1/19 | 1558 | 2205 | | As | 160305 160306, 160308, 160310 | As050119 | 5 | M13787 | M13788 | M13789 | 453 | | 103387371 | 4518 | ✓ |
| 5/2/19 | 0945 | 1250 | | As | 160305, 160304 | As050219 | 2 | M13787 | M13788 | M13789 | 453 | 0.9013 | 103387371 | 4518 | |
| 5/2/19 | 1329 | 1736 | | As | 160412 | As050219 | 3 | M13787 | M13788 | M13789 | 453 | 0.9311 | 103387371 | 4518 | |
| 5/3/19 | 0918 | 1233 | | Sb | 160349 160348, 160350, 160451 | Sb050319 | 8 | M13787 | M13788 | M13789 | 404 | 1.2134 | 103387371 | 4518 | ✓ |
| 5/3/19 | 1502 | 2120 | | Tl | 160450 160345, 160453, 160455 | Tl050319 | 6 | M13787 | M13788 | M13789 | 644 | 1.3254 | 103387371 | 4518 | ✓ |

Reviewed By (Initials/Date):_____

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/23/2019 11:01:06 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:06:12 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:11:49 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:17:03 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:22:52 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:28:49 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:34:11 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:39:32 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:44:47 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:50:07 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 11:55:29 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:00:51 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:06:39 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:13:26 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:18:33 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:20:22 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v2) |
| | 04/23/2019 12:27:54 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/23/2019 12:27:54 | Sequence Started | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:28:15 | Running Blank (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:33:33 | Running CalStd4=5 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:38:54 | Running CalStd5=10 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:44:15 | Running CalStd7=50 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:49:37 | Running CalStd8=100 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 12:54:59 | Running CalStd9=1000 (6) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:00:16 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:05:21 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:10:58 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:16:12 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:22:01 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:27:57 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:33:19 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:38:40 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:43:55 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:49:14 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:54:37 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 13:59:58 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:05:18 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:12:05 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:17:27 | Running ICSA (74) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:23:17 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:28:39 | Running lcss71473 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:33:52 | Running mbs71473 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:39:02 | Pausing Autosampler Run... | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:40:33 | Running 258271 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 14:41:45 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:08:26 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/23/2019 15:08:26 | Sequence Started | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:08:47 | Running Blank (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:14:05 | Running CalStd4=5 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:19:26 | Running CalStd5=10 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:22:29 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/23/2019 15:22:33 | Closing will close the method and all associated samples. | [redacted] | Analyst | |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/23/2019 15:24:48 | Running CalStd7=50 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:30:10 | Running CalStd8=100 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:35:32 | Running CalStd9=1000 (6) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:40:50 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:45:55 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:51:32 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 15:56:46 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:02:34 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:08:32 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:13:53 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:19:15 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:24:30 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:29:49 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:35:12 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:40:33 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:46:21 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:53:07 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 16:58:14 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:03:33 | Running lcss71473 (3) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:08:46 | Running mbs71473 (4) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:13:59 | Running 258271 (5) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:19:23 | Running l258271 (6) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:24:37 | Running dup258271 (7) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:30:00 | Running mss258271 (8) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:35:21 | Running msds258271 (9) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:40:42 | Running pdss258271 (10) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:46:02 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:51:10 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 17:56:31 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:01:53 | Running 258272 (11) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:07:17 | Running 258273 (12) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:12:42 | Running 258275 (13) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:18:06 | Running 258276 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:23:38 | Running 258277 (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:29:01 | Running 259433 (16) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:34:33 | Running l259433 (17) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:40:08 | Running dup259433 (18) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:45:44 | Running mss259433 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:51:25 | Running msds259433 (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 18:56:57 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:02:06 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:07:25 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:12:47 | Running pdss259433 (21) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:18:18 | Running 259434 (22) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:24:06 | Running l259434 (23) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:29:24 | Running dup259434 (24) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:35:12 | Running trip259434 (25) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:40:49 | Running mss259434 (26) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:46:33 | Running msds259434 (27) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:52:17 | Running pdss259434 (28) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 19:58:02 | Running 259435 (29) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:03:26 | Running 259436 (30) | [redacted] | Analyst | S_As & Pb & Mn(v3) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/23/2019 20:08:50 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:13:58 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:19:18 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:24:39 | Running 259437 (31) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:30:04 | Running 259459 (32) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:35:27 | Running 259460 (33) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:41:12 | Running 259462 (34) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:46:59 | Running 259463 (35) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:52:24 | Running 259464 (36) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 20:57:50 | Running 259465 (37) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:03:14 | Running dup259465 (38) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:08:39 | Running trip259465 (39) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:14:03 | Running 259466 (40) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:19:28 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:24:37 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:29:57 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:35:18 | Running 259467 (41) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:40:42 | Running 259468 (42) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:46:07 | Running lcss71472 (43) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:51:22 | Running mbs71472 (44) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 21:56:36 | Running 257646 (45) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:02:14 | Running 257647 (46) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:07:40 | Running 257648 (47) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:13:07 | Running 257649 (48) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:18:33 | Running 257650 (49) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:23:58 | Running 257651 (50) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:29:24 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:34:32 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:39:52 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:45:14 | Running 257652 (51) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:50:40 | Running 257653 (52) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 22:56:06 | Running 257654 (53) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:01:31 | Running 257655 (54) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:06:57 | Running 257656 (55) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:12:45 | Running dup257656 (56) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:18:30 | Running trip257656 (57) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:24:18 | Running 257657 (58) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:29:44 | Running 257658 (59) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:35:31 | Running 257659 (60) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:41:09 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:46:17 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:51:37 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/23/2019 23:56:59 | Running 257660 (61) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:02:47 | Running 257661 (62) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:08:14 | Running 257662 (63) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:13:45 | Running 257663 (64) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:19:11 | Running 258269 (65) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:25:07 | Running l258269 (66) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:30:21 | Running dup258269 (67) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:36:23 | Running mss258269 (68) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:42:16 | Running msds258269 (69) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:48:15 | Running pdss258269 (70) | [redacted] | Analyst | S_As & Pb & Mn(v3) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/24/2019 00:54:09 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 00:59:17 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:04:36 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:09:58 | Running 258274 (71) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:15:22 | Running dup258274 (72) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:20:45 | Running trip258274 (73) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:26:07 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:31:28 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:36:36 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:41:54 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 01:47:16 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/24/2019 01:47:17 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/24/2019 01:47:19 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v3) |
| | 04/24/2019 07:52:54 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/24/2019 07:52:59 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/24/2019 07:53:38 | D33534 - Debug:Wavelength check : x = -0.457, y =-0.332 | [redacted] | Analyst | |
| | 04/24/2019 11:04:05 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:04:05 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/24/2019 11:04:26 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:07:13 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:09:50 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:12:27 | Running CalibStd-5.0 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:15:05 | Running CalibStd-10.0 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:17:43 | Running CalibStd-50 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:20:21 | Running CalibStd-100 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:22:59 | Running CalibStd-200 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:25:46 | Running CalibStd-500 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:28:41 | Running icv (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:31:18 | Running ICVLL (17) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:33:55 | Running icb (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:36:32 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:39:10 | Running icsa (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:42:07 | Running icsab (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:45:03 | Running lcsw (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:47:40 | Running mbw (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:50:17 | Running 268867 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:52:53 | Running msw268867 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:55:29 | Running msdw268867 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 11:58:05 | Running 268870 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:00:42 | Running 268871 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:03:19 | Running 268872 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:05:56 | Running 269146 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:08:33 | Running msw269146 (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:11:10 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:13:48 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:16:25 | Running msdw269146 (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:17:06 | Autosampler Run Completed | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:21:19 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:21:19 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/24/2019 12:21:40 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:24:26 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 12:27:03 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/24/2019 14:46:39 | Running 268261 (36) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:49:18 | Running lcsw71571 (37) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:51:54 | Running mbw71571 (38) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:54:31 | Running 268289 (39) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:57:08 | Running l268289 (40) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 14:59:45 | Running dup268289 (41) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:02:22 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:05:00 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:07:37 | Running msw268289 (42) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:10:12 | Running msdw268289 (43) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:12:47 | Running pdsw268289 (44) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:15:23 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:18:01 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:20:38 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:23:12 | Autosampler Run Completed | [redacted] | Analyst | S_Sodium and Pota |
| | 04/24/2019 15:45:31 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/24/2019 15:45:31 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/25/2019 08:08:04 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/25/2019 08:08:09 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/25/2019 08:08:48 | D33534 - Debug:Wavelength check : x = -0.393, y =-0.347 | [redacted] | Analyst | |
| | 04/25/2019 09:10:24 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/25/2019 09:10:24 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:10:44 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:13:32 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:16:09 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:18:46 | Running CalibStd-5.0 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:21:23 | Running CalibStd-10.0 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:24:01 | Running CalibStd-50 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:26:40 | Running CalibStd-100 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:29:17 | Running CalibStd-200 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:32:04 | Running CalibStd-500 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:35:00 | Running icv (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:37:36 | Running ICVLL (17) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:40:13 | Running icb (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:42:50 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:45:28 | Running icsa (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:48:24 | Running icsab (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:51:20 | Running 266664 (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:53:57 | Running l266664 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:56:33 | Running dup266664 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 09:59:09 | Running msw266664 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:01:45 | Running msdw266664 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:04:21 | Running pdsw266664 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:07:09 | Running 267576 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:09:45 | Running 267592 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:12:21 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:14:59 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:17:37 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:20:10 | Autosampler Run Completed | [redacted] | Analyst | S_Sodium and Pota |
| | 04/25/2019 10:46:04 | Sequence Started | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 10:46:04 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/25/2019 10:46:25 | Running Blank (1) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 10:51:43 | Running CalStd4=5 (2) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 10:57:05 | Running CalStd5=10 (3) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:02:26 | Running CalStd7=50 (4) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:07:48 | Running CalStd8=100 (5) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:13:10 | Running CalStd9=1000 (6) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:18:27 | Running CalStd10=10000 (7) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:23:35 | Running CalStd11-100k (8) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:29:11 | Running CalStd12-100000 (9) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:34:26 | Running CalStd13=500000 (10) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:40:14 | Running CalStd14-1000k (11) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:46:11 | Running blkrinse (18) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:51:32 | Running ICV1 (22) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 11:56:54 | Running ICV2 (12) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:02:08 | Running ICVLL (21) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:07:27 | Running icb (13) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:12:50 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:18:12 | Running icsa (16) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:23:48 | Running icsab (17) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:30:35 | Running Test1 (1) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:35:45 | Running Test2 (2) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:41:04 | Running 257656 (3) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:46:17 | Running dup257656 (4) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:51:30 | Running trip257656 (5) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 12:56:43 | Running 257658 (6) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:01:56 | Running 257660 (7) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:07:10 | Running 259433 (8) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:12:26 | Running l259433 (9) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:17:41 | Running dup259433 (10) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:22:55 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:28:06 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:33:26 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:38:48 | Running mss259433 (11) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:44:05 | Running msds259433 (12) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:49:21 | Running pdss259433 (13) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 13:54:44 | Running 259460 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:00:22 | Running 259462 (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:05:37 | Running lcss71586 (16) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:10:53 | Running mbs71586 (17) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:16:06 | Running 259469 (18) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:21:30 | Running l259469 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:26:44 | Running dup259469 (20) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:32:07 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:37:18 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:42:38 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:47:59 | Running trip259469 (21) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:53:23 | Running mss259469 (22) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 14:58:44 | Running msds259469 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:04:05 | Running pdss259469 (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:09:26 | Running 259470 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:14:50 | Running l259470 (26) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:20:03 | Running dup259470 (27) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:25:27 | Running trip259470 (28) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 15:30:53 | Running mss259470 (29) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:36:13 | Running msds259470 (30) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:41:34 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:46:46 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:52:05 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 15:57:27 | Running pdss259470 (31) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:02:47 | Running 259471 (32) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:08:11 | Running 259472 (33) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:13:36 | Running 259473 (34) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:19:00 | Running 259474 (35) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:24:25 | Running 259475 (36) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:29:58 | Running 259477 (37) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:35:20 | Running 259478 (38) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:40:44 | Running 259479 (39) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:46:10 | Running 259480 (40) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:51:34 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 16:56:44 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:02:04 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:07:26 | Running 259481 (41) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:13:03 | Running 259482 (42) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:18:49 | Running 259483 (43) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:24:25 | Running 259484 (44) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:30:02 | Running 259485 (45) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:35:28 | Running 259487 (46) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:40:52 | Running 259492 (47) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:46:18 | Running 259493 (48) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:51:44 | Running 259494 (49) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 17:57:08 | Running lcss71588 (50) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:02:23 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:07:34 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:12:54 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:18:16 | Running mbs71588 (51) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:23:31 | Running 259495 (52) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:28:53 | Running dup259495 (53) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:34:17 | Running trip259495 (54) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:39:40 | Running 259496 (55) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:45:10 | Running l259496 (56) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:50:24 | Running dup259496 (57) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 18:55:57 | Running trip259496 (58) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:01:28 | Running mss259496 (59) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:06:52 | Running msds259496 (60) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:12:13 | Running ccv1 (19) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:17:24 | Running ccv2 (14) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:22:44 | Running ccb (15) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:28:06 | Running pdss259496 (61) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:33:35 | Running 259497 (62) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:38:57 | Running 259498 (63) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:44:20 | Running 259499 (64) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:50:06 | Running 259500 (65) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 19:55:54 | Running 259501 (66) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:01:19 | Running 259502 (67) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:06:57 | Running 259503 (68) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/25/2019 20:12:22 | Running 259504 (69) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:17:49 | Running 259505 (70) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:23:23 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:28:32 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:33:52 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:39:14 | Running 259506 (71) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:44:39 | Running 260386 (72) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:50:24 | Running 260459 (73) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 20:55:47 | Running 260460 (74) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:01:35 | Running 260461 (75) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:07:00 | Running 260462 (76) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:12:59 | Running 260463 (77) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:18:24 | Running 260464 (78) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:24:21 | Running 260465 (79) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:29:48 | Running lcss71590 (80) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:35:11 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:40:21 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:45:41 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:51:03 | Running mbs71590 (81) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 21:56:18 | Running 260466 (82) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:01:32 | Running 260467 (83) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:06:58 | Running 260468 (84) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:12:21 | Running 260469 (85) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:17:48 | Running 260470 (86) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:23:13 | Running 260471 (87) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:28:40 | Running 260472 (88) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:34:06 | Running 260473 (89) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:39:33 | Running 260474 (90) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:44:58 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:50:08 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 22:55:27 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:00:50 | Running 260475 (91) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:06:16 | Running 260924 (92) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:11:43 | Running l260924 (93) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:16:58 | Running dup260924 (94) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:22:24 | Running trip260924 (95) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:27:51 | Running mss260924 (96) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:33:14 | Running msds260924 (97) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:38:36 | Running pdss260924 (98) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:43:58 | Running 260925 (99) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:49:25 | Running l260925 (100) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:54:41 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/25/2019 23:59:50 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:05:09 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:10:31 | Running dup260925 (101) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:15:59 | Running trip260925 (102) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:21:26 | Running mss260925 (103) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:26:49 | Running msds260925 (104) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:32:12 | Running pdss260925 (105) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:37:36 | Running 260926 (106) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:43:02 | Running 260927 (107) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:48:27 | Running 260928 (108) | [redacted] | Analyst | S_As & Pb & Mn(v4) |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/26/2019 00:53:54 | Running 260929 (109) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 00:59:21 | Running 260930 (110) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:04:47 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:09:57 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:15:16 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:20:39 | Running 260931 (111) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:26:06 | Running 259460 (112) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:31:23 | Running MRL (20) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:36:45 | Running ccv1 (25) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:41:55 | Running ccv2 (23) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:47:14 | Running ccb (24) | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/26/2019 01:52:36 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/26/2019 01:52:36 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/26/2019 01:52:38 | Autosampler Run Completed | [redacted] | Analyst | S_As & Pb & Mn(v4) |
| | 04/29/2019 08:19:15 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/29/2019 08:19:21 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/29/2019 08:20:00 | D33534 - Debug:Wavelength check : x = -0.390, y =-0.311 | [redacted] | Analyst | |
| | 04/29/2019 09:28:01 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/29/2019 09:28:01 | Sequence Started | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:28:22 | Running Blank (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:31:09 | Running CalibStd-0.5 (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:33:46 | Running CalibStd-1.0 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:36:23 | Running CalibStd-5.0 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:39:00 | Running CalibStd-10.0 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:41:39 | Running CalibStd-50 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:44:17 | Running CalibStd-100 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:46:54 | Running CalibStd-200 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:49:39 | Running CalibStd-500 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:52:34 | Running icv (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:55:11 | Running ICVLL (17) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 09:57:48 | Running icb (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:00:25 | Running mrl (16) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:03:02 | Running icsa (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:05:59 | Running icsab (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:08:55 | Running lcsw (1) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:11:32 | Running mbw (2) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:14:09 | Running 269044 (3) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:16:45 | Running msw269044 (4) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:19:21 | Running msdw269044 (5) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:21:59 | Running blank (103) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:24:37 | Running 262167 (6) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:27:14 | Running l262167 (7) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:29:51 | Running dup262167 (8) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:32:28 | Running msw262167 (9) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:35:16 | Running ccv (14) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:37:54 | Running ccb (15) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:40:32 | Running msdw262167 (10) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:43:21 | Running blank (104) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:46:01 | Running 272247 (11) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:48:39 | Running msw272247 (12) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:51:16 | Running msdw272247 (13) | [redacted] | Analyst | S_Sodium and Pota |
| | 04/29/2019 10:53:53 | Running blank (105) | [redacted] | Analyst | S_Sodium and Pota |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/26/2019 10:58:13 | Running 266393 (135) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:04:50 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/26/2019 11:05:06 | Running l266393 (136) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:10:24 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/26/2019 11:11:50 | Running dup266393 (137) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:18:42 | Running msw266393 (138) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:25:37 | Running msdw266393 (139) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:32:17 | Running pdsw266393 (140) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:38:44 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:39:45 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/26/2019 11:41:23 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/26/2019 11:41:24 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/26/2019 11:44:30 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:50:18 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 11:53:31 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/26/2019 11:56:37 | Running 266394 (141) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:03:37 | Running 266405 (142) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:10:37 | Running lcsw71614 (143) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:16:45 | Running mbw71614 (144) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:23:03 | Running 268961 (145) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:29:47 | Running l268961 (146) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:36:02 | Running dup268961 (147) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:42:47 | Running msw268961 (148) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:49:04 | Running msdw268961 (149) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 12:55:22 | Running pdsw268961 (150) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:01:48 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:07:38 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:13:26 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:19:45 | Running lcsw71605 (151) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:25:55 | Running mbw71605 (152) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:32:11 | Running 268960 (153) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:38:55 | Running l268960 (154) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:45:08 | Running dup268960 (155) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:51:51 | Running msw268960 (156) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 13:58:06 | Running msdw268960 (157) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:04:22 | Running pdsw268960 (158) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:10:38 | Running lcsw71609 (159) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:16:46 | Running mbw71609 (160) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:23:03 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:28:46 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:34:33 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:40:52 | Running 269194/269160 (161) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:41:07 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:47:35 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/26/2019 14:47:35 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:47:56 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 14:49:18 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/26/2019 14:54:12 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:00:27 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:06:42 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:12:58 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:19:13 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/26/2019 15:25:23 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:31:32 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:37:38 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:43:17 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:49:53 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 15:56:10 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:02:38 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:09:13 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:16:24 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:22:36 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:28:52 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:35:09 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:41:14 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:47:28 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:53:44 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 16:59:55 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:06:25 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:12:16 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:18:28 | Running ICVLL AG (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:24:43 | Running icsa-1 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:30:56 | Running icsa-2 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:37:36 | Running icsa-3 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:43:35 | Running icsa-4 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:49:46 | Running mbw71609 (160) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 17:56:03 | Running 269194/269160 (161) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:02:25 | Running 269231 (162) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:09:19 | Running msw269231 (163) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:15:43 | Running msw269231 (164) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:22:04 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:27:41 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:33:26 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:39:43 | Running pdsw269231 (165) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:45:57 | Running lcsw71606 (166) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:52:05 | Running mbw71606 (167) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 18:58:22 | Running 269142 (168) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:04:43 | Running l269142 (169) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:11:17 | Running dup269142 (170) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:17:39 | Running msw269142 (171) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:23:37 | Running msdw269142 (172) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:29:34 | Running pdsw269142 (173) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:35:45 | Running lcss71590 rr mn1 (174) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:41:57 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:47:35 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:53:18 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 19:59:35 | Running mbs71590 (175) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:06:08 | Running mbs71588 (176) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:12:39 | Running 259499 (177) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:19:21 | Running 259500 (178) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:26:00 | Running 260462 (179) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:32:26 | Running 260464 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:39:03 | Running lcss71613 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:44:51 | Running mbs71613 (8) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/26/2019 20:51:05 | Running 269090 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 20:57:26 | Running mss269090 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:03:08 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:08:41 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:14:26 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:20:42 | Running msds269090 (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:26:31 | Running pdss269090 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:32:30 | Running lcss71612 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:38:17 | Running mbs71612 (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:44:31 | Running 269136 (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:51:00 | Running l269136 (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 21:57:18 | Running dup269136 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:03:47 | Running mss269136 (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:10:15 | Running msds269136 (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:16:48 | Running pdss269136 (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:23:35 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:29:08 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:34:52 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:41:08 | Running lcss71503 (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:46:55 | Running mbs71503 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:53:10 | Running 265796 (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 22:59:25 | Running mss265796 (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:05:12 | Running msds265796 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:10:59 | Running pdss265796 (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:17:04 | Running 266199 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:23:30 | Running lcss71536 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:29:15 | Running mbs71536 (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:35:29 | Running 267708 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:41:48 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:47:28 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:53:11 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/26/2019 23:59:27 | Running l267708 (31) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:05:50 | Running dup267708 (32) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:12:11 | Running mss267708 (33) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:18:19 | Running msds267708 (34) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:24:31 | Running pdss267708 (35) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:30:52 | Running 267714 (36) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:37:09 | Running 267715 (37) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:43:29 | Running 267716 (38) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:50:11 | Running 267717 (39) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 00:56:57 | Running 267718 (40) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:03:18 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:08:53 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:14:36 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:20:52 | Running 267719 (41) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:27:28 | Running 267720 (42) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:33:52 | Running lcss71574 (43) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:39:39 | Running mbs71574 (44) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:45:51 | Running 268829 (45) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:52:13 | Running l268829 (46) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 01:58:36 | Running dup268829 (47) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 02:05:00 | Running mss268829 (48) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/27/2019 07:42:02 | Running 269340 (89) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 07:48:15 | Running 269341 (90) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 07:54:49 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:00:29 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:06:14 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:12:31 | Running 269342 (91) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:18:44 | Running l269342 (92) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:24:57 | Running dup269342 (93) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:31:10 | Running msw269342 (94) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:37:32 | Running msdw269342 (95) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:43:58 | Running pdsw269342 (96) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:50:14 | Running lcsw71621 (97) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 08:56:36 | Running mbw71621 (98) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:02:51 | Running 270273 (99) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:09:35 | Running msw270273 (100) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:15:56 | Running ccv1 (27) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:21:40 | Running ccv2 (25) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:27:24 | Running ccb (26) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:33:42 | Running msdw270273 (101) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:40:05 | Running pdsw270273 (102) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:46:15 | Running 270275 (103) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:52:40 | Running 270276 (104) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 09:59:13 | Running 270277 (105) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:05:39 | Running 270278 (106) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:12:18 | Running 270286 (107) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:18:56 | Running 270287 (108) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:25:49 | Running msw270287 (109) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:32:28 | Running msdw270287 (110) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:39:05 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:44:51 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:50:37 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 10:56:55 | Running 270298 (111) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:03:06 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:09:18 | Running ccv1 (30) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:15:01 | Running ccv2 (28) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:20:46 | Running ccb (29) | [redacted] | Analyst | S_DOD Calibration |
| | 04/27/2019 11:27:04 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/27/2019 11:27:04 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/27/2019 11:27:06 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 07:03:29 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/29/2019 07:03:34 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/29/2019 07:04:21 | D33534 - Debug:Wavelength check : x = 1.077, y =-0.253 | [redacted] | Analyst | |
| | 04/29/2019 14:05:11 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/29/2019 14:05:11 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:05:32 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:11:53 | Running CalStd2=0.5 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:18:32 | Running CalStd3=1 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:24:48 | Running CalStd4=5 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:38:56 | Running CalStd5=10 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:44:09 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 14:44:38 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 14:45:45 | Running CalStd6=20 (6) | [redacted] | Analyst | S_DOD Calibration |

| Type | Date/Time | Message | User name | Application | Sequence Name |
|---|---|---|---|---|---|
| | 04/29/2019 14:51:27 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/29/2019 14:51:27 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:51:59 | Running CalStd7=50 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:56:33 | Unable to Set Check Table, icsa | [redacted] | Analyst | |
| | 04/29/2019 14:56:33 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:58:16 | Running CalStd8=100 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 14:59:41 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:59:47 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 14:59:54 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 15:00:06 | Unable to Set Check Table, icsab | [redacted] | Analyst | |
| | 04/29/2019 15:04:23 | Running CalStd9=1000 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:07:59 | Closing will close the method and all associated samples. | [redacted] | Analyst | |
| | 04/29/2019 15:10:04 | Running CalStd10=10000 (10) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:16:31 | Running CalStd12=100K (11) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:22:50 | Running CalStd13=100000 (12) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:29:16 | Running CalStd14=500000 (13) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:35:54 | Running CalibStd15=1000k (14) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:42:59 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:49:11 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 15:55:27 | Running icv (15) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:01:43 | Running ICVLL (23) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:07:50 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:14:05 | Running icb (16) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:20:21 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:26:32 | Running ICSA (19) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:33:05 | Running ICSAB (20) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:38:56 | Running blkrinse (21) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:45:08 | Running 256803 (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:51:41 | Running 1dup256803 (2) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 16:58:13 | Running 2dup256803 (3) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:04:45 | Running 256767 (4) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:11:17 | Running 256797 (5) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:17:46 | Running lcss71590 (6) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:24:24 | Running 255886 (7) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:30:38 | Running 254602 (8) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:37:17 | Running 254605 (9) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:43:32 | Running MRL/LLOQ (24) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:49:42 | Running ccv1 (22) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 17:55:11 | Running ccv2 (17) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 18:00:55 | Running ccb (18) | [redacted] | Analyst | S_DOD Calibration |
| | 04/29/2019 18:07:12 | Plasma off | [redacted] | iTEVA Control Center | |
| | 04/29/2019 18:07:12 | Plasma extinguished successfully | [redacted] | Analyst | |
| | 04/29/2019 18:07:14 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 06:47:28 | Plasma On | [redacted] | iTEVA Control Center | |
| | 04/30/2019 06:47:33 | Plasma ignition successful | [redacted] | Analyst | |
| | 04/30/2019 06:48:20 | D33534 - Debug:Wavelength check : x = 0.951, y =-0.262 | [redacted] | Analyst | |
| | 04/30/2019 13:31:32 | Autosampler Run Started | [redacted] | Analyst | |
| | 04/30/2019 13:31:33 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:31:53 | Running Blank (1) | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:37:33 | Autosampler Run Completed | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:40:57 | Sequence Started | [redacted] | Analyst | S_DOD Calibration |
| | 04/30/2019 13:40:57 | Autosampler Run Started | [redacted] | Analyst | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13785 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV BASE STD |
| Date Received: | 04/19/2019 | Lot #: | P2-MEB678822 |
| Expiration Date (if any): | 04/19/2020 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13786 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE BASE STD |
| Date Received: | 04/19/2019 | Lot #: | P2-MEB678821 |
| Expiration Date (if any): | 04/19/2020 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13787 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13788 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13789 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/19/2019 | Expiration Date: | 04/19/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13782 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/18/2019 | Expiration Date: | 04/18/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13783 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Matrix Mod. |
| Date Received: | 04/18/2019 | Lot #: | 9166009 |
| Expiration Date (if any): | 09/30/2020 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13784 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/18/2019 | Expiration Date: | 10/18/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13780 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/17/2019 | Expiration Date: | 10/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13781 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/17/2019 | Expiration Date: | 04/17/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13779 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/12/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13778 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 04/11/2019 | Expiration Date: | 04/11/2020 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13777 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/09/2019 | Expiration Date: | 04/09/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13775 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 04/02/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13776 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2019 | Expiration Date: | 04/03/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.676 with **1** part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13771 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13772 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13773 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/26/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13774 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 03/26/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13770 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/25/2019 | Expiration Date: | 03/25/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.676 with 1 part $HNO_3$ AB.675 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13768 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13769 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/21/2019 | Expiration Date: | 09/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13765 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13766 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13767 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/21/2019 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13763 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13764 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/20/2019 | Expiration Date: | 03/20/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13761 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 03/19/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13762 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 03/19/2019 | Expiration Date: | 09/19/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13511 and 60 g hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13758 | Standard: | ICSA4_Ni_Ti |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ni and Ti |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13759 | Standard: | ICSA2_Ba_Be_Sn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Ba, Be, and Sn |
| Prep Date: | 03/13/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13760 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | 500,000 ug/L Al, Ca, Fe, Mg<br>10,000 V, Ce |
| Prep Date: | 03/13/2019 | Expiration Date: | 09/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13756 | Standard: | ICSA1_Mn |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Mn |
| Prep Date: | 03/13/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13757 | Standard: | ICSA3_Cr_Cu_Co_Mo |
| Analyst: | [redacted] | Concentrations: | 10,000 ug/L Cr, Cu, Co and Mo |
| Prep Date: | 03/13/2019 | Expiration Date: | 01/20 |
| Prep: | Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13751 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 998527-19 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13752 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 982185-12 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13753 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | As 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 166531-32 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400--10M31 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13754 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 09/2020 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13755 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 03/12/2019 | Lot #: | 172053-77 |
| Expiration Date (if any): | 09/2020 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13749 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.671 with **1** part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13750 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/08/2019 | Expiration Date: | 03/08/2020 |
| Prep: | Into a 1 L volumetric flask, added **400** g NaOH W45383 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13748 | Vendor: | Potters Ind. LLC (Gainger) |
| Analyst: | [redacted] | Chemical: | Glass beads Extra Fine |
| Date Received: | 03/07/2019 | Lot #: | |
| Expiration Date (if any): | XXXXXX | Catalog #: | 6ZC13 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13746 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13747 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 03/04/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| Standard Log #: | M13743 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 02/26/2019 | Expiration Date: | 10/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13458 | 1000 | 0.25 |
| Al | 10 | M13611 | **10000** | 0.05 |
| As | 20 | M13392 | 1000 | 1 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 0.5 | M13579 | 1000 | 0.025 |
| Ca | 50 | M13692 | **10000** | 0.25 |
| Cd | 0.5 | M13570 | 1000 | 0.025 |
| Co | 2.5 | M13575 | 1000 | 0.125 |
| Cr | 5.0 | M13617 | **10000** | 0.025 |
| Cu | 10 | M13618 | **10000** | 0.05 |
| Fe | 40 | M13609 | **10000** | 0.2 |
| Mg | 25 | M13694 | **10000** | 0.125 |
| Mn | 5 | M13616 | **10000** | 0.025 |
| Mo | 2.5 | M13697 | 1000 | 0.125 |
| Ni | 5 | M13569 | 1000 | 0.25 |
| Pb | 10 | M13615 | **10000** | 0.05 |
| Sb | 20 | M13459 | 1000 | 1 |
| Se | 20 | M13460 | 1000 | 1 |
| Tl | 20 | M13583 | 1000 | 1 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 5 | M13610 | **10000** | 0.025 |
| Na | 500 | M13605 | **10000** | 2.5 |
| K | 500 | M13733 | **10000** | 2.5 |
| B | 20 | M13531 | 1000 | 1 |
| Si | 100 | M13731 | 1000 | 5 |
| S | 200 | M13604 | **10000** | 1 |
| Li | 20 | M13537 | 1000 | 1 |
| Sr | 20 | M13572 | 1000 | 1 |
| Sn | 20 | M13580 | 1000 | 1 |
| Ti | 20 | M13573 | 1000 | 1 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13740 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 02/26/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13741 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 02-26-2019 | Lot #: | 3-153AB |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13742 | Vendor: | IKOHE Blasting Media |
| Analyst: | [redacted] | Chemical: | Glass Neads X-fine-20u |
| Date Received: | 02/26/2019 | Lot #: | 52-144 |
| Expiration Date (if any): | ********* | Catalog #: | UL-49/52-1544 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13739 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/22/2019 | Expiration Date: | 02/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13734 | Vendor: | SPEX CERTIPREP |
| Analyst: | [redacted] | Chemical: | HG 1000 ug/mL |
| Date Received: | 02/21/2019 | Lot #: | CL10-136HGY |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard Log #: | M13735 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13736 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/21/2019 | Expiration Date: | 02/21/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13737 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 51-117CR |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13738 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 02/21/2019 | Lot #: | 2-230SGX |
| Expiration Date (if any): | 02/28/2020 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13730 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/14/2019 | Expiration Date: | 02/14/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13731 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 175213-60 |
| Expiration Date (if any): | 08/20 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13732 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13733 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10000 ug/mL |
| Date Received: | 02/14/2019 | Lot #: | 172053-36 |
| Expiration Date (if any): | 08/20 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13727 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 02/08/2019 | Lot #: | 175511 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13728 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 02/08/2019 | Lot #: | 186819 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13729 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/11/2019 | Expiration Date: | 08/11/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M13059 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13724 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13725 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/07/2019 | Expiration Date: | 02/07/2020 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13726 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/07/2019 | Expiration Date: | 08/07/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13721 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 02/05/2019 |
| Prep: | Carefully mixed **3** parts HCl AB.671 with **1** part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13722 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13723 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/05/2019 | Expiration Date: | 08/05/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13720 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/31/2019 | Expiration Date: | 01/31/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13716 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13717 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13718 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/30/2019 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13719 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 01/30/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13713 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/29/2019 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13714 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 01/29/2019 | Lot #: | A0391673 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13715 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 1/29/2019 | Lot #: | 51-013CR |
| Expiration Date (if any): | 01/30/2020 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13711 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13615<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13712 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/29/2019 | Expiration Date: | 07/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13615<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13710 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 01/22/2019 | Expiration Date: | 01/22/2019 |
| Prep: | Carefully mixed 3 parts HCl AB.671 with 1 part $HNO_3$ AB.672 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13709 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13705 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13706 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13707 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13708 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 01/10/2019 | Expiration Date: | 03/2020 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13703 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13704 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/20/2018 | Expiration Date: | 12/20/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13701 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/13/2018 | Expiration Date: | 06/13/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13696 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 167967-42 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13697 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Moybdenum 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169424-59 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13698 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 175213-60 |
| Expiration Date (if any): | 06/20 | Catalog #: | S4400-10005044F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13699 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/11/2018 | Lot #: | 50-120CR |
| Expiration Date (if any): | 12/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13700 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/12/2018 | Expiration Date: | 12/12/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13689 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13690 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Aluminum 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 169484-36 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13691 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 752887-32 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13692 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Calcium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13693 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13694 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Magnesium 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13695 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Iron 10,000 mg/L |
| Date Received: | 12/11/2018 | Lot #: | 156651-78 |
| Expiration Date (if any): | 06/20 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13686 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13687 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13688 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 12/07/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13684 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/04/2018 | Expiration Date: | 06/04/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13683 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 10000 mg/L |
| Date Received: | 11/30/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 5/31/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13681 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13531 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13682 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2018 | Expiration Date: | 11/29/2018 |

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood.

| | | | |
|---|---|---|---|
| Standard Log #: | M13679 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 02/2020 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13517 | 1000 | 0.72 |
| Sn | 20 | M13572 | 1000 | 1 |
| Sr | 3.2 | M13586 | 1000 | 0.16 |
| Ti | 9.6 | M13573 | 1000 | 0.48 |
| W | 24 | xxxxxxxx | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13680 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 11/29/2018 | Expiration Date: | 07/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13531 | 1000 | 0.8 |
| Si | 200 | M13394 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| Standard Log #: | M13677 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13562 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13579 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13570 | 1000 | 0.08 |
| Co | 9.6 | M13575 | 1000 | 0.48 |
| Cr | 5.6 | M13617 | **10000** | 0.028 |
| Cu | 16 | M13618 | **10000** | 0.08 |
| Fe | 72 | M13463 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13616 | **10000** | 0.03 |
| Mo | 9.6 | M13608 | 1000 | 0.48 |
| Ni | 4.8 | M13569 | 1000 | 0.24 |
| Pb | 10 | M13610 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13583 | 1000 | 0.95 |
| V | 3.2 | M13578 | 1000 | 0.16 |
| Zn | 12 | M13610 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| Standard Log #: | M13676 | Instrument: | ICP 6500 |
|---|---|---|---|
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 11/29/2018 | Expiration Date: | 04/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13462 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13579 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13570 | 1000 | 0.1 |
| Co | 4 | M13575 | 1000 | 0.2 |
| Cr | 4 | M13617 | **10000** | 0.02 |
| Cu | 7 | M13618 | **10000** | 0.035 |
| Fe | 100 | M13463 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13616 | **10000** | 0.02 |
| Mo | 7 | M13608 | 1000 | 0.35 |
| Ni | 6 | M13569 | 1000 | 0.2 |
| Pb | 4 | M13610 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13583 | 1000 | 0.75 |
| V | 5 | M13578 | 1000 | 0.25 |
| Zn | 10 | M13610 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13675 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/26/2018 | Expiration Date: | 11/26/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13671 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2020 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13672 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13673 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13674 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 11/21/2018 | Expiration Date: | 05/21/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13668 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 01/01/2019 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13669 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13670 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 11/21/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13666 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/19/2018 | Expiration Date: | 07/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13667 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/19/2018 | Expiration Date: | 11/19/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13664 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13665 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/16/2018 | Expiration Date: | 11/16/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13659 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/01/2018 | Expiration Date: | 11/01/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.668 with **1** part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13660 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 11/01/2018 | Expiration Date: | 09/19 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13661 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 11/06/2018 | Expiration Date: | 10/19 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13657 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) XXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13658 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 11/2/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13655 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13656 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/2/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13651 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13652 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/29/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13653 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance std |
| Date Received: | 10/29/2018 | Lot #: | 2-036AB |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13648 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13649 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 10/26/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13650 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 10/27/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13645 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.669 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13646 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 10/25/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13647 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 10/24/2018 | Lot #: | H226-02 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13643 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13644 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13639 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13640 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13641 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/24/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. (1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13642 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/24/2018 | Expiration Date: | 10/24/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13638 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 10/23/2018 | Expiration Date: | 07/2019 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13615 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13634 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,0000 mg/L |
| Date Received: | 10/18/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 04/20 | Catalog #: | 4400-10m671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13635 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/18/2018 | Lot #: | 2-230sgx |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13636 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/18/2018 | Expiration Date: | 10/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13637 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance standard |
| Date Received: | 10/18/2018 | Lot #: | 50-0007CR |
| Expiration Date (if any): | 10/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13633 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.668 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13632 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13630 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13631 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 10/16/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13583<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13629 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2018 | Expiration Date: | 10/05/2018 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.663 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13627 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13628 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/03/2018 | Expiration Date: | 10/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

MRL BASE STD M13626

Analyst [redacted]

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13579 | 1000 | 0.2 | 02/20 |
| Cd | 5 | M13570 | 1000 | 0.25 | 01/20 |
| Co | 10 | M13575 | 1000 | 0.5 | 01/20 |
| Cr | 10 | M13617 | 10000 | 0.05 | 03/20 |
| Cu | 10 | M13618 | 10000 | 0.05 | 03/20 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/19 |
| Mn | 10 | M13616 | 10000 | 0.05 | 03/20 |
| Mo | 10 | M13608 | 1000 | 0.5 | 03/20 |
| Ni | 10 | M13569 | 1000 | 0.5 | 03/20 |
| Pb | 10 | M13610 | 10000 | 0.05 | 03/20 |
| Sb | 20 | M13459 | 1000 | 1 | 03/20 |
| V | 10 | M13578 | 1000 | 0.5 | 02/20 |
| Zn | 10 | M13610 | 10000 | 0.05 | 02/20 |
| K | 1000 | M13341 | 10000 | 5 | 05/19 |
| Na | 1000 | M13402 | 10000 | 5 | 08/19 |
| As | 20 | M13392 | 1000 | 1 | 07/19 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/19 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/19 |
| Se | 20 | M13460 | 1000 | 1 | 10/19 |
| Tl | 20 | M13583 | 1000 | 1 | 02/20 |
| Si | 100 | M13394 | 1000 | 5 | 07/19 |
| B | 20 | M13531 | 1000 | 1 | 07/19 |
| Li | 20 | M13517 | 1000 | 1 | 02/20 |
| W | 50 | xxxxxxx | 1000 | 2.5 | xxxxxxx |
| Ti | 10 | M13573 | 1000 | 0.5 | 02/20 |
| Sr | 10 | M13586 | 1000 | 0.5 | 02/20 |
| Sn | 50 | M13572 | 1000 | 2.5 | 02/20 |
| S | 300 | M13391 | 10000 | 1.5 | 07/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13625 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 10/03/2018 | Expiration Date: | 09/30/2019 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13623 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13624 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 10/01/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13506 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 09/27/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13621 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.** |
| Prep Date: | 09/27/18 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **15 mL** Fe (10,000 mg/L) M13529 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 , **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M13576 , **2.5 mLs Na 10,000 ug/mL** M13461 ,**2.5 mLs k 10,000 ug/mL** M13581 **2.5 mLs S 10,000 ug/mL** M13530 , **0.5 mls Si 1000 ug/mL** M13571 and brought up to volume with milli-Q . | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13622 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/27/2018 | Expiration Date: | 09/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13618 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148796-39 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M141 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13619 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/19/2018 | Expiration Date: | 09/19/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.664 with 1 part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13620 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 09/04/2018 | Lot #: | 177409 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13611 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169484-18 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13612 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 440010M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13613 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 855297-1 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13614 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 148250-72 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13615 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 168223-17 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13616 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167540-6 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13617 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158236-7 |
| Expiration Date (if any): | 03/2020 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13604 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 167967-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13605 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sodium 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 752887-3 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13606 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 144467-179 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000411-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13607 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 158237-113 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-1000521-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13608 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 169424-37 |
| Expiration Date (if any): | 03/2020 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13609 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 156651-53 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13610 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10000 mg/L |
| Date Received: | 09/20/2018 | Lot #: | 979871-2 |
| Expiration Date (if any): | 03/2020 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13603 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 09/19/2018 | Expiration Date: | 10/20/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13583 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13601 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/12/2018 | Expiration Date: | 09/12/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13602 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09-12-2018 | Lot #: | 1-124AB |
| Expiration Date (if any): | 09-30-2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13600 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | 1% Pd Matrix Modifier |
| Date Received: | 09/11/2018 | Lot #: | 1808015 |
| Expiration Date (if any): | 09/30/2019 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13599 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/08/2018 | Expiration Date: | 09/08/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13595 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std |
| Date Received: | 08/29/2018 | Lot #: | 49-151CR |
| Expiration Date (if any): | 08/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13596 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/30/2018 | Expiration Date: | 08/30/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13597 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13598 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 08/30/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13591 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13592 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13593 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 08/23/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13594 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/23/2018 | Expiration Date: | 08/23/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.664 with **1** part $HNO_3$ AB.665 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13588 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13589 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/21/2018 | Expiration Date: | 08/21/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13590 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | turbidity std 2.0 ntu |
| Date Received: | 08/21/2018 | Lot #: | 18272791 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13586 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13577<br>Sn (1000 µg/mL) M13572<br>Sr (1000 µg/mL) M13580<br>Ti (1000 µg/mL) M13573<br>W (1000 µg/mL) MXXX | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13587 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/20/2018 | Expiration Date: | 01/2020 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13577 | 1000 | 1 | 02/2020 |
| W | 100/300 | XXX | 1000 | 5 | XXX |
| Ti | 10/30 | M13573 | 1000 | 0.5 | 01/2020 |
| Sr | 10/30 | M13580 | 1000 | 0.5 | 02/2020 |
| Sn | 20/60 | M13572 | 1000 | 1 | 01/2020 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13584 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 08/20/2018 | Expiration Date: | 07/30/2019 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13585 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/20/2018 | Expiration Date: | |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13577 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Li 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 751942-25 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13578 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | V 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 152207-68 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13579 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Be 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 660981-5 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13580 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sr 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 168227-29 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13581 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 172053-36 |
| Expiration Date (if any): | 02/2020 | Catalog #: | 4400-10411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13582 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 02/2020 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13583 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Tl 1000 mg/L |
| Date Received: | 08/17/2018 | Lot #: | 148983-70 |
| Expiration Date (if any): | 02/2020 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13576 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/04/2018 | Lot #: | 49-045CR |
| Expiration Date (if any): | 07/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13569 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ni 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 166665-86 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13570 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cd 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 160499-32 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13571 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175213-28 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13572 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sn 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 144466-74 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13573 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ti 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 152616-55 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000623 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13574 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 175191-22 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13575 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Co 1000 mg/L |
| Date Received: | 07/27/2018 | Lot #: | 161693-10 |
| Expiration Date (if any): | 01/2020 | Catalog #: | s4400-1000131 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13567 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. ($2\% HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13568 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 07/25/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13535, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **0.5 mL** Mo (1000 mg/L) M13393, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13129, **0.5 mL** Li (1000 mg/L) M13130, **0.5 mL** Sn (1000 mg/L) M13134, **0.5 mL** Ti (1000 mg/L) M13128, **0.5 mL** W (1000 mg/L) xxxxxx, **0.5 mL** Si (1000 mg/L) M13528, **0.5 mL** S (10000 mg/L) M13466, **0.5 mL** K (10000 mg/L) M13527, and **0.5 mL** Na (10000 mg/L) M13461 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13565 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/23/2018 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410, **15 mL** Fe (10,000 mg/L) M13463, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13564 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 07/20/2018 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13563 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13466 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13562 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13457 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13459 | 1000 | 1.6 |
| Se | 16 | M13460 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13561 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 07/19/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13560 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13557 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | 1% Nickel Nitrate Matrix Modifier |
| Date Received: | 07/17/2018 | Lot #: | 8137324 |
| Expiration Date (if any): | 12/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13558 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 07/17/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13559 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/17/2018 | Expiration Date: | 01/17/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13559 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13556 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 07/13/2018 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13458 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13457 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13459 | 1000 | 0.6 |
| Se | 13 | M13460 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13554 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13390 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13555 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 07/13/2018 | Expiration Date: | 10/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13466 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13553 | Standard: | Sb ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 µg/L (Sb) |
| Prep Date: | 07/12/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13550 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13551 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13547 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 07/09/2018 | Expiration Date: | 10/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13548 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 07/10/2018 | Expiration Date: | 01/10/2019 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13549 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 07/10/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13545 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13459<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13460<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13546 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 07/09/2018 | Expiration Date: | 09/16/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13459<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13460<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13542 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13543 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/09/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13544 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/09/2018 | Expiration Date: | 01/09/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13539 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13540 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13541 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 07/09/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13536 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 07/03/2018 | Expiration Date: | 01/03/2019 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13537 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/03/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13538 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 07/03/2018 | Expiration Date: | 07/05/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13534 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 07/02/2018 | Expiration Date: | 09/16/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13460 | 10,000 |
| Sb | 1 | 1000 | M13459 | 10,000 |
| Ag | 0.1 | 1000 | M13458 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13535 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 07/02/2018 | Lot #: | 48-179CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13533 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 06/29/2018 | Expiration Date: | 02/28/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **2.5 mL** of K (10,000 mg/L) M13400 , **2.5 mL** of Na (10,000 mg/L) M13402 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13526 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | YTTRIUM 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 138448-54 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13527 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | POTASSIUM 10,000 |
| Date Received: | 06/22/2018 | Lot #: | 172053-32 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-104411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13528 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 142610-115 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13529 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 156651-42 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13530 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | SULFUR 10,000ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 129880-46 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13531 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | BORON 1000 ug/mL |
| Date Received: | 06/22/2018 | Lot #: | 158372-91 |
| Expiration Date (if any): | 12/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13532 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | CUSTOM ASSURANCE STANDARD |
| Date Received: | 06/22/2018 | Lot #: | 48-146CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13525 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/20/2018 | Expiration Date: | 06/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13524 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/15/2018 | Expiration Date: | 06/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.660 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13522 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13523 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 06/14/2018 | Expiration Date: | 12/14/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13520 | Vendor: | FRISCOLYT |
| Analyst: | [redacted] | Chemical: | Electrolyte Solution |
| Date Received: | 06/13/2018 | Lot #: | 1DO71H |
| Expiration Date (if any): | 12/03/2021 | Catalog #: | 51 340 053 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13521 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 06/13/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13518 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/11/2018 | Lot #: | 48-060CR |
| Expiration Date (if any): | 06/30/2019 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13519 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 06/11/2018 | Expiration Date: | 06/30/2019 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13319 , **10 mL** of Fe (10,000 mg/L) M13463 , **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| Standard Log #: | M13513 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 12/06/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13514 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13515 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13516 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/06/2018 | Expiration Date: | 06/06/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13510 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/01/2018 | Expiration Date: | 06/01/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13511 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 06/04/2018 | Lot #: | 176877 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13509 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 05/30/2018 | Expiration Date: | 11/30/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13506 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-042CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XCTWI-4-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13507 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 05/22/2018 | Lot #: | 48-041CR |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13508 | Vendor: | RESTEK |
| Analyst: | [redacted] | Chemical: | Diatomaceous earth (Celite 566) |
| Date Received: | 05/22/2018 | Lot #: | 811030-BG |
| Expiration Date (if any): | N/A | Catalog #: | 26033 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13503 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13504 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13505 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/22/2018 | Expiration Date: | 05/22/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13502 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 05/21/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13499 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13500 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13501 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/17/2018 | Expiration Date: | 05/17/2019 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13496 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 05/16/2018 | Expiration Date: | 05/16/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13497 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13498 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE |
| Date Received: | 05/16/2018 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/17/2019 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13495 | Vendor: | LabChem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 05/15/2018 | Lot #: | H052-17 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13494 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | GFAA 1% Nickel Nitrate Modifier |
| Date Received: | 05/11/2018 | Lot #: | 8130826 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13491 | Reagent/Standard: | Mehlich 3 Extractant |
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/18/2018 |

**PREP**

Into a 1000 mL V.F., filled with approximately 800 mL D.I. H2O, added 20g NH4NO3 (W43076), 4 mL Mehlich 3 Stock Solution (M13489), 11.5 mL Glacial Acetic Acid (AB 653), 820 µl HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13492 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/08/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| Standard Log #: | M13489 | Reagent/Standard: | Mehlich 3 Stock Solution |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 100 mL V.F., added 13.89g NH4F (W43077) and 7.305g EDTA (W43689). Brought to volume with D.I. H2O. Stirred and dissolved for 15 minutes. Stored in refrigerator.

| Standard Log #: | M13490 | Reagent/Standard: | Mehlich 3 Extractant |
|---|---|---|---|
| Analyst: | [redacted] | Concentration: | NA |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/17/2018 |

PREP

Into a 2000 mL V.F., filled with approximately 1500 mL D.I. H2O, added 40g NH4NO3 (W43076), 8 mL Mehlich 3 Stock Solution (M13489), 23 mL Glacial Acetic Acid (AB 653), 1.64 mL HNO3 (AB 655). Brought to volume with D.I. H2O. Dissolved/stirred for 15 minutes. Stored in refrigerator.

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13485 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13486 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13487 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 08/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13488 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 05/07/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13484 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Y 10,000 mg/L |
| Date Received: | 05/03/2018 | Lot #: | 1805105 |
| Expiration Date (if any): | 10/31/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13482 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13483 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305, **15 mL** Fe (10,000 mg/L) M13321, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) 13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13480 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 05/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13479 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13481 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 05/02/2018 | Expiration Date: | 06/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

MRL BASE STD M13479

Analyst [redacted]

Prep Date 05/02/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13458 | 1000 | 1 | 10/2019 |
| Al | 400 | M13462 | 10000 | 2 | 10/2019 |
| Ba | 10 | M13457 | 1000 | 0.5 | 10/2019 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/2018 |
| Cd | 5 | M13327 | 1000 | 0.25 | 09/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/2018 |
| Mg | 500 | M13319 | 10000 | 2.5 | 04/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/2018 |
| Sb | 20 | M13459 | 1000 | 1 | 10/2019 |
| V | 10 | M13125 | 1000 | 0.5 | 09/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13341 | 10000 | 5 | 05/2019 |
| Na | 1000 | M13402 | 10000 | 5 | 08/2019 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13324 | 10000 | 2.5 | 04/2019 |
| Fe | 300 | M13463 | 10000 | 1.5 | 10/2019 |
| Se | 20 | M13460 | 1000 | 1 | 10/2019 |
| Tl | 20 | M13124 | 1000 | 1 | 09/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/2018 |
| W | 50 | xxxxxxxxxx | 1000 | 2.5 | xxxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2018

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13476 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 05/02/2018 | Expiration Date: | 10/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13305 and **15 mL** Fe (10000 mg/L) M13321 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13477 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13478 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/02/2018 | Expiration Date: | 05/02/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13417. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13475 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/30/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13474 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/27/2018 | Expiration Date: | 04/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13471 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/2019 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13472 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13473 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/26/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13470 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 04/25/2018 | Expiration Date: | 10/25/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13043 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13467 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 147497-47 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13468 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 04/24/2018 | Lot #: | 174236 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13469 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/24/2018 | Expiration Date: | 04/24/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13462 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158058-23 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13463 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 156651-18 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13464 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 148250-67 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13465 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 172053-2 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13466 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | S 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 129880-37 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13457 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 158364-3 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13458 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ag 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 162712-9 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13459 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sb 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 153992-1 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13460 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Se 1000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 154366-16 |
| Expiration Date (if any): | 10/2019 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13461 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10000 mg/L |
| Date Received: | 04/20/2018 | Lot #: | 107139-108 |
| Expiration Date (if any): | 10/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13455 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13456 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/20/2018 | Expiration Date: | 10/20/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.656 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13452 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13453 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13454 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 04/20/2018 | Expiration Date: | 04/30/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13450 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 04/20/2018 | Expiration Date: | 01/30/2019 |
| Prep: | Standard Conc. (ug/L) | Pipette the following: | |
| | 1 | **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L* | |
| | 10 | **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L* | |
| | 100 | **1 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L* | |
| | 1000 (CCV) | **2 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L* | |
| | 10000 | **20 mL** of Custom Assurance Standard XCTWI-5-500 M13364 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13451 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 04/20/201 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13447 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13448 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13449 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 04/20/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13445 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 04/19/2018 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | Hach 2100 turbidity meter |
| Standard Log #: | M13446 | Standard: | Turbity ICAL |
| Analyst: | [redacted] | Concentrations: | 20, 100, 200 ntu |
| Prep Date: | 04/19/2018 | Expiration Date: | 12/2019 |
| Prep: | Using the hach vials , pipet the following:<br>*20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20.<br>*100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20.<br>*200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13444 | Vendor: | SPEX CertiPrep |
| Analyst: | [redacted] | Chemical: | Hg Standard |
| Date Received: | 04/18/2018 | Lot #: | CL10-31HGY |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13443 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/16/2018 | Expiration Date: | 05/2019 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13341 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13440 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/12/2018 | Expiration Date: | 04/12/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.656 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13441 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13442 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/13/2018 | Expiration Date: | 04/13/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

**LPMT1-04**
**Metals Reagents and Standards**
**Prep Logbook**
*Created: 12/19/17*

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

---

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13438 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 07/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* **-1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13439 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 04/11/2018 | Expiration Date: | 01/19/2019 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13437 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 04/10/2018 | Expiration Date: | 07/19 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M13390 | 1000 | 2.6 |
| Si | 192 | M13394 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

| | | | |
|---|---|---|---|
| Standard ID#: | M13436a | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal 200 NTU |
| Date Received: | 04/10/2018 | Lot #: | A7354 |
| Expiration Date (if any): | 12/2019 | Catalog #: | 2660449 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13436 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M13392 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13321 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13397 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13435 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std Spike |
| Date Received: | 04/10/2018 | Lot #: | 1-81YJ |
| Expiration Date (if any): | 04/30/2019 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13434 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 04/10/2018 | Expiration Date: | 05/18 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M13392 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13321 | **10000** | 0.5 |
| Mg | 40 | M13319 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13393 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13433 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13431 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M13392<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13432 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 04/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M13392<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13430 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 04/03/2018 | Expiration Date: | 04/03/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13429 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 04/02/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13362 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13410 , **0.5 mL** Mo (1000 mg/L) M13393 , **0.5 mL** B (1000 mg/L) M13390 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 , **0.5 mL** Ti (1000 mg/L) M13128 , **0.5 mL** W (1000 mg/L) MXXXXX , **0.5 mL** Si (1000 mg/L) M13394 ,**0.5 mL** S (10000 mg/L) M13391 , **0.5 mL** K (10000 mg/L) M13391 , and **0.5 mL** Na (10000 mg/L) M13342 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13428 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 03/29/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13427 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2018 | Expiration Date: | 03/27/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13426 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/23/2018 | Expiration Date: | 03/23/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13423 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13424 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13425 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 03/19/2018 | Expiration Date: | 03/19/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13422 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/20/2018 | Expiration Date: | 03/20/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.656 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13418 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13419 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 09/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13420 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 03/15/2018 | Expiration Date: | 07/02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (2% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M13392 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | | |
| Standard Log #: | M13421 | Reagent: | 1:3 HNO3 |
| Analyst: | [redacted] | | |
| Prep Date: | 03/15/2018 | Expiration Date: | 03/15/2019 |
| Prep: | Carefully mixed 3 parts DI with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13416 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As<br>6 µg/L Pb<br>12 µg/L Sb<br>20 µg/L Se<br>14 µg/L Tl<br>0.6 µg/L Ag |
| Prep Date: | 03/09/2018 | Expiration Date: | 07/02/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M13392 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.6 | 10,000 | 6 |
| Tl | 1.4 | 10,000 | 14 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.2 | 10,000 | 12 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13417 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 03/09/2018 | Expiration Date: | 03/09/2019 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W43585 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13413 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13414 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13415 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 03/09/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13412 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 03/06/2018 | Expiration Date: | 10/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **2.5 mL** of K (10,000 mg/L) M13323 , **2.5 mL** of Na (10,000 mg/L) M13342 and **7.5 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13411 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/02/2018 | Expiration Date: | 03/02/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13410 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Inerference_A |
| Date Received: | 02/28/2018 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 02/28/2019 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13408 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/27/2018 | Expiration Date: | 02/27/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13409 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/27/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13048, **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13406 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2019 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13407 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/26/2018 | Expiration Date: | 02/26/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

MRL BASE STD M13405

Analyst [redacted]

Prep Date 02/21/2018

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2018 |
| Al | 400 | M13322 | 10000 | 2 | 04/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05/03/2018 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/2018 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/2018 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/2018 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/2018 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/2018 |
| Mg | 500 | M13236 | 10000 | 2.5 | 01/2019 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/2018 |
| Mo | 10 | M13393 | 1000 | 0.5 | 07/2019 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/2018 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/2018 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/2018 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/2018 |
| Zn | 10 | M13168 | 10000 | 0.05 | 10/2018 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/2018 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/2018 |
| As | 20 | M13392 | 1000 | 1 | 07/2019 |
| Ca | 500 | M13237 | 10000 | 2.5 | 01/2019 |
| Fe | 300 | M13321 | 10000 | 1.5 | 01/30/2019 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/2018 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/2018 |
| Si | 100 | M13394 | 1000 | 5 | 07/2019 |
| B | 20 | M13390 | 1000 | 1 | 07/2019 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 50 | Mxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/2018 |
| S | 300 | M13391 | 10000 | 1.5 | 07/2019 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date:
05/03/2018

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13404 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 02/21/2018 | Expiration Date: | 02/21/2018 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13403 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 02/19/2018 | Expiration Date: | 08/19/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13400 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 106958-116 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13401 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 139448-54 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13402 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 10,000 ug/mL |
| Date Received: | 02/15/2018 | Lot #: | 107139-126 |
| Expiration Date (if any): | 08/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13398 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13399 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 02/09/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305, **0.05 mL** of B (1000 µg/mL) M13390, **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M13347 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13396 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 01/31/2018 | Expiration Date: | 09/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M13236 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13388 | Reagent: | SPLP EXTRACTION FLUID EAST # |
| Analyst: | [redacted] | pH: | 4.20 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13389 | Reagent: | SPLP EXTRACTION FLUID WEST # |
| Analyst: | [redacted] | pH: | 5.00 ± 0.05 |
| Prep Date: | 01/23/2018 | Expiration Date: | 01/23/2019 |
| Prep: | Into a 20 L carboy filled with DI $H_2O$, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 . | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13390 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Boron 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 158372-29 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13391 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 129880-28 |
| Expiration Date (if any): | 07/2019 | Catalog #: | 4400-10M544 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13392 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Arsenic 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 143356-61 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-100031 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13393 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Molybdenum 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 134169R-102 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13394 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Silicon 1000 ug/mL |
| Date Received: | 01/23/2018 | Lot #: | 142610-58 |
| Expiration Date (if any): | 07/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard Log #: | M13386 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13387 | Reagent: | Potassium Persulfate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 01/18/2018 | Expiration Date: | 07/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium persulfate M12652 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13383 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13384 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13385 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 01/17/2018 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 B&Si Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 16 | M13048 | 1000 | 0.8 |
| Si | 200 | M13338 | 1000 | 10 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13381 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 06/08/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13280 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13380 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3050 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 9.6 | M13322 | **10000** | 0.048 |
| As | 32 | M12958 | 1000 | 1.6 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 1.6 | M13126 | 1000 | 0.08 |
| Ca | 56 | M13324 | **10000** | 0.28 |
| Cd | 1.6 | M13127 | 1000 | 0.08 |
| Co | 9.6 | M13132 | 1000 | 0.48 |
| Cr | 5.6 | M13165 | **10000** | 0.028 |
| Cu | 16 | M13166 | **10000** | 0.08 |
| Fe | 72 | M13347 | **10000** | 0.36 |
| Mg | 32 | M13319 | **10000** | 0.16 |
| Mn | 6 | M13167 | **10000** | 0.03 |
| Mo | 9.6 | M13049 | 1000 | 0.48 |
| Ni | 4.8 | M13133 | 1000 | 0.24 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 32 | M13084 | 1000 | 1.6 |
| Se | 16 | M13082 | 1000 | 0.8 |
| Tl | 19 | M13124 | 1000 | 0.95 |
| V | 3.2 | M13125 | 1000 | 0.16 |
| Zn | 12 | M13168 | **10000** | 0.06 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13379 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/20/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 2640 | M13341 | 10000 | 13.2 |
| Na | 960 | M13342 | 10000 | 4.8 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13377 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 k&na Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 05/2019 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| K | 500 | M13341 | 10000 | 2.5 |
| Na | 600 | M13342 | 10000 | 3 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13378 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 L2 Spiking Solution |
| Prep Date: | 01/10/2018 | Expiration Date: | 10/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 10 | M13130 | 1000 | 0.5 |
| Sn | 10 | M13134 | 1000 | 0.5 |
| Sr | 2 | M13129 | 1000 | 0.1 |
| Ti | 8 | M13128 | 1000 | 0.8 |
| W | 36 | M | 1000 | 1.8 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13376 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | LOQ 3010 DOD Metals Spiking S |
| Prep Date: | 01/10/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 4 | M13083 | 1000 | 0.2 |
| Al | 36 | M13322 | **10000** | 0.18 |
| As | 24 | M12958 | 1000 | 1.2 |
| Ba | 1.8 | M13029 | 1000 | 0.09 |
| Be | 0.6 | M13126 | 1000 | 0.03 |
| Ca | 100 | M13324 | **10000** | 0.5 |
| Cd | 2.0 | M13127 | 1000 | 0.1 |
| Co | 4 | M13132 | 1000 | 0.2 |
| Cr | 4 | M13165 | **10000** | 0.02 |
| Cu | 7 | M13166 | **10000** | 0.035 |
| Fe | 100 | M13347 | **10000** | 0.5 |
| Mg | 40 | M13236 | **10000** | 0.2 |
| Mn | 4 | M13167 | **10000** | 0.02 |
| Mo | 7 | M13049 | 1000 | 0.35 |
| Ni | 6 | M13133 | 1000 | 0.2 |
| Pb | 4 | M13169 | **10000** | 0.02 |
| Sb | 12 | M13084 | 1000 | 0.6 |
| Se | 13 | M13082 | 1000 | 0.65 |
| Tl | 20 | M13124 | 1000 | 0.75 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 10 | M13168 | **10000** | 0.05 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13374 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 01/08/2018 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) *Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13375 | Instrument: | GFAA |
| Analyst: | [redacted] | Standard: | MDL Spiking Solution |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Ag | 0.2 | M13083 | 1000 | 0.01 |
| As | 2 | M12958 | 1000 | 0.1 |
| Pb | 2 | M13169 | 10000 | 0.01 |
| Sb | 2 | M13084 | 1000 | 0.1 |
| Se | 2 | M13082 | 1000 | 0.1 |
| Tl | 2 | M13124 | 1000 | 0.1 |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13372 | Standard: | LODS/LOQS Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 60 ug/L (Sb)<br>160 ug/L (As,Se)<br>40 ug/L (Pb)<br>50 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.2 mL** of Sb (1000 mg/L) M13084<br>**3.2 mL** of As (1000 mg/L) M12958<br>**3.2 mL** of Se (1000 mg/L) M13082<br>**0.08 mL** of Pb (10,000 mg/L) M13169<br>**1.0 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13373 | Standard: | LODW/LOQW Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 150 ug/L (Sb)<br>100 ug/L (As)<br>200 ug/L (Se)<br>45 ug/L (Pb)<br>40 ug/L (Tl) |
| Prep Date: | 01/08/2018 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$.<br>**1.5 mL** of Sb (1000 mg/L) M13084<br>**1.0 mL** of As (1000 mg/L) M12958<br>**2.0 mL** of Se (1000 mg/L) M13082<br>**0.045 mL** of Pb (10,000 mg/L) M13169<br>**0.4 mL** of Tl (1000 mg/L) M13124<br><br>From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q $H_2O$ to make the spiking solution.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13369 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13370 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13371 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 12/22/2017 | Expiration Date: | 12/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13368 | Instrument: | ICP 6500 |
| Analyst: | [redacted] | Standard: | MDL DOD Metals Spiking soln |
| Prep Date: | 01/05/2018 | Expiration Date: | 02/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$, 5% HCl)

| Analyte | MDL Conc. (ug/L) | Std. ID # | Std Conc | Volume (mL) pipetted into 1 L |
|---|---|---|---|---|
| Ag | 5 | M13083 | 1000 | 0.25 |
| Al | 10 | M13322 | **10000** | 0.05 |
| As | 20 | M12958 | 1000 | 1 |
| Ba | 2 | M13029 | 1000 | 0.1 |
| Be | 0.5 | M13126 | 1000 | 0.025 |
| Ca | 50 | M13324 | **10000** | 0.25 |
| Cd | 0.5 | M13127 | 1000 | 0.025 |
| Co | 2.5 | M13132 | 1000 | 0.125 |
| Cr | 5.0 | M13165 | **10000** | 0.025 |
| Cu | 10 | M13166 | **10000** | 0.05 |
| Fe | 40 | M13397 | **10000** | 0.2 |
| Mg | 25 | M13319 | **10000** | 0.125 |
| Mn | 5 | M13167 | **10000** | 0.025 |
| Mo | 2.5 | M13049 | 1000 | 0.125 |
| Ni | 5 | M13133 | 1000 | 0.25 |
| Pb | 10 | M13169 | **10000** | 0.05 |
| Sb | 20 | M13084 | 1000 | 1 |
| Se | 20 | M13082 | 1000 | 1 |
| Tl | 20 | M13124 | 1000 | 1 |
| V | 5 | M13125 | 1000 | 0.25 |
| Zn | 5 | M13168 | **10000** | 0.025 |

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13366 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_Li_Sn_Sr_Ti Spiking _Solu |
| Prep Date: | 01/05/2018 | Expiration Date: | 09/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 20 | M13130 | 1000 | 1 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 20 | M13129 | 1000 | 1 |
| Ti | 20 | M13128 | 1000 | 1 |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13364 | Vendor: | Sprx CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Standard |
| Date Received: | 01/05/2018 | Lot #: | 46-183CR |
| Expiration Date (if any): | 01/30/2019 | Catalog #: | XCTW-5-500 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13365 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | MDL_B&Si&S_Spiking_Solution |
| Prep Date: | 01/05/2018 | Expiration Date: | 06/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 20 | M13048 | 1000 | 1 |
| Si | 100 | M13338 | 1000 | 5 |
| S | 200 | M13280 | 1000 | 1 |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13362 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/26/2017 | Lot #: | 46-162CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13361 | Reagent: | NaCl Hydroxylamine Sulfate |
| Analyst: | [redacted] | | |
| Prep Date: | 12/22/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Into a 500 mL volumetric flask, partially filled with milli-Q $H_2O$, dissolved 60 g NaCl M13226 and 60 g hydroxylamine sulfate M13186 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13356 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 12/018/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13357 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 12/18/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.651 with **1** part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13358 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/18/2017 | Expiration Date: | 06/18/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.651 and dissolved **100 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13359 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 12/18/2017 | Lot #: | 46-114CR |
| Expiration Date (if any): | 12/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13353 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13354 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13355 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 12/18/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13351 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 12/15/2017 | Expiration Date: | 06/15/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13350 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 12/12/2017 | Lot #: | 1729606 |
| Expiration Date (if any): | 06//2019 | Catalog #: | 10M67-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13348 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190 , **0.05 mL** of B (1000 µg/mL) M12957 , **0.05 mL** of Si (1000 µg/mL) M12943 and **3 mL** of Fe (10,000 mg/L) M13235 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13349 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 12/11/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13333 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13346 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 12/07/2017 | Expiration Date: | 12/07/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.655 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13347 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 12/06/2017 | Lot #: | 156651-6 |
| Expiration Date (if any): | 06/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13344 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 12/01/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13050 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13338 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Silicon 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 142610-58 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13339 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 93655-174 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13340 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 1000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 144467-94 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 060020-04-03 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13341 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Potassium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 106958-97 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13342 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 µg/mL |
| Date Received: | 12/01/2017 | Lot #: | 107139-106 |
| Expiration Date (if any): | 05/30/2019 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13343 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 12/01/2018 | Expiration Date: | 06/08/2018 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13050 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13335 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 11/29/2017 | Expiration Date: | 11/29/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.649 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13336 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13337 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 11/22/2017 | Expiration Date: | 11/22/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13333 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 11/17/2017 | Lot #: | 46-040CR |
| Expiration Date (if any): | 11/20/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13334 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/28/2017 | Expiration Date: | 11/28/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | HYDRA |
| Standard Log #: | M13331 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/15/2017 | Expiration Date: | 05/15/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **10 mL** hydrochloric acid AB.651 and dissolved **20 g** Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13329 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 11/14/2017 | Expiration Date: | 05/14/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved **50 g** potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13330 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 11/14/2017 | Expiration Date: | 02/23/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12958 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q $H_2O$. (2% $HNO_3$, 2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13328 | Standard: | GFAA Instrument Check |
| Analyst: | [redacted] | Final Concentration: | 10 µg/L As, Tl<br>8 µg/L Pb<br>14 µg/L Sb<br>20 µg/L Se<br>0.6 µg/L Ag |
| Prep Date: | 11/13/2017 | Expiration Date: | 02/23/2018 |

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q $H_2O$.

| Element | Volume Pipetted (mL) | Standard Conc. (µg/mL) | Standard ID | New Conc. (µg/L) |
|---|---|---|---|---|
| As | 1 | 1000 | M12958 | 10,000 |
| Pb | 0.1 | 10,000 | M13169 | 10,000 |
| Tl | 1 | 1000 | M13124 | 10,000 |
| Se | 1 | 1000 | M13082 | 10,000 |
| Sb | 1 | 1000 | M13084 | 10,000 |
| Ag | 0.1 | 1000 | M13083 | 1000 |

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q $H_20$. (1% $HNO_3$)

| Element | Volume Pipetted (mL) | Standard Conc. (µg/L) | New Conc. (µg/L) |
|---|---|---|---|
| As | 1.0 | 10,000 | 10 |
| Pb | 0.8 | 10,000 | 8 |
| Tl | 1.0 | 10,000 | 10 |
| Se | 2.0 | 10,000 | 20 |
| Sb | 1.4 | 10,000 | 14 |
| Ag | 0.6 | 1000 | 0.6 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13325 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2017 | Expiration Date: | 11/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.652 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13326 | Standard: | L2 ICAL |
| Analyst: | [redacted] | Concentrations: | 1 (µg/L)<br>10 (µg/L)<br>100 (µg/L)<br>1000 (µg/L)<br>10,000 (µg/L) |
| Prep Date: | 11/09/2017 | Expiration Date: | 08/30/2018 |
| Prep: | Standard Conc. (ug/L) — Pipette the following:<br>1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.001 mL** W (1000 µg/mL) M into 1L = *1 µg/L*<br>10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.01 mL** W (1000 µg/mL) M into 1L = *10 µg/L*<br>100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.1 mL** W (1000 µg/mL) M into 1L = *100 µg/L*<br>1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **0.2 mL** W (1000 µg/mL) M into 200mL = *1000 µg/L*<br>10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13252 and **2 mL** W (1000 µg/mL) M into 200mL = *10000 µg/L* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13327 | Standard: | List 2 ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 11/09/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **6 mL** of Fe (10,000 mg/L) M13235, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M and brought up to volume using Milli-Q $H_2O$.<br>(0.5% $HNO_3$, 0.5% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13318 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Custum Assurance Std |
| Date Received: | 11/07/2017 | Lot #: | 49-012CR |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13319 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 148250-15 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13320 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 139448-37 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13321 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 101593-91 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-101M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13322 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 103665-69 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13323 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 106958-82 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13324 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 11/07/2017 | Lot #: | 147497-26 |
| Expiration Date (if any): | 04/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13314 | Instrument: | GFAA |
| Analyst: | [redacted] | Reagent: | Pd/Mg Matrix Modifier |
| Prep Date: | 11/07/2017 | Expiration Date: | 01/29/2018 |
| Prep: | Into a 50 mL volumetric flask, partially filled with milli-Q $H_2O$, pipetted **15 mL** Pd Modifier M13297 and **10 mL** Mg (10,000 mg/L) M12947 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13315 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13316 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13317 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 11/07/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13308 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13309 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13310 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 10/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13304 | Standard: | Sulfur ICAL |
| Analyst: | [redacted] | Concentrations: | 1000<br>10,000<br>100,000<br>1000K<br>µg/L (S) |
| Prep Date: | 10/19/2017 | Expiration Date: | 01/19/2019 |
| Prep: | Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13280 and brought up to volume using milli-Q $H_2O$.<br>*1000 ug/L std.* - **0.01 mL**<br>*10,000 ug/L std.* - **0.1 mL**<br>*100,000 ug/L std.* -**1.0 mL**, also used as the CCV<br>*1000K ug/L std.* - **10 mL** | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13305 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 10/19/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 10/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13306 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13307 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/19/2017 | Expiration Date: | 10/19/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.653 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13303 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 10/17/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13163 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. (2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13301 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 10/10/17 | Expiration Date: | 04/10/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13080 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13299 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13300 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 10/06/2017 | Expiration Date: | 10/06/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13297 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Palladium Matrix Modifier |
| Date Received: | 10/04/2017 | Lot #: | 1713238 |
| Expiration Date (if any): | 09/2018 | Catalog #: | HP1900-100 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13298 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/05/2017 | Expiration Date: | 10/05/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13295 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 10/02/2017 | Expiration Date: | 10/02/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.651 with 1 part $HNO_3$ AB.650 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13296 | Vendor: | Alfa Aesar |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 10/03/2017 | Lot #: | 7106463 |
| Expiration Date (if any): | 03/31/2019 | Catalog #: | 39043 |

| | | Instrument: | ICP 6500 |
|---|---|---|---|
| Standard Log #: | M13293 | Standard: | ICV Std. |
| Analyst: | [redacted] | Concentrations: | **12,000 mg/L** Al<br>**10,000 mg/L** Ca, Mg<br>**5000 mg/L** Fe<br>**2000 mg/L** As, Ba, Se, Tl<br>**500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn<br>**250 mg/L** Cu<br>**200 mg/L** Cr<br>**50 mg/L** Ag, Be, Cd |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q $H_2O$.<br>**10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13270 , **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 , **0.5 mL** Mo (1000 mg/L) M13049 , **0.5 mL** B (1000 mg/L) M13048 , **0.5 mL** Sr (1000 mg/L) M13129 , **0.5 mL** Li (1000 mg/L) M13130 , **0.5 mL** Sn (1000 mg/L) M13134 and **0.5 mL** Ti (1000 mg/L) M13128 . | | |

| | | Instrument: | ICP 6500 |
|---|---|---|---|
| Standard Log #: | M13294 | Standard: | ICVLL |
| Analyst: | [redacted] | Concentrations: | 12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na. |
| Prep Date: | 10/02/2017 | Expiration Date: | 02/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$.<br>(5% $HNO_3$ & 5% HCL) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13291 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13235 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13292 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 10/02/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13235, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13252 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13289 | Vendor: | AMCO Clear |
| Analyst: | [redacted] | Chemical: | Turbidity 2.0 NTU standard |
| Date Received: | 09/29/2017 | Lot #: | C797951 |
| Expiration Date (if any): | 09/2018 | Catalog #: | 8008 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13290 | Standard: | ICAL |
| Analyst: | [redacted] | Concentrations: | 0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L) |
| Prep Date: | 10/02/2017 | Expiration Date: | 06/30/2018 |

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.
(5% $HNO_3$, 5% HCl)
*1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 ( 100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13252 , **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **1 mL** of Si (1000 mg/L) M13085 and 1 mL M13203 Ce
*0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std.
*0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std.
*1 ug/L Std.* - **1 mL** of the 1000 ug/L Std.
*5 ug/L Std.* - **5 mL** of the 1000 ug/L Std.
*10 ug/L Std.* - **10 mL** of the 1000 ug/L Std.
*20 ug/L Std.* - **20 mL** of the 1000 ug/L Std.
*50 ug/L Std.* - **50 mL** of the 1000 ug/L Std.
*100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
*10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13233 .
*100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13166 , **10 mL** of Mn (10,000 mg/L) M13167 , **10 mL** of Cr (10,000 mg/L) M13165 , **10 mL** Pb (10,000 mg/L) M13169 , **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13135 .
*100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13236 , **10 mL** of Fe (10,000 mg/L) M13235 , **10 mL** of Ca (10,000 mg/L) M13237 and **10 mL** Al (10,000 mg/L) M13232 .
*500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
*1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13286 | Standard: | Na & K ICAL |
| Analyst: | [redacted] | Concentrations: | 0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12873 and K (1000 µg/mL) M12874 and brought up to volume using milli-Q $H_2O$. (2% $HNO_3$)<br>*0.5 mg/L std.* - **0.1 mL** of each<br>*1.0 mg/L std.* - **0.2 mL** of each<br>*5.0 mg/L std.* - **1.0 mL** of each<br>*10 mg/L std.* - **2.0 mL** of each<br>*50 mg/L std.* - **10 mL** of each<br>*100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification<br>*200 mg/L std.* - **40 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13287 | Standard: | Na,K MRL |
| Analyst: | [redacted] | Concentrations: | 1 mg/L (Na,K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 11/27/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12873 and **0.5 mL** K (1000 µg/mL) M12874 and brought to volume with Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13288 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 09/27/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13190, **2.5 mL** of K (10,000 mg/L) M13163, **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M13164 and brought up to volume using Milli-Q $H_2O$.<br>(2% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13285 | Standard: | DOD MRL |
| Analyst: | [redacted] | Concentrations: | 4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na. |
| Prep Date: | 09/29/17 | Expiration Date: | 02/23/18 |
| Prep: | Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M13284 and brought to volume with Milli-Q $H_2O$. (5% $HNO_3$ & 5% HCL) | | |

MRL BASE STD M13284 Analyst [redacted]

Prep Date 09-26-2017

Into a 1000 mL Volumetric Flask, pipet the following:

| Analyte | (ug/L) | Std ID # | Std Conc (mg/L) | Amount (mL) to pipet into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Ag | 20 | M13083 | 1000 | 1 | 07/02/2017 |
| Al | 400 | M13232 | 10000 | 2 | 01/30/2019 |
| Ba | 10 | M13029 | 1000 | 0.5 | 05//03/18 |
| Be | 4 | M13126 | 1000 | 0.2 | 09/18/18 |
| Cd | 5 | M13127 | 1000 | 0.25 | 09/18/18 |
| Co | 10 | M13132 | 1000 | 0.5 | 09/18/18 |
| Cr | 10 | M13165 | 10000 | 0.05 | 10/19/18 |
| Cu | 10 | M13166 | 10000 | 0.05 | 10/19/18 |
| Mg | 500 | M12947 | 10000 | 2.5 | 01/29/18 |
| Mn | 10 | M13167 | 10000 | 0.05 | 10/19/18 |
| Mo | 10 | M13049 | 1000 | 0.5 | 06/08/18 |
| Ni | 10 | M13133 | 1000 | 0.5 | 09/17/18 |
| Pb | 10 | M13169 | 10000 | 0.05 | 10/20/18 |
| Sb | 20 | M13084 | 1000 | 1 | 07/02/18 |
| V | 10 | M13125 | 1000 | 0.5 | 09/18/18 |
| Zn | 10 | M12989 | 10000 | 0.05 | 04/07/18 |
| K | 1000 | M13163 | 10000 | 5 | 10/19/18 |
| Na | 1000 | M13135 | 10000 | 5 | 09/18/18 |
| As | 20 | M12958 | 1000 | 1 | 02/23/18 |
| Ca | 500 | M13032 | 10000 | 2.5 | 05/03/18 |
| Fe | 300 | M13235 | 10000 | 1.5 | 01/30/19 |
| Se | 20 | M13082 | 1000 | 1 | 07/02/18 |
| Tl | 20 | M13124 | 1000 | 1 | 09/16/18 |
| Si | 100 | M13085 | 1000 | 5 | 07/02/18 |
| B | 20 | M12957 | 1000 | 1 | 02/23/2018 |
| Li | 20 | M13130 | 1000 | 1 | 09/18/18 |
| W | 50 | Mxxxxxx | 1000 | 2.5 | xxxxxxxx |
| Ti | 10 | M13128 | 1000 | 0.5 | 09/18/18 |
| Sr | 10 | M13129 | 1000 | 0.5 | 09/18/18 |
| Sn | 50 | M13134 | 1000 | 2.5 | 09/18/18 |
| S | 300 | M13280 | 10000 | 1.5 | 03/30/19 |

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 02/23/18

| | | | |
|---|---|---|---|
| Standard ID#: | M13280 | Vendor: | SPC Science |
| Analyst: | [redacted] | Chemical: | Sulfur 10000 mg/L |
| Date Received: | 09/25/2017 | Lot #: | S170526006 |
| Expiration Date (if any): | 03/2019 | Catalog #: | 140-060-16x |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13281 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13282 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 09/26/2017 | Expiration Date: | 05/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13283 | Standard: | ICSA2 |
| Analyst: | [redacted] | Concentrations: | **10,000 ug/L** Cu, Ni |
| Prep Date: | 09/26/2017 | Expiration Date: | 09/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted 5 **mL** 1000 mg/L Ni M13133 and 0.5 **mL** 10000 mg/L Cu M13166 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13276 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13277 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13278 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/22/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13279 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 mg/L |
| Date Received: | 09/22/2017 | Lot #: | 1712902 |
| Expiration Date (if any): | 03/2019 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13274 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 B&Si Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 02/23/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| B | 52 | M12957 | 1000 | 2.6 |
| Si | 192 | M13047 | 1000 | 9.6 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13275 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 L2 Spiking Solution |
| Prep Date: | 09/18/2017 | Expiration Date: | 09/18/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| Li | 14.4 | M13130 | 1000 | 0.72 |
| Sn | 20 | M13134 | 1000 | 1 |
| Sr | 3.2 | M13129 | 1000 | 0.16 |
| Ti | 9.6 | M13128 | 1000 | 0.48 |
| W | 24 | M13131 | 1000 | 1.2 |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13271 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13272 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13273 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 09/18/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$.<br>(1% $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13270 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 09/15/2017 | Lot #: | 4-91MKB |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XSPIKE-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13265 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13266 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Carefully mixed **3** parts HCl AB.646 with **1** part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13267 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W42226 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13268 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13269 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 09/14/2017 | Expiration Date: | 09/14/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13267. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13262 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 06/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13263 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13264 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 09/14/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13263 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13261 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 09/12/2017 | Expiration Date: | 03/12/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added 70 mL hydrochloric acid AB.646 and dissolved 100 g Stannous chloride M13246 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13258 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13259 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13260 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 08/31/2017 | Expiration Date: | 08/31/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP |
| Standard Log #: | M13257 | Standard: | As Pb ICV1 |
| Analyst: | [redacted] | Concentrations: | 5000 ug/L (As,Pb) |
| Prep Date: | 08/30/2017 | Expiration Date: | 11/11/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12958 and **0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q $H_2O$. ($2\%$ $HNO_3$, $2\%$ HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13255 | Standard: | L2 ICV |
| Analyst: | [redacted] | Concentrations: | 1000 µg/L (Li, Sn, Sr, Ti, W) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q $H_2O$. (0.5% $HNO_3$, 0.5% HCl)<br>Li (1000 µg/mL) M13130<br>Sn (1000 µg/mL) M13134<br>Sr (1000 µg/mL) M13129<br>Ti (1000 µg/mL) M13128<br>W (1000 µg/mL) M13131 | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13256 | Standard: | List 2 MRL/ICVLL Prep Solution |
| Analyst: | [redacted] | Concentrations: | 5000 µg/L (W)<br>1000 µg/L (Li, Sn)<br>500 µg/L (Ti, Sr) |
| Prep Date: | 08/29/2017 | Expiration Date: | 09/18/2018 |

Prep:

| Analyte | MRL/ICVLL Conc. (µg/L) | Standard ID | Std. Conc. (µg/mL) | Volume (mL) Pipetted into 1 L | Expiration Date |
|---|---|---|---|---|---|
| Li | 20/60 | M13130 | 1000 | 1 | 09/18/2018 |
| W | 100/300 | M13131 | 1000 | 5 | 09/18/2018 |
| Ti | 10/30 | M13128 | 1000 | 0.5 | 09/18/2018 |
| Sr | 10/30 | M13129 | 1000 | 0.5 | 09/18/2018 |
| Sn | 20/60 | M13134 | 1000 | 1 | 09/18/2018 |
| | | | | | |

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% $HNO_3$, 0.5% HCl)

| | | | |
|---|---|---|---|
| Standard ID#: | M13252 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/23/2017 | Lot #: | 44-188CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13253 | Standard: | Sulfur ICV |
| Analyst: | [redacted] | Concentrations: | 100,000 µg/L (S) |
| Prep Date: | 08/28/2017 | Expiration Date: | 04/30/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13172 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13254 | Standard: | ICSA |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg |
| Prep Date: | 08/28/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190 and **15 mL** Fe (10000 mg/L) M13164 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13251 | Reagent: | TCLP EXTRACTION FLUID #2 |
| Analyst: | [redacted] | pH: | 2.88 ± 0.05 |
| Prep Date: | 08/23/2017 | Expiration Date: | 08/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 . Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13247 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Phosphorus 10,000 ug/mL |
| Date Received: | 08/10/2017 | Lot #: | AN16-170PY |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | PLP-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13248 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 08/11/2017 | Lot #: | 44-152CR |
| Expiration Date (if any): | 08/30/2018 | Catalog #: | XCTWI-1-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13245 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 08/09/2017 | Expiration Date: | 08/09/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.648 with 1 part $HNO_3$ AB.647 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13246 | Vendor: | Lab Chem |
| Analyst: | [redacted] | Chemical: | STANNOUS CHLORIDE |
| Date Received: | 08/09/2017 | Lot #: | G137-04 |
| Expiration Date (if any): | | Catalog #: | LC251701 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13242 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13243 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/02/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB. and dissolved **100 g** Stannous chloride M and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13239 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13240 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13241 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 08/02/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13232 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 103665-32 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13233 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 106958-39 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13234 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 139448-20 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-448-20 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13235 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 101593-51 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13236 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 119874R-57 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13237 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10,000 ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 120907-55 |
| Expiration Date (if any): | 01/2019 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13238 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | La 1000ug/mL |
| Date Received: | 07/31/2017 | Lot #: | 129369-6 |
| Expiration Date (if any): | 01/2019 | Catalog #: | S4400-1000271 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13226 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | SODIUM CHLORIDE |
| Date Received: | 07/21/2017 | Lot #: | 170229 |
| Expiration Date (if any): | | Catalog #: | S271-500 |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13219 | Standard: | CCV1 |
| Analyst: | [redacted] | Concentrations: | **5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**500 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13220 | Standard: | CCV2 |
| Analyst: | [redacted] | Concentrations: | **500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn<br>**50 µg/L** Ag, Be, Cd |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6500 |
| Standard Log #: | M13221 | Standard: | ICSAB |
| Analyst: | [redacted] | Concentrations: | **500,000 ug/L** Al, Ca, Fe, Mg<br>**500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn |
| Prep Date: | 07/05/2017 | Expiration Date: | 05/30/2017 |
| Prep: | Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13164, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and brought up to volume with milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13214 | Vendor: | SpexCertiPrep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Standard |
| Date Received: | 06/26/2017 | Lot #: | 43-194CR |
| Expiration Date (if any): | 06/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13215 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 06/27/2017 | Expiration Date: | 06/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.642 with 1 part $HNO_3$ AB.640 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13207 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3010 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 200 | M13172 | 10000 | 1.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard Log #: | M13208 | Instrument: | ICP |
| Analyst: | [redacted] | Standard: | LOQ 3050 S Spiking Solution |
| Prep Date: | 06/09/2017 | Expiration Date: | 04/30/2018 |

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q $H_2O$. (5% $HNO_3$)

| Analyte | Final MDL Conc. (ug/L) | Std. ID # | Std. Conc. (mg/L) | Volume (mL) pipetted |
|---|---|---|---|---|
| S | 240 | M13172 | 10000 | 1.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

| | | | |
|---|---|---|---|
| Standard ID#: | M13202 | Vendor: | Spex CertiPrep |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 22-46CEY |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | PLCE2-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13203 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cerium 1000 mg/L |
| Date Received: | 06/02/2017 | Lot #: | 16K087 |
| Expiration Date (if any): | 11/30/2018 | Catalog #: | S4400-1000101 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13204 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 06/05/2017 | Expiration Date: | 06/05/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.641 **and 128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13199 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana I soil |
| Date Received: | 05/15/2017 | Lot #: | 2710a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13200 | Vendor: | National Institute of Standards and Te |
| Analyst: | [redacted] | Chemical: | SRM Montana II soil |
| Date Received: | 05/15/2017 | Lot #: | 2711a |
| Expiration Date (if any): | | Catalog #: | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13198 | Reagent: | Potassium Permanganate Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 05/26/2017 | Expiration Date: | 11/26/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, dissolved 50 g potassium permanganate M13198 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13193 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICAL/CCV |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658424 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-SPK-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13194 | Vendor: | Inorganic Ventures |
| Analyst: | [redacted] | Chemical: | GFAA ICV/SPIKE Alt. Source |
| Date Received: | 05/25/2017 | Lot #: | M2-MEB658423 |
| Expiration Date (if any): | 05/25/2018 | Catalog #: | CTI-GFCAL-1 |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13195 | Standard: | Calibration Std. |
| Analyst: | [redacted] | Concentrations: | 25 ug/L (As, Pb, Sb, Se, Tl)<br>3.75 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13196 | Standard: | CCV Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.5 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13197 | Standard: | ICV/LCS Std. |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (As, Pb, Sb, Se, Tl)<br>1.0 ug/L (Ag) |
| Prep Date: | 05/25/2017 | Expiration Date: | 05/25/2018 |
| Prep: | Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI $H_2O$. ($1\%$ $HNO_3$) | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13188 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13189 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/23/2017 | Expiration Date: | 05/23/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13190 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Interference A |
| Date Received: | 05/23/2017 | Lot #: | 3-84MKBX |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | INT-A1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13191 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom assurance Standard-100 ug/n |
| Date Received: | 05/23/2017 | Lot #: | 43-009CR |
| Expiration Date (if any): | 05/30/2018 | Catalog #: | XCTWI-5-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13186 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | HYDROXYLAMINE SULFATE |
| Date Received: | 05/22/2017 | Lot #: | 166161 |
| Expiration Date (if any): | | Catalog #: | H331-500 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13187 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 05/22/2017 | Lot #: | 1705408 |
| Expiration Date (if any): | 11/16/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13173 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13174 | Reagent: | TCLP 1 N HCL |
| Analyst: | [redacted] | | |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 1 L volumetric flask, partially filled with milli-Q $H_2O$, added 83 mL HCL AB.637 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13175 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 05/03/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13171 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Custom Assurance Std. |
| Date Received: | 05/01/2017 | Lot #: | 42-155CR |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | XSPIKE-1-250 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13172 | Vendor: | [redacted] |
| Analyst: | [redacted] | Chemical: | Sulfur 10,000 mg/L |
| Date Received: | 05/01/2017 | Lot #: | AL16-158SY |
| Expiration Date (if any): | 04/30/2018 | Catalog #: | PLS9-3Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13163 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10,000 mg/L |
| Date Received: | 04/24/2017 | Lot #: | 1106963 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13164 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106960 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13165 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cr 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1106998 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M121 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13166 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Cu 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107000 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | s4400-10M141 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13167 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107001 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | S4400-10M321 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13168 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107003 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M681 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13169 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Pb 10,000 mg/L |
| Date Received: | 04/25/2017 | Lot #: | 1107081 |
| Expiration Date (if any): | 10/19/2018 | Catalog #: | 4400-10M281 |

| | | | |
|---|---|---|---|
| Standard Log #: | M13160 | Reagent: | 10N NaOH |
| Analyst: | [redacted] | | |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 1 L volumetric flask, added **400 g** NaOH W40688 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13161 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| Standard Log #: | M13162 | Reagent: | TCLP EXTRACTION FLUID #1 |
| Analyst: | [redacted] | pH: | 4.93 ± 0.05 |
| Prep Date: | 04/21/2017 | Expiration Date: | 04/21/2018 |
| Prep: | Into a 20 L carboy filled with 19 L of DI $H_2O$, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13148 | Standard: | NaK ICV |
| Analyst: | [redacted] | Concentrations: | 100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13035 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13149 | Standard: | NaK ICSAB |
| Analyst: | [redacted] | Concentrations: | 500 mg/L (Al, Ca, Fe, Mg)<br>100 mg/L (Na, K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **2.5 mL** of K (10,000 mg/L) M13035 , **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13150 | Standard: | Na,K ICVLL |
| Analyst: | [redacted] | Concentrations: | 3 mg/L (Na,K) |
| Prep Date: | 04/13/2017 | Expiration Date: | 05/03/2018 |
| Prep: | Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13135 and **0.15 mL** K (10,000 µg/mL) M13035 and brought to volume with Milli-Q $H_2O$. ($2\% HNO_3$) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13142 | Standard: | B&Si ICV |
| Analyst: | [redacted] | Concentrations: | 1000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13026 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13143 | Standard: | B&Si ICAL |
| Analyst: | [redacted] | Concentrations: | 50, 200, 1000, 2000 and 10,000 ug/L (B, Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 06/08/2018 |
| Prep: | Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13048 and Si (1000 mg/L) M13085 and brought up to volume using milli-Q $H_2O$.<br>*50 ug/L std.* - **0.05 mL** of each<br>*200 ug/L std.* - **0.2 mL** of each<br>*1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification<br>*2000 ug/L std.* - **2.0 mL** of each<br>*10,000 ug/L std.* -**10 mL** of each | | |

| | | | |
|---|---|---|---|
| | | Instrument: | ICP 6000 |
| Standard Log #: | M13144 | Standard: | B & Si ICSAB |
| Analyst: | [redacted] | Concentrations: | 500,000 µg/L (Al, Ca, Fe, Mg)<br>500 µg/L (B,Si) |
| Prep Date: | 04/11/2017 | Expiration Date: | 11/30/2017 |
| Prep: | Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **0.05 mL** of B (1000 µg/mL) M13048 , **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q $H_2O$. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | GFAA |
| Standard Log #: | M13140 | Standard: | LODW/LOQW Ag Spiking Sol'n |
| Analyst: | [redacted] | Concentrations: | 10 ug/L (Ag) |
| Prep Date: | 04/04/2017 | Expiration Date: | 07/02/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q $H_2O$ to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q $H_2O$.<br>(1% $HNO_3$)<br>*Pipette **1 mL** spiking solution into 50 mL $H_2O$ for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13134 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tin 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105287 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000613 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13135 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Sodium 10,000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105283 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | 4400-10M521 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13136 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/27/2017 | Expiration Date: | 03/27/2017 |
| Prep: | Carefully mixed 3 parts HCl AB.637 with 1 part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13129 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Strontium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105291 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000531 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13130 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Lithium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105286 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000291 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13131 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Tungsten 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105285 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000633 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13132 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cobalt 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105296 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000131 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13133 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Nickel 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1104980 |
| Expiration Date (if any): | 09/14/2018 | Catalog #: | S4400-1000361 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13124 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Thallium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105132 |
| Expiration Date (if any): | 09/16/2017 | Catalog #: | S4400-1000581 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13125 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Vanadium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105293 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-1000651 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13126 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Beryllium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105295 |
| Expiration Date (if any): | 09/18/2017 | Catalog #: | S4400-100051 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13127 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Cadmium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105288 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-100081 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13128 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | Titanium 1000 mg/L |
| Date Received: | 03/23/2017 | Lot #: | 1105290 |
| Expiration Date (if any): | 09/18/2018 | Catalog #: | S4400-1000623 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13109 | Standard: | Hg CCV |
| Analyst: | [redacted] | Concentration: | 3.0 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13110 | Standard: | Hg MRL |
| Analyst: | [redacted] | Concentration: | 0.2 ug/L Hg |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/18/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>(0.2% $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13111 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 03/03/2017 |
| Prep: | Carefully mixed **3** parts HCl AB.637 with **1** part $HNO_3$ AB.634 in a hood. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13112 | Reagent: | Stannous Chloride Solution |
| Analyst: | [redacted] | | |
| Prep Date: | 03/03/2017 | Expiration Date: | 09/03/2017 |
| Prep: | Into a 1 L volumetric flask, partially filled with 400 mL milli-Q $H_2O$, added **70 mL** hydrochloric acid AB.637 and dissolved **100 g** Stannous chloride M12998 and brought up to volume. | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13106 | Standard: | Hg ICAL |
| Analyst: | [redacted] | Concentrations: | 10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 07/22/2018 |
| Prep: | Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q $H_2O$. ($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104<br>*100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*)<br>*0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*)<br>*1 ug/L Std.* - **1 mL** Hg (*100 ug/L*)<br>*2 ug/L Std.* - **2 mL** Hg (*100 ug/L*)<br>*4 ug/L Std.* - **4 mL** Hg (*100 ug/L*)<br>*5 ug/L Std.* - **5 mL** Hg (*100 ug/L*)<br>*10 ug/L Std.* - **10 mL** Hg *(100 ug/L)* | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13107 | Standard: | Alt. Source Working Std. |
| Analyst: | [redacted] | Concentrations: | 10,000 and 100 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/2/2018 |
| Prep: | Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl)<br>*10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103<br>*100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*) | | |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13108 | Standard: | Hg ICV/LCS |
| Analyst: | [redacted] | Concentration: | 3 ug/L |
| Prep Date: | 03/03/2017 | Expiration Date: | 02/28/2018 |
| Prep: | Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q $H_2O$.<br>($0.2\%$ $HNO_3$, 0.2% HCl) | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13103 | Vendor: | Spex Certiprep |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 02/28/2017 | Lot #: | CL-144HGY |
| Expiration Date (if any): | 02/28/2018 | Catalog #: | CLHG4-2Y |

| | | | |
|---|---|---|---|
| Standard ID#: | M13104 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Hg 1000 ug/mL |
| Date Received: | 03/02/2017 | Lot #: | 17A006 |
| Expiration Date (if any): | 07/22/2018 | Catalog #: | S4400-1000331 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13105 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10,000 ug/mL |
| Date Received: | 03-02-2017 | Lot #: | 16I092 |
| Expiration Date (if any): | 07/24/2017 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13082 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Selenium |
| Date Received: | 02/08/2017 | Lot #: | 16I070 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000491 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13083 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silver |
| Date Received: | 02/08/2017 | Lot #: | 16K036 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000511 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13084 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Antimony |
| Date Received: | 02/08/2017 | Lot #: | 16I118 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-100023 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13085 | Vendor: | CPI International |
| Analyst: | [redacted] | Chemical: | 1000 µg/mL Silicon |
| Date Received: | 02/08/2017 | Lot #: | 16I001 |
| Expiration Date (if any): | 07/02/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13080 | Vendor: | FISHER |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERMANGANATE |
| Date Received: | 01/30/2017 | Lot #: | 164080 |
| Expiration Date (if any): | | Catalog #: | P279-212 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13059 | Vendor: | ACROS ORGANICS |
| Analyst: | [redacted] | Chemical: | POTASSIUM PERSULFATE |
| Date Received: | 12/19/2016 | Lot #: | A0375670 |
| Expiration Date (if any): | | Catalog #: | 424185000 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13047 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Si 1000 |
| Date Received: | 12/15/2016 | Lot #: | 16I001 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-1000504F |

| | | | |
|---|---|---|---|
| Standard ID#: | M13048 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | B 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16H060 |
| Expiration Date (if any): | 06/08/2018 | Catalog #: | S4400-100074 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13049 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mo 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16I124 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | S4400-1000343 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13050 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Na 1000 mg/L |
| Date Received: | 12/15/2016 | Lot #: | 16K094 |
| Expiration Date (if any): | 06/08/2016 | Catalog #: | 4400-1000521 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13036 | Vendor: | Alfa Aesar Specpure |
| Analyst: | [redacted] | Chemical: | Nickel Nitrate Matrix Modifier |
| Date Received: | 11/10/2016 | Lot #: | 138905AH |
| Expiration Date (if any): | 05/31/2018 | Catalog #: | 39043 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13031 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13032 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13033 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13034 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16F134 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13035 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 11/09/2018 | Lot #: | 16I165 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10m411 |

| | | | |
|---|---|---|---|
| | | Instrument: | CETAC |
| Standard Log #: | M13027 | Reagent: | Hg Aqua Regia |
| Analyst: | [redacted] | | |
| Prep Date: | 11/09/2016 | Expiration Date: | 11/09/2016 |
| Prep: | Carefully mixed 3 parts HCl AB.631 with 1 part $HNO_3$ AB.628 in a hood. | | |

| | | | |
|---|---|---|---|
| Standard ID#: | M13028 | Vendor: | Environmental Express |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 1623223 |
| Expiration Date (if any): | 05/04/2018 | Catalog #: | HP10M67-1 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13029 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Barium 1000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16H058 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | S4400-100041 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13030 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Yttrium 10000 mg/L |
| Date Received: | 11/09/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 05/03/2018 | Catalog #: | 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M13024 | Vendor: | METTLER TOLEDO |
| Analyst: | [redacted] | Chemical: | FRISCOLYT |
| Date Received: | 11/01/2016 | Lot #: | 1B167D |
| Expiration Date (if any): | | Catalog #: | 51340053 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12992 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Fe 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I080 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M261 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12993 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Al 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16B102 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M11 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12994 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Y 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I092 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M671 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12988 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | K 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I165 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12989 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Zn |
| Date Received: | 10/13/2016 | Lot #: | 16H186 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M411 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12990 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Mg 10000 mg/L |
| Date Received: | 1013/2016 | Lot #: | 16I168 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10311 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12991 | Vendor: | CPI |
| Analyst: | [redacted] | Chemical: | Ca 10000 mg/L |
| Date Received: | 10/13/2016 | Lot #: | 16I091 |
| Expiration Date (if any): | 04/07/2018 | Catalog #: | P/N 4400-10M91 |

| | | | |
|---|---|---|---|
| Standard ID#: | M12900 | Vendor: | HACH |
| Analyst: | [redacted] | Chemical: | StablCal Standard, 200 NTU or FNU |
| Date Received: | 06/17/2016 | Lot #: | A6036 |
| Expiration Date (if any): | 02/2018 | Catalog #: | 2660449 |

# INORGANIC
# CLP FORMS
# DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU10R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259471 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU10R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259493 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259495 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 259460 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259433 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 259435 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU19**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259437 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU21**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259478 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU23**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259499 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU29**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.4 | Lab Sample ID: | 259501 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259469 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU36R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259463 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU36R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 259465 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU36R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259467 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU39**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259497 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1A-SU52**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.0 | Lab Sample ID: | 259503 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU10R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259472 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU10R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259494 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU10R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259496 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259462 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 259434 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 259436 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU19**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259459 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU21**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259479 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU23**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 259500 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU29**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259502 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU34**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259470 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU36R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259464 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU36R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259466 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU36R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259468 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 159772 | Analysis Date/Time | 04/24/2019 13:47 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU39**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259498 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU1B-SU52**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.0 | Lab Sample ID: | 259504 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.4 | Lab Sample ID: | 259484 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 259505 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 259475 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259473 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU11**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260464 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 260462 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.4 | Lab Sample ID: | 260460 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.0 | Lab Sample ID: | 260386 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259482 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU16**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 259480 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2A-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259487 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 259485 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 259506 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU08**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259477 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU09**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 259474 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU11**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.9 | Lab Sample ID: | 260465 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU12**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.8 | Lab Sample ID: | 260463 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU13**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.7 | Lab Sample ID: | 260461 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.7 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU14**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260459 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160064 | Analysis Date/Time | 04/29/2019 14:40 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU15**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 259483 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

**DU2B-SU16**

***INORGANIC ANALYSIS DATA SHEET***

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 259481 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU2B-SU17**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 259492 |
| Analytical Method: | EPA 8000C | Date Received: | 04/02/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160063 | Analysis Date/Time | 04/29/2019 14:20 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 97.8 | Lab Sample ID: | 260930 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 97.2 | Lab Sample ID: | 260928 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 97.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 96.9 | Lab Sample ID: | 260926 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 96.9 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.3 | Lab Sample ID: | 260924 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 260474 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260466 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260468 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.1 | Lab Sample ID: | 260470 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.1 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4A-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 260472 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU01**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.6 | Lab Sample ID: | 260931 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.6 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU02**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.5 | Lab Sample ID: | 260929 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU03**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 98.0 | Lab Sample ID: | 260927 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 98.0 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU04**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 96.8 | Lab Sample ID: | 260925 |
| Analytical Method: | EPA 8000C | Date Received: | 04/04/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 96.8 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU05**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.3 | Lab Sample ID: | 260475 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.3 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU06**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 260467 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU07R1**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.5 | Lab Sample ID: | 260469 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.5 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU07R2**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.4 | Lab Sample ID: | 260471 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.4 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

1

***INORGANIC ANALYSIS DATA SHEET***

Sample Description

**DU4B-SU07R3**

| | | | |
|---|---|---|---|
| Lab Name: | CT Laboratories | Contract: | ERT-CURTIS BAY ORDNANCE DEPOT |
| Matrix (soil/water): | SOIL | SDG No.: | 143965 |
| % Solids: | 99.2 | Lab Sample ID: | 260473 |
| Analytical Method: | EPA 8000C | Date Received: | 04/03/2019 |
| Dilution Factor: | 1.00 | TCLP/SPLP Extraction Date/time: | |
| Analytical Run #: | 160065 | Analysis Date/Time | 04/29/2019 15:00 |
| Analytical Prep Batch #: | | Prep. Date/Time: | |
| ICAL Calibration #: | | Concentration Units: | % |

| CAS # | Analyte | Concentration | Qualifiers | DL | LOD | LOQ | RL |
|---|---|---|---|---|---|---|---|
| SOLID | Solids, Percent | 99.2 | | 0.1 | 0.1 | 0.1 | 0.1 |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU13**

Lab Name: CT Laboratories

Contract: ERT-CURTIS BAY ORDNANCE DEPOT

Matrix: SOLID

SDG No.: 143965

% Solid for Sample: 99.1

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 159772

ICAL Calibration #:

Sample #: 270929

Parent Sample #: 259433

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/24/2019 | 13:47 | 8 | 99.1 | | 99.1 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU34**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.9
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 160063
ICAL Calibration #:
Sample #: 273365
Parent Sample #: 259469

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/29/2019 | 14:20 | 8 | 98.9 | | 99.2 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU1A-SU10R3**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.8
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 160064
ICAL Calibration #:
Sample #: 273366
Parent Sample #: 259495

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/29/2019 | 14:40 | 8 | 98.8 | | 98.9 | | 0 | | GRA |

CT LABORATORIES
delivering more than data from your environmental analyses

6

***DUPLICATES***

Sample Description

**DU4A-SU04**

Lab Name: CT Laboratories
Contract: ERT-CURTIS BAY ORDNANCE DEPOT
Matrix: SOLID
SDG No.: 143965
% Solid for Sample: 98.3
Concentration Units: %
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 160065
ICAL Calibration #:
Sample #: 273367
Parent Sample #: 260924

Analysis Type *Initial Analysis*

| Analyte | Analysis Date/Tim | | RPD Limit | Original Parent Conc. (S) | C | Duplicate Conc. (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | 04/29/2019 | 15:00 | 8 | 98.3 | | 98.4 | | 0 | | GRA |

# INORGANICS
# RAW DATA
# DOCUMENTS

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19.2

**Sample #:** 259433

Analyst: [redacted]

Date: 04/04/2019

Time: 12:45

Initial Sample Wet Weight (g): 2573.7

Observations:

Dense brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 13:15

Weight Retained on #10 Sieve (g): 85.8
% Retained on #10 Sieve: 3.3
% Passing #10 Sieve: 96.7

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19.2

**Sample #:** 259434

Analyst: [redacted]

Date: 04/04/2019

Time: 13:55

Initial Sample Wet Weight (g): 2217

Observations:

Gray, orange, and brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 13:05

Weight Retained on #10 Sieve (g): 52.9
% Retained on #10 Sieve: 2.4
% Passing #10 Sieve: 97.6

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 10:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19

**Sample #:** 259435

Analyst: [redacted]

Date: 04/04/2019

Time: 13:40

Initial Sample Wet Weight (g): 1984.1

Observations:

Brown and orange clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/11/2019

Time: 13:30

Weight Retained on #10 Sieve (g): 193.2
% Retained on #10 Sieve: 9.7
% Passing #10 Sieve: 90.3

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19.1

**Sample #:** 259436

Analyst: [redacted]

Date: 04/04/2019

Time: 13:45

Initial Sample Wet Weight (g): 2121.9

Observations:

Brown and orange clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 13:45

Weight Retained on #10 Sieve (g): 191
% Retained on #10 Sieve: 9.0
% Passing #10 Sieve: 91.0

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259437

Analyst: [redacted]

Date: 04/04/2019

Time: 13:50

Initial Sample Wet Weight (g): 2673.9

Observations:

Light and dark brown clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 7.2
% Retained on #10 Sieve: 0.3
% Passing #10 Sieve: 99.7

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:47

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19

**Sample #:** 259459

Analyst: [redacted]

Date: 04/04/2019

Time: 14:15

Initial Sample Wet Weight (g): 3185.5

Observations:

Brown and yellow clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 14:40

Weight Retained on #10 Sieve (g): 65.5
% Retained on #10 Sieve: 2.1
% Passing #10 Sieve: 97.9

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 11:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19

**Sample #:** 259460

Analyst: [redacted]

Date: 04/04/2019

Time: 14:30

Initial Sample Wet Weight (g): 2548.3

Observations:

Dark brown and orange clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 14:45

Weight Retained on #10 Sieve (g): 215.5
% Retained on #10 Sieve: 8.5
% Passing #10 Sieve: 91.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 12:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259462

Analyst: [redacted]

Date: 04/04/2019

Time: 14:40

Initial Sample Wet Weight (g): 2912.6

Observations:

Dark brown and orange clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 14:50

Weight Retained on #10 Sieve (g): 390.7
% Retained on #10 Sieve: 13.4
% Passing #10 Sieve: 86.6

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 12:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259463

Analyst: [redacted]

Date: 04/04/2019

Time: 15:05

Initial Sample Wet Weight (g): 3093.5

Observations:

Brown and orange clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 15:45

Weight Retained on #10 Sieve (g): 54.7
% Retained on #10 Sieve: 1.8
% Passing #10 Sieve: 98.2

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 12:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259464

Analyst: [redacted]

Date: 04/04/2019

Time: 14:48

Initial Sample Wet Weight (g): 3460.1

Observations:

Light brown and yellow clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.9

Date: 04/11/2019

Time: 14:55

Weight Retained on #10 Sieve (g): 42.6
% Retained on #10 Sieve: 1.2
% Passing #10 Sieve: 98.8

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 12:14

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259465

Analyst: [redacted]

Date: 04/04/2019

Time: 15:35

Initial Sample Wet Weight (g): 2713.8

Observations:

Brown and orange clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 04/11/2019

Time: 15:55

Weight Retained on #10 Sieve (g): 48.2
% Retained on #10 Sieve: 1.8
% Passing #10 Sieve: 98.2

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 12:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259466

Analyst: [redacted]

Date: 04/04/2019

Time: 15:20

Initial Sample Wet Weight (g): 2688.6

Observations:

Brown and orange clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.7

Date: 04/11/2019

Time: 15:50

Weight Retained on #10 Sieve (g): 42
% Retained on #10 Sieve: 1.6
% Passing #10 Sieve: 98.4

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/13/2019

Time: 12:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19

**Sample #:** 259467

Analyst: [redacted]

Date: 04/11/2019

Time: 16:44

Initial Sample Wet Weight (g): 2120

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 17.2

Date: 04/15/2019

Time: 8:10

Weight Retained on #10 Sieve (g): 42.1
% Retained on #10 Sieve: 2.0
% Passing #10 Sieve: 98.0

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:04

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354 Ambient Temp (˚C): 19

**Sample #:** 259468

Analyst: [redacted]

Date: 04/11/2019

Time: 16:51

Initial Sample Wet Weight (g): 2665.4

Observations:

Dry brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.3

Date: 04/15/2019

Time: 8:40

Weight Retained on #10 Sieve (g): 98.8
% Retained on #10 Sieve: 3.7
% Passing #10 Sieve: 96.3

Observations:

Small clumps of clay that could not be disaggregated.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:16

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259469

Analyst: [redacted]

Date: 04/11/2019

Time: 16:57

Initial Sample Wet Weight (g): 2791.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 18.4

Date: 04/15/2019

Time: 9:25

Weight Retained on #10 Sieve (g): 480.2
% Retained on #10 Sieve: 17.2
% Passing #10 Sieve: 82.8

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259470

Analyst: [redacted]

Date: 04/11/2019

Time: 17:02

Initial Sample Wet Weight (g): 2561.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.4

Date: 04/15/2019

Time: 10:25

Weight Retained on #10 Sieve (g): 129.8
% Retained on #10 Sieve: 5.1
% Passing #10 Sieve: 94.9

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259471

Analyst: [redacted]

Date: 04/11/2019

Time: 17:06

Initial Sample Wet Weight (g): 3174.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/15/2019

Time: 10:10

Weight Retained on #10 Sieve (g): 60.4
% Retained on #10 Sieve: 1.9
% Passing #10 Sieve: 98.1

Observations:

Small rocks and roots.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:22

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259472

Analyst: [redacted]

Date: 04/11/2019

Time: 17:10

Initial Sample Wet Weight (g): 2921.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.5

Date: 04/15/2019

Time: 10:29

Weight Retained on #10 Sieve (g): 150.8
% Retained on #10 Sieve: 5.2
% Passing #10 Sieve: 94.8

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259473

Analyst: [redacted]

Date: 04/11/2019

Time: 17:15

Initial Sample Wet Weight (g): 3520.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.8

Date: 04/15/2019

Time: 10:55

Weight Retained on #10 Sieve (g): 287.4
% Retained on #10 Sieve: 8.2
% Passing #10 Sieve: 91.8

Observations:

Slag, coal, small rocks.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160354

Ambient Temp (˚C): 19

**Sample #:** 259474

Analyst: [redacted]

Date: 04/11/2019

Time: 17:18

Initial Sample Wet Weight (g): 3440.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.6

Date: 04/15/2019

Time: 11:10

Weight Retained on #10 Sieve (g): 704.2
% Retained on #10 Sieve: 20.5
% Passing #10 Sieve: 79.5

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19

**Sample #:** 259475

Analyst: [redacted]

Date: 04/11/2019

Time: 17:22

Initial Sample Wet Weight (g): 3620.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.1

Date: 04/15/2019

Time: 12:35

Weight Retained on #10 Sieve (g): 353.3
% Retained on #10 Sieve: 9.8
% Passing #10 Sieve: 90.2

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:40

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19

**Sample #:** 259477

Analyst: [redacted]

Date: 04/11/2019

Time: 17:26

Initial Sample Wet Weight (g): 3405

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.8

Date: 04/15/2019

Time: 13:00

Weight Retained on #10 Sieve (g): 192.7
% Retained on #10 Sieve: 5.7
% Passing #10 Sieve: 94.3

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:53

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19

**Sample #:** 259478

Analyst: [redacted]

Date: 04/11/2019

Time: 17:31

Initial Sample Wet Weight (g): 3410.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.2

Date: 04/15/2019

Time: 13:30

Weight Retained on #10 Sieve (g): 342
% Retained on #10 Sieve: 10.0
% Passing #10 Sieve: 90.0

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:46

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19

**Sample #:** 259479

Analyst: [redacted]

Date: 04/11/2019

Time: 17:35

Initial Sample Wet Weight (g): 3181.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.5

Date: 04/15/2019

Time: 13:20

Weight Retained on #10 Sieve (g): 154.7
% Retained on #10 Sieve: 4.9
% Passing #10 Sieve: 95.1

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:53

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19

**Sample #:** 259480

Analyst: [redacted]

Date: 04/11/2019

Time: 17:39

Initial Sample Wet Weight (g): 4040.3

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.5

Date: 04/15/2019

Time: 15:00

Weight Retained on #10 Sieve (g): 185.1
% Retained on #10 Sieve: 4.6
% Passing #10 Sieve: 95.4

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 13:59

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 19

**Sample #:** 259481

Analyst: [redacted]

Date: 04/11/2019

Time: 17:44

Initial Sample Wet Weight (g): 4092.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.1

Date: 04/15/2019

Time: 16:00

Weight Retained on #10 Sieve (g): 148.8
% Retained on #10 Sieve: 3.6
% Passing #10 Sieve: 96.4

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 14:02

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 18.3

**Sample #:** 259482

Analyst: [redacted]

Date: 04/12/2019

Time: 10:35

Initial Sample Wet Weight (g): 2875.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.5

Date: 04/15/2019

Time: 13:30

Weight Retained on #10 Sieve (g): 531.4
% Retained on #10 Sieve: 18.5
% Passing #10 Sieve: 81.5

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 14:12

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 18.3

**Sample #:** 259483

Analyst: [redacted]

Date: 04/12/2019

Time: 10:38

Initial Sample Wet Weight (g): 2922.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/15/2019

Time: 14:30

Weight Retained on #10 Sieve (g): 196.4
% Retained on #10 Sieve: 6.7
% Passing #10 Sieve: 93.3

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 14:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 18.5

**Sample #:** 259484

Analyst: [redacted]

Date: 04/12/2019

Time: 10:42

Initial Sample Wet Weight (g): 1911.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/15/2019

Time: 16:00

Weight Retained on #10 Sieve (g): 56.8
% Retained on #10 Sieve: 3.0
% Passing #10 Sieve: 97.0

Observations:

Rocks and sticks.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 15:23

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 18.6

**Sample #:** 259485

Analyst: [redacted]

Date: 04/12/2019

Time: 10:45

Initial Sample Wet Weight (g): 2221.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/15/2019

Time: 15:20

Weight Retained on #10 Sieve (g): 67.9
% Retained on #10 Sieve: 3.1
% Passing #10 Sieve: 96.9

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 19.5

**Sample #:** 259487

Analyst: [redacted]

Date: 04/12/2019

Time: 10:50

Initial Sample Wet Weight (g): 2863.7

Observations:

Dark brown soil.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.2

Date: 04/16/2019

Time: 9:20

Weight Retained on #10 Sieve (g): 131.8
% Retained on #10 Sieve: 4.6
% Passing #10 Sieve: 95.4

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:17

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 18.4

**Sample #:** 259492

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3712.2

Observations:

Brown/orange clay and sand.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.3

Date: 04/16/2019

Time: 9:30

Weight Retained on #10 Sieve (g): 288.7
% Retained on #10 Sieve: 7.8
% Passing #10 Sieve: 92.2

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:22

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 18.3

**Sample #:** 259493

Analyst: [redacted]

Date: 04/12/2019

Time: 11:12

Initial Sample Wet Weight (g): 2408.1

Observations:

Brown clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 9:40

Weight Retained on #10 Sieve (g): 25.5
% Retained on #10 Sieve: 1.1
% Passing #10 Sieve: 98.9

Observations:

Gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 18.4

**Sample #:** 259494

Analyst: [redacted]

Date: 04/12/2019

Time: 11:20

Initial Sample Wet Weight (g): 2010.9

Observations:

Sticky brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 9:50

Weight Retained on #10 Sieve (g): 70.8
% Retained on #10 Sieve: 3.5
% Passing #10 Sieve: 96.5

Observations:

Gravel, sticks, and roots.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:28

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19.2

**Sample #:** 259495

Analyst: [redacted]

Date: 04/12/2019

Time: 12:25

Initial Sample Wet Weight (g): 2364.7

Observations:

Sticky brown clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 04/16/2019

Time: 9:58

Weight Retained on #10 Sieve (g): 34.1
% Retained on #10 Sieve: 1.4
% Passing #10 Sieve: 98.6

Observations:

Small rocks and sticks.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:33

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19.4

**Sample #:** 259496

Analyst: [redacted]

Date: 04/12/2019

Time: 13:35

Initial Sample Wet Weight (g): 2281.9

Observations:

Sticky brown clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.6

Date: 04/16/2019

Time: 10:10

Weight Retained on #10 Sieve (g): 209.1
% Retained on #10 Sieve: 9.2
% Passing #10 Sieve: 90.8

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:38

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19.3

**Sample #:** 259497

Analyst: [redacted]

Date: 04/12/2019

Time: 12:25

Initial Sample Wet Weight (g): 2421.8

Observations:

Sticky clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 10:25

Weight Retained on #10 Sieve (g): 68.6
% Retained on #10 Sieve: 2.8
% Passing #10 Sieve: 97.2

Observations:

Gravel, grass, and sticks.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:42

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 19.3

**Sample #:** 259498

Analyst: [redacted]

Date: 04/12/2019

Time: 12:45

Initial Sample Wet Weight (g): 2406.9

Observations:

Sticky brown and orange clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 203.7
% Retained on #10 Sieve: 8.5
% Passing #10 Sieve: 91.5

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:46

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355 Ambient Temp (˚C): 19.3

**Sample #:** 259499

Analyst: [redacted]

Date: 04/12/2019

Time: 12:50

Initial Sample Wet Weight (g): 2389

Observations:

Sticky brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.8

Date: 04/16/2019

Time: 10:45

Weight Retained on #10 Sieve (g): 79.2
% Retained on #10 Sieve: 3.3
% Passing #10 Sieve: 96.7

Observations:

Small rocks, grass, and sticks.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160355

Ambient Temp (˚C): 19.3

**Sample #:** 259500

Analyst: [redacted]

Date: 04/12/2019

Time: 12:54

Initial Sample Wet Weight (g): 2759.8

Observations:

Sticky brown clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 10:55

Weight Retained on #10 Sieve (g): 113.7
% Retained on #10 Sieve: 4.1
% Passing #10 Sieve: 95.9

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 12:56

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160356

Ambient Temp (˚C): 19.3

**Sample #:** 259501

Analyst: [redacted]

Date: 04/12/2019

Time: 12:58

Initial Sample Wet Weight (g): 3510.7

Observations:

Brown clay.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 11:15

Weight Retained on #10 Sieve (g): 40.3
% Retained on #10 Sieve: 1.1
% Passing #10 Sieve: 98.9

Observations:

Gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:01

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160356 Ambient Temp (˚C): 19.3

**Sample #:** 259502

Analyst: [redacted]

Date: 04/12/2019

Time: 13:04

Initial Sample Wet Weight (g): 3893.3

Observations:

Brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20

Date: 04/16/2019

Time: 11:45

Weight Retained on #10 Sieve (g): 30.8
% Retained on #10 Sieve: 0.8
% Passing #10 Sieve: 99.2

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:05

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160356 Ambient Temp (˚C): 19.3

**Sample #:** 259503

Analyst: [redacted]

Date: 04/12/2019

Time: 13:09

Initial Sample Wet Weight (g): 2561.8

Observations:

Sticky brown clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20

Date: 04/16/2019

Time: 11:30

Weight Retained on #10 Sieve (g): 44
% Retained on #10 Sieve: 1.7
% Passing #10 Sieve: 98.3

Observations:

Asphalt, gravel, straw.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:12

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160356 Ambient Temp (˚C): 19.3

**Sample #:** 259504

Analyst: [redacted]

Date: 04/12/2019

Time: 13:55

Initial Sample Wet Weight (g): 3104.7

Observations:

Brown/orange clay.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.6

Date: 04/16/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 11.7
% Retained on #10 Sieve: 0.4
% Passing #10 Sieve: 99.6

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160356 Ambient Temp (˚C): 19.3

**Sample #:** 259505

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 2725.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.5

Date: 04/16/2019

Time: 14:15

Weight Retained on #10 Sieve (g): 114.1
% Retained on #10 Sieve: 4.2
% Passing #10 Sieve: 95.8

Observations:

Gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160356 Ambient Temp (˚C): 19.3

**Sample #:** 259506

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 2698

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.5

Date: 04/16/2019

Time: 14:10

Weight Retained on #10 Sieve (g): 152.7
% Retained on #10 Sieve: 5.7
% Passing #10 Sieve: 94.3

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:25

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): 19.3

**Sample #:** 260386

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3002.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20.6

Date: 04/16/2019

Time: 14:10

Weight Retained on #10 Sieve (g): 184.4
% Retained on #10 Sieve: 6.1
% Passing #10 Sieve: 93.9

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/22/2019

Time: 13:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.4

**Sample #:** 260459

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3256.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.5

Date: 04/16/2019

Time: 16:10

Weight Retained on #10 Sieve (g): 237.5
% Retained on #10 Sieve: 7.3
% Passing #10 Sieve: 92.7

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 11:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.5

**Sample #:** 260460

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3017.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.5

Date: 04/16/2019

Time: 14:30

Weight Retained on #10 Sieve (g): 206.4
% Retained on #10 Sieve: 6.8
% Passing #10 Sieve: 93.2

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 11:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.1

**Sample #:** 260461

Analyst: [redacted]

Date: 04/12/2019

Time: 14:15

Initial Sample Wet Weight (g): 4243.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.4

Date: 04/16/2019

Time: 15:20

Weight Retained on #10 Sieve (g): 112
% Retained on #10 Sieve: 2.6
% Passing #10 Sieve: 97.4

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 11:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.6

**Sample #:** 260462

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3918.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20

Date: 04/17/2019

Time: 9:00

Weight Retained on #10 Sieve (g): 1139.4
% Retained on #10 Sieve: 29.1
% Passing #10 Sieve: 70.9

Observations:

Gravel, cinders, quartz.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 11:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): 19.8

**Sample #:** 260463

Analyst: [redacted]

Date: 04/12/2019

Time: 14:25

Initial Sample Wet Weight (g): 4326.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 20

Date: 04/17/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 262.1
% Retained on #10 Sieve: 6.1
% Passing #10 Sieve: 93.9

Observations:

Gravel, cinders.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 11:03

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.6

**Sample #:** 260464

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3190.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21.1

Date: 04/17/2019

Time: 10:45

Weight Retained on #10 Sieve (g): 478.2
% Retained on #10 Sieve: 15.0
% Passing #10 Sieve: 85.0

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 10:57

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.6

**Sample #:** 260465

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 3977.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21

Date: 04/17/2019

Time: 11:00

Weight Retained on #10 Sieve (g): 692
% Retained on #10 Sieve: 17.4
% Passing #10 Sieve: 82.6

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 10:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.8

**Sample #:** 260466

Analyst: [redacted]

Date: 04/12/2019

Time: 15:30

Initial Sample Wet Weight (g): 3250.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 21

Date: 04/17/2019

Time: 11:20

Weight Retained on #10 Sieve (g): 26.9
% Retained on #10 Sieve: 0.8
% Passing #10 Sieve: 99.2

Observations:

Gravel, twigs, and grass.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 10:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.8

**Sample #:** 260467

Analyst: [redacted]

Date: 04/12/2019

Time: 14:33

Initial Sample Wet Weight (g): 3773.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/17/2019

Time: 13:00

Weight Retained on #10 Sieve (g): 38.7
% Retained on #10 Sieve: 1.0
% Passing #10 Sieve: 99.0

Observations:

Rocks and sticks.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 10:37

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): 19.7

**Sample #:** 260468

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 2589.9

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/17/2019

Time: 13:30

Weight Retained on #10 Sieve (g): 38.2
% Retained on #10 Sieve: 1.5
% Passing #10 Sieve: 98.5

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 10:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): 19.8

**Sample #:** 260469

Analyst: [redacted]

Date: 04/12/2019

Time: 14:40

Initial Sample Wet Weight (g): 2949.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/17/2019

Time: 13:40

Weight Retained on #10 Sieve (g): 110
% Retained on #10 Sieve: 3.7
% Passing #10 Sieve: 96.3

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 10:30

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): 19.7

**Sample #:** 260470

Analyst: [redacted]

Date: 04/12/2019

Time: 11:05

Initial Sample Wet Weight (g): 2359

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19

Date: 04/17/2019

Time: 13:50

Weight Retained on #10 Sieve (g): 23.1
% Retained on #10 Sieve: 1.0
% Passing #10 Sieve: 99.0

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 9:20

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C): 19.8

**Sample #:** 260471

Analyst: [redacted]

Date: 04/12/2019

Time: 14:40

Initial Sample Wet Weight (g): 2549.8

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19

Date: 04/17/2019

Time: 14:00

Weight Retained on #10 Sieve (g): 65.2
% Retained on #10 Sieve: 2.6
% Passing #10 Sieve: 97.4

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 9:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C):

**Sample #:** 260472

Analyst:

Date:

Time:

Initial Sample Wet Weight (g):

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/18/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 3.7
% Retained on #10 Sieve: #DIV/0!
% Passing #10 Sieve: #DIV/0!

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 7:55

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): _____

**Sample #:** 260473

Analyst: _____

Date: _____

Time: _____

Initial Sample Wet Weight (g): _____

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.1

Date: 04/18/2019

Time: 10:45

Weight Retained on #10 Sieve (g): 1.8
% Retained on #10 Sieve: #DIV/0!
% Passing #10 Sieve: #DIV/0!

Observations:

No observations made.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 7:50

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399

Ambient Temp (˚C):

**Sample #:** 260474

Analyst:

Date:

Time:

Initial Sample Wet Weight (g):

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/18/2019

Time: 10:55

Weight Retained on #10 Sieve (g): 37.3
% Retained on #10 Sieve: #DIV/0!
% Passing #10 Sieve: #DIV/0!

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/18/2019

Time: 14:15

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160399 Ambient Temp (˚C): _____

**Sample #:** 260475

Analyst: _____

Date: _____

Time: _____

Initial Sample Wet Weight (g): _____

Observations:

No observations made.

## Sieving:

Analyst: [redacted] Ambient Temp (˚C): 19.1

Date: 04/18/2019

Time: 11:10

Weight Retained on #10 Sieve (g): 68.7
% Retained on #10 Sieve: #DIV/0!
% Passing #10 Sieve: #DIV/0!

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/18/2019

Time: 14:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/23/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.2

**Sample #:** 260924

Analyst: [redacted]

Date: 04/16/2019

Time: 12:00

Initial Sample Wet Weight (g): 3281.5

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/17/2019

Time: 14:15

Weight Retained on #10 Sieve (g): 59.2
% Retained on #10 Sieve: 1.8
% Passing #10 Sieve: 98.2

Observations:

Gravel and sticks.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 9:00

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.8

**Sample #:** 260925

Analyst: [redacted]

Date: 04/16/2019

Time: 12:05

Initial Sample Wet Weight (g): 3744.2

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/17/2019

Time: 14:15

Weight Retained on #10 Sieve (g): 63.3
% Retained on #10 Sieve: 1.7
% Passing #10 Sieve: 98.3

Observations:

Gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:57

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.5

**Sample #:** 260926

Analyst: [redacted]

Date: 04/16/2019

Time: 12:08

Initial Sample Wet Weight (g): 2820.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.2

Date: 04/17/2019

Time: 14:20

Weight Retained on #10 Sieve (g): 83
% Retained on #10 Sieve: 2.9
% Passing #10 Sieve: 97.1

Observations:

Gravel and grass.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:45

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.5

**Sample #:** 260927

Analyst: [redacted]

Date: 04/16/2019

Time: 12:11

Initial Sample Wet Weight (g): 2854.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/17/2019

Time: 14:30

Weight Retained on #10 Sieve (g): 91.3
% Retained on #10 Sieve: 3.2
% Passing #10 Sieve: 96.8

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:35

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.5

**Sample #:** 260928

Analyst: [redacted]

Date: 04/16/2019

Time: 12:16

Initial Sample Wet Weight (g): 3218.1

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.8

Date: 04/17/2019

Time: 15:00

Weight Retained on #10 Sieve (g): 51.6
% Retained on #10 Sieve: 1.6
% Passing #10 Sieve: 98.4

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:14

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.5

**Sample #:** 260929

Analyst: [redacted]

Date: 04/16/2019

Time: 12:15

Initial Sample Wet Weight (g): 3814.6

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 20.1

Date: 04/17/2019

Time: 16:00

Weight Retained on #10 Sieve (g): 69.3
% Retained on #10 Sieve: 1.8
% Passing #10 Sieve: 98.2

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:12

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.5

**Sample #:** 260930

Analyst: [redacted]

Date: 04/16/2019

Time: 12:20

Initial Sample Wet Weight (g): 3752.7

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/18/2019

Time: 9:45

Weight Retained on #10 Sieve (g): 55.3
% Retained on #10 Sieve: 1.5
% Passing #10 Sieve: 98.5

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:10

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# SOIL HOMOGENIZATION - Multi-Incremental

Run #: 160404

Ambient Temp (˚C): 20.5

**Sample #:** 260931

Analyst: [redacted]

Date: 04/16/2019

Time: 12:30

Initial Sample Wet Weight (g): 4105.4

Observations:

No observations made.

## Sieving:

Analyst: [redacted]

Ambient Temp (˚C): 19.1

Date: 04/18/2019

Time: 10:30

Weight Retained on #10 Sieve (g): 89.8
% Retained on #10 Sieve: 2.2
% Passing #10 Sieve: 97.8

Observations:

Rocks/gravel.

## Milling:

Analyst: [redacted]

Date: 04/19/2019

Time: 8:03

# of Grinds: 1
# of Bowls Used: 1

Reviewed By/Date: [redacted] 04/22/2019

# TOTAL SOLIDS (PERCENT)

LIMS #: 159772

| Start Date: | 04/24/2019 | Start Time: | 13:47 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 258272 | T921 | 2.61 | 8.56 | 8.47 | 98.5% |
| 2) | 258273 | T922 | 2.59 | 11.86 | 11.78 | 99.1% |
| 3) | 258274 | T920 | 2.59 | 8.71 | 8.55 | 97.4% |
| 4) | 258275 | T923 | 2.57 | 9.31 | 9.23 | 98.8% |
| 5) | 258276 | T919 | 2.56 | 8.35 | 8.24 | 98.1% |
| 6) | 258277 | T925 | 2.58 | 9.00 | 8.93 | 98.9% |
| 7) | 259434 | T924 | 2.55 | 8.52 | 8.47 | 99.2% |
| 8) | 259435 | T927 | 2.56 | 8.45 | 8.36 | 98.5% |
| 9) | 259436 | T926 | 2.56 | 8.26 | 8.18 | 98.6% |
| 10) | 259437 | T928 | 2.59 | 7.64 | 7.57 | 98.6% |
| 11) | 259459 | T931 | 2.58 | 7.63 | 7.57 | 98.8% |
| 12) | 259460 | T932 | 2.55 | 6.77 | 6.70 | 98.3% |
| 13) | 259462 | T930 | 2.58 | 9.48 | 9.38 | 98.6% |
| 14) | 259463 | T929 | 2.56 | 7.91 | 7.84 | 98.7% |
| 15) | 259464 | T933 | 2.57 | 10.50 | 10.41 | 98.9% |
| 16) | 259465 | T793 | 2.56 | 7.99 | 7.90 | 98.3% |
| 17) | 259466 | T792 | 2.56 | 7.67 | 7.61 | 98.8% |
| 18) | 259467 | T791 | 2.59 | 7.04 | 7.00 | 99.1% |
| 19) | 259468 | T790 | 2.59 | 9.29 | 9.23 | 99.1% |
| *20) | 259433 | T359 | 2.58 | 7.89 | 7.84 | 99.1% |
| Dup 20) | 259433 | T360 | 2.55 | 8.31 | 8.26 | 99.1% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 7.84 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.0% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/25/2019 |
| **Stop Time:** | 09:42 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 160063

| Start Date: | 04/29/2019 | Start Time: | 14:20 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 259470 | T484 | 2.55 | 7.58 | 7.52 | 98.8% |
| 2) | 259471 | T195 | 2.55 | 7.23 | 7.18 | 98.9% |
| 3) | 259472 | T910 | 2.55 | 8.19 | 8.13 | 98.9% |
| 4) | 259473 | T903 | 2.55 | 10.02 | 9.93 | 98.8% |
| 5) | 259474 | T918 | 2.57 | 8.59 | 8.55 | 99.3% |
| 6) | 259475 | T917 | 2.59 | 8.11 | 8.06 | 99.1% |
| 7) | 259477 | T916 | 2.57 | 10.61 | 10.55 | 99.3% |
| 8) | 259478 | T915 | 2.53 | 7.22 | 7.16 | 98.7% |
| 9) | 259479 | T914 | 2.57 | 8.10 | 8.04 | 98.9% |
| 10) | 259480 | T913 | 2.58 | 9.42 | 9.33 | 98.7% |
| 11) | 259481 | T912 | 2.58 | 9.18 | 9.08 | 98.5% |
| 12) | 259482 | T911 | 2.59 | 6.79 | 6.76 | 99.3% |
| 13) | 259483 | T910 | 2.54 | 7.93 | 7.90 | 99.4% |
| 14) | 259484 | T909 | 2.57 | 6.23 | 6.17 | 98.4% |
| 15) | 259485 | T908 | 2.56 | 6.76 | 6.71 | 98.8% |
| 16) | 259487 | T907 | 2.58 | 6.64 | 6.61 | 99.3% |
| 17) | 259492 | T906 | 2.58 | 7.51 | 7.48 | 99.4% |
| 18) | 259493 | T905 | 2.57 | 6.91 | 6.87 | 99.1% |
| 19) | 259494 | T497 | 2.59 | 6.03 | 5.99 | 98.8% |
| *20) | 259469 | T903 | 2.56 | 6.05 | 6.01 | 98.9% |
| Dup 20) | 259469 | T902 | 2.57 | 6.24 | 6.21 | 99.2% |

Dry Weight = Sample + Dish (gms)

Wet Weight = Sample + Dish (gms)

* 2nd Reading, 6.01

Set RPD: 0.3%

Balance: VOB-01

*mg Differen: 0

**Stop Date:** 04/30/2019

**Stop Time:** 09:04

*2nd reading must be within 50mg of the 1st

Calculations

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 160064

| Start Date: | 04/29/2019 | Start Time: | 14:40 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 259496 | T901 | 2.56 | 6.74 | 6.69 | 98.8% |
| 2) | 259497 | T025 | 2.56 | 7.62 | 7.56 | 98.8% |
| 3) | 259498 | T496 | 2.56 | 6.24 | 6.20 | 98.9% |
| 4) | 259499 | T023 | 2.56 | 5.85 | 5.81 | 98.8% |
| 5) | 259500 | T022 | 2.60 | 7.58 | 7.54 | 99.2% |
| 6) | 259501 | T021 | 2.60 | 7.08 | 7.01 | 98.4% |
| 7) | 259502 | T020 | 2.58 | 8.17 | 8.10 | 98.7% |
| 8) | 259503 | T019 | 2.57 | 7.47 | 7.42 | 99.0% |
| 9) | 259504 | T007 | 2.61 | 7.86 | 7.81 | 99.0% |
| 10) | 259505 | T017 | 2.63 | 7.15 | 7.08 | 98.5% |
| 11) | 259506 | T016 | 2.59 | 7.91 | 7.85 | 98.9% |
| 12) | 260386 | T015 | 2.60 | 8.33 | 8.27 | 99.0% |
| 13) | 260459 | T014 | 2.58 | 10.66 | 10.55 | 98.6% |
| 14) | 260460 | T013 | 2.60 | 9.48 | 9.37 | 98.4% |
| 15) | 260461 | T012 | 2.60 | 11.27 | 11.16 | 98.7% |
| 16) | 260462 | T011 | 2.59 | 8.45 | 8.40 | 99.1% |
| 17) | 260463 | T010 | 2.58 | 9.13 | 9.05 | 98.8% |
| 18) | 260464 | T009 | 2.58 | 10.40 | 10.29 | 98.6% |
| 19) | 260465 | T008 | 2.61 | 8.70 | 8.63 | 98.9% |
| *20) | 259495 | T839 | 2.58 | 6.75 | 6.70 | 98.8% |
| Dup 20) | 259495 | T840 | 2.55 | 6.99 | 6.94 | 98.9% |

| | | | | |
|---|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 6.70 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.1% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/30/2019 |
| **Stop Time:** | 09:07 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# TOTAL SOLIDS (PERCENT)

LIMS #: 160065

| Start Date: | 04/29/2019 | Start Time: | 15:00 | | Analyst: | [redacted] |
|---|---|---|---|---|---|---|
| | Sample ID# | Dish# | Tared Weight g *(D)* | Wet Weight g *(E)* | Dry Weight g *(F)* | RESULTS % TOTAL SOLIDS |
| 1) | 260466 | T801 | 2.55 | 8.32 | 8.28 | 99.3% |
| 2) | 260467 | T803 | 2.56 | 7.90 | 7.87 | 99.4% |
| 3) | 260468 | T843 | 2.56 | 8.10 | 8.06 | 99.3% |
| 4) | 260469 | T805 | 2.56 | 8.46 | 8.43 | 99.5% |
| 5) | 260470 | T806 | 2.57 | 10.11 | 10.04 | 99.1% |
| 6) | 260471 | T807 | 2.54 | 8.74 | 8.70 | 99.4% |
| 7) | 260472 | T935 | 2.58 | 9.06 | 9.01 | 99.2% |
| 8) | 260473 | T938 | 2.57 | 8.67 | 8.62 | 99.2% |
| 9) | 260474 | T934 | 2.62 | 7.35 | 7.31 | 99.2% |
| 10) | 260475 | T942 | 2.58 | 6.58 | 6.55 | 99.3% |
| 11) | 260925 | T941 | 2.59 | 7.95 | 7.78 | 96.8% |
| 12) | 260926 | T943 | 2.61 | 8.48 | 8.30 | 96.9% |
| 13) | 260927 | T940 | 2.55 | 9.46 | 9.32 | 98.0% |
| 14) | 260928 | T948 | 2.57 | 10.08 | 9.87 | 97.2% |
| 15) | 260929 | T939 | 2.58 | 11.06 | 10.93 | 98.5% |
| 16) | 260930 | T946 | 2.58 | 8.47 | 8.34 | 97.8% |
| 17) | 260931 | T945 | 2.56 | 8.80 | 8.71 | 98.6% |
| 18) | | | | | | 0.0% |
| 19) | | | | | | 0.0% |
| *20) | 260924 | T808 | 2.59 | 8.02 | 7.93 | 98.3% |
| Dup 20) | 260924 | T809 | 2.55 | 8.17 | 8.08 | 98.4% |

| | | | |
|---|---|---|---|
| Dry Weight = Sample + Dish (gms) | | * 2nd Reading, | 7.93 | |
| Wet Weight = Sample + Dish (gms) | | | Set RPD: | 0.1% |
| | Balance: VOB-01 | | | |
| | | | *mg Differen | 0 |

| | |
|---|---|
| **Stop Date:** | 04/30/2019 |
| **Stop Time:** | 09:10 |

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of...((Sample-Dup % TS)/(Average%TS))*100

# INORGANICS
# LOGBOOK
# DOCUMENTS

# SOIL PREP/MIX KREJCI Analytical Run
# 160354 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259463 | | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259467 | DU1A-SU36R1 | 03/29/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259468 | DU1A-SU36R3 | 03/29/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259469 | DU1B-SU36R3 | 03/29/2019 1200 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259470 | DU1A-SU34 | 03/29/2019 1200 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259471 | DU1B-SU34 | 03/29/2019 1510 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259472 | DU1A-SU10R1 | 03/29/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259473 | DU1B-SU10R1 | 04/01/2019 0820 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259474 | DU2A-SU09 | 04/01/2019 0820 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259433 | DU2B-SU09 | 03/28/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259435 | DU1A-SU13 | 03/28/2019 1017 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259437 | DU1A-SU14 | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259436 | DU1A-SU19 | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259459 | DU1B-SU14 | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259434 | DU1B-SU19 | 03/28/2019 0831 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| | | DU1B-SU13 | | Designated MS/MSD | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: Semi [redacted]ANALYTICALRUN.RPT

# SOIL PREP/MIX KREJCI Analytical Run
# 160354 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259460 | DU1A-SU12 | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143965 | 259462 | DU1B-SU12 | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143965 | 259464 | DU1B-SU36R1 | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143965 | 259465 | DU1A-SU36R2 | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 143965 | 259466 | DU1B-SU36R2 | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**20** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160354 | 04/13/2019 - 04/19/2019 | [redacted] | [redacted] | 04/22/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 160355 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259475 | | 04/01/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259477 | DU2A-SU08 | 04/01/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259478 | DU2B-SU08 | 04/01/2019 1035 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259479 | DU1A-SU21 | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259480 | DU1B-SU21 | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259481 | DU2A-SU16 | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259482 | DU2B-SU16 | 03/29/2019 1020 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259483 | DU2A-SU15 | 03/29/2019 1020 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259484 | DU2B-SU15 | 03/29/2019 1240 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259485 | DU2A-SU01 | 03/29/2019 1240 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259487 | DU2B-SU01 | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259492 | DU2A-SU17 | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259493 | DU2B-SU17 | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259494 | DU1A-SU10R2 | 03/29/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259495 | DU1B-SU10R2 | 03/29/2019 1520 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| | | DU1A-SU10R3 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Semi [redacted]ANALYTICALRUN.RPT

# SOIL PREP/MIX KREJCI Analytical Run
# 160355 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259496 | DU1B-SU10R3 | 03/29/2019 1520 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259497 | DU1A-SU39 | 04/01/2019 0815 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259498 | DU1B-SU39 | 04/01/2019 0815 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259499 | DU1A-SU23 | 04/01/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |
| 143965 | 259500 | DU1B-SU23 | 04/01/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | 4 | |

**20** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160355 | 04/19/2019 - 04/22/2019 | [redacted] | [redacted] | 04/23/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 160356 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259501 | | 04/01/2019 1125 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU29 | | | | | | | | | |
| 143965 | 259502 | | 04/01/2019 1125 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU29 | | | | | | | | | |
| 143965 | 259503 | | 04/01/2019 1223 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1A-SU52 | | | | | | | | | |
| 143965 | 259504 | | 04/01/2019 1223 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU1B-SU52 | | | | | | | | | |
| 143965 | 259505 | | 04/01/2019 1330 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU2A-SU06 | | | | | | | | | |
| 143965 | 259506 | | 04/01/2019 1330 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU2B-SU06 | | | | | | | | | |

**6** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160356 | 04/22/2019 | [redacted] | [redacted] | 04/23/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 160399 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 144004 | 260386 | | 04/02/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260459 | DU2A-SU14 | 04/02/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260460 | DU2B-SU14 | 04/02/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260461 | DU2A-SU13 | 04/02/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260462 | DU2B-SU13 | 04/02/2019 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260463 | DU2A-SU12 | 04/02/2019 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260464 | DU2B-SU12 | 04/02/2019 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260465 | DU2A-SU11 | 04/02/2019 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260466 | DU2B-SU11 | 04/02/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260467 | DU4A-SU06 | 04/02/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260468 | DU4B-SU06 | 04/02/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260469 | DU4A-SU07R1 | 04/02/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260470 | DU4B-SU07R1 | 04/02/2019 1135 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260471 | DU4A-SU07R2 | 04/02/2019 1135 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260472 | DU4B-SU07R2 | 04/02/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4A-SU07R3 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**



Distribution: Semi [redacted]ANALYTICALRUN.RPT

# SOIL PREP/MIX KREJCI Analytical Run
# 160399 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 144004 | 260473 | DU4B-SU07R3 | 04/02/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260474 | DU4A-SU05 | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| 144004 | 260475 | DU4B-SU05 | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |

**18** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160399 | 04/18/2019 - 04/22/2019 | [redacted] | [redacted] | 04/23/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | | No | | No | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# SOIL PREP/MIX KREJCI Analytical Run
# 160404 on 05/01/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 144017 | 260924 | | 04/03/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4A-SU04 | | Designated MS/MSD | | | | | | | |
| 144017 | 260925 | | 04/03/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4B-SU04 | | Designated MS/MSD | | | | | | | |
| 144017 | 260926 | | 04/03/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4A-SU03 | | | | | | | | | |
| 144017 | 260927 | | 04/03/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4B-SU03 | | | | | | | | | |
| 144017 | 260928 | | 04/03/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4A-SU02 | | | | | | | | | |
| 144017 | 260929 | | 04/03/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4B-SU02 | | | | | | | | | |
| 144017 | 260930 | | 04/03/2019 1205 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4A-SU01 | | | | | | | | | |
| 144017 | 260931 | | 04/03/2019 1205 | | ERT | CURTIS BAY ORDNANCE DEPOT | HOMOGEN/M.I. PREP | | S | **4** | |
| | | DU4B-SU01 | | | | | | | | | |

**8** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

| | | Method: Multi-Incremental Soil Homogenization (8330B Explosives) | | | |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160404 | 04/19/2019 | [redacted] | [redacted] | 04/22/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples dried to a constant weight? | Dry and crumbly to the touch and % Solids >95% | Yes | | Yes | | If No: See PM for further instruction |
| 2. Was the date and time recorded for each sample on the bench sheet? | --- | Yes | | Yes | | If No: Enter the dates and times |
| 3. Was the ambient temperature recorded on the bench sheet? | Should be recorded daily | Yes | | Yes | | If No: Check daily temperature logbook to find the ambient temperature and record on the bench sheet. |
| 4. Were all the samples sieved and ground? | --- | Yes | | Yes | | |
| 5. Was the initial sample weight recorded on the bench sheet for all samples? | --- | Yes | | Yes | | |
| 6. Was the amount of sample retained on the #10 Sieve recorded on the bench sheet for each sample? | --- | Yes | | Yes | | |
| 7. Were multiple grinds required? | --- | | No | | No | If Yes: Notify the PM |
| 8. Was a grinding (sand) blank processed at the appropriate frequency? | One after every 10 samples or project/program-specific frequency | Yes | | Yes | | If No: Grind the appropriate number of sand blanks for the current batch of samples |
| 9. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: Analyze samples that were missed. |
| 10. Were nonconformities (if applicable) documented in the NCR spreadsheet? | --- | Yes | | Yes | | If No: Enter nonconformities into the NCR spreadsheet before data review/validation. |

# WSOLIDS Analytical Run
# 159772 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143900 | 258272 | | 03/28/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258273 | DU2A-SU05 | 03/28/2019 1105 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258274 | DU2B-SU05 | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258275 | DU2A-SU04 | 03/28/2019 1310 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258276 | DU2B-SU04 | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143900 | 258277 | DU2A-SU03 | 03/28/2019 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259433 | DU2B-SU03 | 03/28/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259434 | DU1A-SU13 | 03/28/2019 0831 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259435 | DU1B-SU13 | 03/28/2019 1017 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259436 | DU1A-SU14 | 03/28/2019 1017 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259437 | DU1B-SU14 | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259459 | DU1A-SU19 | 03/28/2019 1130 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259460 | DU1B-SU19 | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259462 | DU1A-SU12 | 03/28/2019 1344 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 143965 | 259463 | DU1B-SU12 | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU36R1 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# WSOLIDS Analytical Run
# 159772 on 04/25/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259464 | DU1B-SU36R1 | 03/29/2019 1000 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143965 | 259465 | DU1A-SU36R2 | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143965 | 259466 | DU1B-SU36R2 | 03/29/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143965 | 259467 | DU1A-SU36R3 | 03/29/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 143965 | 259468 | DU1B-SU36R3 | 03/29/2019 1010 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | 270929 | DU1A-SU13 | 03/28/2019 0830 | DUP 259433 | | | SOLIDS,PERCENT | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 159770, 159771, 159772, 159859, 160070, 160071, 160074, 160075 | 04/24/2019 | [redacted] | [redacted] | 04/25/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

WSOLIDS Analytical Run
# 160063 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259469 | | 03/29/2019 1200 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU34 | | Designated MS/MSD | | | | | | | |
| 143965 | 259470 | | 03/29/2019 1200 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU34 | | Designated MS/MSD | | | | | | | |
| 143965 | 259471 | | 03/29/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU10R1 | | | | | | | | | |
| 143965 | 259472 | | 03/29/2019 1510 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU10R1 | | | | | | | | | |
| 143965 | 259473 | | 04/01/2019 0820 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU09 | | | | | | | | | |
| 143965 | 259474 | | 04/01/2019 0820 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU09 | | | | | | | | | |
| 143965 | 259475 | | 04/01/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU08 | | | | | | | | | |
| 143965 | 259477 | | 04/01/2019 0925 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU08 | | | | | | | | | |
| 143965 | 259478 | | 04/01/2019 1035 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU21 | | | | | | | | | |
| 143965 | 259479 | | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU21 | | | | | | | | | |
| 143965 | 259480 | | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU16 | | | | | | | | | |
| 143965 | 259481 | | 04/01/2019 1450 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU16 | | | | | | | | | |
| 143965 | 259482 | | 03/29/2019 1020 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU15 | | | | | | | | | |
| 143965 | 259483 | | 03/29/2019 1020 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU15 | | | | | | | | | |
| 143965 | 259484 | | 03/29/2019 1240 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU01 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: WetChem [redacted] ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 160063 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259485 | | 03/29/2019 | 1240 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2B-SU01 | | | | | | | | | | |
| 143965 | 259487 | | 03/29/2019 | 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2A-SU17 | | | | | | | | | | |
| 143965 | 259492 | | 03/29/2019 | 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU2B-SU17 | | | | | | | | | | |
| 143965 | 259493 | | 03/29/2019 | 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1A-SU10R2 | | | | | | | | | | |
| 143965 | 259494 | | 03/29/2019 | 1515 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU1B-SU10R2 | | | | | | | | | | |
| | 273365 | | 03/29/2019 | 1200 | | | | SOLIDS,PERCENT | | | | |
| | | DU1A-SU34 | | | DUP 259469 | | | | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: [redacted]ANALYTICALRUN.RPT

WSOLIDS Analytical Run
# 160064 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143965 | 259495 | | 03/29/2019 1520 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU10R3 | | | | | | | | | |
| 143965 | 259496 | | 03/29/2019 1520 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU10R3 | | | | | | | | | |
| 143965 | 259497 | | 04/01/2019 0815 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU39 | | | | | | | | | |
| 143965 | 259498 | | 04/01/2019 0815 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU39 | | | | | | | | | |
| 143965 | 259499 | | 04/01/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU23 | | | | | | | | | |
| 143965 | 259500 | | 04/01/2019 1015 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU23 | | | | | | | | | |
| 143965 | 259501 | | 04/01/2019 1125 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU29 | | | | | | | | | |
| 143965 | 259502 | | 04/01/2019 1125 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU29 | | | | | | | | | |
| 143965 | 259503 | | 04/01/2019 1223 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1A-SU52 | | | | | | | | | |
| 143965 | 259504 | | 04/01/2019 1223 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU1B-SU52 | | | | | | | | | |
| 143965 | 259505 | | 04/01/2019 1330 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU06 | | | | | | | | | |
| 143965 | 259506 | | 04/01/2019 1330 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU06 | | | | | | | | | |
| 144004 | 260386 | | 04/02/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU14 | | | | | | | | | |
| 144004 | 260459 | | 04/02/2019 0830 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2B-SU14 | | | | | | | | | |
| 144004 | 260460 | | 04/02/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU2A-SU13 | | | | | | | | | |



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

# WSOLIDS Analytical Run
# 160064 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 144004 | 260461 | DU2B-SU13 | 04/02/2019 0950 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 144004 | 260462 | DU2A-SU12 | 04/02/2019 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 144004 | 260463 | DU2B-SU12 | 04/02/2019 1140 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 144004 | 260464 | DU2A-SU11 | 04/02/2019 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| 144004 | 260465 | DU2B-SU11 | 04/02/2019 1325 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | 273366 | DU1A-SU10R3 | 03/29/2019 1520 | DUP 259495 | | | SOLIDS,PERCENT | 0 | | | |

**21** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

WSOLIDS Analytical Run
# 160065 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 144004 | 260466 | | 04/02/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260467 | DU4A-SU06 | 04/02/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260468 | DU4B-SU06 | 04/02/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260469 | DU4A-SU07R1 | 04/02/2019 1100 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260470 | DU4B-SU07R1 | 04/02/2019 1135 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260471 | DU4A-SU07R2 | 04/02/2019 1135 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260472 | DU4B-SU07R2 | 04/02/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260473 | DU4A-SU07R3 | 04/02/2019 1250 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260474 | DU4B-SU07R3 | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144004 | 260475 | DU4A-SU05 | 04/02/2019 1425 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144017 | 260924 | DU4B-SU05 | 04/03/2019 0955 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144017 | 260925 | DU4A-SU04 | 04/03/2019 0955 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144017 | 260926 | DU4B-SU04 | 04/03/2019 1005 | Designated MS/MSD | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144017 | 260927 | DU4A-SU03 | 04/03/2019 1005 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| 144017 | 260928 | DU4B-SU03 | 04/03/2019 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | 4 | |
| | | DU4A-SU02 | | | | | | | | | |

**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

Distribution: WetChem [redacted] ANALYTICALRUN.RPT

# WSOLIDS Analytical Run
# 160065 on 04/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

| COC | ORDER | SAMPLE DECRIPTION | SAMPLE DATE/ TIME | | QC TYPE (Parent Sample) | CLIENT | PROJECT | TEST | PREP BATCH | MATRIX | DEL | RUSH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 144017 | 260929 | | 04/03/2019 | 1050 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU4B-SU02 | | | | | | | | | | |
| 144017 | 260930 | | 04/03/2019 | 1205 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU4A-SU01 | | | | | | | | | | |
| 144017 | 260931 | | 04/03/2019 | 1205 | | ERT | CURTIS BAY ORDNANCE DEPOT | SOLIDS,PERCENT | | S | **4** | |
| | | DU4B-SU01 | | | | | | | | | | |
| | 273367 | | 04/03/2019 | 0955 | | | | SOLIDS,PERCENT | | | | |
| | | DU4A-SU04 | | | DUP 260924 | | | | 0 | | | |

**19** SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC



**Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE**

## FWC26-10 Data Review Checklist

| | | Method: Percent Solids SW846-8000C | Independent Data Review Checklist | | Balance: VOB-01 |
|---|---|---|---|---|---|
| **LIMS Run #(s)** | **Analysis Date** | **Analyst / Data Interpreter** | **Independent Reviewer** | **Date of Review** | **Approved? (Yes or No)** |
| 160063, 160064, 160065 | 04/29/2019 | [redacted] | [redacted] | 04/30/2019 | Yes |

**Instructions:** Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

| **Requirement:** | **Acceptance Criteria** | **Analyst Review** | | **Independent Review** | | **Comments:** |
|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | (indicate reference to an attachment if necessary) |
| 1. Were samples analyzed within hold time? | 14 days or program/project specific | Yes | | Yes | | Qualify data prepared after hold time |
| 2. Were samples dried overnight? | > 8hours | Yes | | Yes | | If No: place samples back into oven for mimium of 8 hours of total dry time. |
| 3. Were drying start and stop times recorded? | --- | Yes | | Yes | | If No: record times and temperatures |
| 4. Were duplicates analyzed at the appropriate frequency? | 1 per 20 of similar matrix or at program/project specific frequency | Yes | | Yes | | If No: reprep samples with appropreate frequency for a duplicate. |
| 5. Were the duplicates within acceptable limits? | Within in-house or program/project specific QC limits | Yes | | Yes | | If No: reprep and reanalyze samples or qualify parent sample result (Y). |
| 6. Are all samples on the job lists accounted for? | --- | Yes | | Yes | | If No: analyze samples that were were missed. |
| 7. Were nonconformities (if applicable) documented in the NCR spreadsheet? | | Yes | | Yes | | If No: Enter nonformities into the NCR spreadsheet before data review/validation. |

# CHAIN OF CUSTODY,
# PM CONFIRMATION
# AND
# SAMPLE CONDITION FORMS
# DOCUMENTS

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

Folder #: 143965
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: MSR PM: BM

143965

30 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

ram:
RCRA SDWA NPDES
Waste Other _____

Report To:
EMAIL: [redacted]
Company: [redacted]
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Fill in Spaces with Bottles per Test

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Metals | MS/MSD | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 03/28/19 | 0830 | S | C | | DU1A-SU13 | N | 1 | | | 1 | 259433 |
| 03/28/19 | 0831 | S | C | | DU1B-SU13 | N | 1 | | | 1 | 259434 |
| 03/28/19 | 1017 | S | C | | DU1A-SU14 | N | 1 | | | | 259435 |
| 03/28/19 | 1017 | S | C | | DU1B-SU14 | N | 1 | | | | 259436 |
| 03/28/19 | 1130 | S | C | | DU1A-SU19 | N | 1 | | | | 259437 |
| 03/28/19 | 1130 | S | C | | DU1B-SU19 | N | 1 | | | | 259459 |
| 03/28/19 | 1344 | S | C | | DU1A-SU12 | N | 1 | | | | 259460 |
| 03/28/19 | 1344 | S | C | | DU1B-SU12 | N | 1 | | | | 259462 |

Rel[redacted]
Received by:

Date/Time 03/28/2019 @ 1700
Date/Time

Received By: [redacted] Date/Time 4-2-19 1405
Received for Laboratory by: [redacted] Date/Time 4-2-19 1604

Lab Use Only
Ice Present Yes No
Temp 4.4 IR Gun 23
Cooler # 6030

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

143965

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/29/19 | 1000 | S | C | | DU1A-SU36R1 | N | 1 | | | 259463 |
| 03/29/19 | 1000 | S | C | | DU1B-SU36R1 | N | 1 | | | 259464 |
| 03/29/19 | 1005 | S | C | | DU1A-SU36R2 | N | 1 | | | 259465 |
| 03/29/19 | 1005 | S | C | | DU1B-SU36R2 | N | 1 | | | 259466 |
| 03/29/19 | 1010 | S | C | | DU1A-SU36R3 | N | 1 | | | 259467 |
| 03/29/19 | 1010 | S | C | | DU1B-SU36R3 | N | 1 | | | 259468 |
| 03/29/19 | 1200 | S | C | | DU1A-SU34 | N | 1 | | X | 259469 |
| 03/29/19 | 1200 | S | C | | DU1B-SU34 | N | 1 | | X | 259470 |
| 03/29/19 | 1510 | S | C | | DU1A-SU10R1 | N | 1 | | | 259471 |
| 03/29/19 | 1510 | S | C | | DU1B-SU10R1 | N | 1 | | | 259472 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

[redacted]
Received by:

Date/Time @ 03/29/19 1700

Date/Time

Received By: [redacted]

Date/Time 4-2-19 1411

Received for Laboratory by: [redacted]

Date/Time 4-2-19 1604

Lab Use Only
Ice Present (Yes) No
Temp 2.8 IR Gun 23
Cooler # XXX

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 04/01/19 | 0820 | S | C | | DU2A-SU09 | N | 1 | 1 | | 259473 |
| 4/1/19 | 0820 | S | C | | DU2B-SU09 | N | 1 | 1 | | 259474 |
| 4/1/19 | 0925 | S | C | | DU2A-SU08 | N | 1 | 1 | | 259475 |
| 4/1/19 | 0925 | S | C | | DU2B-SU08 | N | 1 | 1 | | 259477 |
| 4/1/19 | 1035 | S | C | | DU1A-SU21 | N | 1 | 1 | | 259478 |
| 4/1/19 | 1035 | S | C | | DU1B-SU21 | N | 1 | 1 | | 259479 |
| 4/1/19 | ~~1450~~ 1450 | S | C | | DU2A-SU16 | N | 1 | 1 | | 259480 |
| 4/1/19 | 1450 | S | C | | DU2B-SU16 | N | 1 | 1 | | 259481 |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By: [redacted]
Date/Time: 4/1/19 1700

Received By: [redacted]
Date/Time: 4-2-19 1430

Received for Laboratory by: [redacted]
Date/Time: 4-2-19 1604

*Lab Use Only*
Ice Present (Yes) No
Temp 2.8 IR Gun 22
Cooler # 60178

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 03/29/19 | 1020 | S | C | | DU2A-SU15 | N | 2 | 1 | | 259482 |
| 03/29/19 | 1020 | S | C | | DU2B-SU15 | N | 2 | 1 | | 259483 |
| 03/29/19 | 1240 | S | C | | DU2A-SU01 | N | 2 | 1 | | 259484 |
| 03/29/19 | 1240 | S | C | | DU2B-SU01 | N | 2 | 1 | | 259485 |
| 03/29/19 | 1515 | S | C | | DU2A-SU17 | N | 2 | 1 | | 259487 |
| 03/29/19 | 1515 | S | C | | DU2B-SU17 | N | 2 | 1 | | 259492 |
| 03/29/19 | 1515 | S | C | | DU1A-SU10R2 | N | 2 | 1 | | 259493 |
| 03/29/19 | 1515 | S | C | | DU1B-SU10R2 | N | 2 | 1 | | 259494 |
| 03/29/19 | 1520 | S | C | | DU1A-SU10R3 | N | 2 | 1 | | 259495 |
| 03/29/19 | 1520 | S | C | | DU1B-SU10R3 | N | 2 | 1 | | 259496 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By: [redacted]
Date/Time: 03/29/19 1700
Date/Time

Received By: [redacted]
Date/Time: 4-2-19 1451
Received for Laboratory by: [redacted]
Date/Time: 4-2-19 1604

*Lab Use Only*
Ice Present (Yes) No
Temp 2.0 IR Gun 24
Cooler # XXX

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD |
|---|---|---|---|---|---|---|---|---|---|
| 04/01/19 | 0815 | S | C | | DU1A-SU39 | N | 1 | | |
| 04/01/19 | 0815 | S | C | | DU1B-SU39 | N | 1 | | |
| 04/01/19 | 1015 | S | C | | DU1A-SU23 | N | 1 | | |
| 04/01/19 | 1015 | S | C | | DU1B-SU23 | N | 1 | | |
| 04/01/19 | 1125 | S | C | | DU1A-SU29 | N | 1 | | |
| 04/01/19 | 1125 | S | C | | DU1B-SU29 | N | 1 | | |
| 04/01/19 | 1223 | S | C | | DU1A-SU52 | N | 1 | | |
| 04/01/19 | 1223 | S | C | | DU1B-SU52 | N | 1 | | |
| 04/01/19 | 1330 | S | C | | DU2A-SU06 | N | 1 | | |
| 04/01/19 | 1330 | S | C | | DU2B-SU06 | N | 1 | | |

Fill in Spaces with Bottles per Test

**Turnaround Time**
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

**CT Lab ID #** *Lab use only*
259497
259498
259499
259500
259501
259502
259503
259504
259505
259506

Relinquished By: [redacted] Date/Time 04/01/2019 @1700
Received by: Date/Time

Received By: [redacted] Date/Time 4-2-19 1445
Received for Laboratory by: [redacted] Date/Time 4-2-19 1604

*Lab Use Only*
Ice Present (Yes) No
Temp 2.4 IR Gun 24
Cooler # XXXX

Page 1443

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 4.4

IR Gun # 23

Initials MSR

Date 4-2-19 Time 1405

Cooler #: L0030

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A8584408546 78

CUSTODY SEAL
DATE 04/01/2019
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 · 304-255-3900

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.8

IR Gun # 23

Initials [redacted]

Date 4-2-19 Time 1411

Cooler #: XXXX

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A85844186568

CUSTODY SEAL
DATE [redacted]
SIGNATURE [redacted]

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

[redacted]
ERI [redacted]

45 LBS
RS
DWT: 23,12,14

SHIP TO:
SHIPPING DEPT
(608) 356-2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0-10

UPS NEXT DAY AIR 1
TRACKING #: 1Z 1A4 A85 84 4186 5682

# Cooler Receipt Form

Ice Present (YES) NO

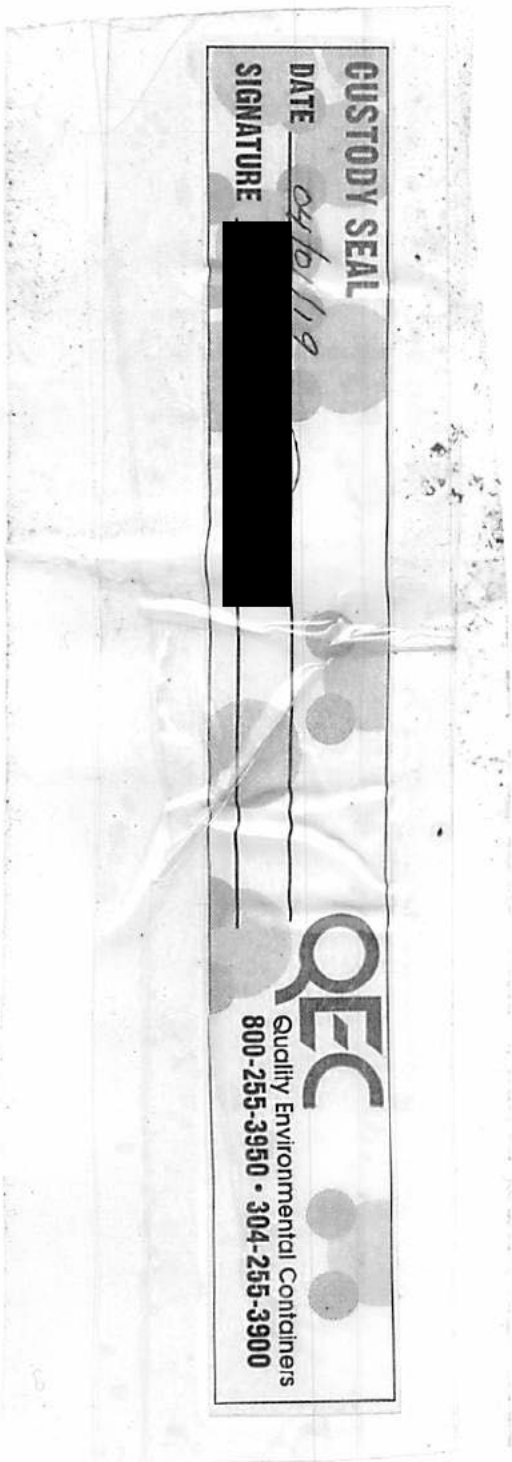
Temperature 2.8

IR Gun # 22

Initials [redacted]

Date 4-2-19 Time 1430

Cooler #: 6178






Ice Present (YES) NO

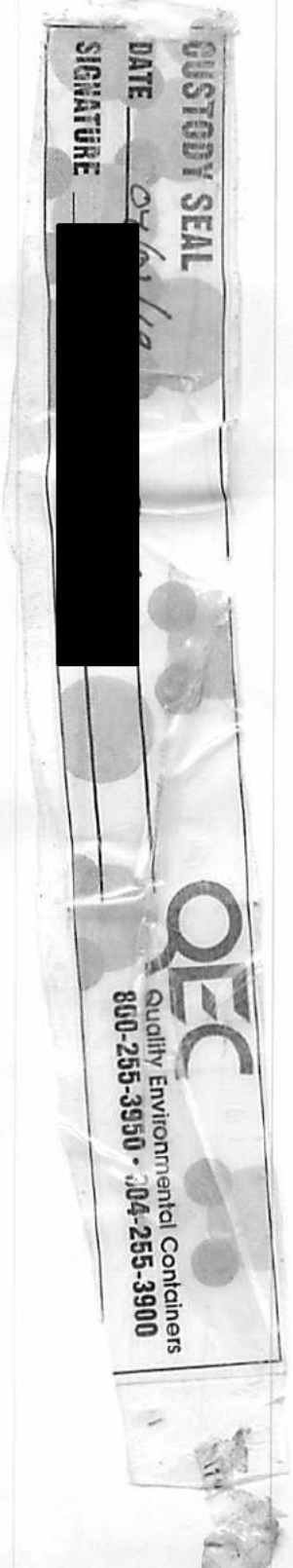
Temperature 2.0

IR Gun # 24

Initials [redacted]

Date 4-2-19 Time 1451

Cooler #: XXXX






Ice Present (YES) NO

Temperature 2.4

IR Gun # 24

Initials [redacted]

Date 4-2-19 Time 1445

Cooler #: XXXX

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A858442139250

45 LBS

RS DWT: 23,12,14

[redacted]
LAUREL MD 20707

SHIP TO:
SHIPPING DEPT
(608) 356-2760
CT LABS
1230 LANGE CT
BARABOO WI 53913

WI 539 0-10

UPS NEXT DAY AIR 1
TRACKING #: 1Z 1A4 A85 84 4213 9250

BILLING: P/P
DESC: ENVIRONMENTAL SAMPLES
RETURN SERVICE

WS 21.0.23 Zebra ZP 450 00.0A 01/2019

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 04/02/2019
SIGNATURE [redacted]

**Folder #: 143965**

## PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144595

**Project Manager:** [redacted] **Date Received:** 04/02/19 **Log Date:** 04/02/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 4.4 oC

**SAMPLE #: 259433 DESCR: DU1A-SU13** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/28/2019 Time: 0830**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 259434 DESCR: DU1B-SU13** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 03/28/2019 Time: 0831**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259434 **DESCR:** DU1B-SU13 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 0831

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 259435 **DESCR:** DU1A-SU14 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1017

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259436 **DESCR:** DU1B-SU14 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1017

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259437 **DESCR:** DU1A-SU19 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/14/2019 | | NeedPrep |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259437 **DESCR:** DU1A-SU19 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259459 **DESCR:** DU1B-SU19 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1130

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259460 **DESCR:** DU1A-SU12 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1344

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259462 **DESCR:** DU1B-SU12 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1344

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/11/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259462 **DESCR:** DU1B-SU12 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/28/2019 **Time:** 1344

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/24/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259463 **DESCR:** DU1A-SU36R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1000

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259464 **DESCR:** DU1B-SU36R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1000

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259465 **DESCR:** DU1A-SU36R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259465 **DESCR:** DU1A-SU36R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259466 **DESCR:** DU1B-SU36R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259467 **DESCR:** DU1A-SU36R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1010

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2029 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2029 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259468 **DESCR:** DU1B-SU36R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1010

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259468 **DESCR:** DU1B-SU36R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1010

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259469 **DESCR:** DU1A-SU34 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1200

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259470 **DESCR:** DU1B-SU34 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1200

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259471 **DESCR:** DU1A-SU10R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1510

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259472 **DESCR:** DU1B-SU10R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1510

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259473 **DESCR:** DU2A-SU09 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 0820

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259474 **DESCR:** DU2B-SU09 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 0820

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259475 **DESCR:** DU2A-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 0925

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259477 **DESCR:** DU2B-SU08 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 0925

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259478 **DESCR:** DU1A-SU21 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1035

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259479 **DESCR:** DU1B-SU21 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1450

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259480 **DESCR:** DU2A-SU16 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1450

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259481 **DESCR:** DU2B-SU16 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1450

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259482 **DESCR:** DU2A-SU15 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1020

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259483 **DESCR:** DU2B-SU15 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1020

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259484 **DESCR:** DU2A-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1240

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259485 **DESCR:** DU2B-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1240

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259487 **DESCR:** DU2A-SU17 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259492 **DESCR:** DU2B-SU17 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259493 **DESCR:** DU1A-SU10R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259494 **DESCR:** DU1B-SU10R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1515

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259495 **DESCR:** DU1A-SU10R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1520

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259496 **DESCR:** DU1B-SU10R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 03/29/2019 **Time:** 1520

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/12/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/25/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259497 **DESCR:** DU1A-SU39 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 0815

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259498 **DESCR:** DU1B-SU39 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 0815

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259499 **DESCR:** DU1A-SU23 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259500 **DESCR:** DU1B-SU23 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1015

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259501 **DESCR:** DU1A-SU29 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1125

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259502 **DESCR:** DU1B-SU29 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1125

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259503 **DESCR:** DU1A-SU52 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1223

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 259504 **DESCR:** DU1B-SU52 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1223

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259505 **DESCR:** DU2A-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1330

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 259506 **DESCR:** DU2B-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/01/2019 **Time:** 1330

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/15/2019 | 04/14/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/14/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/28/2019 | 04/14/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 143965 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**Invoice Number:** 144595 **Preliminary Invoice Estimate:** $ 3,344.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| Data Package | | 1 | $ 50.00 | 0.00 | $ 50.00 |
| HOMOGEN/M.I. PREP | SOIL | 46 | $ 40.00 | 0.00 | $ 1840.00 |
| ICP QSM 5.0 Arsenic | SOIL | 46 | $ 12.00 | 0.00 | $ 552.00 |
| ICP QSM 5.0 Manganese | SOIL | 46 | $ 12.00 | 0.00 | $ 552.00 |
| SHIPPING | | 5 | $ 70.00 | 0.00 | $ 350.00 |
| SOLIDS,PERCENT | SOIL | 46 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **46** | SOIL PREP/MIX |
| **SOLIDS** | **46** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 143965
Client: ERT

Print Date / Time: 04/02/2019 16:13
Received Date / Time / By: 04/02/2019 14:05 MSR

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 04/02/2019 16:04 MSR
Project #:
PM: [redacted]

Coolers: 6030,6178, 3 UNMARK
Custody Seals Present : **Y**

Temperature: <4.4 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS NEXT DAY AIR
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 5 TRACKING NUMBERS- SEE BELOW*
Temp Blank Enclosed? **Y**

Notes: *TRACKING NUMBERS:
1Z1A4A858440854678,1Z1A4A858441865682,1Z1A4A858441413866,1Z1A4A858441530891,1Z1A4A858442139250.

THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - ALL WERE DATED 04/01/19 AND SIGNED.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **259433** DU1A-SU13 | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 1** | | | |
| **259433** DU1A-SU13 | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **259434** DU1B-SU13 | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 1** | | | |
| **259434** DU1B-SU13 | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **259435** DU1A-SU14 | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type ( *SOLIDS* ) = 1** | | | |
| **259435** DU1A-SU14 | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1** | | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **259436** DU1B-SU14 | | | | |

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259436** DU1B-SU14

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259437** DU1A-SU19

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259437** DU1A-SU19

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259459** DU1B-SU19

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259459** DU1B-SU19

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259460** DU1A-SU12

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259460** DU1A-SU12

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259462** DU1B-SU12

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259462** DU1B-SU12

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259463** DU1A-SU36R1

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259463** DU1A-SU36R1

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259464** DU1B-SU36R1

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259464** DU1B-SU36R1

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259465** DU1A-SU36R2

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259465** DU1A-SU36R2

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259466** DU1B-SU36R2

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259466** DU1B-SU36R2

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259467** DU1A-SU36R3

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259467** DU1A-SU36R3

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259468** DU1B-SU36R3

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259468** DU1B-SU36R3

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259469** DU1A-SU34

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259469** DU1A-SU34

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259470** DU1B-SU34

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259470** DU1B-SU34

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259471** DU1A-SU10R1

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259471** DU1A-SU10R1

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259472** DU1B-SU10R1

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259472** DU1B-SU10R1

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259473** DU2A-SU09

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259473** DU2A-SU09

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259474** DU2B-SU09

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259474** DU2B-SU09

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259475** DU2A-SU08

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259475** DU2A-SU08

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259477** DU2B-SU08

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259477** DU2B-SU08

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259478** DU1A-SU21

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259478** DU1A-SU21

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259479** DU1B-SU21

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259479** DU1B-SU21

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259480** DU2A-SU16

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259480** DU2A-SU16

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259481** DU2B-SU16

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259481** DU2B-SU16

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259482** DU2A-SU15

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259482** DU2A-SU15

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259483** DU2B-SU15

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259483** DU2B-SU15

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259484** DU2A-SU01

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259484** DU2A-SU01

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259485** DU2B-SU01

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259485** DU2B-SU01

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259487** DU2A-SU17

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259487** DU2A-SU17

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259492** DU2B-SU17

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259492** DU2B-SU17

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259493** DU1A-SU10R2

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259493** DU1A-SU10R2

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259494** DU1B-SU10R2

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259494** DU1B-SU10R2

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259495** DU1A-SU10R3

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259495** DU1A-SU10R3

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259496** DU1B-SU10R3

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259496** DU1B-SU10R3

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259497** DU1A-SU39

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259497** DU1A-SU39

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259498** DU1B-SU39

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259498** DU1B-SU39

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259499** DU1A-SU23

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259499** DU1A-SU23

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259500** DU1B-SU23

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259500** DU1B-SU23

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259501** DU1A-SU29

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259501** DU1A-SU29

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259502** DU1B-SU29

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259502** DU1B-SU29

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259503** DU1A-SU52

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259503** DU1A-SU52

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259504** DU1B-SU52

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259504** DU1B-SU52

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259505** DU2A-SU06

SOLIDS 1 / %SOL,ICP
**Total # of Containers of Type ( *SOLIDS* ) = 1**

**259505** DU2A-SU06

FOR LABEL ONLY 1 / SOIL PREP/MIX
**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 1**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**259506** DU2B-SU06

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 1** | | |

| | | | | |
|---|---|---|---|---|
| **259506** | DU2B-SU06 | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 1** | | |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

Folder #: 144004
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

ogram:
M RCRA SDWA NPDES
id Waste Other _____
#

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ANALYSES REQUESTED | | | | |
| | | | | | | Fill in Spaces with Bottles per Test | | | | |
| 4/2/19 | 0830 | S | C | | DU2A-SU14 | N | 1 | 1 | | 260386 |
| 4/2/19 | 0830 | S | C | | DU2B-SU14 | N | 1 | 1 | | 260459 |
| 4/2/19 | 0950 | S | C | | DU2A-SU13 | N | 1 | 1 | | 260460 |
| 4/2/19 | 0950 | S | C | | DU2B-SU13 | N | 1 | 1 | | 260461 |
| 4/2/19 | 1140 | S | C | | DU2A-SU12 | N | 1 | 1 | | 260462 |
| 4/2/19 | 1140 | S | C | | DU2B-SU12 | N | 1 | 1 | | 260463 |
| 4/2/19 | 1325 | S | C | | DU2A-SU11 | N | 1 | 1 | | 260464 |
| 4/2/19 | 1325 | S | C | | DU2B-SU11 | N | 1 | 1 | | 260465 |

Turnaround Time
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

[redacted]
Received by:
Date/Time 04/02/19 @ 1700

Date/Time

Received By: [redacted]
Date/Time 4/3/19 1335

Received for Laboratory by: [redacted]
Date/Time 4/3/19 1446

Lab Use Only
Ice Present (Yes) No
Temp <2.6 IR Gun 24
Cooler # 0000/5997

Rev. 02/2017

# CHAIN OF CUSTODY

Page 1 of 1

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: Curtis Bay
Project #:
Location: Baltimore, MD
Sampled By: M. Watson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

*Lab Use Only*
*Place Header Sticker Here:*

144004

Program:
(QSM) RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: [redacted]
Company: ertcorp.com
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD |
|---|---|---|---|---|---|---|---|---|---|
| 04/02/19 | 1005 | S | C | | DU4A-SU06 | N | 1 | | |
| 04/02/19 | 1005 | S | C | | DU4B-SU06 | N | 1 | | |
| 04/02/19 | 1100 | S | C | | DU4A-SU07R1 | N | 1 | | |
| 04/02/19 | 1100 | S | C | | DU4B-SU07R1 | N | 1 | | |
| 04/02/19 | 1135 | S | C | | DU4A-SU07R2 | N | 1 | | |
| 04/02/19 | 1135 | S | C | | DU4B-SU07R2 | N | 1 | | |
| 04/02/19 | 1230 | S | C | | DU4A-SU07R3 | N | 1 | | |
| 04/02/19 | 1230 | S | C | | DU4B-SU07R3 | N | 1 | | |
| 04/02/19 | 1425 | S | C | | DU4A-SU05 | N | 1 | | |
| 04/02/19 | 1425 | S | C | | DU4B-SU05 | N | 1 | | |

Fill in Spaces with Bottles per Test

**Turnaround Time**
(Normal) RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

**CT Lab ID #** *Lab use only*
260466
260467
260468
260469
260470
260471
260472
260473
260474
260475

[redacted]
Received by:

Date/Time 04/02/19 @ 1700

Date/Time

Received By: [redacted]

Received for Laboratory by: [redacted]

Date/Time 4/3/19 1335

Date/Time 4/3/19 1446

*Lab Use Only*
Ice Present (Yes) No
Temp 2.6 IR Gun 04
Cooler # 6000/5997

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 1.5

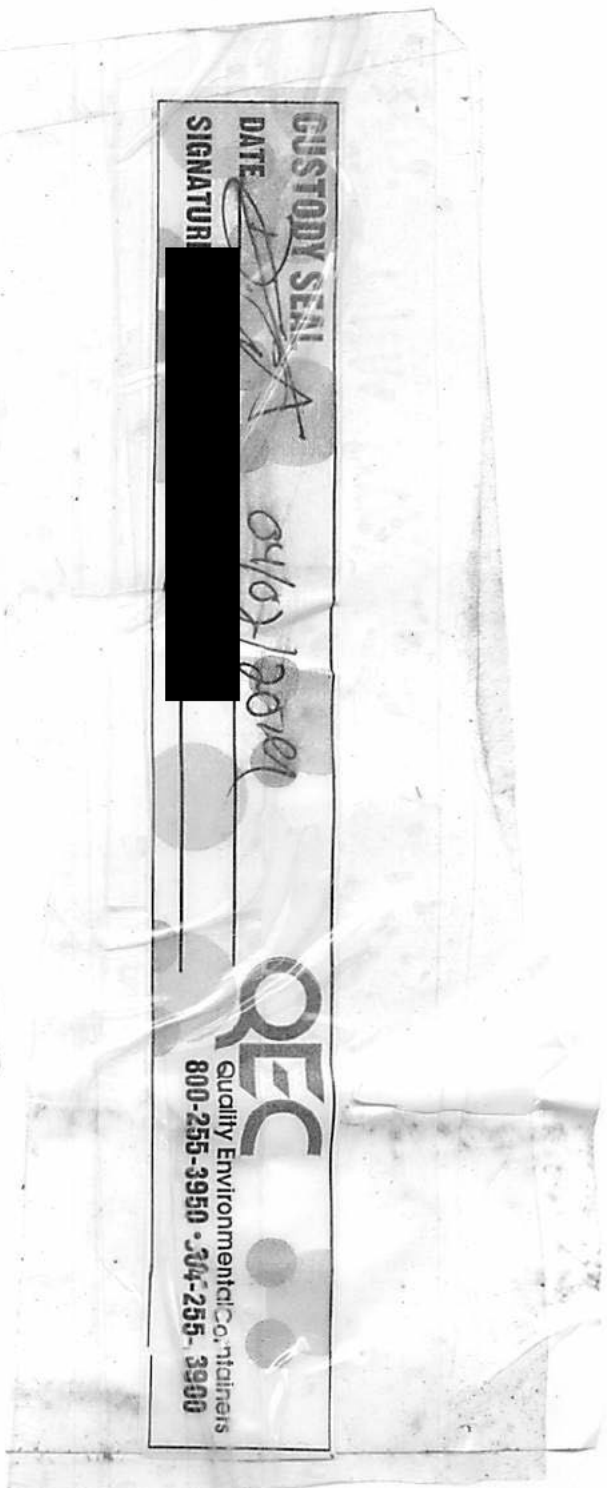
IR Gun # 24

Initials [redacted]

Date 4-3-19 Time 1335

Cooler #: 5997



# Cooler Receipt Form

Ice Present YES NO

Temperature 2.6

IR Gun # 24

Initials [redacted]

Date 4-3-19 Time 1335

Cooler #: 10000

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A858440159910

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 04/03/2019
SIGNATURE [redacted]

**Folder #: 144004**

## PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144631

**Project Manager:** [redacted] **Date Received:** 04/03/19 **Log Date:** 04/03/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 2.6 oC

**SAMPLE #: 260386 DESCR: DU2A-SU14** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 04/02/2019 Time: 0830**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 260459 DESCR: DU2B-SU14** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 04/02/2019 Time: 0830**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |

**Folder #:** 144004 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260459 **DESCR:** DU2B-SU14 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 0830

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 260460 **DESCR:** DU2A-SU13 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 0950

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260461 **DESCR:** DU2B-SU13 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 0950

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260462 **DESCR:** DU2A-SU12 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1140

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |

**Folder #:** 144004 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260462 **DESCR:** DU2A-SU12 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1140

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260463 **DESCR:** DU2B-SU12 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1140

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260464 **DESCR:** DU2A-SU11 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1325

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260465 **DESCR:** DU2B-SU11 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1325

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |

**Folder #:** 144004 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260465 **DESCR:** DU2B-SU11 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1325

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260466 **DESCR:** DU4A-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260467 **DESCR:** DU4B-SU06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260468 **DESCR:** DU4A-SU07R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |

**Folder #:** 144004 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260468 **DESCR:** DU4A-SU07R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260469 **DESCR:** DU4B-SU07R1 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1100

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260470 **DESCR:** DU4A-SU07R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1135

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260471 **DESCR:** DU4B-SU07R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1135

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|

**Folder #:** 144004 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260471 **DESCR:** DU4B-SU07R2 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1135

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260472 **DESCR:** DU4A-SU07R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1250

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260473 **DESCR:** DU4B-SU07R3 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1250

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Folder #:** 144004 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260474 **DESCR:** DU4A-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1425

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260475 **DESCR:** DU4B-SU05 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/02/2019 **Time:** 1425

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/16/2019 | 04/15/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/15/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/29/2019 | 04/15/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144631 **Preliminary Invoice Estimate:** $ 1,332.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 18 | $ 50.00 | 0.00 | $ 900.00 |
| ICP QSM 5.0 Arsenic | SOIL | 18 | $ 12.00 | 0.00 | $ 216.00 |
| ICP QSM 5.0 Manganese | SOIL | 18 | $ 12.00 | 0.00 | $ 216.00 |
| SOLIDS,PERCENT | SOIL | 18 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **36** | SOIL PREP/MIX |
| **SOLIDS** | **36** | %SOL,ICP |



[redacted] CONFIRMATION.RPT

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 144004
Client: ERT

Print Date / Time: 04/03/2019 14:48
Received Date / Time / By: 04/03/2019 13:35 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 04/03/2019 14:46 [redacted]
Project #: PM: [redacted]

Coolers: 5997,6000
Custody Seals Present : **Y**

Temperature: <2.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858442214301
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL PER COOLER PRESENT AND INTACT, SIGNED AND DATED 04/02/2019.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **260386** DU2A-SU14 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **260386** DU2A-SU14 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **260459** DU2B-SU14 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **260459** DU2B-SU14 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **260460** DU2A-SU13 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **260460** DU2A-SU13 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**260461** DU2B-SU13

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260461** DU2B-SU13

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260462** DU2A-SU12

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260462** DU2A-SU12

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260463** DU2B-SU12

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260463** DU2B-SU12

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260464** DU2A-SU11

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260464** DU2A-SU11

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260465** DU2B-SU11

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260465** DU2B-SU11

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260466** DU4A-SU06

| | | | | |
|---|---|---|---|---|
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**260466** DU4A-SU06

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260467** DU4B-SU06

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**260467** DU4B-SU06

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260468** DU4A-SU07R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**260468** DU4A-SU07R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260469** DU4B-SU07R1

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**260469** DU4B-SU07R1

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260470** DU4A-SU07R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |
| **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** | |

**260470** DU4A-SU07R2

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | **2** | |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260471** DU4B-SU07R2

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

| | | | | |
|---|---|---|---|---|
| | | **Total # of Containers of Type** | **( *SOLIDS* ) =** | **2** |

| | | | | | |
|---|---|---|---|---|---|
| **260471** | DU4B-SU07R2 | | | | |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | | **2** |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **260472** DU4A-SU07R3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | | **2** |
| **260472** DU4A-SU07R3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | | **2** |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **260473** DU4B-SU07R3 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | | **2** |
| **260473** DU4B-SU07R3 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | | **2** |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **260474** DU4A-SU05 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | | **2** |
| **260474** DU4A-SU05 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | | **2** |

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **260475** DU4B-SU05 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) =** | | **2** |
| **260475** DU4B-SU05 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) =** | | **2** |

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

144004

Rev. 02/2017

# CHAIN OF CUSTODY

Page _____ of _____

Company: ERT
Project Contact: [redacted]
Telephone: [redacted]
Project Name: CURTIS BAY
Project #:
Location: BALTIMORE, MD
Sampled By: [redacted]

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 144017
Company: ERT
Project: CURTIS BAY ORDNANC
Logged By: JRB PM: BM

ogram:
M RCRA SDWA NPDES
lid Waste Other _____
) #

Report To:
EMAIL: [redacted]
Company: [redacted]
Address:

Invoice To:* ERT
EMAIL: [redacted]
Company:
Address: Laurel, MD 20707

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

**Client Special Instructions**

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

| Collection Date | Collection Time | Matrix | Grab/ Comp | Sample # | Sample ID Description | Filtered? Y/N | ANALYSES REQUESTED: ICP Metals | Total # Containers | Designated MS/MSD | CT Lab ID # (Lab use only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Fill in Spaces with Bottles per Test | | | |
| 04/03/19 | 0955 | S | C | | DU4A-SU04 | N | 1 | 1 | X | 240924 |
| 04/03/19 | 0955 | S | C | | DU4B-SU04 | N | 1 | 1 | X | 240925 |
| 04/03/19 | 1005 | S | C | | DU4A-SU03 | N | 1 | 1 | | 240926 |
| 04/03/19 | 1005 | S | C | | DU4B-SU03 | N | 1 | 1 | | 240927 |
| 04/03/19 | 1050 | S | C | | DU4A-SU02 | N | 1 | 1 | | 240928 |
| 04/03/19 | 1050 | S | C | | DU4B-SU02 | N | 1 | 1 | | 240929 |
| 04/03/19 | 1205 | S | C | | DU4A-SU01 | N | 1 | 1 | | 240930 |
| 04/03/19 | 1205 | S | C | | DU4B-SU01 | N | 1 | 1 | | 240931 |

Turnaround Time
Normal RUSH*
Date Needed: _____
*Rush analysis requires prior CT Laboratories' approval*
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By: [redacted]
Date/Time: 04/03/19 1700

Received By: [redacted]
Date/Time: 4-4-19 1015

Date/Time:

Received for Laboratory by: [redacted]
Date/Time: 4-4-19 1021

Lab Use Only
Ice Present Yes No
Temp 2.1 IR Gun 24
Cooler # XXX

# Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.1

IR Gun # 24

Initials [redacted]

Date 4-4-19 Time 1015

Cooler #: WAO

GREEN YELLOW
POSITION #16
5339S
MKE SUNRISE

1Z1A4A858441091722

CUSTODY SEAL
DATE 04/03/2019
SIGNATURE [redacted]

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

**Folder #: 144017**

# PM LOGIN CONFIRMATION

**Contract #:** 3262

**Company:** ERT **Project:** CURTIS BAY ORDNANCE DEPOT **Proj #:**

**Project Phase:** ARSENIC & MANGANESE RI **PO Number:** **Invoice #:** 144643

**Project Manager:** [redacted] **Date Received:** 04/04/19 **Log Date:** 04/04/2019

Report To: [redacted] CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: : Fax:

Rep. E-Mail [redacted]ertcorp.com

Collected By:

Collector's Phone:

Invoice To :ACCOUNTS PAYABLE CC:

[redacted]

SUITE 300

LAUREL, MD 20707

Phone: Fax:

EMail: ert-ap@ertcorp.com

Arrival Temperature: 2.1 oC

**SAMPLE #: 260924 DESCR: DU4A-SU04** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 04/03/2019 Time: 0955**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #: 260925 DESCR: DU4B-SU04** **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED: 04/03/2019 Time: 0955**

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | ***DESIGNATED MATRIX SPIKE*** | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | ***DESIGNATED MATRIX SPIKE*** | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | ***DESIGNATED MATRIX SPIKE*** | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |



[redacted]CONFIRMATION.RPT

**Folder #:** 144017 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260925 **DESCR:** DU4B-SU04 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 0955

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Manganese | | | | | | |

**SAMPLE #:** 260926 **DESCR:** DU4A-SU03 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260927 **DESCR:** DU4B-SU03 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1005

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260928 **DESCR:** DU4A-SU02 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/30/2019 | 04/16/2019 | | NeedPrep |

**Folder #:** 144017 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260928 **DESCR:** DU4A-SU02 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260929 **DESCR:** DU4B-SU02 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1050

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260930 **DESCR:** DU4A-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1205

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/16/2019 | | Logged |
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**SAMPLE #:** 260931 **DESCR:** DU4B-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1205

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 8 | SOLIDS,PERCENT | (EPA 8000C) | | | | 04/17/2019 | 04/16/2019 | | Logged |
| 946 | HOMOGEN/M.I. PREP | (LAB SOP) | | | | | 04/16/2019 | | Logged |

**Folder #:** 144017 **Company:** *ERT* **Project:** CURTIS BAY ORDNANCE DEPOT

**SAMPLE #:** 260931 **DESCR:** DU4B-SU01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 04/03/2019 **Time:** 1205

**CLIENT SAMPLE #:** **DETAILED SITE/POINT ID INFORMATION:**

| TEST# | TEST | TEST METHOD | ANALYTE | TEST GROUP | SPECIAL REQUIREMENTS | HOLD DATE | ANALYSIS DUE | RUSH | STATUS |
|---|---|---|---|---|---|---|---|---|---|
| 1191 | ICP QSM 5.0 | (EPA 6010C) | | | | 09/30/2019 | 04/16/2019 | | NeedPrep |
| | | | Arsenic | | | | | | |
| | | | Manganese | | | | | | |

**Invoice Number:** 144643 **Preliminary Invoice Estimate:** $ 592.00

| Item | Matrix | Quantity | Price | Expedited TAT Surcharge | Total |
|---|---|---|---|---|---|
| HOMOGEN/M.I. PREP | SOIL | 8 | $ 50.00 | 0.00 | $ 400.00 |
| ICP QSM 5.0 Arsenic | SOIL | 8 | $ 12.00 | 0.00 | $ 96.00 |
| ICP QSM 5.0 Manganese | SOIL | 8 | $ 12.00 | 0.00 | $ 96.00 |
| SOLIDS,PERCENT | SOIL | 8 | $ 0.00 | 0.00 | $ 0.00 |
| Temporary Fuel Surcharge on lab supplies and services (if applicable): | | | | | $ 0.00 |

Bottle Information

| Container | # Containers | Tests |
|---|---|---|
| **FOR LABEL ONLY** | **16** | SOIL PREP/MIX |
| **SOLIDS** | **16** | %SOL,ICP |

CT LABORATORIES
delivering more than data from your environmental analyses

# Sample Condition Report

Folder #: 144017
Client: ERT

Print Date / Time: 04/04/2019 10:21
Received Date / Time / By: 04/04/2019 10:15 [redacted]

Project Name: CURTIS BAY ORDNANCE DEPOT
Project Phase: ARSENIC & MANGANESE RI

Log-In Date / Time / By: 04/04/2019 10:21 [redacted]
Project #: PM: [redacted]

Coolers: XXXX
Custody Seals Present : **Y**

Temperature: 2.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: UPS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 1Z1A4A858441091722
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL PRESENT AND INTACT, SIGNED AND DATED 04/03/2019.

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|
| **260924** DU4A-SU04 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **260924** DU4A-SU04 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **260925** DU4B-SU04 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **260925** DU4B-SU04 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |
| **260926** DU4A-SU03 | | | | |
| | SOLIDS | 1 | / | %SOL,ICP |
| | SOLIDS | 1 | / | %SOL,ICP |
| | **Total # of Containers of Type** | **( *SOLIDS* ) = 2** | | |
| **260926** DU4A-SU03 | | | | |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| | **Total # of Containers of Type** | **( *FOR LABEL ONLY* ) = 2** | | |
| **Sample ID / Description** | **Container Type** | **Cond. Code** | **pH OK?/Filtered?** | **Tests** |

**260927** DU4B-SU03

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260927** DU4B-SU03

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260928** DU4A-SU02

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260928** DU4A-SU02

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260929** DU4B-SU02

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260929** DU4B-SU02

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260930** DU4A-SU01

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260930** DU4A-SU01

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| Sample ID / Description | Container Type | Cond. Code | pH OK?/Filtered? | Tests |
|---|---|---|---|---|

**260931** DU4B-SU01

| | | | |
|---|---|---|---|
| SOLIDS | 1 | / | %SOL,ICP |
| SOLIDS | 1 | / | %SOL,ICP |

**Total # of Containers of Type ( *SOLIDS* ) = 2**

**260931** DU4B-SU01

| | | | |
|---|---|---|---|
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |
| FOR LABEL ONLY | 1 | / | SOIL PREP/MIX |

**Total # of Containers of Type ( *FOR LABEL ONLY* ) = 2**

| *Condition Code* | *Condition Description* |
|---|---|
| 1 | Sample Received OK |

[redacted]

**From:** [redacted] <[redacted]ertcorp.com>
**Sent:** 03/12/2019 11:35
**To:** [redacted]
**Subject:** Fwd: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
**Attachments:** MFR Response to ERT Email for Use of Puck Mill-Curtis Bay RI-FS for Mn_1....docx

FYI - we are good to go with the puck mill see the attached and email below.

---------- Forwarded message ---------
From: [redacted] **CIV USARMY CENAB (US)** <[redacted]usace.army.mil>
Date: Tue, Mar 12, 2019 at 12:26 PM
Subject: RE: [Non-DoD Source] Sample preparation for the Curtis Bay Depot (UNCLASSIFIED)
To: [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] <[redacted]ertcorp.com>, [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>

CLASSIFICATION: UNCLASSIFIED

From the chemist, [redacted]

"Based on the Method Blank and LCS QC data provided and justification for switching from use of a Teflon-Coated Ball Mill to using a Puck Mill to process the Curtis Bay RI/FS ISM Soil Samples, I find the request for the change to the sample prep to be acceptable. I have a more detailed response in the form of an MFR which I have attached as a file to this email response."

[redacted] PMP
Project Manager
USACE Baltimore District
[redacted]
Attn: CENAB-ENE-M, Room 09-F-08
Baltimore, MD 21201
W: [redacted]

-----Original Message-----
From: [redacted] [mailto:[redacted]ertcorp.com]
Sent: Monday, March 11, 2019 4:26 PM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>
Cc: [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>; [redacted] <[redacted]ertcorp.com>

Subject: [Non-DoD Source] Sample preparation for the Curtis Bay Depot

All,

ERT has contracted CT Laboratories, LLC (CT) to perform the sample preparation and analysis required for the Curtis Bay Ordnance Depot arsenic and manganese RI. After reviewing the Final UFP-QAPP, CT is concerned with processing the sample mass that will be submitted for each of the ISM soil samples collected (approximately 5-10 kg) using the Teflon-coated ball mill specified in the UFP-QAPP. CT indicates that they can process three 1-2 kg masses of soil at a time using the Teflon-coated ball mill. Each of these grind processes will take from 20-30 minutes for clay, and up to one week for sand. Soil samples collected for the RI are expected to be a mixture of sands and clays. Given the large number of soil samples that will be submitted (220+ [surface, subsurface, and QC replicates]) and the need to divide the samples into 5-10 processing masses, the sample processing using the Teflon-coated ball mill is impracticable.

In order to process the soil samples collected at the Curtis Bay Ordnance Depot, ERT and CT propose use of the puck mill for sample grinding. The puck mill is expected to grind the soil samples to the required specification in one minute or less. Use of the puck mill for soil sample grinding will allow the laboratory to process and analyze the submitted soil samples so that the project schedule is not impacted.

To validate use of the puck mill grinding method, CT performed a puck mill grind test on method blank sand materials, both as a blank and arsenic and manganese spiked laboratory control samples and analyzed all for arsenic and manganese using USEPA Method SW846 6010C with the following results:

Puck Mill Grind Test for Analytical Method SW846 6010C (one minute grind time)

Replicate

Method Blank (mg/kg)

Laboratory Control Sample

Percent Recovery

Arsenic

Manganese

Arsenic QC Limit (82-118)

Manganese QC Limit (85-116)

1

0.425

4.375

98

103

2

0.435

4.525

92

96

3

<LOD

2.9

95

97.5

4

0.156

3.15

94.5

96

5

<LOD

2.8

93

98

6

<LOD

3.175

87

91

7

<LOD

2.725

87

96

8

0.0575

2.975

82.5

80

9

<LOD

3.1

91.5

94

10

<LOD

3.1

92.5

97

The concern with use of the puck mill with soil sample submitted for analysis of manganese is adding a high bias to the sample results due to the metals makeup of the puck mill. Although low levels of manganese are detected in the method blank sample, these low levels are not expected to affect project decisions due to the magnitude of the lowest screening level (300 mg/kg, USEPA BTAG) as compared to the detected concentration in the method blank. Also note that all but one LCS recovery was within the DoD QSM QC limit.

The concern with use of the puck mill with soil sample submitted for analysis of arsenic is adding a low bias to the sample results due to volatilization of arsenic during the grinding process. Based on the LCS recoveries (all recoveries were within the DoD QSM QC limit) for arsenic, use of the puck mill for a one-minute grind cycle is not expected to adversely affect the concentrations measured in site soil samples.

Please let me know if sample preparation using the puck mill will be acceptable.

Thank you,

--

[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

CLASSIFICATION: UNCLASSIFIED

--
[redacted]
ERT, Inc.
[redacted]
Laurel, MD 20707
[redacted]

This email was scanned by Bitdefender

12 March 2019

Memorandum for Record

Subject: Response to Email Message, sent 11 March 2019 from ERT on Sample Preparation on the Curtis Bay Depot RI/FS Project for Mn and As to change from processing of ISM Soil Samples from using a Teflon-Coated Ball Mill to a Puck Mill

Your request to use the puck mill for soil sample grinding in order to more efficiently process the large volume and quantities of soil samples consisting of a clay and sand mix is acceptable based on the method QC data provide for the 10 replicate method blanks and the LCS samples processed using the puck mill and analyzed for arsenic and manganese.

Based on an evaluation of the listed Measurement Performance Criteria (MPC) for the two metals in QAPP Worksheet #12, the method blank result for manganese needs to be < 1/10 the regulatory limit (or < 1/10$^{th}$ the amount measure in any sample [whichever is greater] per the DoD QSM). Between the writing of the Draft QAPP and then the Final version of the QAPP, two additional regulatory criteria were added to Worksheet #15: the USEPA Residential and the USEPA BTAG, with the BTAG regulatory value for Mn being the lowest at 330 mg/kg. A tenth of that value is 33 mg/kg, therefore any Method Blank analysis needs to be < 33 mg/kg for Mn. The Method Blank results presented for Mn range from 2.8 to 4.5 mg/kg which is a factor of 7x below 1/10$^{th}$ the Regulatory Limit. Also 9 of the 10 LCS samples spiked for Mn were within acceptable percent recovery limits with the one falling outside the QC limit at 80% which was slightly below the 85% Lower Limit.

For the Arsenic analysis, using the puck mill with a limit of a one-minute grind cycle is acceptable to prevent the puck mill from getting too hot. If another grinding cycle will be done, several minutes should be allowed for the puck mill to cool down. The puck mill should not contain arsenic as part of its elemental makeup, so that shouldn't be a contributing factor in the method blank analysis. The lowest regulatory action level listed for Arsenic in QAPP Worksheet #15 is 0.68 mg/kg, the EPA Residential value. Based on the reported method blank results, the values for arsenic are below the EPA Residential Action Limit or are non-detect.

[redacted]
Chemist
USACE, Baltimore District

# APPENDIX E: PHOTO LOG

**This Page Intentionally Left Blank**



1. Panorama of part of DU3, facing north at center. Date: 11 March 2019.



2. Small arms debris within DU3-SU07. Date: 11 March 2019.



3. Artesian well along NE fence at DU2. Date: 11 March 2019.



4. Railroad spur within DU1-SU09. 4 flags were offset away from the tracks/gravel. Date: 12 March 2019.



5. Panorama of DU1-SU11. Original location overlapped with “K9” building at left, as well as paved area adjacent to it. Offset the grid to the south in the brush shown at center. Date: 12 March 2019.



6. Panorama of DU1-SU51, from near northwest corner, facing southeast at center. Many flags were originally located on the other side of fence shown at left and were relocated into grass on north side of fence. Date: 12 March 2019.



6. Panorama of DU1- SU08, from near southwest corner. Note railroad tracks at left. Date: 12 March 2019.



7. Woodward, Cote, and Watson sampling in DU1-SU51. Notice the proximity of railroad tracks, and barbwire fence. Date: 12 March 2019.



8., 9., 10., and 11. Woodward, Cote, and Watson sampling in DU1-SU51. Date: 12 March 2019.



12. Panorama of DU1-SU14, from near southwest corner.  Date:  13 March 2019.



13. Photo of ditch, RR tracks, and asphalt on east side of DU1-SU14.  Flags on or east of ditch were relocated to west side of grid.  Date:  13 March 2019.



14. Photo of DU1-SU 14, facing east. Date: 13 March 2019.



15. Panorama of relocated DU1-SU12, from NW corner (facing SE at center). Building 911 in background. The grid was shifted 236 feet due south from planned location. Date: 13 March 2019.



16. Staking sample points in DU2-SU1 using RTK GPS. Woodward at left, Cote at right. Date: 13 March 2019.



17. Panorama of DU2-SU1 from NW corner. Date: 13 March 2019.





18.and 19. Photos showing water line painted out in blue in DU3. An electric line is apparently colinear with it. Note fire hydrants in right photo.
Date: 14 March 2019.



20. Panorama of DU1-SU30, facing east in center, from concrete platform of adjacent building. There is asphalt/gravel in the apparently grassy areas.
Date: 14 March 2019.



21. Panorama of DU1-SU27 (as proposed), facing northwest in center.  Date:  14 March 2019.



22. Panorama of DU1-SU37 (as proposed), facing southeast in center, from asphalt pad west of the grid.  Date:  14 March 2019.



23. Panorama of DU1-SU28, facing north from the road to the south of it. ERT moved the grid from proposed location into this field. Date: 14 March 2019.



24. Panorama of DU1-SU18, from south edge of SU18, facing nearly north at center. DU1-SU15 is in the distance to the left. Both areas are mostly covered with asphalt or thick gravel. Date: 14 March 2019.



25. Panorama showing parts of DU1-SU32 and SU33, facing east in center. This is the valley bottom of the unnamed drainage flowing south. Koroncai and Watson visible right of center, still flagging points with the Geode GPS. Date: 14 March 2019.



26. Panorama showing DU1-SU50 (as proposed), facing southwest in center. Date: 14 March 2019.



27. Panorama showing DU1-SU48 (as proposed), facing northwest in center.  Date:  14 March 2019.



28. Panorama showing DU1-SU44 (as proposed), facing northwest in center.  Date:  14 March 2019.



29. Photo of small arms debris in DU3-SU07, facing approximately southwest. Date: 18 March 2019.



30. Photo of old road running through DU1-SU24, facing approximately northeast. [redacted] of USACE at left, Woodward and Cote at right. Date: 26 March 2019.





31.32. [redacted] of USACE observing [redacted] and Ryan of A-Zone drilling in DU3-SU08. Date: 26 March 2019.



33. Example of samples within step probes. Surface interval at bottom, deep interval at top. This sample was collected at DU1-SU17. Date: 26 March 2019.



34. Panorama of DU1-SU13, from NE corner (facing SW at center). Note small pond at left. Some points were offset to north to avoid the pond. Date: 27 March 2019.



35. Panorama of DU1-SU16, from NW corner (facing SE at center). Old road at right. Date: 27 March 2019.



36. Panorama of DU1-SU17, from SW corner (facing NE at center). Sampled 26 March, so flags have been removed. Date: 27 March 2019.



37. Panorama of DU1-SU26, from top of revetment to the west. Date: 27 March 2019.



38. Panorama of DU1-SU26, from SW corner (facing NE at center). Date: 27 March 2019.



39. Panorama of DU1-SU19, from SW corner (facing NE at center). Note building foundation and ruins at right. Date: 27 March 2019.



40. Panorama of DU1-SU21, from SE corner (facing NW at center). Note fence at right. Date: 27 March 2019.





41.and 42. DU4-SU5 & SU4: Inside of retaining pond. Date: 03 April 2019





43. and 44. DU4-SU2 & SU1 flagged, and sampling. You can see Cote and Woodward in the middle on top of the hill in left picture. Date: 03 April 2019





45.and 46. Sampling DU4-SU2. Date: 03 April 2019





47.and 48. Packaging samples for shipment. Cooler contained 8 samples. Date: 03 April 2019





49. and 50. DU2-SU17. Dense stand of Bradford Pears. Date: 03 April 2019





51. and 52. DU2-SU7. Dense stand of Bradford Pears. Date: 03 April 2019





53.an d 54. DU3-SU3. Tall phragmites. Date: 03 April 2019





55.56 Decontamination procedures. Date: 03 April 2019

# APPENDIX F: FIELD DOCUMENTATION

**This Page Intentionally Left Blank**

# DAILY REPORTS

**This Page Intentionally Left Blank**

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/11/2019** |
|---|---|
| Report Number: 001 | Prepared By: [redacted] |
| Time of Arrival at Site: 0800 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0815 | |
| **Weather/Site Conditions:** | |
| Weather: 55 °F, mostly sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Reviewed project planning documents. Conducted utility clearance at DU-2 and DU-3. Began sample collection at DU-1. Samples collected are noted in Tables 1-4, below. | |
| **Issues Encountered and Resolutions:** | |
| No issues encountered. | |
| **Planned Activities:** | |
| Continue sample collection in DU1. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | | DU1B-SU05 | |
| DU1A-SU06 | | DU1B-SU06 | |
| DU1A-SU07 | | DU1B-SU07 | |
| DU1A-SU08 | | DU1B-SU08 | |
| DU1A-SU09 | | DU1B-SU09 | |
| DU1A-SU09R1 | | DU1B-SU09R1 | |
| DU1A-SU09R2 | | DU1B-SU09R2 | |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11 | | DU1B-SU11 | |
| DU1A-SU11R1 | | DU1B-SU11R1 | |
| DU1A-SU11R2 | | DU1B-SU11R2 | |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | | DU1B-SU27 | |
| DU1A-SU28 | | DU1B-SU28 | |
| DU1A-SU29 | | DU1B-SU29 | |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | | DU1B-SU37 | |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | | DU1B-SU41 | |
| DU1A-SU42 | | DU1B-SU42 | |
| DU1A-SU43 | | DU1B-SU43 | |
| DU1A-SU44 | | DU1B-SU44 | |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU45 | | DU1B-SU45 | |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | | DU1B-SU47 | |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | | DU1B-SU49 | |
| DU1A-SU50 | | DU1B-SU50 | |
| DU1A-SU51 | | DU1B-SU51 | |
| DU1A-SU51R1 | | DU1B-SU51R1 | |
| DU1A-SU51R2 | | DU1B-SU51R2 | |
| DU1A-SU52 | | DU1B-SU52 | |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU53 | | DU1B-SU53 | |
| DU1A-SU54 | | DU1B-SU54 | |
| DU1A-SU55 | | DU1B-SU55 | |
| DU1A-SU56 | | DU1B-SU56 | |
| DU1A-SU57 | | DU1B-SU57 | |
| DU1A-SU58 | | DU1B-SU58 | |
| DU1A-SU59 | | DU1B-SU59 | |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07 | | DU2B-SU07 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | | DU3B-SU01 | |
| DU3A-SU02 | | DU3B-SU02 | |
| DU3A-SU03 | | DU3B-SU03 | |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU04 | | DU3B-SU04 | |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01 | | BKGB01 | |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/12/2019** |
|---|---|
| Report Number: 002 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 48 °F, mostly sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. Samples collected are noted in Tables 1-4, below. | |
| **Issues Encountered and Resolutions:** | |
| No issues encountered. | |
| **Planned Activities:** | |
| Continue sample collection in DU1. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | | DU1B-SU05 | |
| DU1A-SU06 | | DU1B-SU06 | |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | | DU1B-SU08 | |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R3 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | | DU1B-SU27 | |
| DU1A-SU28 | | DU1B-SU28 | |
| DU1A-SU29 | | DU1B-SU29 | |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| | | | |
|---|---|---|---|
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | | DU1B-SU37 | |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | | DU1B-SU41 | |
| DU1A-SU42 | | DU1B-SU42 | |
| DU1A-SU43 | | DU1B-SU43 | |
| DU1A-SU44 | | DU1B-SU44 | |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU45 | | DU1B-SU45 | |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | | DU1B-SU47 | |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | | DU1B-SU49 | |
| DU1A-SU50 | | DU1B-SU50 | |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | | DU1B-SU53 | |
| DU1A-SU54 | | DU1B-SU54 | |
| DU1A-SU55 | | DU1B-SU55 | |
| DU1A-SU56 | | DU1B-SU56 | |
| DU1A-SU57 | | DU1B-SU57 | |
| DU1A-SU58 | | DU1B-SU58 | |
| DU1A-SU59 | | DU1B-SU59 | |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07 | | DU2B-SU07 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | | DU3B-SU01 | |
| DU3A-SU02 | | DU3B-SU02 | |
| DU3A-SU03 | | DU3B-SU03 | |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU04 | | DU3B-SU04 | |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |

| Table 4 : BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01 | | BKGB01 | |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/13/2019** |
|---|---|
| Report Number: 003 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 51 °F, partly cloudy | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. Samples collected are noted in Tables 1-4, below. Sampling equipment (step probes) damaged mid-day, ceased sample collection. Began marking out sampling locations within SUs in DU1. | |
| **Issues Encountered and Resolutions:** | |
| Sampling equipment damaged, replacement equipment ordered. | |
| **Planned Activities:** | |
| Continue mark out of SU locations in DUs. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | | DU1B-SU05 | |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | | DU1B-SU27 | |
| DU1A-SU28 | | DU1B-SU28 | |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | | DU1B-SU37 | |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | | DU1B-SU41 | |
| DU1A-SU42 | | DU1B-SU42 | |
| DU1A-SU43 | | DU1B-SU43 | |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | | DU1B-SU45 | |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | | DU1B-SU47 | |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | | DU1B-SU49 | |
| DU1A-SU50 | | DU1B-SU50 | |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | | DU1B-SU53 | |
| DU1A-SU54 | | DU1B-SU54 | |
| DU1A-SU55 | | DU1B-SU55 | |
| DU1A-SU56 | | DU1B-SU56 | |
| DU1A-SU57 | | DU1B-SU57 | |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | | DU1B-SU59 | |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07 | | DU2B-SU07 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | | DU3B-SU01 | |
| DU3A-SU02 | | DU3B-SU02 | |
| DU3A-SU03 | | DU3B-SU03 | |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU04 | | DU3B-SU04 | |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01 | | BKGB01 | |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/14/2019** |
|---|---|
| Report Number: 004 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 51 °F, partly cloudy | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued marking out sample locations within DU1 and DU2, DU3. No samples were collected today. | |
| **Issues Encountered and Resolutions:** | |
| Sampling equipment damaged, replacement equipment ordered. Expected delivery on 15 March 2019. | |
| **Planned Activities:** | |
| ERT staff will resume sample collection in DU1 and DU3 on Monday March 17th. A-zone Environmental will be mobilizing on Monday as well to begin soil collection via DPT. No planned actives for Friday, March 15th as ERT is awaiting delivery of replacement equipment. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | | DU1B-SU05 | |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | | DU1B-SU27 | |
| DU1A-SU28 | | DU1B-SU28 | |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | | DU1B-SU37 | |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | | DU1B-SU41 | |
| DU1A-SU42 | | DU1B-SU42 | |
| DU1A-SU43 | | DU1B-SU43 | |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | | DU1B-SU45 | |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | | DU1B-SU47 | |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | | DU1B-SU49 | |
| DU1A-SU50 | | DU1B-SU50 | |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | | DU1B-SU53 | |
| DU1A-SU54 | | DU1B-SU54 | |
| DU1A-SU55 | | DU1B-SU55 | |
| DU1A-SU56 | | DU1B-SU56 | |
| DU1A-SU57 | | DU1B-SU57 | |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | | DU1B-SU59 | |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU07R3 | | DU2B-SU07R3 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU13R3 | | DU2B-SU13R3 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | | DU3B-SU01 | |
| DU3A-SU02 | | DU3B-SU02 | |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU03R3 | | DU3B-SU03R3 | |
| DU3A-SU04 | | DU3B-SU04 | |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/18/2019** |
|---|---|
| Report Number: 005 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 44 °F, partly sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. Samples collected are noted in Tables 1-4, below. Continue to mark out SU's in DU3. | |
| **Issues Encountered and Resolutions:** | |
| None | |
| **Planned Activities:** | |
| Continue sample collection in DU1. A-Zone Environmental will now mobilize on 25 March. ERT staff will continue to collect samples a mark out locations for A-Zone in DU2. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | | DU1B-SU42 | |
| DU1A-SU43 | | DU1B-SU43 | |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | | DU1B-SU45 | |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | | DU1B-SU47 | |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | | DU1B-SU49 | |
| DU1A-SU50 | | DU1B-SU50 | |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | | DU1B-SU53 | |
| DU1A-SU54 | | DU1B-SU54 | |
| DU1A-SU55 | | DU1B-SU55 | |
| DU1A-SU56 | | DU1B-SU56 | |
| DU1A-SU57 | | DU1B-SU57 | |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | | DU1B-SU59 | |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU07R3 | | DU2B-SU07R3 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU13R3 | | DU2B-SU13R3 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | | DU3B-SU01 | |
| DU3A-SU02 | | DU3B-SU02 | |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU03R3 | | DU3B-SU03R3 | |
| DU3A-SU04 | | DU3B-SU04 | |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/19/2019** |
|---|---|
| Report Number: 006 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1845 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 46 °F, partly sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT – Field Audit |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. Samples collected are noted in Tables 1-4, below.<br>[redacted] conducted an audit of the field sampling activities. | |
| **Issues Encountered and Resolutions:** | |
| ERT staff was departing site at approximately 1650 hours. However, the gate at the entrance of 720 Ordnance Road was locked. The other gate into the Reserve Center was also locked. The field team contacted [redacted] (Senior ERT PM) who contacted the ERT project manager, [redacted] Ms. [redacted] attempted to call the GSA POC and left a message regarding the locked gate issue. Ms. [redacted] and [redacted] advised the field team to cut the lock and replace it with an ERT lock. | |
| **Planned Activities:** | |
| Continue sample collection in DU1. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | | DU1B-SU42 | |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | | DU1B-SU45 | |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | | DU1B-SU55 | |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | | DU1B-SU57 | |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU07R3 | | DU2B-SU07R3 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU13R3 | | DU2B-SU13R3 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | | DU3B-SU01 | |
| DU3A-SU02 | | DU3B-SU02 | |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU03R3 | | DU3B-SU03R3 | |
| DU3A-SU04 | | DU3B-SU04 | |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/20/2019** |
|---|---|
| Report Number: 007 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1500 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 55 °F, partly sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1, and DU-3. Team switched to DU3 to support A-Zone in areas where the drill rig would have trouble sampling (e.g., dense trees, extremely wet areas). Samples collected are noted in Tables 1-4, below. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| Continue sample collection in DU1. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU07R3 | | DU2B-SU07R3 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU13R3 | | DU2B-SU13R3 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | | DU3B-SU03R1 | |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU03R3 | | DU3B-SU03R3 | |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | | DU3B-SU07 | |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/21/2019** |
|---|---|
| Report Number: 008 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1200 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 50 °F, rain | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1, and DU-3. Samples collected are noted in Tables 1-4, below.<br><br>Team departed the site early due to severe weather. Poor visibility, and heavy rains. Lighting in the area. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| Continue sample collection in DU1. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02 | | DU2B-SU02 | |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | | DU2B-SU07R1 | |
| DU2A-SU07R2 | | DU2B-SU07R2 | |
| DU2A-SU07R3 | | DU2B-SU07R3 | |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13R1 | | DU2B-SU13R1 | |
| DU2A-SU13R2 | | DU2B-SU13R2 | |
| DU2A-SU13R3 | | DU2B-SU13R3 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | | DU3B-SU03R2 | |
| DU3A-SU03R3 | | DU3B-SU03R3 | |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/22/2019** |
|---|---|
| Report Number: 009 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 48 °F, partly sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1, and DU-3. Team complete the replicate in DU3, then mobilized to DU2 to scout out SU where it is possible to sample using the step probe to support A-Zone. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in DU1, along with A-Zone collecting samples in DU2/3. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | | DU1B-SU31 | |
| DU1A-SU32 | | DU1B-SU32 | |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | | DU1B-SU33 | |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | | DU1B-SU35 | |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | | DU1B-SU38 | |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | | DU1B-SU40 | |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | | DU1B-SU46 | |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13R1 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | | DU3B-SU05 | |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | | DU3B-SU09 | |
| DU3A-SU10 | | DU3B-SU10 | |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/25/2019** |
|---|---|
| Report Number: 010 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 56 °F, partly cloudy, chance of rain 80% | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| [redacted] | A-Zone |
| [redacted] | A-Zone |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. ERT staff assisted and guided A-Zone in collecting samples in DU3. Refer to the table below. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in DU1, along with A-Zone collecting samples in DU2/3. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | | DU1B-SU15 | |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | | DU1B-SU17 | |
| DU1A-SU18 | | DU1B-SU18 | |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | | DU1B-SU22 | |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | | DU1B-SU24 | |
| DU1A-SU25 | | DU1B-SU25 | |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | | DU3B-SU06 | |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | | DU3B-SU08 | |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/26/2019** |
|---|---|
| Report Number: 011 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 43 °F, sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| [redacted] | USACE Baltimore District |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. ERT staff assisted and guided A-Zone in completing sample collection in DU3. Refer to the table below.<br>[redacted] onsite from 0715 – 1000 and 1500 - 1600. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in DU1 and assisting A-Zone collecting samples in DU2. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | | DU1B-SU16 | |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | | DU1B-SU20 | |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | | DU1B-SU26 | |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30 | | DU1B-SU30 | |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | | DU1B-SU44R1 | |
| DU1A-SU44R2 | | DU1B-SU44R2 | |
| DU1A-SU44R3 | | DU1B-SU44R3 | |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | | DU1B-SU48 | |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | | DU2B-SU18 | |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/27/2019** |
|---|---|
| Report Number: 012 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 50 °F, sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU1. ERT staff assisted and guided A-Zone in collecting samples in DU2 and DU1. Refer to the table below. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in DU1 along with A-Zone collecting samples in DU1/2. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | | DU1B-SU12 | |
| DU1A-SU13 | | DU1B-SU13 | |
| DU1A-SU14 | | DU1B-SU14 | |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | 3/27/19 | DU1B-SU16 | 3/27/19 |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | | DU1B-SU19 | |
| DU1A-SU20 | 3/27/19 | DU1B-SU20 | 3/27/19 |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | 3/27/19 | DU1B-SU26 | 3/27/19 |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30S1 | 3/27/19 | DU1B-SU30S1 | 3/27/19 |
| DU1A-SU30S2 | 3/27/19 | DU1A-SU30S2 | 3/27/19 |
| DU1A-SU30S3 | 3/27/19 | DU1A-SU30S3 | 3/27/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | 3/27/19 | DU1B-SU44R1 | 3/27/19 |
| DU1A-SU44R2 | 3/27/19 | DU1B-SU44R2 | 3/27/19 |
| DU1A-SU44R3 | 3/27/19 | DU1B-SU44R3 | 3/27/19 |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | 3/27/19 | DU1B-SU48 | 3/27/19 |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | | DU2B-SU03 | |
| DU2A-SU04 | | DU2B-SU04 | |
| DU2A-SU05 | | DU2B-SU05 | |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | | DU2B-SU10 | |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | 3/27/19 | DU2B-SU18 | 3/27/19 |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/28/2019** |
|---|---|
| Report Number: 013 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 50 °F, sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. ERT staff assisted and guided A-Zone in collecting samples in DU2 and DU1. Refer to the table below. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in DU1 along with A-Zone collecting samples in DU1/2. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10 | | DU1B-SU10 | |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | 3/28/19 | DU1B-SU12 | 3/28/19 |
| DU1A-SU13 | 3/28/19 | DU1B-SU13 | 3/28/19 |
| DU1A-SU14 | 3/28/19 | DU1B-SU14 | 3/28/19 |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | 3/27/19 | DU1B-SU16 | 3/27/19 |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | 3/28/19 | DU1B-SU19 | 3/28/19 |
| DU1A-SU20 | 3/27/19 | DU1B-SU20 | 3/27/19 |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | 3/27/19 | DU1B-SU26 | 3/27/19 |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29R1 | | DU1B-SU29R1 | |
| DU1A-SU29R2 | | DU1B-SU29R2 | |
| DU1A-SU29R3 | | DU1B-SU29R3 | |
| DU1A-SU30S1 | 3/27/19 | DU1B-SU30S1 | 3/27/19 |
| DU1A-SU30S2 | 3/27/19 | DU1A-SU30S2 | 3/27/19 |
| DU1A-SU30S3 | 3/27/19 | DU1A-SU30S3 | 3/27/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | | DU1B-SU34 | |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36 | | DU1B-SU36 | |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | 3/27/19 | DU1B-SU44R1 | 3/27/19 |
| DU1A-SU44R2 | 3/27/19 | DU1B-SU44R2 | 3/27/19 |
| DU1A-SU44R3 | 3/27/19 | DU1B-SU44R3 | 3/27/19 |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | 3/27/19 | DU1B-SU48 | 3/27/19 |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52R1 | | DU1B-SU52R1 | |
| DU1A-SU52R2 | | DU1B-SU52R2 | |
| DU1A-SU52R3 | | DU1B-SU52R3 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | | DU2B-SU01 | |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | 3/28/19 | DU2B-SU03 | 3/28/19 |
| DU2A-SU04 | 3/28/19 | DU2B-SU04 | 3/28/19 |
| DU2A-SU05 | 3/28/19 | DU2B-SU05 | 3/28/19 |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | 3/28/19 | DU2B-SU10 | 3/28/19 |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | | DU2B-SU15 | |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | | DU2B-SU17 | |
| DU2A-SU18 | 3/27/19 | DU2B-SU18 | 3/27/19 |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 03/29/2019** |
|---|---|
| Report Number: 014 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 58 °F, sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. ERT staff assisted and guided A-Zone in collecting samples in DU2 and DU1. Refer to the table below. | |
| **Issues Encountered and Resolutions:** | |
| None. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in DU1 along with A-Zone collecting samples in DU1/2. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10R1 | 3/29/19 | DU1B-SU10R1 | 3/29/19 |
| DUIA-SU10R2 | 3/29/19 | DU1A-SU10R2 | 3/29/19 |
| DU1A-SU10R3 | 3/29/19 | DU1A-SU10R3 | 3/29/19 |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | 3/28/19 | DU1B-SU12 | 3/28/19 |
| DU1A-SU13 | 3/28/19 | DU1B-SU13 | 3/28/19 |
| DU1A-SU14 | 3/28/19 | DU1B-SU14 | 3/28/19 |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | 3/27/19 | DU1B-SU16 | 3/27/19 |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | 3/28/19 | DU1B-SU19 | 3/28/19 |
| DU1A-SU20 | 3/27/19 | DU1B-SU20 | 3/27/19 |
| DU1A-SU21 | | DU1B-SU21 | |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | | DU1B-SU23 | |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | 3/27/19 | DU1B-SU26 | 3/27/19 |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29 | | DU1B-SU29R1 | |
| DU1A-SU30S1 | 3/27/19 | DU1B-SU30S1 | 3/27/19 |
| DU1A-SU30S2 | 3/27/19 | DU1A-SU30S2 | 3/27/19 |
| DU1A-SU30S3 | 3/27/19 | DU1A-SU30S3 | 3/27/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | 3/29/19 | DU1B-SU34 | 3/29/19 |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36R1 | 3/29/19 | DU1B-SU36R1 | 3/29/19 |
| DU1A-SU36R2 | 3/29/19 | DU1B-SU36R2 | 3/29/19 |
| DU1A-SU36R3 | 3/29/19 | DU1B-SU36R3 | 3/29/19 |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | | DU1B-SU39 | |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | 3/27/19 | DU1B-SU44R1 | 3/27/19 |
| DU1A-SU44R2 | 3/27/19 | DU1B-SU44R2 | 3/27/19 |
| DU1A-SU44R3 | 3/27/19 | DU1B-SU44R3 | 3/27/19 |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | 3/27/19 | DU1B-SU48 | 3/27/19 |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52 | | DU1B-SU52 | |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | 3/29/19 | DU2B-SU01 | 3/29/19 |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | 3/28/19 | DU2B-SU03 | 3/28/19 |
| DU2A-SU04 | 3/28/19 | DU2B-SU04 | 3/28/19 |
| DU2A-SU05 | 3/28/19 | DU2B-SU05 | 3/28/19 |
| DU2A-SU06 | | DU2B-SU06 | |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | | DU2B-SU08 | |
| DU2A-SU09 | | DU2B-SU09 | |
| DU2A-SU10 | 3/28/19 | DU2B-SU10 | 3/28/19 |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | 3/29/19 | DU2B-SU15 | 3/29/19 |
| DU2A-SU16 | | DU2B-SU16 | |
| DU2A-SU17 | 3/29/19 | DU2B-SU17 | 3/29/19 |
| DU2A-SU18 | 3/27/19 | DU2B-SU18 | 3/27/19 |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 04/01/2019** |
|---|---|
| Report Number: 015 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 51 °F, sunny | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Continued sample collection at DU-1. ERT staff assisted and guided A-Zone in collecting samples in DU2 and DU1. Refer to the table below. Started mark out of SU and increment locations in background sampling area. | |
| **Issues Encountered and Resolutions:** | |
| RTK and Base station encounter a communication error. Minor delay in sampling due to only one functioning GPS. Overall, the field effort is on schedule. | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples with A-Zone in DU2. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10R1 | 3/29/19 | DU1B-SU10R1 | 3/29/19 |
| DUIA-SU10R2 | 3/29/19 | DU1A-SU10R2 | 3/29/19 |
| DU1A-SU10R3 | 3/29/19 | DU1A-SU10R3 | 3/29/19 |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | 3/28/19 | DU1B-SU12 | 3/28/19 |
| DU1A-SU13 | 3/28/19 | DU1B-SU13 | 3/28/19 |
| DU1A-SU14 | 3/28/19 | DU1B-SU14 | 3/28/19 |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | 3/27/19 | DU1B-SU16 | 3/27/19 |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | 3/28/19 | DU1B-SU19 | 3/28/19 |
| DU1A-SU20 | 3/27/19 | DU1B-SU20 | 3/27/19 |
| DU1A-SU21 | 4/01/19 | DU1B-SU21 | 4/01/19 |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | 4/01/19 | DU1B-SU23 | 4/01/19 |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | 3/27/19 | DU1B-SU26 | 3/27/19 |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29 | 4/01/19 | DU1B-SU29R1 | 4/01/19 |
| DU1A-SU30S1 | 3/27/19 | DU1B-SU30S1 | 3/27/19 |
| DU1A-SU30S2 | 3/27/19 | DU1A-SU30S2 | 3/27/19 |
| DU1A-SU30S3 | 3/27/19 | DU1A-SU30S3 | 3/27/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | 3/29/19 | DU1B-SU34 | 3/29/19 |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36R1 | 3/29/19 | DU1B-SU36R1 | 3/29/19 |
| DU1A-SU36R2 | 3/29/19 | DU1B-SU36R2 | 3/29/19 |
| DU1A-SU36R3 | 3/29/19 | DU1B-SU36R3 | 3/29/19 |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | 4/01/19 | DU1B-SU39 | 4/01/19 |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | 3/27/19 | DU1B-SU44R1 | 3/27/19 |
| DU1A-SU44R2 | 3/27/19 | DU1B-SU44R2 | 3/27/19 |
| DU1A-SU44R3 | 3/27/19 | DU1B-SU44R3 | 3/27/19 |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | 3/27/19 | DU1B-SU48 | 3/27/19 |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52 | 4/01/19 | DU1B-SU52 | 4/01/19 |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | 3/29/19 | DU2B-SU01 | 3/29/19 |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | 3/28/19 | DU2B-SU03 | 3/28/19 |
| DU2A-SU04 | 3/28/19 | DU2B-SU04 | 3/28/19 |
| DU2A-SU05 | 3/28/19 | DU2B-SU05 | 3/28/19 |
| DU2A-SU06 | 4/01/19 | DU2B-SU06 | 4/01/19 |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | 4/01/19 | DU2B-SU08 | 4/01/19 |
| DU2A-SU09 | 4/01/19 | DU2B-SU09 | 4/01/19 |
| DU2A-SU10 | 3/28/19 | DU2B-SU10 | 3/28/19 |
| DU2A-SU11 | | DU2B-SU11 | |
| DU2A-SU12 | | DU2B-SU12 | |
| DU2A-SU13 | | DU2B-SU13 | |
| DU2A-SU14 | | DU2B-SU14 | |
| DU2A-SU15 | 3/29/19 | DU2B-SU15 | 3/29/19 |
| DU2A-SU16 | 4/01/19 | DU2B-SU16 | 4/01/19 |
| DU2A-SU17 | 3/29/19 | DU2B-SU17 | 3/29/19 |
| DU2A-SU18 | 3/27/19 | DU2B-SU18 | 3/27/19 |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01R1 | | BKGB01R1 | |
| BKGA01R2 | | BKGB01R2 | |
| BKGA01R3 | | BKGB01R3 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | | BKGB06 | |
| BKGA07 | | BKGB07 | |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 04/02/2019** |
|---|---|
| Report Number: 016 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 48 °F, cloudy with a chance of rain | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | A-Zone |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Began sampling the background DU. ERT staff assisted and guided A-Zone in collecting samples in DU2. Refer to the table below.<br><br>A-Zone de-mobilized from site upon completion of DU2. | |
| **Issues Encountered and Resolutions:** | |
| | |
| **Planned Activities:** | |
| ERT staff will continue to collect samples in the background DU. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10R1 | 3/29/19 | DU1B-SU10R1 | 3/29/19 |
| DUIA-SU10R2 | 3/29/19 | DU1A-SU10R2 | 3/29/19 |
| DU1A-SU10R3 | 3/29/19 | DU1A-SU10R3 | 3/29/19 |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | 3/28/19 | DU1B-SU12 | 3/28/19 |
| DU1A-SU13 | 3/28/19 | DU1B-SU13 | 3/28/19 |
| DU1A-SU14 | 3/28/19 | DU1B-SU14 | 3/28/19 |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | 3/27/19 | DU1B-SU16 | 3/27/19 |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | 3/28/19 | DU1B-SU19 | 3/28/19 |
| DU1A-SU20 | 3/27/19 | DU1B-SU20 | 3/27/19 |
| DU1A-SU21 | 4/01/19 | DU1B-SU21 | 4/01/19 |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | 4/01/19 | DU1B-SU23 | 4/01/19 |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | 3/27/19 | DU1B-SU26 | 3/27/19 |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29 | 4/01/19 | DU1B-SU29R1 | 4/01/19 |
| DU1A-SU30S1 | 3/27/19 | DU1B-SU30S1 | 3/27/19 |
| DU1A-SU30S2 | 3/27/19 | DU1A-SU30S2 | 3/27/19 |
| DU1A-SU30S3 | 3/27/19 | DU1A-SU30S3 | 3/27/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | 3/29/19 | DU1B-SU34 | 3/29/19 |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36R1 | 3/29/19 | DU1B-SU36R1 | 3/29/19 |
| DU1A-SU36R2 | 3/29/19 | DU1B-SU36R2 | 3/29/19 |
| DU1A-SU36R3 | 3/29/19 | DU1B-SU36R3 | 3/29/19 |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | 4/01/19 | DU1B-SU39 | 4/01/19 |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | 3/27/19 | DU1B-SU44R1 | 3/27/19 |
| DU1A-SU44R2 | 3/27/19 | DU1B-SU44R2 | 3/27/19 |
| DU1A-SU44R3 | 3/27/19 | DU1B-SU44R3 | 3/27/19 |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | 3/27/19 | DU1B-SU48 | 3/27/19 |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52 | 4/01/19 | DU1B-SU52 | 4/01/19 |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | 3/29/19 | DU2B-SU01 | 3/29/19 |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | 3/28/19 | DU2B-SU03 | 3/28/19 |
| DU2A-SU04 | 3/28/19 | DU2B-SU04 | 3/28/19 |
| DU2A-SU05 | 3/28/19 | DU2B-SU05 | 3/28/19 |
| DU2A-SU06 | 4/01/19 | DU2B-SU06 | 4/01/19 |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | 4/01/19 | DU2B-SU08 | 4/01/19 |
| DU2A-SU09 | 4/01/19 | DU2B-SU09 | 4/01/19 |
| DU2A-SU10 | 3/28/19 | DU2B-SU10 | 3/28/19 |
| DU2A-SU11 | 4/02/19 | DU2B-SU11 | 4/02/19 |
| DU2A-SU12 | 4/02/19 | DU2B-SU12 | 4/02/19 |
| DU2A-SU13 | 4/02/19 | DU2B-SU13 | 4/02/19 |
| DU2A-SU14 | 4/02/19 | DU2B-SU14 | 4/02/19 |
| DU2A-SU15 | 3/29/19 | DU2B-SU15 | 3/29/19 |
| DU2A-SU16 | 4/01/19 | DU2B-SU16 | 4/01/19 |
| DU2A-SU17 | 3/29/19 | DU2B-SU17 | 3/29/19 |
| DU2A-SU18 | 3/27/19 | DU2B-SU18 | 3/27/19 |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01 | | BKGB01 | |
| BKGA02 | | BKGB02 | |
| BKGA03 | | BKGB03 | |
| BKGA04 | | BKGB04 | |
| BKGA05 | | BKGB05 | |
| BKGA06 | 4/02/19 | BKGB06 | 4/02/19 |
| BKGA07R1 | 4/02/19 | BKGB07R1 | 4/02/19 |
| BKGA07R2 | 4/02/19 | BKGB07R2 | 4/02/19 |
| BKGA07R3 | 4/02/19 | BKGB07R3 | 4/02/19 |

# ERT DAILY FIELD REPORT

| **Project: Curtis Bay Depot RI/FS** | **Date: 04/03/2019** |
|---|---|
| Report Number: 017 | Prepared By: [redacted] |
| Time of Arrival at Site: 0700 | Time of Departure from Site: 1700 |
| Time of Safety Brief: 0715 | |
| **Weather/Site Conditions:** | |
| Weather: 68 °F, breezy | |
| **Personnel On-Site:** | |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| [redacted] | ERT |
| **Equipment Quality Control:** | |
| GPS Morning: Pass | GPS Afternoon: Pass |
| **Site Activities Conducted:** | |
| Mobilized onsite. Conducted daily health and safety brief. Begin and complete sample collection in the background DU. ERT de-mobilized off site, after completion of all SU's | |
| **Issues Encountered and Resolutions:** | |
| None | |
| **Planned Activities:** | |
| ERT staff will take IDW sample tomorrow, then refit, refuel the vehicle, and place equipment in the warehouse. Field effort is ending due to the completion of the of all the sample units. | |

**Tables 1through 4 included below**

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU01 | 3/11/19 | DU1B-SU01 | 3/11/19 |
| DU1A-SU02 | 3/11/19 | DU1B-SU02 | 3/11/19 |
| DU1A-SU03 | 3/11/19 | DU1B-SU03 | 3/11/19 |
| DU1A-SU04 | 3/11/19 | DU1B-SU04 | 3/11/19 |
| DU1A-SU05 | 3/18/19 | DU1B-SU05 | 3/18/19 |
| DU1A-SU06 | 3/13/19 | DU1B-SU06 | 3/13/19 |
| DU1A-SU07 | 3/12/19 | DU1B-SU07 | 3/12/19 |
| DU1A-SU08 | 3/13/19 | DU1B-SU08 | 3/13/19 |
| DU1A-SU09R1 | 3/12/19 | DU1B-SU09R1 | 3/12/19 |
| DU1A-SU09R2 | 3/12/19 | DU1B-SU09R2 | 3/12/19 |
| DU1A-SU09R3 | 3/12/19 | DU1B-SU09R3 | 3/12/19 |
| DU1A-SU10R1 | 3/29/19 | DU1B-SU10R1 | 3/29/19 |
| DUIA-SU10R2 | 3/29/19 | DU1A-SU10R2 | 3/29/19 |
| DU1A-SU10R3 | 3/29/19 | DU1A-SU10R3 | 3/29/19 |
| DU1A-SU11R1 | 3/12/19 | DU1B-SU11R1 | 3/12/19 |
| DU1A-SU11R2 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU11R3 | 3/12/19 | DU1B-SU11R2 | 3/12/19 |
| DU1A-SU12 | 3/28/19 | DU1B-SU12 | 3/28/19 |
| DU1A-SU13 | 3/28/19 | DU1B-SU13 | 3/28/19 |
| DU1A-SU14 | 3/28/19 | DU1B-SU14 | 3/28/19 |
| DU1A-SU15 | 3/26/19 | DU1B-SU15 | 3/26/19 |
| DU1A-SU16 | 3/27/19 | DU1B-SU16 | 3/27/19 |
| DU1A-SU17 | 3/26/19 | DU1B-SU17 | 3/26/19 |
| DU1A-SU18 | 3/26/19 | DU1B-SU18 | 3/26/19 |
| DU1A-SU19 | 3/28/19 | DU1B-SU19 | 3/28/19 |
| DU1A-SU20 | 3/27/19 | DU1B-SU20 | 3/27/19 |
| DU1A-SU21 | 4/01/19 | DU1B-SU21 | 4/01/19 |
| DU1A-SU22 | 3/26/19 | DU1B-SU22 | 3/26/19 |
| DU1A-SU23 | 4/01/19 | DU1B-SU23 | 4/01/19 |
| DU1A-SU24 | 3/26/19 | DU1B-SU24 | 3/26/19 |
| DU1A-SU25 | 3/26/19 | DU1B-SU25 | 3/26/19 |
| DU1A-SU26 | 3/27/19 | DU1B-SU26 | 3/27/19 |
| DU1A-SU27 | 3/18/19 | DU1B-SU27 | 3/18/19 |
| DU1A-SU28 | 3/18/19 | DU1B-SU28 | 3/18/19 |
| DU1A-SU29 | 4/01/19 | DU1B-SU29R1 | 4/01/19 |
| DU1A-SU30S1 | 3/27/19 | DU1B-SU30S1 | 3/27/19 |
| DU1A-SU30S2 | 3/27/19 | DU1A-SU30S2 | 3/27/19 |
| DU1A-SU30S3 | 3/27/19 | DU1A-SU30S3 | 3/27/19 |

| Table 1: DU 1 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU1A-SU31 | 3/25/19 | DU1B-SU31 | 3/25/19 |
| DU1A-SU32 | 3/25/19 | DU1B-SU32 | 3/25/19 |
| DU1A-SU33 | 3/25/19 | DU1B-SU33 | 3/25/19 |
| DU1A-SU34 | 3/29/19 | DU1B-SU34 | 3/29/19 |
| DU1A-SU35 | 3/25/19 | DU1B-SU35 | 3/25/19 |
| DU1A-SU36R1 | 3/29/19 | DU1B-SU36R1 | 3/29/19 |
| DU1A-SU36R2 | 3/29/19 | DU1B-SU36R2 | 3/29/19 |
| DU1A-SU36R3 | 3/29/19 | DU1B-SU36R3 | 3/29/19 |
| DU1A-SU37 | 3/18/19 | DU1B-SU37 | 3/18/19 |
| DU1A-SU38 | 3/25/19 | DU1B-SU38 | 3/25/19 |
| DU1A-SU39 | 4/01/19 | DU1B-SU39 | 4/01/19 |
| DU1A-SU40 | 3/25/19 | DU1B-SU40 | 3/25/19 |
| DU1A-SU41 | 3/18/19 | DU1B-SU41 | 3/18/19 |
| DU1A-SU42 | 3/20/19 | DU1B-SU42 | 3/20/19 |
| DU1A-SU43 | 3/19/19 | DU1B-SU43 | 3/19/19 |
| DU1A-SU44R1 | 3/27/19 | DU1B-SU44R1 | 3/27/19 |
| DU1A-SU44R2 | 3/27/19 | DU1B-SU44R2 | 3/27/19 |
| DU1A-SU44R3 | 3/27/19 | DU1B-SU44R3 | 3/27/19 |
| DU1A-SU45 | 3/20/19 | DU1B-SU45 | 3/20/19 |
| DU1A-SU46 | 3/25/19 | DU1B-SU46 | 3/25/19 |
| DU1A-SU47 | 3/19/19 | DU1B-SU47 | 3/19/19 |
| DU1A-SU48 | 3/27/19 | DU1B-SU48 | 3/27/19 |
| DU1A-SU49 | 3/19/19 | DU1B-SU49 | 3/19/19 |
| DU1A-SU50 | 3/19/19 | DU1B-SU50 | 3/19/19 |
| DU1A-SU51R1 | 3/12/19 | DU1B-SU51R1 | 3/12/19 |
| DU1A-SU51R2 | 3/12/19 | DU1B-SU51R2 | 3/12/19 |
| DU1A-SU51R3 | 3/12/19 | DU1B-SU51R3 | 3/12/19 |
| DU1A-SU52 | 4/01/19 | DU1B-SU52 | 4/01/19 |
| DU1A-SU53 | 3/19/19 | DU1B-SU53 | 3/19/19 |
| DU1A-SU54 | 3/19/19 | DU1B-SU54 | 3/19/19 |
| DU1A-SU55 | 3/20/19 | DU1B-SU55 | 3/20/19 |
| DU1A-SU56 | 3/19/19 | DU1B-SU56 | 3/19/19 |
| DU1A-SU57 | 3/20/19 | DU1B-SU57 | 3/20/19 |
| DU1A-SU58 | 3/13/19 | DU1B-SU58 | 3/13/19 |
| DU1A-SU59 | 3/19/19 | DU1B-SU59 | 3/19/19 |

| Table 2: DU 2 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU2A-SU01 | 3/29/19 | DU2B-SU01 | 3/29/19 |
| DU2A-SU02R1 | 3/22/19 | DU2B-SU02R1 | 3/22/19 |
| DU2A-SU02R2 | 3/22/19 | DU2B-SU02R2 | 3/22/19 |
| DU2A-SU02R3 | 3/22/19 | DU2B-SU02R3 | 3/22/19 |
| DU2A-SU03 | 3/28/19 | DU2B-SU03 | 3/28/19 |
| DU2A-SU04 | 3/28/19 | DU2B-SU04 | 3/28/19 |
| DU2A-SU05 | 3/28/19 | DU2B-SU05 | 3/28/19 |
| DU2A-SU06 | 4/01/19 | DU2B-SU06 | 4/01/19 |
| DU2A-SU07R1 | 3/22/19 | DU2B-SU07R1 | 3/22/19 |
| DU2A-SU07R2 | 3/22/19 | DU2B-SU07R2 | 3/22/19 |
| DU2A-SU07R3 | 3/22/19 | DU2B-SU07R3 | 3/22/19 |
| DU2A-SU08 | 4/01/19 | DU2B-SU08 | 4/01/19 |
| DU2A-SU09 | 4/01/19 | DU2B-SU09 | 4/01/19 |
| DU2A-SU10 | 3/28/19 | DU2B-SU10 | 3/28/19 |
| DU2A-SU11 | 4/02/19 | DU2B-SU11 | 4/02/19 |
| DU2A-SU12 | 4/02/19 | DU2B-SU12 | 4/02/19 |
| DU2A-SU13 | 4/02/19 | DU2B-SU13 | 4/02/19 |
| DU2A-SU14 | 4/02/19 | DU2B-SU14 | 4/02/19 |
| DU2A-SU15 | 3/29/19 | DU2B-SU15 | 3/29/19 |
| DU2A-SU16 | 4/01/19 | DU2B-SU16 | 4/01/19 |
| DU2A-SU17 | 3/29/19 | DU2B-SU17 | 3/29/19 |
| DU2A-SU18 | 3/27/19 | DU2B-SU18 | 3/27/19 |

| Table 3: DU 3 A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| DU3A-SU01 | 3/20/19 | DU3B-SU01 | 3/20/19 |
| DU3A-SU02 | 3/20/19 | DU3B-SU02 | 3/20/19 |
| DU3A-SU03R1 | 3/21/19 | DU3B-SU03R1 | 3/21/19 |
| DU3A-SU03R2 | 3/22/19 | DU3B-SU03R2 | 3/22/19 |
| DU3A-SU03R3 | 3/22/19 | DU3B-SU03R3 | 3/22/19 |
| DU3A-SU04 | 3/20/19 | DU3B-SU04 | 3/20/19 |
| DU3A-SU05 | 3/25/19 | DU3B-SU05 | 3/25/19 |
| DU3A-SU06 | 3/26/19 | DU3B-SU06 | 3/26/19 |
| DU3A-SU07 | 3/21/19 | DU3B-SU07 | 3/21/19 |
| DU3A-SU08 | 3/26/19 | DU3B-SU08 | 3/26/19 |
| DU3A-SU09 | 3/25/19 | DU3B-SU09 | 3/25/19 |
| DU3A-SU10 | 3/25/19 | DU3B-SU10 | 3/25/19 |

| Table 4: BKG A & B | | | |
|---|---|---|---|
| **Sample** | **Date** | **Sample** | **Date** |
| BKGA01 | 4/03/19 | BKGB01 | 4/03/19 |
| BKGA02 | 4/03/19 | BKGB02 | 4/03/19 |
| BKGA03 | 4/03/19 | BKGB03 | 4/03/19 |
| BKGA04 | 4/03/19 | BKGB04 | 4/03/19 |
| BKGA05 | 4/02/19 | BKGB05 | 4/02/19 |
| BKGA06 | 4/02/19 | BKGB06 | 4/02/19 |
| BKGA07R1 | 4/02/19 | BKGB07R1 | 4/02/19 |
| BKGA07R2 | 4/02/19 | BKGB07R2 | 4/02/19 |
| BKGA07R3 | 4/02/19 | BKGB07R2 | 4/02/19 |

# FIELD AUDIT

**This Page Intentionally Left Blank**

Earth Resources Technology

Form: QA-002
Date: 30-Apr-09
Version 1.2

onsite 0930

# SAMPLE COLLECTION CHECKLIST

**Project Name/Number:** Curtis Bay Depot Ass Mn RI 3753
**Site Information/Location:** AA County MD
**Date:** 19 March 2019

*Answer each question by checking the appropriate column (yes, no, not observed (N/O) or N/A). If "no" is checked, provide an explanation on the form.*

| | General | Yes | No | N/O | N/A |
|---|---|---|---|---|---|
| 1 | Were new protective gloves worn between sampling locations and/or intervals? | ☒ | ☐ | ☐ | ☐ |
| 2 | Were samples collected using methods described in the FSP? | ☒ | ☐ | ☐ | ☐ |
| 3 | Were sample containers filled in the correct order? (VOCs first) | ☐ | ☐ | ☐ | ☒ |
| 4 | Was sampling equipment appropriate for the purpose and site conditions? | ☒ | ☐ | ☐ | ☐ |
| 5 | Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample? | ☒ | ☐ | ☐ | ☐ |
| 6 | Were procedures for collecting QA/QC samples followed as per the FSP? | ☐ | ☐ | ☒ | ☐ |
| 7 | Were sampling locations properly identified by land survey? | ☒ | ☐ | ☐ | ☒ |
| 8 | Were ~~bottles~~ Boots adequately protected from contamination prior to sample collection? | ☒ | ☐ | ☐ | ☐ |
| | **Ground Water for Chemical Analysis** | | | | |
| 9 | Were ground water parameters stable before sample collection (as per FSP)? | ☐ | ☐ | ☐ | ☒ |
| 10 | Were turbidity readings below 50 NTU (or if all other field parameters are stable and turbidity cannot be lowered below 50 NTU, were turbidity readings within + or – 10% over three, five-minute readings)? | ☐ | ☐ | ☐ | ☒ |

*The QC Inspector shall sign this checklist upon completion of all items on the checklist.*

QC Inspector Signature: [redacted]

Notes: [redacted]

Under coolers Sample locations were determined using GPS, in accordance with the UFP-QAPP.

Earth Resources Technology

Form: QA-003
Date: 30-Apr-09
Version 1.2

# FIELD DOCUMENTATION CHECKLIST

**Project Name/Number:** Curtis Bay Depot As & Mn RI 3753
**Site Information/Location:** AA County MD
**Date:** 19 March 2009

*Answer each question by checking the appropriate column (yes, no, or N/A). If "no" is checked, please provide an explanation on the form.*

| Field Documentation | Yes | No | N/A |
|---|---|---|---|
| 1 Was all original field data, except boring logs, recorded in black indelible ink? or blue | ☒ | ☐ | ☐ |
| 2 Were log books filled out properly; accurately recounting the days events? | ☒ | ☐ | ☐ |
| 3 Were all field forms completed and information accurately recorded: | | | |
| - Field Sampling Forms | ☒ | ☐ | ☐ |
| - Chain of Custody Forms | ☒ | ☐ | ☐ |
| - Field Log Notebooks | ☒ | ☐ | ☐ |
| - List additional field forms completed: H&S, Site Control Log | ☒ | ☐ | ☐ |
| 4 Was field documentation forwarded to office for peer review and QC if requested? | ☒ | ☐ | ☐ |
| 5 Were deficiencies reported to QC Manager/Project Team Manager? | ☐ | ☐ | ☒ |

*The QC Inspector shall sign this checklist upon completion of all items on the checklist.*

QC Inspector Signature: [redacted]

Notes:

Earth Resources Technology

Form: QA-004
Date: 30-Apr-09
Version 1.2

# SAMPLE HANDLING CHECKLIST

**Project Name/Number:** Curtis Bay Depot Area 1 Unit 3753
**Site Information/Location:** AA County, MD
**Date:** 19 March 2019

*Answer each question by checking the appropriate column (yes, no, not observed (N/O) or N/A). If "no" is checked, provide an explanation on the form.*

| | Packing, Storing, and Shipment of Samples | Yes | No | N/O | N/A |
|---|---|---|---|---|---|
| 1 | Were the samples handled according to the FSP? | ☒ | ☐ | ☐ | ☐ |
| 2 | Did the samples remain on ice or refrigerated (except for sample transfer from coolers or refrigerators) from collection until cooler was taped for shipment? | ☒ | ☐ | ☐ | ☐ |
| 3 | Were COC forms filled out accurately and completely including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled? | ☒ | ☐ | ☐ | ☐ |
| 4 | Were COC forms signed and dated by the preparer and the form taped to the inside of the cooler lid? | ☐ | ☐ | ☒ | ☐ |
| 5 | Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape? | ☐ | ☐ | ☒ | ☐ |
| 6 | Was a shipping label attached to the cooler? | ☐ | ☐ | ☒ | ☐ |

*The QC Inspector shall sign this checklist upon completion of all items on the checklist.*

QC Inspector Signature [redacted]

Notes:

Lab has not noted any deficiencies re COC & cooler seals.

Earth Resources Technology

Form: QA-005
Date: 30-Apr-09
Version 1.2

# INSTRUMENT CALIBRATION CHECKLIST

**Project Name/Number:** CBD Assessment
**Site Information/Location:** [redacted] County, MD
**Date:** 19 March 2018

*Answer each question by checking the appropriate column (yes, no, not observed (N/O) or N/A). If "no" is checked, provide an explanation on the form.*

| | Instrument Calibration | Yes | No | N/O | N/A |
|---|---|---|---|---|---|
| 1 | Were all field instruments calibrated properly according to manufacturer's instructions? | ☐ | ☐ | ☒ | ☐ |
| 2 | Were all field instruments calibrated and calibration checked on the schedule in the FSP? | ☐ | ☐ | ☒ | ☐ |
| 3 | Did the calibration log form(s) list all calibration events? | ☐ | ☐ | ☒ | ☐ |

*The QC Inspector shall sign this checklist upon completion of all items on the checklist.*

QC Inspector Signature: [redacted]

Notes:

The only instruments requiring "calibration" are the GPS units. GPS units were verified at the beginning & end of each work day against a benchmark.

Earth Resources Technology

Form: QA-006
Date: 30-Apr-09
Version 1.2

# DECONTAMINATION CHECKLIST

**Project Name/Number:** CBD As & Mn RI
**Site Information/Location:** AA County, MD
**Date:** 19 March 09

*Answer each question by checking the appropriate column (yes, no, not observed (N/O) or N/A). If "no" is checked, provide an explanation on the form.*

| | Equipment | Yes | No | N/O | N/A |
|---|---|---|---|---|---|
| 1 | Was all sampling equipment decontaminated properly prior to use and between sample intervals? | ☒ | ☐ | ☐ | ☐ |
| 2 | Was each decontamination event recorded in the log book? | ☑ | ☐ | ☐ | ☐ |
| 3 | Was IDW (decontamination water) properly handled? | ☑ | ☐ | ☐ | ☐ |

*The QC Inspector shall sign this checklist upon completion of all items on the checklist.*

QC Inspector Signature [redacted]

Notes:

# SITE ENTRY/EXIT

**This Page Intentionally Left Blank**

SITE ENTRY AND EXIT LOG

Project: Curtis Bay Depot RI/FS
Site: Former Curtis Bay Ordnance Depot, Anne Arundel County, MD
ERT Project No.: 3756-003

| Date | Name | Representing | Date/Time | |
|---|---|---|---|---|
| | | | In | Out |
| 3/11/19 | [redacted] | ERT | 0830 | 1640 |
| 3/11/19 | | ERT | 0830 | 1640 |
| 3/11/19 | | ERT | 0830 | 1640 |
| 3/11/19 | | ERT | 0830 | 1640 |
| 3/11/19 | | ERT | 0830 | 1640 |
| 3/12/19 | | ERT | 0700 | 1700 |
| 3/12/19 | | ERT | 0700 | 1700 |
| 3/12/19 | | ERT | 0700 | 1700 |
| 3-12-19 | | ERT | 0830 | 1700 |
| 3-13-19 | | ERT | 0700 | 1700 |
| 3/13/19 | | ERT | 0700 | 1700 |
| 3-13-19 | | ERT | 0700 | 1515 |
| 3-13-19 | | ERT | 0700 | 1700 |
| 3/13/19 | | ERT | 1300 | 1700 |

## SITE ENTRY AND EXIT LOG

Project: Curtis Bay Depot RI/FS
Site: Former Curtis Bay Ordnance Depot, Anne Arundel County, MD
ERT Project No.: 3756-003

| Date | Name | Representing | Date/Time | |
|---|---|---|---|---|
| | | | In | Out |
| 03/14/19 | [redacted] | ERT | 0700 | 1700 |
| 03/14/2019 | | DCA | 0700 | 1700 |
| 03/14/19 | | [signature] | 0700 | 1700 |
| 03/14/19 | | [signature] | 0700 | 1700 |
| 03/14/19 | | ERT | 0700 | 1700 |
| 03/18/19 | | ERT | 0700 | 1700 |
| 03/18/19 | | ERT | 0700 | 1700 |
| 3/18/19 | | ERT | 0700 | 1700 |
| 3/18/19 | | ERT | 0700 | 1700 |
| 3/18/19 | | ERT | 0700 | 1500 |
| 3/19/19 | | ERT | 0700 | 1845 |
| 3/19/19 | | ERT | 0700 | 1845 |
| 3/19/19 | | ERT | 0700 | 1845 |
| 3/19/19 | | ERT | 0700 | 1500 |

SITE ENTRY AND EXIT LOG

Project: Curtis Bay Depot RI/FS
Site: Former Curtis Bay Ordnance Depot, Anne Arundel County, MD
ERT Project No.: 3756-003

| Date | Name | Representing | Date/Time | |
|---|---|---|---|---|
| | | | In | Out |
| 19 Mar 2019 | [redacted] | ERT | 0930 | 1130 |
| 20 Mar 2019 | | ERT | 0700 | 1700 |
| 20 Mar 2019 | | ERT | 0700 | 1600 |
| 20 Mar 2019 | | ERT | 0700 | 1700 |
| 03/20/19 | | ERT | 0700 | 1700 |
| 03/21/19 | | ERT | 0700 | 1200 |
| 03/21/19 | | ERT | 0700 | 1200 |
| 03/21/19 | | ERT | 0700 | 1200 |
| 03/22/19 | | ERT | 0700 | 1700 |
| 03/22/19 | | ERT | 0700 | 1700 |
| 03/22/19 | | ERT | 0700 | 1700 |
| 03/22/19 | | ERT | 0700 | 1630 |
| 3/22/19 | | ERT | 0700 | 1500 |
| | | | | |

SITE ENTRY AND EXIT LOG

Project: Curtis Bay Depot RI/FS
Site: Former Curtis Bay Ordnance Depot, Anne Arundel County, MD
ERT Project No.: 3756-003

| Date | Name | Representing | Date/Time | |
|---|---|---|---|---|
| | | | In | Out |
| 03/25/19 | [redacted] | ERT | 0700 | 1700 |
| 03/25/19 | | ERT | 0700 | 1700 |
| 03/25/19 | | A-Zone | 0700 | 1633 |
| 03/25/19 | | A-zone | 0700 | 1633 |
| 03/25/19 | | A-zone | 0700 | 1633 |
| 3/25/19 | | ERT | 0700 | 1700 |
| 03/26/19 | | ERT | 0700 | 1700 |
| 03/26/19 | | ERT | 0700 | 1700 |
| 03/26/2019 | | ERT | 0700 | 1700 |
| 03/26/2019 | | ERT | 0700 | 1700 |
| 03/26/2019 | | A-zone | 0700 | 1700 |
| 03/26/2019 | | USACE - Baltimore | 0700 | 1600 |
| 03/27/2019 | | ERT | 0700 | 1700 |
| 03/27/2019 | | ERT | 0700 | 1700 |

## SITE ENTRY AND EXIT LOG

Project: Curtis Bay Depot RI/FS
Site: Former Curtis Bay Ordnance Depot, Anne Arundel County, MD
ERT Project No.: 3756-003

| Date | Name | Representing | Date/Time | |
|---|---|---|---|---|
| | | | In | Out |
| 3/27/19 | [redacted] | ERT | 0700 | 1700 |
| 3/27/19 | | ERT | 0700 | 1700 |
| 3/27/19 | | A-zone | 0700 | 1706 |
| 3/28/19 | | ERT | 0700 | 1700 |
| 3/28/19 | | ERT | 0700 | |
| 3/28/19 | | A-zone | 0700 | |
| 3/28/19 | | ERT | 0700 | |
| 3/28/19 | | ERT | 0700 | |
| 3/29/19 | | ERT | 0700 | 1700 |
| 3/29/19 | | ERT | 0700 | 1700 |
| 3/29/19 | | ERT | 0700 | 1700 |
| 3/29/19 | | A-zone | 0700 | 1700 |
| 4/1/19 | | ERT | 0700 | 1700 |

SITE ENTRY AND EXIT LOG

Project: Curtis Bay Depot RI/FS
Site: Former Curtis Bay Ordnance Depot, Anne Arundel County, MD
ERT Project No.: 3756-003

| Date | Name | Representing | Date/Time | |
|---|---|---|---|---|
| | | | In | Out |
| 4/1/19 | [redacted] | ERT | 0700 | 1700 |
| 4/1/19 | | ERT | 0700 | 1700 |
| 4/1/19 | | A-2cm | 0700 | 1700 |
| 4-1-19 | | ERT | 0700 | 1700 |
| 4-2-19 | | ERT | 0700 | 1700 |
| 4-2-19 | | ERT | 0700 | 1700 |
| 4-2-19 | | A-2cm | 0700 | 1700 |
| 4/2/19 | | ERT | 0700 | 1700 |
| 4/3/19 | | ERT | 0800 | 1600 |
| 4-3-19 | | ERT | 0800 | 1600 |
| 4/3/19 | | ERT | 0800 | 1600 |
| 4/3/19 | | ERT | 0800 | 1600 |
| | | | | 1600 |
| | | | | |

# DAILY SAFETY BRIEFING

**This Page Intentionally Left Blank**

## DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay Ordnance Depot

Contract No.:

Conducted By: Date: 3/11/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| Robert Bassani | [redacted] | | |
| David Cote | | | |
| James L. Shirley | | | |
| Mike Watson | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 55 Low Temp 40 Winds light Precipitation none

Radio Check Completed by: N/A

Emergency Personnel Decontamination Station Setup: ☐ Yes ☑ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☑ N/A

Topics:

- Review APP/SSHP
- uneven terrain, water footing
- Biological hazards; Animals, poison Ivy

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay Ordnance Depot

Contract No.: [redacted]

Conducted By: [redacted] Date: 3/12/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| David F. Cote | [redacted] | | |
| Greg Woodward | | | |
| James Shuby | | | |
| Mike Watson | | | |
| Robert Baranco | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 44 Low Temp 29 Winds N 1 Precipitation 0%

Radio Check Completed by: N/A

Emergency Personnel Decontamination Station Setup: ☐ Yes ☑ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☑ N/A

Topics:

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.:

Conducted By: [redacted] Date: 03/13/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| James Shirley | [redacted] | | |
| David Cote | | | |
| Greg Woodward | | | |
| Mike Watson | | | |
| Robert Horacek | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 52 Low Temp 30 Winds 0 Precipitation 0%

Radio Check Completed by:

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics:

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay Ordnance Depot

Contract No.: [redacted]

Conducted By: [redacted] Date: 03/14/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| David Cote | [redacted] | | |
| Greg Woodward | [redacted] | | |
| James Shirley | [redacted] | | |
| Mike Watson | [redacted] | | |
| Robert Koronacki | [redacted] | | |
| | [redacted] | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 61 Low Temp 34 Winds 2 N Precipitation 0%

Radio Check Completed by: N/A

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics:

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay Ordnance Depot

Contract No.:

Conducted By: [redacted] Date: 3/18/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| Mike Watson | [redacted] | | |
| Greg Woodward | | | |
| James Stuby | | | |
| David Cole | | | |
| Robert Horence | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 47 Low Temp 33 Winds N 4 Precipitation 60

Radio Check Completed by:

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: Buddy safety, Terrain, Hydration

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Cuervo Basin

Contract No.:

Conducted By: [redacted] Date: 03/19/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| Mike Watson | [redacted] | | |
| David Cote | | | |
| Greg Woodward | | | |
| Robert Kovacs | | | |
| Michelle Chesnut | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 49 Low Temp 31 Winds N3 Precipitation 0%

Radio Check Completed by: NA

Emergency Personnel Decontamination Station Setup: ☐ Yes ☑ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: Brake Safety, terrain, hydration.

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: Cretic Bay

Contract No.: [redacted]

Conducted By: [redacted] Date: 3/20/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| Mike Watson | [redacted] | | |
| Greg Wadsworth | | | |
| David Cote | | | |
| Robert Morgan | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 51 Low Temp 26 Winds 6 Precipitation 0%

Radio Check Completed by: NA

Emergency Personnel Decontamination Station Setup: ☐ Yes ☑ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: SLIPS TRIPS FALLS BACK SAFETY & HYDRATION, COLD STRESS

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Mr. Curtis Bay

Contract No.:

Conducted By: [redacted] Date: 3/21/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Waters | [redacted] | | |
| David Cote | | | |
| Greg Woodward | | | |
| Robert Isaacs | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 47 Low Temp 43 Winds 5 Precipitation 100%

Radio Check Completed by: N/A

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: RAIN, SLIDS, TRIPS, FALLS, HYDRATION,

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: ~~FE~~ Curtis Bay

Contract No.: [redacted]

Conducted By: [redacted] Date: 03/22/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Wash | [redacted] | | |
| J. Stuby | | | |
| Greg Woodward | | | |
| David Cote | | | |
| Robert Isaacson | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 48 Low Temp 31 Winds _____ Precipitation 50%

Radio Check Completed by: —

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: SLIDS, TRIPS, FALLS, Terrain, Hydration

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: CURTIS BAY

Contract No.:

Conducted By: [redacted] Date: 03/25/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| Mike Watson | [redacted] | | |
| David Cote | | | |
| Ryan Pagel | | | |
| MARK CUSTER | | | |
| Roberto Iglesias | | | |
| Greg Woodward | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 56 Low Temp 35 Winds 0 Precipitation 80%

Radio Check Completed by:

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: SLIPS, TRIPS, FALLS, Terrain, TICKS & ~~SNAKES~~ SNAKES.

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.: [redacted]

Conducted By: [redacted] Date: 3/26/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Watson | [redacted] | | |
| Greg Woodward | | | |
| Dr. Jill Cates | | | |
| James Stuby | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 49 Low Temp 31 Winds N 10 Precipitation 0 %

Radio Check Completed by: _____

Emergency Personnel Decontamination Station Setup: ☐ Yes ☐ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☐ N/A

Topics:

Slips, Trips, Falls, Terrain, Hydration.

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.: [redacted]

Conducted By: [redacted] Date: 3/27/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Watson | [redacted] | | |
| J. Stuby | | | |
| G. Woodward | | | |
| D. Cote | | | |
| R Pagel | | | |
| | | | |

Level of Protection (A,B,C,D): _____

Weather Forecast: High Temp 50 Low Temp 32 Winds 5 Precipitation 0%

Radio Check Completed by: ✓

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☐ N/A

Topics: Slips, trips, falls, hydration, ticks.

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.:

Conducted By: [redacted] Date: 3/28/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| [redacted] | [redacted] | | |
| David Cote | | | |
| Greg Woodward | | | |
| Ryan Paul | | | |
| Robert Kerman | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 54 Low Temp 28 Winds 2 N Precipitation 0 %

Radio Check Completed by:

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics: SLIPS, TRIPS, FALLS, Terrain, Ticks, Hydration

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.: [redacted]

Conducted By: [redacted] Date: 3/29/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Wade | [redacted] | | |
| G. Woodward | | | |
| D. Cote | | | |
| R. Pasch | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 64 Low Temp 46 Winds _____ Precipitation _____

Radio Check Completed by: _____

Emergency Personnel Decontamination Station Setup: ☐ Yes ☑ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☑ N/A

Topics:

SLIPS, TRIPS, FALLS, HYDRATION, TICKS,

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: CURTIS BAY

Contract No.: [redacted]

Conducted By: [redacted] Date: 04/01/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Watson | [redacted] | | |
| D Coe | | | |
| G. Woodward | | | |
| R Rose | | | |
| J. Stuby | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 46 Low Temp 29 Winds N2 Precipitation 0%

Radio Check Completed by: –

Emergency Personnel Decontamination Station Setup: ☐ Yes ☑ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☑ N/A

Topics:

SLIPS, TRIPS, FALLS, HYDRATION, TERRAIN, TICKS

Questions or Comments:

# DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.:

Conducted By: [redacted] Date: 04/02/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M. Watson | [redacted] | | |
| E. Woodward | | | |
| R. Paul | | | |
| D. Cotter | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 48 Low Temp 34 Winds 0 Precipitation 0%

Radio Check Completed by: —

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics:

SLIPS, TRIPS, FALLS, HYDRATION, TICKS, TERRAIN

Questions or Comments:

## DAILY SAFETY AND HEALTH BRIEF

Site: Curtis Bay

Contract No.: [redacted]

Conducted By: [redacted] Date: 04/03/19

Personnel Attending:

| Print Name | Signature | Print Name | Signature |
|---|---|---|---|
| M-Watson | [redacted] | — | |
| J. Stuby | | | |
| D. Cote | | | |
| G. Woodward | | | |
| | | | |
| | | | |

Level of Protection (A,B,C,D): D

Weather Forecast: High Temp 64 Low Temp 38 Winds NS Precipitation 60%

Radio Check Completed by: —

Emergency Personnel Decontamination Station Setup: ☐ Yes ☒ N/A

HAZMATCAD Setup (attach checklist): ☐ Yes ☒ N/A

Topics:

SLIPS, TRIPS, FALLS, HYDRATION, TERRAIN, TRAFFIC

Questions or Comments:

**SSHP SIGN IN**

**This Page Intentionally Left Blank**

## SITE SAFETY AND HEALTH PLAN REVIEW RECORD

Project: Former Curtis Bay Ordnance Depot - Depot-wide RI/FS
Site: Former Curtis Bay Depot, Anne Arundel County, Maryland
ERT Project No.: 3756

I have read the Site-Specific Health and Safety Plan for this site and have been briefed on the nature, level, and degree of exposure likely as a result of participation in this project. I meet and agree to conform to all the requirements of this Plan.

| Name | Signature | Affiliation | Date |
|---|---|---|---|
| [redacted] | [redacted] | ERT | 3/11/19 |
| | | ERT | 3/11/19 |
| | | ERT | 3/11/19 |
| | | ERT | 3/11/19 |
| | | ERT | 3/11/19 |
| | | A-Zone | 3/25/19 |
| | | D-Zone | 3/25/19 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

# FIELD NOTES

INCH

MADE IN TACOMA — SINCE 1916 —

Rite in the Rain®

DEFYING MOTHER NATURE

Name _____

Address _____

Phone _____

Project _____

Made in USA · RITE GREEN · Archival

RiteintheRain.com

## CONTENTS

| PAGE | REFERENCE | DATE |
|---|---|---|
| | 0830 - Personnel [redacted] | 3/11/19 |
| | - Site Brief, Safety Topics | |
| | - Work Plan | |
| | - Poison Ivy | |
| | - Animals | |
| | - UXO / MEC | |
| | - Hydration | |
| | - PPE | |
| | 0930 Load outs / Prep | |
| | 1120 DU1-SU2 Clean tools setup GPS | |
| | 1215 Finish DU1-SU2 | |
| | 1230 Begin DU1-SU1 | |
| | E: 1190970 N: 14241300 - NE Corner | |
| | Moved due to road & property | |
| | fence lines | |
| | 1340 Complete DU1-SU1 | |
| | 1440 Begin DU1-SU4 | |
| | E: 1191150 N: 14240500 - NW Corner | |
| | 1510 Complete DU1-SU4 | |
| | 1525 Begin DU1-SU3 | |

E: 1190870 N 14240670 - NW Corner

1555 Complete DU1-SU3

1600 Pack up clean up.
Ship 1 container with
DU1A - SU1, SU2, SU3, SU4
DU1B - SU1, SU2, SU3, SU4

1635 End of day brief.
Depart site
Nothing else follows

3/12/19

[redacted]



0700 - Arrived on site
Safety brief Topics
Footing, uneven terrain
Lifting techinques

0720 Set up CPS, decon tools

0730 Start DU1 - SU07

0814 Complete DU1 - SU07

0851 Begin DU1 - SU09R

1632 Complete DU1 - SU09R

1110 Begin DU1 - SU11R - [redacted] had offset SU Due to obsitcles to roads.
See [redacted] log for coordinates.

1309 Finished DU1 - SU11R.

1350 Begin DU1 - S1R.

1430 Complete DU1 - S1R

1435 Pack up clean up
2 containers ship
1: DU1A - SU07, DU1B - SU07, DU1A/B, SU09R1, R2, R3, DU1A/B - SU11R1
2. DU1A/B - SU11R2, R3, DU1A/B - SU51 R1, R2, R3

1700. Depart site
Nothing else follows

[redacted] 3/12/19

Rite in the Rain

3/13/19

0700 Arrived on site
Safety brief - Topics Hammering techniques & back safety.
0810 Begin DU1 - SU06
0900 Complete DU1-SU06
0914 Begin DU1 - SU08
1015 Complete DU1-SU08
1240 Begin DU1 - SU10
Unable to successful step prob - Deemed as an A-Zone SU.
1130 Begin @ DU1 - SU38
1315 Complete DU1 SU38 - Designated as MS/MSD
Step probe broke @ weld. Probe Completely unusable. was able to straighten bent probe to be able to complete SU.

Probe status
- 1 bent multiple times & restraighten & re-bent, etc.
- 1 weld came undone. Complete unusable.
- 1 bent tip. Hard to probe & extract soil, but usable.



1330 - Moved to SU38 & 40 to Flag.
[redacted] moved to DU2 to flag.

SU40 moved due to half of SU is in revetment

E: 1189780 N: 1423730 NAD C
Grows E, Grows N

Flagged SU 40 & 38
1610 Moved back to staging are
Packed up & clean up
1 Container ship: DU1A/B - SU06, SU08, SU38
1700 Depart site
Nothing else follows

3/13/19

[redacted]

Rite in the Rain

03/14/19

0700 - Arrived on site
Safety brief - Topics
Weather, terrain, Soreness
0745 - Began flagging SU's in DU1

SU-35




Offset 15' E on rows 2, 4, 6 Due to boundary fence.

SU 31 - [redacted] NWC
E: 1189330 N: 1423750
shifted due massive trench w/ water. 5 rows E, 6 rows N

SU 33 - No change
SU 32 - no change
SU 22 - no change
SU 23 - no change
SU 24 - no change



[redacted] complete marking.

DU3 - SU1, SU8, SU9, SU10
DU1 - SU57, SU55, SU37

Nothing else follows

[redacted]

03/14/19

Rite in the Rain

3/18/19

0700 Arrived on site
safety brief
0800 Start SU05 - DU1

E: 1190530 N: ~~1423~~ 14240000
NWC

0915 Complete DU1 - SU05
0930 Marked out DU1 - SU15 / 18
Both on gravel & pavement.

- SU 15 moved West line over
due to fence. Shifted whole
grid 30' east.

1020 Start DU1-SU 27 - Shifted whole
SU 30' West due to building
in the Eastern column.
1100 Complete SU27.
1120 Begin DU1-SU28
move to
E: 1193300 N: 14237950 - NEC
due to road & fence GE x SN
1235 complete DU1 - 28



1315 Begin DU1 - SU37
1440 Complete DU1 - SU37
1450 Begin DU1 - SU41
1545 Complete DU1 - SU41

Samples shipped
DU1 A/B - SU05, SU27, SU28, 37,
41

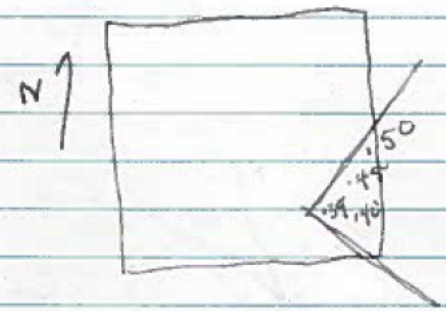
Nothing else follows

[redacted]

Rite in the Rain

3/19/19

0700 Arrived on site
Safety brief
0730 Begin SU50
0830 Complete SU50
0850 Begin DU1-SU59
0950 Complete DU1-SU09
1020 Begin DU1-SU56

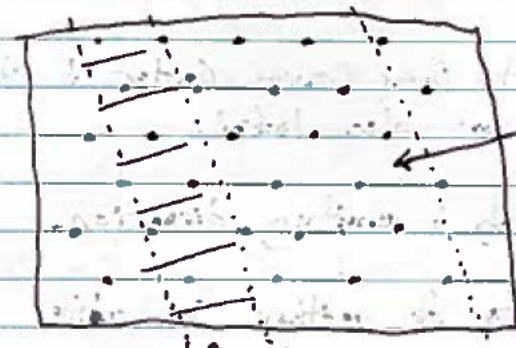



Pt. 40 - OS 40 Ft W
Pt. 39 - OS 45 Ft W
Pt. 45 - OS 15 Ft. W
Pt. 50 - OS 25 ft. W

1110: Finish DU1-SU56 - Designated as MS/MSD
1150: Begin DU1-SU47
1245: Complete DU1-SU47
1255: Begin DU1-SU49
1335: Complete DU1-SU49
1345: Begin DU1-SU43
1430: Complete DU1-SU43



1510 Begin DU1-SU53
1605 Complete DU1-SU53



old concrete/road. most got through where grass was growing. Shifted a couple.

old railroad bed
adjusted some point E + W

1615 - Return to staging area.
Greg + Dave staking out SU54
Clean up - pack up.

Samples ship: DU1 A/B - SU50, SU59, SU56, SU47, SU49.

Samples DU1 A/B SU43 + SU53. will ship tommorrow.

1700 Depart site: Nothing else follows MW. Cont. on next page

[redacted] 3/19/19

Rite in the Rain

03/19/19 MW ~~03/20/19~~

1705 Drove up to main gate & it was closed & locked.

Drove to Army Reserve Center & that gate was also locked.

Called bob & awaiting direction.

Decided to do another SU while waiting

1740 Begin SU ~~53~~ MW 54

E: 1192090, N: 14235900 - SEC 5E x 6N

Moved SU due to USACOE remidiation site & asphalt parking area to the North.

1810 Complete DU1-SU~~53~~ 54MW.
1830 Pack up / clean up
1845 Cut lock, depart site. Nothing else follows

[redacted] 3/19/19



3/20/19

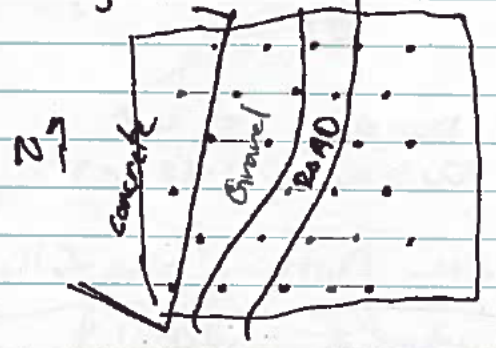
0700 - Arrived on site
Safety brief
0715 - Begin DU1-SU57
0920 - Complete DU1-SU57
SU was magority swamp & fragmittie.

0935 - Begin DU1-SU55

Move SU due to Asphalt lot & stagging area.

E: 1193330 N: 14236050 - NEC 5E x 6N

1015 Complete DU1-SU55
1045 Begin DU1-SU45
1145 Complete DU1-SU45
1215 Begin DU1-SU42




Rite in the Rain

Moved due to asphalt road to old building foundation

E: 1191130 N: 4236950

SE to CON

1320 Complete DU1-SU42

1340 Begin DU3-SU01

1435 Complete DU3-SU01

1500 Start DU3-SU02

1550 Complete DU3-SU02

1600 Start DU3-SU04

1630 Complete DU3-SU04

Head back to staging area

Cooler 1: DU1 A/B 50, 59, 56
47, 49

Cooler 2: DU1 A/B, 43, 53, 54
57, 55

Cooler 3: DU1 A/B 45, 42
DU3 A/B 01, 02, 03

1700 Depart site. Nothing else follows

3/20/19



0700 Arrived on site

0715 Safety brief

0730 Begin DU3-SU3

0845 Complete DU3-SU3 R1

0910 Begin DU3-SU7

1045 Complete DU3-SU7

1100 Transfer GPS coordinates into Geode for updated coordinates in DU2

1200 Packed up/clean depart site.

No Samples were shipped

Nothing else follows

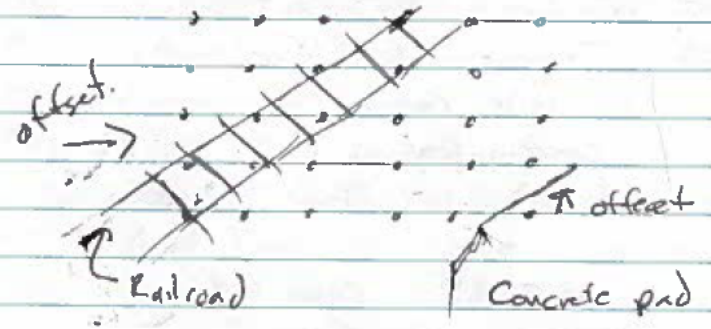
[redacted]

3/21/19

Rite in the Rain

3/22/19

0100 Arrived on site
0715 Safety brief
0730 Begin DU3-SU3 Replicates
0845 Complete SU3 R2/R3.
0930 Begin DU2-SU07 R1/R2/R3



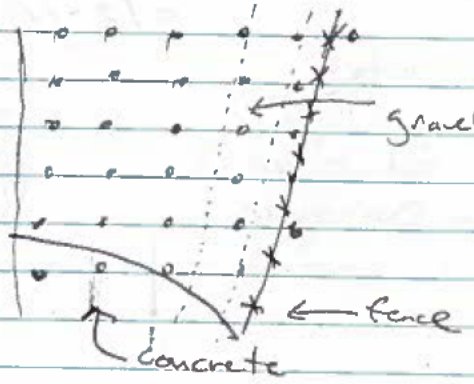

1245 - Complete DU2-SU07 R1
1250 - Complete DU2-SU07 R2
1255 - Complete DU2-SU07 R3.

Offset some points due to physical obsticles

1338. Begin DU2-SU02 R1/R2/R3

change to replicate due to dense trees to A-zone not boeing able to get geoprobe in SU






Moved some points due to the forementioned discrepencys.

1620 - Complete DU2-SU07R1
1625. Complete DU2-SU07R2
1630 - Complete DU2-SU07R3.

Completed all nesseary Replicates for DU2.

No shipment was made due to weekend schedule. All samples are stored on ice and keep in the van.

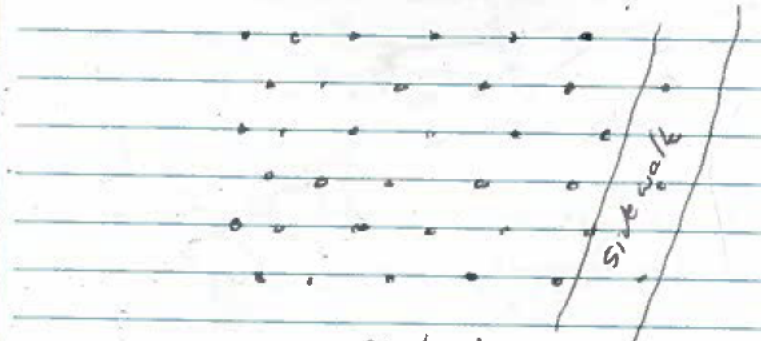
Nothing else follows

[redacted]

3/22/19

3/25/19

0700 Arrived on site
0715 Safety brief
0720 Begin DU1-SU46
0805 Complete DU1-SU46




offset to the left & right of sidewalk

0815 A-zone Environmental arrived on site. Complete H&S Brief & scope of work perform. Cut Greg & Dave loose to continue to sample in DU1

0900 Begin DU3-SU05 with A2one & geo probe

1130 Complete DU3-SU05.
1215 Begin DU3-SU10



1415 Complete DU3-SU10
1425 Begin DU3-SU09
1620 Complete DU3-SU09
1630 [redacted] back at staging area. Pack up clean-up.

1645 A-Zone Environmental departed site

[redacted] completed.

DU1-SU35 @ 1005
DU1-SU31 @ 1130
DU1-SU40 @ 1305
DU1-SU38 @ 1400
DU1-SU32 @ 1505
DU1-SU33 @ 1600

5 coolers shipped out today

Cooler 1: DU2 A/B - SU07 R2, R3
DU2 A/B - SU82 R1, R2, R3

Rite in the Rain

Cooler 2: DU3 - A/B - SU03 R1, R2, R3
DU3 - A/B - SU07
DU2 AB - SU02 R1

Cooler 3: DU1 A/B - SU32
DU1 A/B - SU33
DU3 A/B - SU09

Cooler 4: DU1 A/B - SU46
DU1 A/B - SU38
DU1 A/B - SU40
DU1 A/B - SU35
DU1 A/B - SU31

Cooler 5: DU3 A/B SU10
DU3 A/B SU05

1700 Depart site.
Nothing else follows

[redacted]

3/25/19



0700 Arrived on site

0710 [redacted] from USACOE arrived on site.
Safety brief was conducted

0740 begin DU3-SU08 with A-Zone

0955 complete DU3-SU08

1020 Begin DU3-SU06 with A-Zone

1120 Complete DU3-SU06

A Zone packed up geoprobe moved to
DU1-SU15/18

1220 Begin DU1-SU15 w/ A-Zone

1420 Complete DU1-SU15

1445 Begin DU1-SU18 w/ A Zone

1630 Complete DU1SU18

Dave & greg comple

DU1A-SU22 1045
DU1B-SU22 1050
DU1A-SU17 1540
DU1B-SU17 1545

DU1A - SU24 @ 915
DU1B - SU24 @ 920
DU1A - SU25 @ 1340
DU1B - SU25 @ 1345
DU1A - SU15 @ 1420
DU1D - SU15 @ 1420

Containers Shipped:

1: DU3A/B SU08, SU06
2: DU1AB SU18, DU1A/B SU22,
DU1A/B 17
3: DU1A/B SU24, SU25, SU15

Nothing else follows

[redacted]

3/24/19



[redacted]

3/24/19

Rite in the Rain

3/27/19

0700 Arrived on site

0715 Safety brief

0720 Sent [redacted] to stake out grides to collect samples in DU1.

Spoke to Rob & Michelle about volume control for azore sampling. Concluded w/ 1/3 wedge sampling.

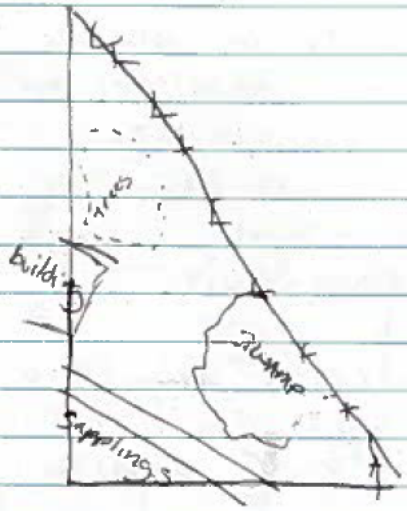
0820 Begin DU1-SU30.

Because of wedge sampling QA/QC need to be established.

DU1-SU3051 complete 1050
SU3052 1055
SU3053 1100.

1130 Begin DU2-SU18
Complete DU2-SU18. Had to offset many points due to geoprobe not able to get into these areas






Field effort accepted using both probe & geoprobe for sampling in DU2.

[redacted] Completed.

DU1A-SU44R1 0925
DU1B-SU44R1 0926
DU1A-SU44R1 @ 1010
DU1B-SU44R2 @ 1041
DU1A-SU44R3 @ 1105
DU1B-SU44R3 @ 1106
DU1A-SU48 @ 1226
DU1B-SU48 @ 1225

DU1A - SU20 @ 1400
DU1B - SU20 @ 1401
~~DUP~~ MW

1445 Begin DU1 - SU16
1540 Complete DU1 - SU16

DU1B - SU26 @ ~~1601~~ 1401
DU1A - SU20 @ 1510
DU1D - SU20 @ 1501

1600 Packed up/clean up
Jim had to depart site.

1615 departed for UPS.
1700 departed site

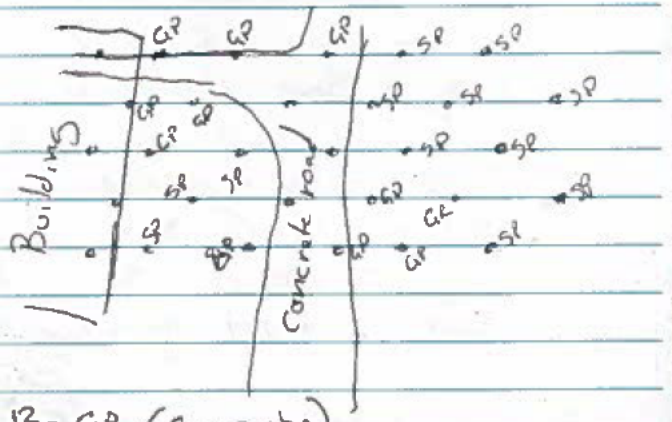
Northing else follows

[redacted]

3/27/19.



0700 - Arrived on site
0715 - Safety brief
0745 - Begin DU2 - SU10 w/ A-zone
0935 - Complete DU2 SU10




13 - GP (Geoprobe)
17 - SP (Step probe)
Deemed as MS/MSD

0950
0958 - Begin DU2 - SU05
1105 - Complete DU2 - SU05
moved 2 point in asphalt 5' E. Complete SU w/ step probe

1145 - Begin DU2 - SU04
1305 Complete DU2 - SU04 all w/ Step probe.

Rita in the Rain

1330 - Begin DU2 - SU03
1515 - Complete DU2-SU03

Sent [redacted] to state out remaining SU's in DU1.

[redacted] Completed

DU1A - SU13 @ 0830
DU1 - SU14 @ 1015
DU1 - SU19 @ 1130
DU1 - SU[redacted]R @ 1344

Shipped 1 container w/

DU2A/B SU 10, 5, 4, 3.

other container not shipped due to missing shipping labels.

1700 depart to site [redacted]

3/28/19



0700 Arrived on site
0715 Safety. brief.
0800 Begin DU2 - SU15
1020 Complete DU2-SU15
- Dirt had a heavy petroleum smell when extracted

1040 - Begin DU2- SU01
1240 - Complete DU2-SU01

1310 - Begin DU2-SU17
1515 - Complete DU2SU17

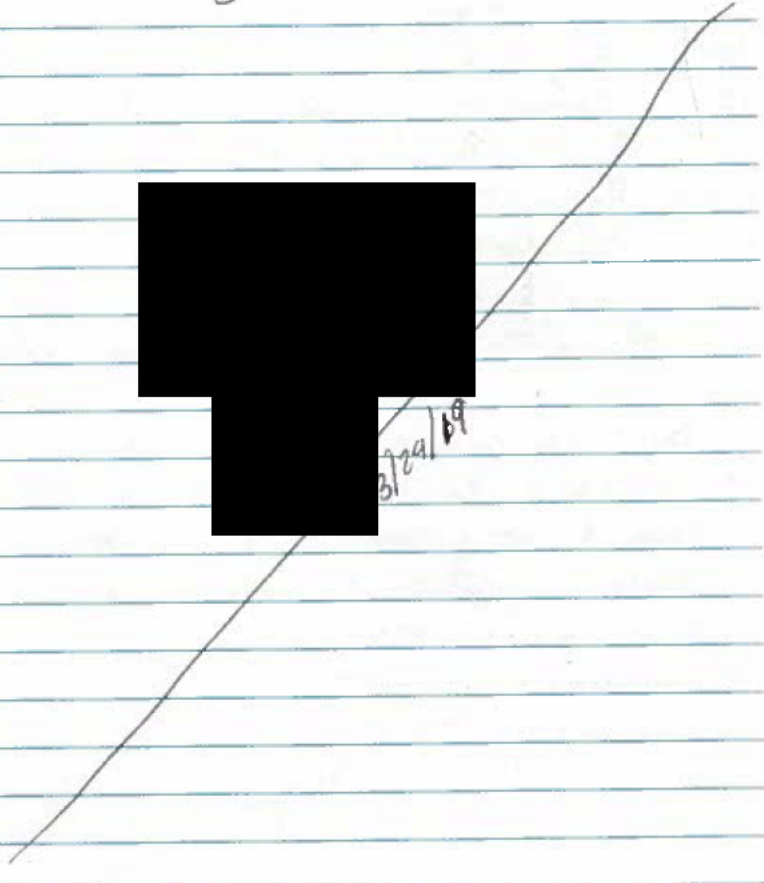
[redacted] complete

DU1SU36 @1000
DU1SU36R2 @ 1005
DU1SU36K3 @ 1010
DU1SU34 @ 1200
DU1SU16K1 @ 1510
DU1SU16K2 @ 1515
DU1SU16K3 @ 1520

Rite in the Rain

No samples were shipped due to weekend.

1630 Packed up & clean up.
1700 Departed site
Nothing else follows






0700 - Arrived on site
0715 - Safety brief
0725 - Begin DU2 - SU09
0820 - Comple DU2 - SU09
0830 - Begin DU2 - SU08
0925 - Complete DU2 - SU08
0940 - Begin DU1 - SU21
1035 - Complete DU1 - SU21

1050 - Head to [redacted] to help them finish DU29

The move to DU1 - SU52 stake grid due to one working GPS.

1230 Begin DU2 - SU06
1330 Complete DU2 - SU06
1345 Begin DU2 - SU16
1450 - Complete DU2 - SU16
1500 - Begin DU2 - SU14
1600 - Complete 14 sample location - rest will be done w/ geoprobe

[redacted] complete

DU1 - SU39 @ 815
SU23 @ 1015
SU29 @ 1125
SU52 @ 1223

Samples ship:
Cooler 1: DU1A/B SU39, SU23, SU29, SU52
DU2 A/B SU06

Cooler 2: DU2A/B - SU09, SU08, ~~SU01~~ SU16
DU1 A/B 21

Cooler 3: DU1A/B - SU13, SU14, SU19, SU12

Cooler 4. DU2/A/B - SU15, SU01, SU17
DU1 A/B - SU10 R2, SU10 R3

Cooler 5 DU1A/B SU36R1, SU36R2,
SU36R3, SU34, SU~~26~~10 R1

1700 Depart site
Nothing else follow =

[redacted] 04/01/19



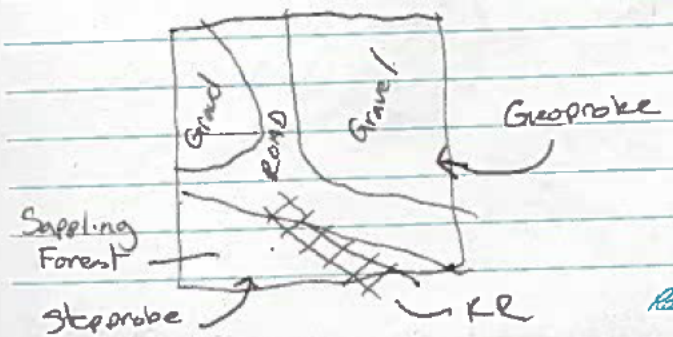
0700 Arrived on site
0715 Safety brief
0730 Continue DU2 - SU14
0830 Complete DU2 - SU14
Points in dense concrete offset to points in gravel.

Use geoprob for 14 points
Steprobe for 16 points

0850 Begin DU2 - SU13
0950 Complete DU2 - SU13 - all step probe.

~~1010~~ 1010 Begin DU2 - SU12
1140 Complete DU2 - SU12

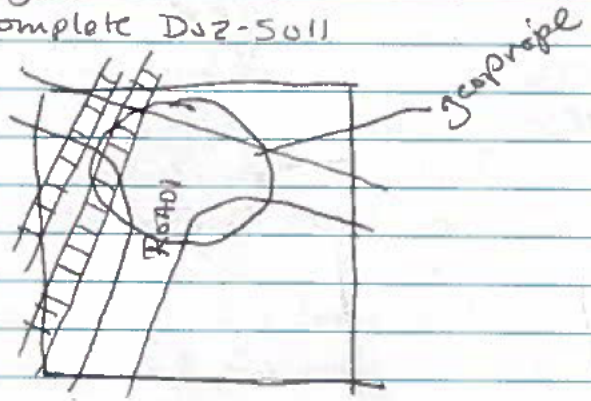
Geoprobe - 19
Steprobe - 11




Rite in the Rain

1155 Begin DU2-SU11

1325 Complete DU2-SU11




21 step probe
9 geo probe

1330 Pack up geoprobe, Move over to DU4

Help Greg & Dave with sampling DU4

1600 Pack up / clean up.



[redacted] complete

DU4 A/B - SU06 @ 1005
DU4 A/B - SU07 @ 1100 R1
SU07R2 @ 1135
SU07R3 @ 1250
DU4 A/B SU05 @ 1425

2 coolers ship

Cooler 1: DU4 A/B, SU06, SU07R1, R2, R3
SU05

Cooler 2: DU2 A/B SU14, SU13, SU12
SU11.

1700 Depart site
Nothing else follows

[redacted]
4/02/19

Rite in the Rain

4/03/19

0700 Arrived at office to park POV's

0800 Arrived on site
0810 Began DU4-SU04
0855 Complete DU4-SU04
wrote 0955 on COC by accident
0910 Begin DU4-SU03
1005 Complete DU4-SU03
1015 Begin DU4-SU02
1050 Complete DU4-SU02
1105 Begin DU4-SU01
1205 Complete DU4-SU01

Moved back to staging area to pack up site for demob.

All SU's are completed.

1530 depart site to drive work vehicles back to office

Nothing else follows [redacted]



Rite in the Rain

2 Curtis Bay — Day 1

March 11, 2019

- [redacted] left ERT HQ 7:45 am after loading equipment.
- Stuby drove van (mileage 69789) [redacted] truck
  Woodward POV
- Arrived site 8:33. [redacted] already there
- Moved to staging area
- Safety brief / Site orientation
- Prepared equipment
- Stuby / Woodward began util clearance of DU3 ~ 9:45
- Had to do some troubleshooting with Geode GPS.
- Stuby / Woodward resumed util. at DU3
- Other 3 went to SU1 / DU1 to start flagging points ~ 11:05
- Stuby / Woodward moved to DU2 to begin util. markout 11:15
- Stopped around 12:30. Used GPR to find some possible utilities in paved areas. Traced out water line along street (blue)

3

- Found drain that is called "Rubber Mouth Ruby" and painted out line between it and another drain. (Also near DU2)
- Returned to staging ~~area~~ area for lunch.
- 1:00 Stuby / Woodward drove to find control points, found two nails still in place from 2013.
- Setup base on point 1003, but could not verify rover on point 1004. Found nail on the concrete foundation, but GPS rover goes to paint in the grass off ~ 40 ft.
- Stuby had Koron (a) come and make independent measurements of 1004 and 1003 with Geode. 1004 was within reasonable error of ~5 ft. 1003 was ~50 ft off, so that is the problem. Do not use 1003.
- Set up Topcon base on 1004. Went to other foundation and checked rover on 1001 — less than 0.1 ft error.
- Set up 2 new control points at DU2 (DU2-1 and DU2-2)
- Flagged SU7 in DU-1, no offsets
- Took down GPS base, returned to staging area 4:13
- Left van and truck on site

- off site ~4:30



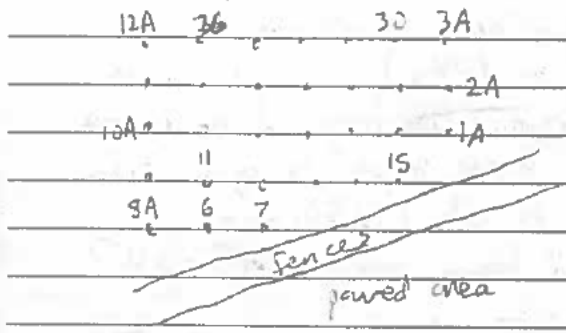
Curtis Bay
March 12, 2019



- Arrived staging area 7:00 am (all staff in POVs)
- Stuby forgot van key at his house, so had to drive back to get it. Returned to site 8:30.
- Stuby joined team near DU3-SU9 ~8:45
- Staked out SU9R with Geode. 4 flags were on train track spur and were offset Stuby photo @ 9:30
- Stuby went to SU11R with Geode. Most of the grid overlaps with K9 building. Offset it to south, across road.
- Stored all points in file SU11R-NEW and exported to TXT file on Mesa (tablet). Photo of grid @ 10:47 (panorama from near NW corner)
- Stuby met briefly with other 3 guys to explain SU11R flags, then drove back to staging area to start SU51R.

Rite in the Rain

- Due to fence on south side of SU51R, several points were moved.




map of SU51R

Exported file to Mesa: SU51R-NEW.TXT
Photo from near NE corner ~ 12:10
- Stuby took lunch until ~ 12:50
- Walked back to SU55. Although not apparent on air photo, this is covered with asphalt and A-Zone will need to do it.
- Walked to nearby SU57 Apparently it is all phragmites swamp with shallow standing water. Not flagged. Hip-waders or at least tall boots required. Returned to van 1:30.
- Met with team (including Koroncai) to discuss next action, They will sample SU51R. I will go Flag grids SU06 and SU08.

[redacted]



- finished SU06 3pm. Offset entire grid ~120 ft to north to avoid road. SU06-NEW.TXT on Mesa.
- Finished SU08 3:45. All flags placed as planned but train tracks pass through west side of grid so some samples will need to be offset. Photo @ 3:46 from SW corner
- Returned to staging area where team was still working on SU51R
- Assisted with COC's and packing equipment until 5:00 pm

Rite in the Rain

Curtis Bay — Day 3

March 13, 2019

- Stuby arrived site 7am in POV
- Safety talk.
- [redacted] went to DU2 - to set up base station on DU2-1. Traing. Verified rover on DU2-2. Error ~0.3 ft.
- Moved to SU10, began flagging.
- Finished 9:15. Shifted entire grid 150 Ft south. File SU10-new.csv.
- Finished SU14 10:25. Deleted 12 points on east side of grid due to ditch, RR tracks, asphalt. Reset them on west side by lining up with other flags. File: SU14-new.csv
  Photos ~10:25 panorama from SW corner
  ~10:26 photo of ditch/RR/asphalt
- Moved to SU12. by 11:00. Planned location is on road, tracks, and phragmites, so we should shift south. Can't shift east because that would be DU2.
- New approx center at:
  1192255 14238909
- Shifted 236' south
- Points all worked out. SU12-new.csv



- Finished SU12 ~11:55. Panoramic photo from NW corner at 11:55. Corner of building 911 is at SE corner.
- [redacted] returned to staging area for lunch.
- Went to SU59 to see if it was impacted by USACE activity in EC25/49. It should be shifted 30 ft south.
- 12:35 dropped off [redacted] with sampling team where they are working at SU58.
- Stuby had conference call with USACE [redacted] 1:00 to 2:00 on Fort Hancock
- 12:20 moved with [redacted] / [redacted] to DU2 to start flagging and painting points so A-Zone has work ready for monday.
- Photo @ 2:58 panorama DU2-SU1 from NW corner of grid
- Stuby back at staging area, locked [redacted] van.
- Left site 3:15.

[redacted]

Rite in the Rain

Curtis Bay — Day 4

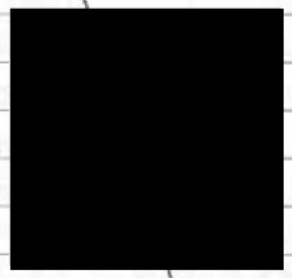
March 14, 2019

- Stuby arrived site 7am
- Safety talk when Koroncai arrived
- 7:30 Stuby used RD to mark out water line in DU3 along road. Two photos when complete ~8:25. An electric line is approx. colinear with it which Woodward painted out on Monday.
- 8:45 Spoke with Al Whittington of USACE
- Stuby/Woodward/Cole decided to flag out DU1 SU57.
- Returned from SU57 ~9:45.
- Stuby used RD to mark electric line in red in south part of SU57. Line connects electric light poles there.
- Stuby went to DU2 area to mark out gas line, also found culvert pipe crossing entrance.
- Returned to staging area. Met Watson and Koroncai who had been flagging grids. They went to McDonalds to buy lunch for everyone.



- Stuby went to DU1 SU30 and 27
  - photo of SU30 @ 12:42 from adjacent building
  - " SU27 @ 12:46 from near SE corner.
  - Most of SU30 is paved - A-zone required
  - SU29 will need to be offset to west.
- Panorama of SU37 from point on edge of asphalt west of NW corner of grid @1:12
- Pan of SU28 from road south of it. Suggest shifting to west because much of it is on a busy road.
- Pan of SU18 and SU15 from south edge of 18. Surface is covered with asphalt or gravel. Taken 1:26.
- 2:00 Stopped to check on Koroncai/Watson working in SU32+33. Panorama near border ~1:59, facing ~East.
- Panorama of SU50 @2:10, from road
- Panorama of SU48 @2:26, from near SE corner
- Panorama of SU44R @2:31, from near SE corner
- Walked into the revetment with the collapsed roofs.
- Returned to DU3 where Woodward/Cole are flagging grids.

- Transferred stuff from truck to van so truck can be used for Seismic refraction project tomorrow.
- Stuby offsite ~4:05
- Returned to ERT HQ ~4:45
- Get gas at Shell on Rt. 198
  13.353 gal, $32.78



Curtis Bay
March 18, 2019

Day 5



- Stuby arrived site 6:50 in ERT truck
- Set up RTK GPS base on pt 1004. Verified rover on pt 1001.
- ~8:00 drove over to DI SU5 area where team needed flags.
- Returned to staging area to begin flagging grids in DU3.
- Completed SU6 (cold shape next to warehouses) 9:05. Used orange + red stripe at each point
- Completed SU7 by 10:25, using blue + orange stripes. Several small patches of small arms MD and other MD near NE corner of grid. Photo @ 10:28, video before that.
- Went to van for short break. Resumed work 10:45
- Finished SU3R 11:50, using red/white stripes. About 10 points are in phragmites.
- Lunch break
- Port-o-pot (gotigo) had been knocked over over the weekend (by wind?). Called them for service. They should be here today anyway.

- Resumed work 12:40 in SU2
  Finished 1:40. Paint = red/yellow
- Started SU05 in blue/yellow paint
  Finished 2:30. Much of grid is asphalt
- Started SU04 in white/orange
  Finished 3:50.
- Drove to base to take it down
  Returned to staging area 4:12
- Stuby off site 4:20

[redacted]

Curtis Bay
March 22, 2019

Day 9



- Stuby on site 7am
- Safety talk
- Drove to DU2, arrived 7:30
- Set up GPS base at DU2-1, verified rover on DU2-2. Allegra might be close to dead.
- Went to SU04, started flagging (orange)
  Finished 8:40. Several flags offset due to fence, transformer, asphalt, bldgs.
  Nav CSV file: SU04-new
- SU01 02 03 05 already complete by [redacted] probably
- Stuby finished SU10 (yellow flags/paint) by 9:35
- Prepared for SU18.
- Stopped work ~9:50 for conf. call, 10-11 with Tom, Sean, Ryan. Call over ~10:30.
- Started SU18, finished 11:25, red flags
  Deleted point 3320 (still 30 points)
- Started SU17, orange flags, finished 1:45. Many flags offset by road and thick brush/deadfall. SU17-new.CSV
- Finished SU15, pink flags/paint, at 3:10
- Talked to [redacted] about next week's Shedule.

Rita in the Rain

- Stuby used Schonstedt to find rebar control point at witness post.
- Removed GPS base
- Returned to staging area
- Stuby off site 4:15

Curtis Bay
March 26, 2019

Day 11



- Stuby arrived site 7:00
- Safety talk
- [redacted] of USACE arrived site 7:15
- Drove to SU20 of DU1 to show her how we flag out grids. She helped.
- Drove to SU24 to observe [redacted] and [redacted] collect samples.
- Photo 8:42 showing road going through SU24. Several samples offset from road.
- Drove to DU3 where [redacted] and driller from A-Zone are working
- Took several photos of them working in SU8
- Dropped off Julie at her ~~car~~ car 9:30. She left site by 9:45 but plans to come back ~3:30
- Stuby started flagging DU1 SU25 ~9:50 after putting on hip waders.
- Very difficult in thick Phragmites. Dave + [redacted] showed up to help ~11:00. Finished ~12:10. Removed hip waders and [redacted] put them on. They began sampling.

Rite in the Rain

- Took coolers to [redacted] at SU15/18.
- Went to staging area, ate lunch.
- Went to stake out SU17. It is on a concrete pad so I offset it 200 ft W and 200 ft N Yellow Flags. Finished 1:47
- [redacted] came to SU17 to start 2:15
- Stuby flagged SU16, finished ~3:00
- [redacted] finished sampling SU17 ~3:30
- [redacted] back on site ~3:15
- [redacted] stayed with [redacted] and went to staging area while I visited [redacted] at SU15/18
- Returned to staging area
- Stuby off site 5:05

Curtis Bay Day 12 

March 27, 2019

- Stuby arrived site 7:00
- Set up RTK GPS base on C1, verified rover on C2
- Staked out DU1 SU44R by 8:20 [redacted] started sampling it right away. Offset ~4 flags off of gravel
- Went to SU48. Many points are west of perimeter fence or on asphalt road. Offset grid 170 ft east. Finished ~9:15
- Moved back to SU17 area. Altered SU13 file, offset 100 ft W and 300 ft N. Some flags in water were offset to north.
- Photo 10:27 from NE corner of SU13
- Photo 10:34 from NW corner of SU16
- Photo 10:37 from SW corner of SU17 (Flags removed)
- Exported files with revised points:
  - SU44R-new.csv
  - SU13-new.csv
  - SU48-[redacted] offset.csv
  - SU17-offset.csv
- Moved to SU26 after eating lunch. Finished ~12:00. Irregular shape between revetment and road.

Rite in the Rain

File: SU26-new.CSV
- Photos: Panorama from SW corner 12:08
  Panorama from top of revetment 12:04
- Moved to SU19, Finished 1:07. Moved 3 flags from bldg foundation to west side. Photo 1:09 from SW corner.
- Conference call on Costa Rica project 2:00 to 2:30
- Staked SU21 by 2:00. Much of it is grass-covered but seems gravelly. Photo: 3:04 from SE corner
- Notified team to stop work (other than cooler packing) after completion of ~~next~~ current grids. [redacted] (A-zone) should finish DU1 SU16 by 3:35. [redacted] just finished SU26.
- Stuby returned to staging area ~3:15. Took down RTK GPS base. Downloaded Allegro with shifted grid points
- Stuby off site 3:40

[redacted]

Curtis Bay
April 1, 2019

Day 15



- Stuby arrived site 7:00
- Safety talk
- Drive to DU2. Set up RTK GPS base on DU2-1, ~~verified rover on DU2-2~~ Could not verify rover on DU2-2. Latency 999 — base + rover not communicating. Restarting rover made it worse, could not diagnose problem using PCCDU on laptop — could not connect. Eventually set up base to use as rover.
- Flagged DU2, SU06 by 9:30. Many points offset up to ~8 ft due to RR tracks.
- Found nearby drain and used GPS to store points.
- Exported file: SU06-new-drains.CSV
- Drove over to Army Reserve Property, tried to meet with Captain [redacted] but no one answered the door/intercom. Will try again later.
- Went back to site and met with [redacted]

Rain

- Returned to Army Reserve, tried again with Captain Wilson, no answer.
- Walked back to SU6/7 area. Mapped perimeter of double areas and revised flags in VSP for both SU's.
- Reflagged both by 3:45
- Tried to enter Captain Wilson's bldg again but no one comes to the door.
- Took down base station tripod
- Returned to staging area 4:05
- Stuby off site 4:15

[redacted]

Curtis Bay — Day 17 (last)
April 3, 2019



- Stuby on site 8:00
- Drone to Army Reserve area (DU4).
- Safety talk
- Stuby used Geode to flag SU02 and then SU01. Many flags offset to east away from fence in SU01. File: SU01-NEW, CSV in Mesa. Finished by ~9:45.
- Stuby off site 10:15

[redacted]

Rite in the Rain

2

3/11/2018

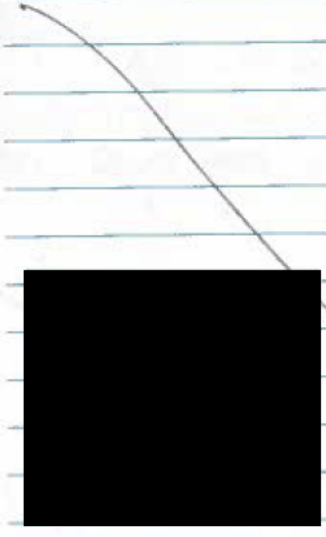
Onsite: 0830

[redacted]

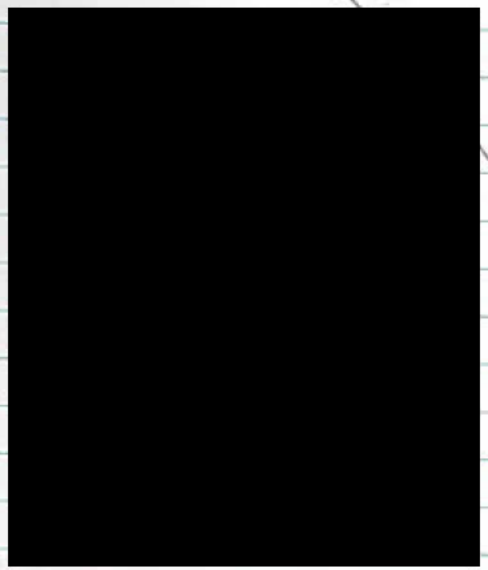
- set-up site

- work w/ [redacted] all day

End: 1700




Rite in the Rain



Sunny |

3/12/19

Onsite: 0700

- [redacted]

@715 - Safety Brief

- DU1-SU07 → @811
  - no issues → wet / standing H2O
  - Dixon

@850 - DU1-SU08R → 1031

- No issues → wet hydric soil - sand + clay

1031 - Decon, label soil samples

- * [redacted] went checked to flag more SUs

1115 - DU1-SU11R → 1309

- Grid was shifted [redacted] plotted new points in GPS
- B-layer rocky / challenging - bent 1 probe

1300 - Pop on site

1330 - Lunch

- DU1-SU51R → 1630
  - 1 probe broke → had to use slide hammer

1700: End Shipped 2 coolers

Samples: DU1A-SU07, DU1B-SU07

DU1A - SU09R1, R2, R3; SU11R1, R2, R3; SU51R1, R2, R3

DU1B - SU09R1, R2, R3; SU11R1, R2, R3; SU51R1, R2, R3

6 3/13/2019 Sunny/

Onsite: 0700 → Safety Briefing

[redacted]

0730: Mike, Greg, Bob → Sample SUIs

[redacted] → setup RTK

morning calibration

0800: Learn RTK - flag SUs in DU1

1300: Sample DU1-SUS8 w/ Mike, Bob, Greg

1415: [redacted]

- Mark out DU2 Src A-Zone w/ RTK

X3291 X3286 X3285 (outside fence)

X3284 X3276

X3270 X3271 X3272 (Phragmites Drainage Swale)

X3278

*SE corner (3275) marked w/ orange paint

1545: DU2-SU03

X3355 → 3360: on other side of fence

X3331 → 3336: inside building

1615: DU2-SU05

X3506 - 3510 other side of fence

1700: End

- Ship 1 cooler

Partly Cloudy/65°

3/14/2019

Onsite: 0700 [redacted]

- Safety Briefing

0730: [redacted] → Setup RTK base

- QC RTK

0800 - DU3-SU01 - In Phragmites patch

Pretty Dry

0830 - [redacted]

- Plot DU1-SUS7 → needed muck boots

standing water ~6 inch. (low tide)

1000 [redacted]

- DU1-SUS5 - marked w/ white paint

"parking lot" = A-zone

1100: Finish DU3-SU01

1345: [redacted] DU3-SU08 [orange spray / Pink flagging tape]

1345: " " DU3-SU09 [white spray / Pink flagging tape]

1445: " " DU3: SU10 [Green spray]

1545: " " DU3-SU30 [Pink / orange]

1650: Breakdown Base Station for RTK

1700: End

[redacted]

Rite in the Rain

[redacted]



Sunny/47°

Onsite: 0700

[redacted]

- [redacted]

- Sample/Stag SUS in DUI

1700: End

[redacted]

[redacted]



3/19/2019

Sunny/52°

Onsite: 0700 [redacted]

- Safety Briefing

0800: [redacted] - Simple

- DUI-SUSC

0900: [redacted]

- DUI-SUS9

- QC/QA onsite (Michelle Chestnut)

1000- [redacted]

- DUI-SUS6 - had to offset due to coronate [redacted] has cordinates

1118- [redacted]

- DUI-SU47

- DUI-SU49

- DUI-SU43

End 1700

[redacted]

Rain in the Rain

[redacted]



3/20/2019

Sunny/52

Onsite: 0700 [redacted]

- Safety Meeting

0800: [redacted]

- DU1-SU57: Standing Water/Phragmites

• coarse grain sand → very wet

0920 [redacted]

- DU1-SU55

1030 - [redacted]

DU1-SU44S

DU1-SU46

1330 - [redacted]

DU3-SU01

End: 1700

[redacted]

Rite in the Rain

Ons.te: 0700 [redacted]

0730: DU1-SU46

0830: A-Zone onsite [redacted] ste → coolers / probes
- Safety Briefing w/ A-Zone

0900: [redacted]
DU1-SU40

1040: DU1-SU~~38~~ 31

1130: DU1-SU~~32~~35
DU1-SU~~46~~38
DU1-SU32

1615 DU1-SU33

1615: Pack Coolers

No issues
wet, clay soils

End: 1700

[redacted]

Rain in the Rain



Sunny/48°

3/26/19



On Site: 0700 [redacted] A-Zone, USACE

- Safety Briefing

0745: [redacted]

- DU1-SU24 "Confirmed flagged location w/ GPS

- USACE [redacted] observed sampling procedure

- no issues

0915: DU1-SU22

1045: Help [redacted] Stg SU25

- Entire SU w/in Phrag swamp

1215: Sample DU1-SU25

1345: Label Samples / Decon / Find nr ± SU

1415: Sample DU1-SU17

1530: [redacted], USACE

- Go back to staging area and pack coolers for shipment

- Pack A-Zone / Mike samples

End: 1700

[redacted]

Rite in the Rain

18 3/27/19 Sunny / 52°

Onsite: 0700

- Safety Briefing [redacted] A-zone

0800: [redacted]

Stag SU44R 3 48

0830: [redacted]

DU-SU44R1 → end 0925

0930: DU1-SU44R2 → end 1010

1015: DU1-SU44R3 → end 1105

1105: label samples / decon

1130: DU1-SU48 → end 1225

1230: DU1-SU26 → end 1400

1400: DU1-SU20 → end 1510

Label / Decon

1530 - Meet [redacted] @ staging area

- Pack coolers - COC's -

soft/easy soil to sample

70% sandy clay/loam

30% clay (hydric gleyed + redox features)

End: 1700

[redacted]

3/28/19 19

Onsite 0700

- Safety Briefing [redacted] A-zone

0730: DU1-SU13 [redacted] → end 0830

0850: DU1-SU19

* Entire SU19 is solid/compact surface → possible 'parking lot'/~~store~~ stockpile

- called [redacted] for confirmation about moving grid to softer soil - or use A-zone

0920 - DU1-SU14 → end 1017

- hard gravel/sand → some black pavement/gravel

1025 - DU1-SU19 → End 1130

- move SU19 + sample

* Shifting SU19 SW behind building pad

NW corner = N: 1423849 3.3

E: 1191460.9

- Wet → pockets of surface water → mostly wet clay

1200 - DU1-SU~~19~~ 17 End → 1344

* buried debris? - elevated black/shiny/greasy in upper DU (soil)

N: 1424010.3

E: 1190929.1

1400: [redacted] → Stag remaining SU's in DU 14,0

1700: End

Rite in the Rain





Onsite: 0700
- Safety Brief
0715 → [redacted]

- DU1-SU36 R1: 0823
-SU36 R2: 0900
" " R3: 0944
SU 34 : 1030
SU 10 R1: 1200
10 R2: 1237
10 R3: 1315
1400: Set up RTK and flag remaining SU's in DU1

End: 1700



Rite in the Rain

22 4/1/19

Onsite: 0700

- Safety Briefing

0730: [redacted] - finish Sampling

DU1

DU1-SU39 → 0815

DU1-SU23 → 1015

DU1-SU29 → 1125

DU1-SU52 → 1323

- Help Mike/A-Zone

[redacted]

4/02/19 23

Onsite: 0700

Safety Briefing

0730: Work w/ Mike + A-Zone on Geoprobe

[redacted] flagged last SU in DU2

0815: [redacted] → refusal clay worktrack (ERT)

0845: background area w/in Army Reserve

DU4-SU06: 1005

Probe w/ slide hammer broke

DU4-SU07R1: 1100

R2: 1135

R3: 1250

DU4-SU05: 1425

- bottom of retention pond alongside road
- Compact clay - DU4A → red w/ heavy truck traffic

DU4B → gleyed → almost white

End: 1700

[redacted]

4/03/19

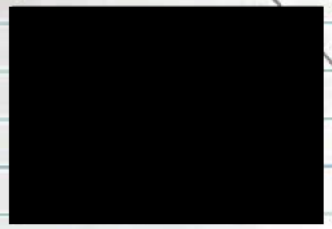
0700: Meet @ office

0800: Onsite - Safety Briefing

Sample DU4 - SU04 → 0815 (Bottom of retention pond)

- SU03 → 1005
- SU02 → 1050
- SU01 → 1205

1230: Pack/demob





Rite in the Rain